



# III INTERNATIONAL SYMPOSIUM

on Public Policies and Sustainable Development

Social Justice and Human Rights in  
the 21st Century: Challenges for the  
formulation of Public Policies

## EVENT PROCEEDINGS

# 2025

REALIZAÇÃO



**EMESCAM**

APOIO

**FAPES**  
FUNDAÇÃO DE APOIO À PESQUISA E INOVAÇÃO DO ESPÍRITO SANTO

GOVERNO DO ESTADO  
DO ESPÍRITO SANTO  
*Secretaria da Ciência, Tecnologia,  
Inovação e Educação Profissional*





**SIMPÓSIO INTERNACIONAL DE POLÍTICAS PÚBLICAS E  
DESENVOLVIMENTO SUSTENTÁVEL**

**December 4th to 6th, 2025  
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**ISBN: 978-65-981431-3-8**

**BR**



9 786598 143138

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# Abstracts



## 1. IMPACT OF DIGITAL SEX EDUCATION ON THE PREVENTION OF SEXUALLY TRANSMITTED INFECTIONS IN ADOLESCENTS

### *O IMPACTO DA EDUCAÇÃO SEXUAL DIGITAL NA PREVENÇÃO DE INFECÇÕES SEXUALMENTE TRANSMISSÍVEIS EM ADOLESCENTES*

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**Introduction:** According to the World Health Organization (WHO), approximately 6 million people contract Sexually Transmitted Infections (STIs) annually. Of these records, an increase in the number of cases has been observed among young people aged 13 to 19, a percentage of 1,654% between 2010 and 2020. It is believed that this increase is due to greater autonomy among young people regarding sexual orientation and the freedom to have relationships with multiple partners without the proper use of condoms or without adequate knowledge about sex education. **Objective:** This study aims to analyze the impacts of sex education in the digital environment and whether this can prevent the number of cases of Sexually Transmitted Infections among adolescents. **Method:** Integrative review on the impact of digital education on the prevention of STIs in adolescents. Searches were conducted in the PubMed and Virtual Health Library (VHL) databases, considering publications in the last 5 years. The descriptors “sexually transmitted infections”, “adolescents”, “digital sex education”, and “prevention” were used, resulting in a total of 19 PubMed articles and 2 in the BVS (Virtual Health Library). After applying the eligibility criteria, 5 articles were included in the analysis. Inclusion criteria selected articles available in full, published within the defined period, in Portuguese, English, or Spanish, free of charge, and addressing the topic. Exclusion criteria included articles whose titles did not relate to the topic. **Results:** It is clear that young people have been using digital media to acquire information. A study conducted in the USA, using the HEARD tool, collected data on the knowledge of a group of adolescents about sex education and, after participation, affirms that there were positive results in changing habits, such as the non-use of condoms, among the research participants. Furthermore, studies indicate that viewing sexual content on the internet directly influences the sexual behavior of adolescents; therefore, there is engagement with some technological methodologies to understand the relationship between social media and youth sex education, as well as to intervene positively and significantly in this area. **Conclusion:** Therefore, considering the positive aspects of technology for young people, it is essential that health professionals and educators invest in innovative technological approaches, creating multidisciplinary and safe environments to discuss sexuality, promote and develop autonomy and critical thinking among adolescents. The use of these tools should be accompanied by trained mediators, maximizing results and fully addressing the needs of young people.

**Keywords:** Sexually Transmitted Infections. Adolescents. Prevention. Digital Sex Education.



## 2. MORTALITY FROM CONGENITAL SYPHILIS IN BRAZIL: A TIME SERIES ANALYSIS BETWEEN 2008 AND 2023

### *MORTALIDADE POR SÍFILIS CONGÊNITA NO BRASIL: ANÁLISE DE UMA SÉRIE TEMPORAL ENTRE 2008 E 2023*

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**Introduction:** According to the World Health Organization (WHO), approximately 6 million people contract Sexually Transmitted Infections (STIs) annually. Of these records, an increase in the number of cases has been observed among young people aged 13 to 19, a percentage of 1,654% between 2010 and 2020. It is believed that this increase is due to greater autonomy among young people regarding sexual orientation and the freedom to have relationships with multiple partners without the proper use of condoms or without adequate knowledge about sex education. **Objective:** This study aims to analyze the impacts of sex education in the digital environment and whether this can prevent the number of cases of Sexually Transmitted Infections among adolescents. **Method:** Integrative review on the impact of digital education on the prevention of STIs in adolescents. Searches were conducted in the PubMed and Virtual Health Library (VHL) databases, considering publications in the last 5 years. The descriptors “sexually transmitted infections”, “adolescents”, “digital sex education”, and “prevention” were used, resulting in a total of 19 PubMed articles and 2 in the BVS (Virtual Health Library). After applying the eligibility criteria, 5 articles were included in the analysis. Inclusion criteria selected articles available in full, published within the defined period, in Portuguese, English, or Spanish, free of charge, and addressing the topic. Exclusion criteria included articles whose titles did not relate to the topic. **Results:** It is clear that young people have been using digital media to acquire information. A study conducted in the USA, using the HEARD tool, collected data on the knowledge of a group of adolescents about sex education and, after participation, affirms that there were positive results in changing habits, such as the non-use of condoms, among the research participants. Furthermore, studies indicate that viewing sexual content on the internet directly influences the sexual behavior of adolescents; therefore, there is engagement with some technological methodologies to understand the relationship between social media and youth sex education, as well as to intervene positively and significantly in this area. **Conclusion:** Therefore, considering the positive aspects of technology for young people, it is key that health professionals and educators invest in innovative technological approaches, creating multidisciplinary and safe environments to discuss sexuality, promote and develop autonomy and critical thinking among adolescents. The use of these tools should be accompanied by trained mediators, thus maximizing results and fully addressing the needs of young people.

**Keywords:** Sexually Transmitted Infections. Adolescents. Prevention. Digital Sex Education.



### 3. IMPACT OF SOCIAL FACTORS ON THE EFFECTIVENESS OF PUBLIC POLICIES FOR THE PREVENTION AND MANAGEMENT OF DIABETES MELLITUS

#### *IMPACTO DOS FATORES SOCIAIS NA EFETIVIDADE DAS POLÍTICAS PÚBLICAS PARA PREVENÇÃO E MANEJO DO DIABETES MELLITUS*

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**Introduction:** Diabetes mellitus is characterized by insufficient insulin production or the body's inability to use it properly, presenting in different forms and types. Currently, in Brazil, more than 13 million people live with this condition, which constitutes a public health challenge. Factors related to genetics and the absence of healthy habits contribute to the development of diabetes, and the main symptoms of this disease are polyphagia, polydipsia, and polyuria. **Objective:** To analyze how social factors impact the effectiveness of public policies for the management and prevention of diabetes mellitus in Brazil. **Method:** This is an integrative review on diabetes mellitus in Brazil, aiming to analyze the impact of social factors on the effectiveness of public policies. Searches were conducted in the PubMed database, considering publications from the last 10 years. The descriptors combined by Boolean operators were used: “Diabetes Mellitus” AND “Public Policy” AND “Social Factors”, resulting in a total of 20 articles, of which 2 were included in the analysis after applying the eligibility criteria. As inclusion criteria, original articles available in full, published within the defined period, in Portuguese, English, or Spanish, and addressing public policies or social factors related to Diabetes Mellitus were adopted. The exclusion criterion adopted was articles whose title did not have a direct relationship with the proposed theme. **Results:** The studies analyzed demonstrated that social factors such as income, education, housing conditions, and access to health services directly influence the effectiveness of public policies aimed at diabetes. Furthermore, unfavorable urban environments, lack of adequate spaces for physical activity, and inadequate diet, often determined by economic limitations, increase the risk of illness and hinder disease control. It was also observed that well-structured public policies show less impact when applied to vulnerable populations and that social inequality interferes with adherence to treatment, access to supplies, and continuous monitoring. **Conclusion:** The findings show that public policies are insufficient to address diabetes if they are not aligned with reducing social inequalities and improving the living conditions of the population. The effectiveness of prevention and treatment strategies depends on integrated interventions that consider income, education, urban environment, and equitable access to health services. Adopting an approach centered on the individual's social context, incorporating social determinants and investing in Primary Care, is fundamental for the effective implementation of public policies.

**Keywords:** Diabetes Mellitus. Public Policies. Social Factors. Public Health.



#### 4. THE ALLOCATION OF FINANCIAL RESOURCES DURING COVID-19

##### *A ALOCAÇÃO DE RECURSOS FINANCEIROS DURANTE A COVID-19*

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**Introduction:** The COVID-19 pandemic marked world history at the end of 2019, and the southern region of the state of Espírito Santo was no exception. The pandemic brought about both economic and social imbalance, causing changes. However, during this period, the changes forced the public health system, leading the Municipal Health Department to develop new actions and reorganize its financial structure in the municipality of Presidente Kennedy, ES, with the intention of reviewing the financial application of oil royalties as a source of resources for the Municipal Health Fund, which was important for the functioning of municipal health services. **Objective:** To describe the application of financial resources by the Municipal Health Department of Presidente Kennedy-ES, observing the actions, programs, and contingency plan to combat Covid-19, also analyzing the respective transfers from the State government. **Method:** This is qualitative-quantitative research is based on the review of public documents and data accessible from public secondary sources, analyzing financial documents available on the municipality's Transparency Portal, such as emergency contracts and bidding processes in the exemption modality. **Results:** When analyzing the financial documents, it was observed that, of the R\$ 17,987,681.97 of General emergency expenses of the municipality during the pandemic period, managed by the Municipal Health Fund, totaled R\$100,222.43 (1.48%) in emergency contracts, and R\$121,552.30 (1.08%) in contracts awarded without bidding. The Government of the State of Espírito Santo established the amount of R\$90,000.00 as an emergency financial support to the municipality in the 2020 fiscal year. The amount transferred was not sufficient to cover all necessary expenses during this period, so the municipality had to resort to the financial income from oil royalties. **Conclusion:** The municipality faced the pandemic using budgetary funds and financial income from oil royalties. Given its relevance, this topic requires in-depth research to analyze the use of economic and financial resources before, during, and after the COVID-19 pandemic, from 2018 to 2023, highlighting consolidated inputs, investments, and revenue sources allocated to fund the municipal health department.

**Keywords:** Covid-19. Resource allocation. Municipal budget. Public health.



## 5. SCHOOL MEALS AS A FOOD SECURITY STRATEGY: EVIDENCE FROM THE 2019 NATIONAL SCHOOL HEALTH SURVEY

### *A MERENDA ESCOLAR COMO ESTRATÉGIA DE SEGURANÇA ALIMENTAR: EVIDÊNCIAS DA PESQUISA NACIONAL DE SAÚDE DO ESCOLAR 2019*

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**Introduction:** School meals, implemented by the National School Feeding Program, are one of the main public policies for Food and Nutritional Security in the country. Besides guaranteeing the human right to adequate food, the program acts as a protective strategy for adolescents, especially those in greater social vulnerability. **Objective:** To analyze the association between school meal consumption and health markers. **Method:** A cross-sectional study based on the 2019 National School Health Survey (PeNSE). 81,496 questionnaires from students in public schools were analyzed, with publicly accessible microdata. Habitual consumption (5 days or more per week) of beans, fruits, and vegetables was analyzed in relation to the consumption of school meals, adjusting for socioeconomic variables (sex, race, age, maternal education, and region). Multivariate Poisson regression was performed using the svy command in Stata 17 - Stata Statistical Software Release. **Results:** Among students in Brazilian public schools, habitual consumption of school meals was positively associated with the consumption of health markers. After adjustment, a higher prevalence ratio was observed for habitual consumption of beans (IRR=1.17; 95% CI: 1.11–1.23; p<0.001) and vegetables (IRR=1.14; 95% CI: 1.07–1.22; p<0.001) among those who consumed school meals. Fruit consumption, however, did not show an association with school meal consumption (IRR=1.05; 95% CI: 0.99–1.12; p=0.136). **Conclusion:** These findings demonstrate that the National School Feeding Program (PNAE), through the provision of school meals, contributes to increasing the consumption of healthy eating markers among students. Although fruit consumption was not significant, this finding remains relevant as it points to potential gaps in the program's provision and opens space for further investigations and monitoring of the policy's impact. The results also highlight the continued importance of food and nutrition education and the qualified role of nutritionists in schools to strengthen the program's effectiveness.

**Keywords:** Adolescents. Public health. Food consumption. Public health surveillance.



## 6. CHALLENGES AND PERSPECTIVES OF PUBLIC POLICIES FOR AUTISM SPECTRUM DISORDER

### *DESAFIOS E PERSPECTIVAS DAS POLÍTICAS PÚBLICAS PARA O TRANSTORNO DO ESPECTRO AUTISTA*

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**Introduction:** Autism Spectrum Disorder (ASD) presents significant challenges in the development of public policies. Brazilian legislation establishes guidelines for diagnosis, multidisciplinary care, and inclusion, but there are gaps between legislation and implementation. Challenges such as late diagnosis, geographical disparities, financial burden on families, and lack of professional training hinder the consolidation of public policies. **Objective:** To analyze the challenges and perspectives of public policies for ASD. **Method:** A literature review was conducted in the Virtual Health Library in November 2025, using the descriptors "Autism Spectrum Disorder" AND "public policies". Publications from the last 5 years with free full text and in Portuguese, English, and Spanish were included, excluding bibliographic and systematic reviews, resulting in 18 articles. After selection by reading the title and abstract, 6 articles were selected for review. **Results:** It was evidenced that, despite legal advances, the implementation of public policies for people with ASD faces significant challenges. The difficulty of accessing specialized services and the insufficient training of health and education professionals stand out, compromising the effectiveness of care. Social invisibility, experienced by severely autistic adults, is also observed, aggravated by the burden on families and the lack of financial support. Care networks remain fragmented and with low intersectoral coordination, limiting the rights to health, inclusive education, and assistance. There are challenges in the transition between policies and practices, since scientific knowledge about interventions is not yet fully incorporated into public services. **Conclusion:** Despite legislative advances to guarantee the rights of people with ASD, the implementation of public policies faces challenges such as the fragmentation of services, insufficient professional training, and social inequalities. There is an urgent need to strengthen intersectoral coordination, expand interdisciplinary training, and guarantee effective social inclusion, giving an active voice to autistic people and their families in the construction of public policies.

**Keywords:** Autism spectrum disorder. Public policies. Challenges.



## 7. COMPARISON OF LARGE LANGUAGE MODELS IN GENOMICS: LEXICAL EVALUATION USING HEREDITARY ATAXIAS AS A MODEL

### *COMPARAÇÃO DE GRANDES MODELOS DE LINGUAGEM EM GENÔMICA: AVALIAÇÃO LEXICAL TENDO ATAXIAS HEREDITÁRIAS COMO MODELO*

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**Introduction:** Large Language Models (LLMs) are increasingly used to interpret difficult concepts such as describing gene function. It is still unclear whether they maintain the essential biomedical terminology contained in curated databases (e.g., UniProt), something critical for genetic counseling and clinical communication. **Objective:** To measure how well LLM responses preserve technical vocabulary, using genes linked to hereditary ataxias as a model to describe biological function. **Method:** We selected genes associated with hereditary ataxias. For each gene, the reference description was the “Function” section of the Swiss-Prot (Homo sapiens) entry from UniProt. Six generalist LLMs were tested: ChatGPT-4 (*OpenAI*), *Claude* (Anthropic-claude-3-7-sonnet-20250219), *Gemini Pro* (Google-gemini-1.5-pro), *Perplexity* (sonar), *DeepSeek-V2*, and *Grok* (xAI-v1), which responded to the standardized prompt “*What is the known biological function of the human gene {gene\_symbol}?*”, without any specific biomedical adjustment. Lexical overlap between each response and the reference was calculated using the Jaccard Index. We also evaluated the effect of lemmatization (reduction of words to the base form). Differences between models were analyzed using non-parametric tests. **Results:** There were consistent differences between models. *Perplexity* showed the highest mean lexical overlap (Jaccard 0.1292; SD=0.0430), followed by *Claude* (0.1246; SD=0.0385). *Gemini* had the lowest terminological alignment (0.0980); *DeepSeek*, *Grok*, and *OpenAI* were in the middle range (~0.11). In 13 of 15 paired comparisons, the differences were statistically significant after Bonferroni correction. Lemmatization increased all scores (e.g., *Perplexity* from 0.1292 to 0.1710), indicating that some of the divergence between models is only morphological and not conceptual. **Conclusion:** The Jaccard Index is useful as an initial screening tool for terminological fidelity of LLMs in hereditary ataxia genomics. *Perplexity* and *Claude* showed greater lexical adherence; *Gemini* had the worst relative performance. Normalization by lemmatization improves the similarity estimate and should be integrated into the technical evaluation. However, the metric does not guarantee semantic equivalence or clinical safety, requiring human review before use in genetic counseling.

**Keywords:** Hereditary ataxia. Genomics. Artificial Intelligence. Health Communication.



## 8. HEALTH EDUCATION INTEGRATED INTO THE SCHOOL HEALTH PROGRAM: AN EXPERIENCE REPORT IN PRIMARY CARE

### *EDUCAÇÃO EM SAÚDE INTEGRADA AO PROGRAMA SAÚDE NA ESCOLA: UM RELATO DE EXPERIÊNCIA NA ATENÇÃO BÁSICA*

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**Introduction:** Primary Health Care (PHC) is the main entry point to the Brazilian Unified Health System (SUS) and plays an essential role in promoting health from childhood. Among the strategies of the National Primary Care Policy (PNAB), the School Health Program (PSE) stands out, strengthening intersectoral actions focused on health education and the fulfillment of indicators established every four months. The PSE enables the inclusion of educational practices in the school environment, favoring the prevention of health problems and the integral development of children and adolescents. **Objective:** To report the experiences of 9th and 10th semester students of the Physiotherapy course at EMESCAM in the PSE actions carried out at the Ceciliano Abel de Almeida Elementary School and the Otto Ewald Junior Elementary School, linked to the Basic Health Unit in the Itararé neighborhood, in Vitória-ES. **Method:** This is an experience report elaborated from the planning, execution, and evaluation of the activities developed by the students within the scope of the PSE. The theme was defined in conjunction with the primary health care unit (UBS) team and based on the demands presented by partner schools. **Results:** The activities began with the selection of the central theme, which was defined as sex education due to the demands observed by the pedagogical and health teams. The selected content involved intimate hygiene, prevention of Sexually Transmitted Infections (STIs), and prevention of teenage pregnancy. At the beginning of the activities, the students demonstrated immaturity and discomfort when addressing the topic, which led to distraction and jokes during the presentation. Therefore, the methodology was adapted, incorporating playful dynamics and gamification elements to stimulate participation and dialogue. The change was evident: the students began to interact more responsibly, clarify doubts, and demonstrate understanding of the content covered. Finally, a reflective activity on teenage pregnancy encouraged students to project possible social, emotional, and academic impacts of this situation, promoting critical reflection. The activity was well received by the teachers, who highlighted the relevance of the theme and the improvement in student behavior. **Conclusion:** The experience in the PSE (School Health Program) activities allowed students to experience practices aligned with the principles of the SUS (Brazilian Unified Health System), strengthening competencies related to health education, communication, teamwork, and intersectoral approach. The activities highlighted the role of the physiotherapist in primary health care and reinforced the importance of the PSE as an effective strategy to promote health and build meaningful knowledge among children and adolescents.

**Keywords:** School Health Program. Primary Health Care. Equity. Health Promotion.



## 9. CURRICULAR INTERNSHIP IN PRIMARY CARE AND PATHWAYS TO COLLECTIVE WELL-BEING: AN EXPERIENCE REPORT

### *ESTÁGIO CURRICULAR NA ATENÇÃO BÁSICA E OS CAMINHOS PARA O BEM-ESTAR COLETIVO: UM RELATO DE EXPERIÊNCIA*

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**Introduction:** Primary Health Care (PHC) is the main entry point to the Brazilian Unified Health System (SUS), playing a fundamental role in health promotion, disease prevention, and individual follow-up. According to the National Primary Care Policy (PNAB), PHC must guarantee universal, comprehensive, continuous, and equitable access to health services through multidisciplinary teams. Supervised internships in health and community allow students to experience comprehensive and humanized care, strengthening the physiotherapist's role in primary care. **Objective:** To report the experiences of 9th and 10th semester physiotherapy students at EMESCAM during their internship at the Itararé neighborhood primary health care unit (UBS) in Vitória, Espírito Santo. **Method:** This is an experience report based on the weekly routine of the interns at the Itararé neighborhood UBS, involving home visits, patient screening, cognitive and functional exercise groups, discussion groups with pregnant women, and educational activities in the community. **Results:** The activities developed provided enriching experiences, highlighting the importance of a humanized and preventive approach to physiotherapy in primary health care. The situational diagnosis was fundamental in identifying conditions of functional risk, social vulnerability, and demands for preventive actions, guiding the organization of interventions in a targeted manner. Home visits made it possible to understand the life realities of patients, monitor functional progress, and adapt approaches to the environment and vulnerable populations, in accordance with the principle of equity evidenced in the diagnosis. The exercise groups promoted socialization, autonomy, fall prevention, and cognitive decline prevention among the elderly, meeting the needs identified in the community. The discussion groups with pregnant women provided support, knowledge exchange, and strengthened bonds. The integration between academics and the multidisciplinary team enhanced the actions, especially those aimed at community groups and the School Health Program (PSE). Throughout the internship, the students exercised significant autonomy in planning and executing activities, applying theoretical knowledge to practice and improving essential skills for working in Primary Health Care (PHC), such as decision-making, teamwork, and patient-centered care. **Conclusion:** The internship at the Primary Health Care Unit provided training aligned with the principles of the Brazilian Unified Health System (SUS), strengthening a critical and humanized perspective on health care. The experience highlighted the relevance of the physiotherapist in PHC and the need to consolidate public policies, human resources, and community strategies to ensure the effectiveness of primary care, as demonstrated by the situational diagnosis of the community served.

**Keywords:** Physiotherapy Services. Primary Health Care. Equity. Health Promotion.



## 10. FINITUDE AND PROFESSIONAL TRAINING IN HEALTH: PERCEPTIONS OF DEATH AMONG PALLIATIVE CARE RESIDENTS IN ESPÍRITO SANTO, BRAZIL

### *FINITUDE E FORMAÇÃO PROFISSIONAL NA SAÚDE: PERCEPÇÕES SOBRE A MORTE ENTRE RESIDENTES EM CUIDADOS PALIATIVOS NO ESPÍRITO SANTO*

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**Introduction:** The concept of palliative care has been expanding in recent decades, incorporating not only end-of-life care but also the promotion of quality of life in the face of serious and life-threatening illnesses. However, daily practice in this area is still strongly associated with terminal illness, making death a recurring event in the experience of professionals. Despite this, academic training in health rarely offers adequate preparation to deal with the dying process, perpetuating the social taboo surrounding finitude. This training gap can generate suffering and insecurity, highlighting the need for educational strategies and public policies that promote a more humanized approach to death. Thus, understanding how palliative care residents perceive the finitude of life is fundamental to strengthening sustainable care practices and professional training. **Objective:** To understand the perceptions of death among residents working in palliative care programs in the State of Espírito Santo and to identify possible changes in these perceptions after the beginning of their professional activities in the area. **Method:** This is a qualitative, descriptive, and exploratory study conducted with residents of palliative care programs in Espírito Santo. Data collection was conducted using an online form with open-ended questions aimed at understanding the meanings attributed to death. The responses were subjected to Bardin's Content Analysis, which allowed for the identification and categorization of the main emerging themes in the participants' narratives. **Results:** Perceptions about death were organized into nine thematic categories: religious meaning, negative emotional meaning, sense of ending, biological meaning, cessation of suffering, inevitability, uncertainty, legacy, and appreciation of life. The sense of ending was the most recurrent (40.6%), followed by the religious meaning (37.5%). Regarding the change in perception after the beginning of palliative care work, 53.1% of participants stated that there was no significant change, while 46.9% reported a change in their understanding of death. Even among those who stated that there had been no change, an increase in reflections on finitude and the value of life was observed after practical experience in palliative care. **Conclusion:** Professional experience in palliative care encourages a reinterpretation of death and reinforces the need for educational strategies and public policies that address the issue of the end of life in health curricula. Integrating care and death into the educational process is fundamental to promoting sustainable, ethical, and humanized practices in the context of palliative care.

**Keywords:** Palliative care. Palliative care in end-of-life care. Healthcare professionals. Death. Perception.



## 11. NOTIFICATIONS OF SELF-INFLICTED VIOLENCE IN ESPÍRITO SANTO (2020–2024): TEMPORAL ANALYSIS AND PRIORITY GROUPS FOR INTERVENTION

### *NOTIFICAÇÕES DE VIOLÊNCIA AUTOPROVOCADA NO ESPÍRITO SANTO (2020 – 2024): ANÁLISE TEMPORAL E GRUPOS PRIORITÁRIOS PARA INTERVENÇÃO*

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**Introduction:** Self-inflicted violence expresses subjective suffering in contexts marked by diverse vulnerabilities, posing a significant challenge to public health. In Brazil, the expansion of violence surveillance policies and the consolidation of the Psychosocial Care Network (RAPS) have increased the visibility of these events, although inequalities persist in reporting and access to care. In Espírito Santo, understanding the temporal trend of notifications and the profile of victims is fundamental to supporting prevention strategies, territorialized care, and harm reduction, especially in the post-Covid-19 pandemic context, when there was an intensification of mental health problems in various population groups. **Objective:** To describe the temporal trend of self-inflicted violence notifications registered in Espírito Santo between 2020 and 2024, in general and according to the sociodemographic characteristics of the victims. **Method:** Epidemiological, descriptive study using data from the Notifiable Diseases Information System (SINAN). All notifications of self-inflicted violence registered between January 2020 and December 2024 were included. The information was extracted from the *Wiki Saúde - ES* panel on November 9, 2025. Frequencies and proportions were calculated for the variables sex, age group, race/color, education level, marital status, and place of occurrence. The temporal trend was observed by year of notification. **Results:** An increasing trend in notifications was observed throughout the period ( $n=2866 - 6874$ ;  $mean=4968.8$ ;  $SD=1476.1$  cases/year), with a predominance in 2024 (27.7%). Females accounted for over 70% of notifications in all years, being most frequent in the 2022 record (76.1%), although cases among men showed a significant increase proportionally throughout the series. Regarding race/color, a higher frequency of notifications was observed among mixed-race individuals, also in all years analyzed, ranging from 45.2% in 2020 to 53.4% in 2023, followed by white individuals. Single individuals were the most represented group among the annual notifications, reaching 49.2% in 2022. **Conclusion:** There was a significant increase in notifications of self-harm in Espírito Santo between 2020 and 2024, with characteristics that reinforce the need to strengthen prevention strategies, continuous care, and mental health promotion, especially among women, mixed-race individuals, and single people. The expansion and integration of the Psychosocial Care Network (RAPS) and intersectoral actions remain essential for a sustainable approach to the problem.

**Keywords:** Self-harm. Suicide attempt. Mental health. Health surveillance. Health information systems. Public policies.



## 12. SELF-INFLICTED VIOLENCE IN ESPÍRITO SANTO, BRAZIL (2020–2024): EPIDEMIOLOGICAL PROFILE AND IMPLICATIONS FOR MENTAL HEALTH POLICY

### *VIOLÊNCIA AUTOPROVOCADA NO ESPÍRITO SANTO (2020–2024): PERFIL EPIDEMIOLÓGICO E IMPLICAÇÕES PARA POLÍTICAS PÚBLICAS DE SAÚDE MENTAL*

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**Introduction:** Self-inflicted violence represents a serious public health problem and an important marker of psychological distress, with direct implications for suicide prevention and mental health promotion policies. Analysis of notification records allows for understanding epidemiological patterns and supporting intersectoral actions aimed at reducing social vulnerability and promoting well-being, in line with the Sustainable Development Goals (SDGs), especially SDG 3, which proposes ensuring healthy lives and promoting well-being for all at all ages. In Espírito Santo, monitoring these events is fundamental to supporting actions and public policies for prevention and guiding regional strategies for addressing and strengthening care networks. **Objective:** To describe the epidemiological profile of self-inflicted violence notifications registered in Espírito Santo, from 2020 to 2024, according to sociodemographic and circumstantial characteristics of the cases. **Method:** This is a descriptive epidemiological study based on data from the Notifiable Diseases Information System (SINAN). All notifications of self-inflicted violence registered between January 2020 and December 2024 were included. The information was extracted from the Wiki Saúde - ES panel on November 9, 2025. Frequencies and proportions were used for the variables sex, age group, race/color, education level, and place of occurrence. **Results:** During the analyzed period, 24,844 notifications were observed. The female sex was predominant (74.8%, n=18,589). The highest frequencies occurred among adolescents and young people aged 15 to 29 years, with a peak between 15 and 19 years (n=5,865). Regarding education level, high school stood out (33.8%), followed by elementary school (29.3%). The brown race/color was the most frequent (49.7%), followed by white (31.2%). The home represented the main location of occurrence (n=21,053), suggesting the private and silent nature of self-harming manifestations. Territorially, the highest concentration of notifications occurred in the Metropolitan Region, particularly in Serra, Vitória, and Vila Velha. **Conclusion:** A consistent pattern of higher occurrence of self-inflicted violence was observed among women, young people, and people with lower levels of formal education, with a strong concentration of cases in urban areas. The predominance of the home as the location of occurrence highlights the private and often invisible nature of psychological suffering. These findings reinforce the need for expansion and integration of the Psychosocial Care Network, early identification of risk, and strengthening of community and territorial care networks, in alignment with the SDG 3 targets for reducing morbidity and mortality from preventable causes.

**Keywords:** Self-harm. Suicide attempt. Mental health. Health surveillance. Health information systems.



### 13. CONGENITAL SYPHILIS: AN ANALYSIS OF INCIDENCE IN BRAZIL BETWEEN 2008 AND 2023

#### *SÍFILIS CONGÊNITA: UMA ANÁLISE DA INCIDÊNCIA NO BRASIL ENTRE 2008 E 2023*

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**Introduction:** Congenital syphilis (CS) results from mother-to-child transmission of *Treponema pallidum* in untreated or inadequately treated pregnant women, leading to infection. fetal and high rates of morbidity and mortality. Despite of the advances diagnoses and therapeutic, Congenital sclerosis (CS) remains a public health problem, with global incidence rates increasing in recent years. In this context, the Organization... World from the Health (WHO) has set a goal to eliminate mother-to-child transmission of illness until 2030, reducing The incidence rate is less than 50 cases per 100,000 live births (LB). In Brazil, research indicates an increase in the incidence rates of congenital syphilis (CS), although there are gaps in epidemiological studies. **Objective:** To analyze the incidence rate of congenital syphilis in Brazil between 2008 and 2023. **Method:** This is an ecological study of... series temporal, based in secondary population data from the Information and Informatics Department of the Unified System Health – DATASUS ( <https://datasus.saude.gov.br/informacoes-de-saude-tabnet/> ). Incidence rates were calculated by dividing the number of new cases of congenital systolic cancer in Brazil by the number of new cases in all countries. to the tracks age groups, for the number of NV in each year of 2008 the 2023 multiplied per 100,000 new cases. **Results:** During the analyzed period, 291,425 new cases of congenital syphilis were registered in Brazil. A 13.5% reduction in the number was observed. of NV, passing of 2,934,828 in 2008 to 2,537,576 in 2023. In on the other hand, the number absolute of cases new of SC increased from 5,802 in 2008 to 24,468 in 2023, an increase of 321.7%. The rate national of incidence rose of 197.69 put 100,000 NV in 2008 to 964.23 per 100,000 in 2023, corresponding to a growth of 387.7%. The highest incidence rates were observed in 2018 (911.74), 2021 (1,011.39), 2022 (1,033.99), and 2023 (964.23). **Conclusion:** The incidence of SC in Brazil showed an increase of 387.7% when comparing the years 2008 and 2023, proving to be above the target established by WHO aims to eliminate mother-to-child transmission of the disease. Although congenital syphilis is a preventable condition through maternal testing and adequate treatment of pregnant women, its incidence remains high in the country. The findings reinforce the need to improve public health policies focused on prenatal care, expanding testing, ensuring treatment for pregnant women and affected newborns, and reducing complications associated with syphilis.

**Keywords:** Congenital syphilis. Incidence. Brazil.



## 14. NATURAL LANGUAGE INFERENCE TO EVALUATE NATURAL LANGUAGE MODELS IN GENE FUNCTION DESCRIPTION

### *INFERÊNCIA DE LINGUAGEM NATURAL PARA AVALIAR MODELOS DE LINGUAGEM NATURAL NA DESCRIÇÃO DA FUNÇÃO GÊNICA*

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**Introduction:** Large Natural Language Models (LLMs) are being used to translate complex biomedical concepts into accessible language. However, there is a risk that these answers may appear correct but introduce conceptual distortions that could affect clinical interpretation. **Objective:** To evaluate whether a Natural Language Inference (NLI) model with the RoBERTa classifier can issue a verdict on the compatibility between descriptions produced by LLMs and the curated biomedical definition (gold standard). **Method:** Genes associated with hereditary ataxia were selected. For each gene, the reference description was extracted from UniProtKB/Swiss-Prot. Six widely used LLMs were selected: ChatGPT-4 (*OpenAI*), Claude (Anthropic-claude-3-7-sonnet-20250219), Gemini Pro (Google-gemini-1.5-pro), Perplexity (sonar), DeepSeek-V2, and Grok (xAI-v1); Participants received a standardized prompt asking for the biological function of each gene. Each response was compared to the reference using NLI, which classified it as entailment (semantically confirmed), neutral (coherent but unproven), or contradiction (semantically incompatible). The frequencies and scores of these categories were compared between models using paired non-parametric tests (Wilcoxon) and Bonferroni correction. **Results:** The OpenAI model showed the best overall performance (mean 0.7309; SD=0.1335), combining a higher proportion of entailment (11.6%) with a low contradiction rate (4.7%). Claude showed the lowest overall mean (0.5849; SD=0.1081), with a high contradiction rate (19.1%) and only 2.2% entailment. DeepSeek, Gemini, GrokAI, and Perplexity were in an intermediate range, predominantly labeled as neutral, that is, thematically plausible responses but not very committed to specific verifiable claims. Differences between models, especially between OpenAI and Claude, were statistically significant. **Conclusion:** Some LLMs are able to produce functionally coherent descriptions of genes linked to hereditary ataxia that are consistent with the curated biomedical knowledge, but there is a real risk of semantic contradictions that can induce clinical error due to the high prevalence of "neutral" genes. The OpenAI model showed the best balance; Claude showed a higher risk of contradiction; the other models were semantically cautious but inconclusive. Even so, no single answer should be used in isolation for clinical counseling, indicating that final validation still needs to remain the responsibility of specialized professionals.

**Keywords:** Hereditary ataxia. Genomics. Artificial Intelligence. Health Communication. Language Models.



## 15. EXPERIENCES OF TRANSMASCULINE PEOPLE DURING PREGNANCY, CHILDBIRTH, AND THE POSTPARTUM PERIOD: THE BRAZILIAN PUBLIC HEALTH SYSTEM

### *VIVÊNCIAS DE PESSOAS TRANSMASCULINAS DURANTE A GESTAÇÃO, O PARTO E O PUERPÉRIO: O SISTEMA ÚNICO DE SAÚDE*

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**Introduction:** Although understood as a female experience, the pregnancy-puerperium cycle experienced by transmasculine people challenges cisheteronormative logic and broadens debates in health and research. Even so, this group faces a scarcity of institutionalized public policies within the Brazilian Unified Health System (SUS) that recognize and address their needs for prenatal care and subsequent care. The guidelines that guide professionals follow practices and language centered on cisgender reality, failing to encompass universal health. **Objective:** This study analyzes, based on Socioanalysis, the experience of transmasculine people in the SUS during pregnancy, childbirth, and the postpartum period, contributing to identifying challenges in care and fostering reflections for practices in public health. **Method:** This is an excerpt from a master's thesis in Public Health from the Federal University of Espírito Santo (UFES). Initially, 19 transmasculine people who became pregnant after reaffirming their gender in news reports and social media were identified; Four participants agreed to participate, and the snowball sampling technique increased the total to five. The interviews were conducted online via Google Meet. A cycle-shaped device was used with the concepts of "gender reaffirmation," "pregnancy," "childbirth," and "postpartum," from which participants chose words to express their experiences. The study was approved by the Research Ethics Committee of UFES (CAAE 7815214.4.0000.5060). **Results:** Three trans men, one non-binary transmasculine person, and one transmasculine person participated, aged between 22 and 34 years, all self-declared white. Three exclusively used the SUS (Brazilian public healthcare system) and two used the private network as a supplement. The interviews revealed transphobia as an analyzer, expressed in the imposition of the birth gender and disrespect for the social name by healthcare professionals. One participant stated that, upon claiming their social name, they began to be treated with indifference, feeling excluded from others. Obstetric violence appeared more frequently in the hospital setting, manifesting as restricted movement during childbirth and disregard for transmasculine dysphoria, such as frequent vaginal examinations and excessive breast manipulation. These factors are incorporated into institutional norms and rules, hindering the initiation and continuation of prenatal care. **Conclusion:** Despite the negative factors, it is expected that health services will recognize their shortcomings and promote improvements. These changes, by favoring welcoming practices and safe care, create an inclusive environment, making the pregnancy-puerperium cycle more peaceful. It is also essential to expand access to continuing education focused on the trans population. For those who still provide care with prejudice, it is crucial to implement monitoring actions.

**Keywords:** Transgender people. Pregnancy. Labor. Postpartum period.



## 16. EQUITY AND ACCESS IN NEUROLOGICAL EMERGENCIES: THE IMPACT OF SAMU 192 ON HEALTH PROMOTION AND POPULATION WELL-BEING

### *EQUIDADE E ACESSO NAS URGÊNCIAS NEUROLÓGICAS: O IMPACTO DO SAMU 192 NA PROMOÇÃO DA SAÚDE E BEM-ESTAR POPULACIONAL*

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**Introduction:** Neurological emergencies are a public health problem with a high socioeconomic impact. They demand a rapid and qualified response, challenging health systems to guarantee timely access. The Mobile Emergency Care Service (SAMU 192) is an essential link in the Emergency Care Network, contributing to the reduction of preventable deaths. Understanding the profile and severity of neurological cases is essential for planning actions that promote comprehensive care and reduce regional inequalities. **Objective:** To analyze neurological care provided by SAMU 192 in the state of Espírito Santo, highlighting its relevance to strengthening the pre-hospital response and consolidating public policies aimed at well-being and equity in the Brazilian Unified Health System (SUS). **Method:** A descriptive and analytical, cross-sectional study, with data from patients attended by SAMU between 2020-2021, classified as clinical with neurological complaints (headache, stroke, seizures). Variables considered included age, sex, municipality, type of incident, level of urgency, destination, and type of resource dispatched. Secondary data from IBGE/SESA were used for sociodemographic contextualization. **Results:** Temporal variation (non-critical in 2020, critical in 2021) and diurnal variation (greater criticality in the morning/afternoon) were observed. Home calls were associated with greater severity, reinforcing the family's role in early recognition, crucial in time-dependent conditions. Stroke showed a strong association with criticality, while seizures, although frequent, were less severe. Regulation showed coherence in allocating advanced resources (USA/USI) to critical cases. Female sex and extremes of age correlated with greater severity. The evolution of care reflected the initial criticality: severe cases led more to hospitalization or death. **Conclusion:** The severity of neurological care in SAMU is associated with the life cycle (elderly), type of incident (stroke), sex, and contextual variables (time of day and origin). Such evidence points to practical implications, such as the need for efficient medical regulation and greater coordination between emergency services and referral centers to reduce morbidity and mortality. The urgency of public policies to strengthen the neurological care pathway for vulnerable populations is highlighted. Future research is suggested on the impact of regulatory protocols and educational strategies for the early recognition of warning signs.

**Keywords:** Emergencies. Emergency medical services. Health planning. Health promotion.



## 17. AIR QUALITY CONTROL POLICY IN THE METROPOLITAN REGION OF GREATER VITÓRIA

### *POLÍTICA DE CONTROLE DA QUALIDADE DO AR NA REGIÃO METROPOLITANA DA GRANDE VITÓRIA*

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**Introduction:** Air quality is an essential element for public health and well-being. social. To the emissions of pollutants generate impacts negatives in the conditions Environmental and health impacts. This paper analyzes the air quality control policy in the metropolitan region of Greater Vitória. **Objectives:** This work aims to demonstrate the effectiveness from the policy of control from the quality of air from the Great Vitória metropolitan region. **Method:** The study adopts a descriptive approach based on the resolutions below: Resolution CONAMA number 491/2018: define goals progressive of reduction of concentrations from pollutants to convergence with standards recommended by the World Health Organization, Law No. 10.011/2023 of Vitória: establishes specific guidelines for improving air quality, such as continuous monitoring, control of industrial and vehicular emissions, and the promotion of educational actions and social participation, and IEMA (2024) reinforces that the improvement from the quality of air this directly associated the reduction of illnesses Respiratory and cardiovascular benefits, representing a social and economic gain. **Results:** Air quality assessments are conducted using measurements taken by the Monitoring Network operated by IEMA. The results are compared to the limits established by CONAMA Resolution No. 491/2018, and the daily bulletins provided by the state agency. The main indicators used are the concentrations of regulated pollutants: particles inhalable (PM<sub>10</sub>), particles thin (PM<sub>2,5</sub>), dioxide of sulfur (SO<sub>2</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and tropospheric ozone (O<sub>3</sub>). Of the 21 points established in two different air quality assessment programs, only 2 points exceeded the current standard for 1 type of analysis in only one isolated month of the year 2024 each. **Conclusion:** Policy of air quality control in Greater Vitória is effective and it has yielded good results, in addition to achieving its proposed goals.

**Keywords:** Air quality. Public health policy. Pollutants. Particulate matter .



## 18. THE PERCEPTION OF PHYSIOTHERAPY INTERNS REGARDING FUNCTIONAL CIRCUIT TRAINING IN THE PREVENTION AND REHABILITATION OF COMORBIDITIES IN THE ELDERLY: AN EXPERIENCE REPORT

### *A PERCEPÇÃO DOS ESTAGIÁRIOS DE FISIOTERAPIA SOBRE O CIRCUITO FUNCIONAL NA PREVENÇÃO E REABILITAÇÃO DE COMORBIDADES EM IDOSOS: UM RELATO DE EXPERIÊNCIA*

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**Introduction:** Aging is a natural process that entails physiological and functional changes capable of impacting the autonomy and quality of life of the elderly. In this context, physiotherapy plays an essential role in promoting health and preventing disabilities, stimulating active aging. The functional circuit stands out as an effective tool, as it integrates exercises aimed at muscle strengthening, balance, coordination, and endurance, contributing to improved functionality and self-confidence. **Objective:** To report the perception of physiotherapy interns on the importance of the functional circuit in the prevention and rehabilitation of comorbidities in the elderly. **Method:** This is an experience report developed from the supervised physiotherapy internship in the area of elderly health, carried out at the Higher School of Sciences of the Santa Casa de Misericórdia de Vitória (EMESCAM). The internship takes place twice a week, on Mondays and Thursdays, and involves the participation of 25 active elderly people of both genders. The activities are in a functional circuit format with five dual-task stations focused on developing strength, balance, motor coordination, agility, and concentration, adapted to the level of difficulty for each participant. The experiences were observed and recorded throughout the internship period, prioritizing functional development and the engagement of the elderly participants in the proposed activities. **Results:** During the development of the activities, significant advances in the functional capacity of the elderly participants were observed. Many showed improvement in balance, coordination, and muscle strength, which directly reflected in the execution of activities of daily living. In addition to physical gains, greater disposition and self-confidence were also noted, factors that contributed to independence and general well-being. The socialization provided by group work fostered affective bonds and a welcoming environment, where care and mutual encouragement became an essential part of the sessions. The active and constant involvement of the participants enhanced the results, highlighting the relevance of physiotherapy follow-up in healthy aging. **Conclusion:** The experience in the elderly health internship provided technical learning and human growth. Monitoring the progress of older adults in functional circuit activities allowed us to understand how movement and continuous stimulation contribute to preventing and rehabilitating comorbidities. Thus, the functional circuit is confirmed as an essential tool for promoting health and strengthening active and healthy aging.

**Keywords:** Elderly person. Prevention. Rehabilitation. Physiotherapy. Physical exercise.



## 19. ACCESS TO REHABILITATION AND ITS IMPACT ON FUNCTIONALITY AND QUALITY OF LIFE IN A PARA-ARCHERY ATHLETE: A CASE REPORT

### *ACESSO À REABILITAÇÃO E SEU IMPACTO SOBRE A FUNCIONALIDADE E QUALIDADE DE VIDA DE UM PARATLETA DE TIRO COM ARCO: RELATO DE CASO*

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**Introduction:** Physiotherapeutic rehabilitation is essential to ensure functionality, especially for para-athletes, who may have physical limitations and require rehabilitation to meet the demands of sports. In this context, the physiotherapy care provided by the Clinic-School of the Higher School of Sciences of Santa Casa de Vitória (EMESCAM), in partnership with the Sports Secretariat of Espírito Santo (SESPORT), offers continuous support for adapted sports free of charge. **Objective:** To highlight the importance of physiotherapeutic rehabilitation for para-athletes, showing how care contributes to performance and functional independence, through the description of a case followed during a supervised orthopedic internship at a teaching clinic. **Method:** This is a case report developed from information collected during a physiotherapy internship in the orthopedics sector of EMESCAM, attending to athletes from SESPORT. **Results:** Male patient, 43 years old, para-athlete, archery practitioner. During a competition, he experienced an episode of exertion that resulted in a muscle injury of the serratus anterior, leading to the interruption of his sports practice. The patient sought treatment at SESPORT, through EMESCAM. The initial assessment revealed reduced muscle strength, range of motion, and impaired scapular motor control, compromising the stability necessary for the sporting movement. The therapeutic plan focused on restoring mobility, strengthening, pain reduction, and optimizing motor control. Interventions included joint mobilizations, closed and later open kinetic chain exercises, and active-assisted training. This resulted in progressive improvement, facilitating a gradual return to sports activities. **Conclusion:** Access to physiotherapy rehabilitation proved essential for maintaining functionality and safety in sports practice. Individualized intervention improved the sporting movement, prevented relapses, and positively impacted quality of life. Follow-up allowed for adjustments according to clinical progress, reinforcing the importance of services that ensure accessible physiotherapy care for adapted sports.

**Keywords:** Sports for People with Disabilities. Physiotherapy. Paralympic athletes. Meningomyelocele.



## 20. COMPARATIVE EVALUATION BY SEMANTIC SIMILARITY OF LANGUAGE MODELS IN THE DESCRIPTION OF GENE FUNCTIONS

### *AVALIAÇÃO COMPARATIVA POR SIMILARIDADE SEMÂNTICA DE MODELOS DE LINGUAGEM NA DESCRIÇÃO DE FUNÇÕES GÊNICAS*

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**Introduction:** Interpreting gene function is a health equity challenge. Large Natural Language Models (LLMs) are proposed to translate biomolecular descriptions into accessible language, but it remains to be seen whether these responses preserve the biomedical content of curated sources. **Objective:** To compare LLMs in their ability to generate functional gene descriptions that are semantically close to the “gold standard” reference. **Method:** We used genes associated with hereditary ataxia as a model. For each gene, we used the “*Function*” section of the Swiss-Prot (Homo sapiens) entry from UniProt as a reference. Six generalist LLMs — ChatGPT-4 (OpenAI), Claude (Anthropic-claude-3-7-sonnet-20250219), Gemini Pro (Google-gemini-1.5-pro), Perplexity (sonar), DeepSeek-V2, and Grok (xAI-v1) — responded to a standardized prompt, without biomedical adjustments. Each response was compared to the reference by semantic similarity via SapBERT *embeddings* and cosine similarity (0 = no proximity; 1 = high conceptual overlap). We calculated the mean, standard deviation, and proportion of descriptions above thresholds (>0.50; >0.70; >0.85). Differences between models were assessed with paired nonparametric tests and Bonferroni correction. **Results:** All models generated functionally relevant descriptions, but with uneven performance. Perplexity showed the highest mean similarity ( $\approx 0.78$ ), followed by Claude ( $\sim 0.77$ ) and Grok ( $\sim 0.77$ ). DeepSeek ( $\sim 0.76$ ) and ChatGPT-4 ( $\sim 0.74$ ) were in an intermediate range. Gemini had the lowest mean ( $\sim 0.72$ ) and the greatest variability. At a threshold  $>0.85$  — an indicator of a potentially safe response for clinical communication — Perplexity, Claude, and Grok had the highest proportions; Gemini was below. Differences between models were statistically significant in most paired comparisons. Genes such as CLN8, CAMTA1, FGF14, PLEKHG4, and NIPA1 were difficult for all, marking areas of higher informational risk. **Conclusion:** LLMs approximate, to varying degrees, the curated functional descriptions. Perplexity, Claude, and Grok exhibited better semantic alignment; Gemini showed lower fidelity and greater instability; ChatGPT-4 and DeepSeek were in an intermediate position. LLMs can support communication in rare disease genomics and health education, but should not be used in isolation for clinical counseling. Outlier genes require specialized human validation before any clinical use.

**Keywords:** Hereditary ataxia. Genomics. Artificial intelligence. Health communication.



## 21. STRATEGIES FOR CHILDHOOD ACCIDENT PREVENTION: A SYSTEMATIC REVIEW

### *ESTRATÉGIAS DE PREVENÇÃO DE ACIDENTES NA INFÂNCIA: UMA REVISÃO SISTEMÁTICA*

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**Introduction:** Childhood accidents constitute a complex and multifactorial problem, whose etiology involves interactions between structural, behavioral, and sociocultural determinants that modulate children's exposure to environmental risks. Events such as drownings, traffic accidents, poisonings, and burns emerge from the convergence of failures in parental supervision, precarious domestic and community infrastructure, and insufficient public policies aimed at child protection. In the Brazilian context, such occurrences maintain a high magnitude and persistence, reflecting socioeconomic inequalities and gaps in health promotion. Evidence from the Ministry of Health indicates that preventable accidents make up a substantial portion of pediatric emergencies, revealing the need for systematic and continuous interventions. In this scenario, educational strategies, associated with the reorganization of care devices and the adoption of preventive campaigns, are essential to mitigate vulnerabilities and strengthen a culture of prevention. **Objective:** To seek strategies for the prevention of childhood accidents as a public policy. **Method:** This is a literature review conducted in November 2025 on PubMed, using the MeSH descriptors ("Accident Prevention" AND Childhood). Inclusion criteria were: publication date within the last 5 years and free articles. This search yielded 14 articles, of which 2 were excluded due to their titles. The remaining 12 articles met the proposed criteria and were analyzed. **Results:** The synthesis of the 12 studies shows that childhood accident prevention should be structured as an intersectoral public policy, combining health education, digital guidance technologies, community campaigns, and environmental adaptations. Educational interventions – in-person, school-based, or based on apps and mHealth – demonstrate great effectiveness in increasing knowledge and modifying the behaviors of parents, grandparents, and children, reducing the risks of falls, burns, poisonings, traffic accidents, and other accidents. Primary care is highlighted as a key point for continuous counseling, while schools and communities function as strategic environments for collective action. Furthermore, studies emphasize that children's limited perception of risk makes adult responsibility and the creation of safer environments essential, including rules, labeling, urban infrastructure, and educational materials. **Conclusion:** Taken together, the evidence suggests that effective public policies must integrate education, surveillance, technology, and environmental protection to reduce childhood accidents.

**Keywords:** Prevention. Childhood. Accidents.



## 22. VIRTUAL REALITY IN HAEMODIALYSIS: SAFETY AND AUTONOMIC RESPONSE TO EXERCISE

### *REALIDADE VIRTUAL NA HEMODIÁLISE: SEGURANÇA E RESPOSTA AUTÔNOMICA AO EXERCÍCIO*

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**Introduction:** Physical inactivity is common in people undergoing hemodialysis and increases cardiovascular risk. Intradialytic exercise improves functional capacity, but adherence is low. Virtual reality (VR) emerges as a motivating and accessible alternative, although its impact on autonomic modulation still needs to be proven. Heart rate variability (HRV) indicates the autonomic response and safety of this intervention. **Objective:** To compare the acute effects of intradialytic exercises performed with VR and with a conventional cycle ergometer on HRV indices in patients with Chronic Kidney Disease (CKD). **Method:** Randomized crossover clinical trial with 23 participants. Each participant performed 10 sessions with VR and 10 with a cycle ergometer, in alternate weeks. The sessions lasted 15 minutes, with moderate intensity (40–59% of heart rate reserve). HRV was analyzed in the time domain (RMSSD and SDNN), comparing rest and exercise in both modalities. **Results:** During hemodialysis, mean HRV values were similar between modalities (RMSSD: RV  $16.7 \pm 11.2$  ms vs. cycle ergometer  $15.9 \pm 10.4$  ms,  $p=0.78$ ; SDNN: RV  $21.4 \pm 13.9$  ms vs.  $22.0 \pm 12.7$  ms,  $p=0.84$ ), indicating autonomic equivalence and cardiovascular safety in both forms of exercise. Both exercises significantly reduced HRV relative to rest (RMSSD  $20.8 \pm 8.6 \rightarrow 14.3 \pm 7.1$  ms,  $p = 0.01$ ; SDNN  $31.2 \pm 11.5 \rightarrow 23.6 \pm 9.8$  ms,  $p < 0.01$ ), reflecting the expected sympathetic modulation during exertion. **Conclusion:** VR during hemodialysis showed an autonomic response and safety profile equivalent to conventional exercise, proving to be a viable, motivating, and safe alternative to integrate into intradialytic rehabilitation programs.

**Keywords:** Chronic Kidney Disease; Hemodialysis; Virtual Reality; Heart Rate Variability.



### 23. EARLY CHILDHOOD AS A PRIORITY: ANALYSIS OF THE MUNICIPAL PLAN OF PRESIDENTE KENNEDY AND THE CHALLENGES FOR ENSURING RIGHTS

#### *PRIMEIRA INFÂNCIA COMO PRIORIDADE: ANÁLISE DO PLANO MUNICIPAL DE PRESIDENTE KENNEDY E DOS DESAFIOS PARA A GARANTIA DE DIREITOS*

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**Introduction:** The recognition of Early Childhood (0 to 6 years) as a crucial period for human development has driven the creation of specific municipal public policies. In the municipality of Presidente Kennedy (ES), this commitment was formalized with Law No. 1,776/2024, which established the Municipal Plan for Early Childhood (PMPI). The PMPI is a cross-cutting and multi-sectoral planning document with a validity of 10 years (2023 to 2033), aligned to the March Legal from the First Infancy and to the principle from the The child's absolute priority. This policy aims to overcome local vulnerabilities and ensure the full development of all children, from planning to budget management. **Objective:** To analyze the structure, management mechanisms, and strategic axes of the Municipal Plan for Early Childhood in Presidente Kennedy. **Method:** This is a documentary study based on Law No. 1,776/2024, which establishes the PMPI, and on the technical documents that supported its elaboration: the Situational Diagnosis of Early Childhood, the Systematization of Results from Listening to Children, and the General Summary of the Training Pathways of the Capixaba Childhood Program (PIC). The analysis focused on the articulation between the vulnerabilities identified and the actions, goals, and management mechanisms proposed in the plan. **Results:** The PMPI was constructed through a participatory process that involved listening to children, dialogue with families, and the participation of public agents in training pathways. The diagnosis identified high social vulnerability (64.8% of the population registered in the Unified Registry for Social Programs), insufficient infrastructure, and a lack of specialized services, such as neuropsychiatry and child psychiatry, in addition to the need to expand daycare places. The plan's structure is organized into four axes: (1) Social Assistance and Rights Guarantee System, with the implementation of the SCFV (Social and Community Strengthening Service) and the qualification of the SGD (Rights Guarantee System); (2) Early Childhood Education, prioritizing the expansion of places, adaptation of spaces, and active outreach; (3) Child Health, with preventive actions, encouragement of breastfeeding, expansion of vaccination coverage, and hiring of specialists; and (4) Right to Play, Culture, Leisure, and Sport, including new projects and facilities, such as the Olympic Village. Governance is conducted by the PMPI Intersectoral Committee, involving 11 public bodies and representatives of civil society, responsible for coordinating integrated actions. Legislation establishes annual monitoring and quadrennial evaluation to ensure continuous adjustments. **Conclusion:** The PMPI represents a significant advance in municipal policy by transforming diagnosis and listening to children into legal commitments and structuring actions. Intersectorality, budget allocation, and social control constitute essential pillars for addressing vulnerabilities and ensuring the rights of early childhood in Presidente Kennedy.

**Keywords:** Early Childhood. Public Policies. Intersectorality. Rights Guarantee System. Public Management.



## 24. STRENGTHENING PUBLIC HEALTH POLICIES IN THE FIGHT AGAINST CONGENITAL SYPHILIS

### *FORTALECIMENTO DE POLÍTICAS PÚBLICAS DE SAÚDE NO COMBATE À SÍFILIS CONGÊNITA*

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**Introduction:** The National Policy for Comprehensive Child Health Care (PNAISC) ensures care during pregnancy, childbirth, and child development, and is linked to controlling the number of cases of congenital syphilis in Brazil, since children of gestational age and pregnant women are considered integral parts of the health rights established by law. Therefore, it is important to highlight the need for public policies that enable pregnant women to access preventive health services for congenital syphilis. **Objective:** To describe the importance of public policies in combating congenital syphilis. **Method:** This is an integrative review conducted using the PubMed database, where the MeSH terms "Syphilis," "Health," and "Pregnancy" were applied to collect complete scientific samples in English and Portuguese from the last 5 years. For exclusion criteria, scientific abstracts and articles not related to the subject matter were removed based on the reading of titles and abstracts. **Results:** 620 results were generated; after applying full-text filters, a total of 600 samples were obtained. From reading the titles, 90 articles matched the research; from reading the abstracts, 21 were used for full reading, and 16 comprised the final sample. The studies showed that congenital syphilis is strongly linked to social disparities surrounding the female population in areas where education, literacy, and access to health services related to planned pregnancy are restricted. In particular, pregnant women residing in peripheral areas have less access to medical consultations, screening tests, and especially health education about STIs. This relates to SDG 10, which aims to reduce inequalities in access to quality healthcare during pregnancy. Bill 438/25, currently under consideration in the Chamber of Deputies, aims to establish a policy to combat syphilis, enabling the protection of newborns and pregnant women, thus contributing to the reduction of infant mortality from congenital syphilis. However, there is a perceived need for public policies that contribute to expanding access to rapid serological testing and that emphasize the importance of prenatal care during pregnancy. **Conclusion:** Therefore, the relevance of combating congenital syphilis is evident, aiming to mitigate social inequalities in access to healthcare for pregnant women, allowing for the expansion of early diagnosis of the disease and increased vaccination coverage against congenital syphilis.

**Keywords:** Syphilis. Health. Pregnancy.



## 25. DOMESTIC VIOLENCE AGAINST PREGNANT WOMEN: THE ROLE OF PUBLIC POLICIES IN COMBATING THIS PROBLEM

### *VIOLÊNCIA DOMÉSTICA CONTRA MULHER GESTANTE: A IMERSÃO DE POLÍTICAS PÚBLICAS NO COMBATE A ESSA PROBLEMÁTICA*

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**Introduction:** Domestic violence involves physical assaults, psychological abuse, and sexual violence perpetrated by an intimate partner, constituting a serious violation of women's reproductive rights and a challenge to achieving SDG 5, which aims to eliminate all forms of gender-based violence. Within the Brazilian Unified Health System (SUS), the National Policy for Comprehensive Women's Health Care establishes guidelines to guarantee equitable access to health, reduce female mortality, and expand care during pregnancy. **Objective:** To analyze the effectiveness of public health policies aimed at protecting pregnant women in situations of domestic violence. **Method:** This is an integrative review, in which full texts in English and Portuguese were selected using the DeCS terms "Violence" AND "Pregnant People" AND "Health". For inclusion criteria, articles from the last 5 years were selected through reading the titles and abstracts collected from the PubMed database. **Results:** Initially, 375 results were obtained, from which 80 articles were selected through title analysis. After reading the abstracts, 15 texts were identified for the final sample. The studies show that domestic violence against pregnant women is a significant public health problem, with physical, psychological, social, and economic repercussions. Most aggressions are perpetrated by intimate partners, primarily affecting Black women in situations of social inequality. The Maria da Penha Law represents a fundamental milestone in protection; however, femicides, including among pregnant women, remain high. Violence during pregnancy is associated with complications such as pre-eclampsia and worse maternal-fetal outcomes. The need for public policies that strengthen early identification, support, and intersectoral care in primary health care is highlighted, ensuring protection for both the pregnant woman and the fetus. **Conclusion:** The need for public policies that reduce the social vulnerability of pregnant women, expand their economic autonomy, and strengthen protection and care networks in the community was observed. Intersectoral strategies, coordination with security services, professional training, and expanded access to healthcare are essential to prevent, identify, and combat domestic violence during pregnancy.

**Keywords:** Violence. Pregnant women. Health.



## 26. PERCEPTION OF AN AQUARIUM OUTING WITH INSTITUTIONALIZED OLDER ADULTS IN PALLIATIVE CARE: AN EXPERIENCE REPORT

### *PERCEPÇÃO DE UM PASSEIO NO AQUAVIÁRIO COM IDOSOS INSTITUCIONALIZADOS EM CUIDADOS PALIATIVOS: UM RELATO DE EXPERIÊNCIA*

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**Introduction:** Physiotherapeutic intervention in palliative care within the context of institutionalized elderly individuals aims to promote quality of life, comfort, autonomy, and biopsychosocial well-being. The extension project "Rehabilitation and assistance to institutionalized geriatric patients: A Palliative Care approach" focuses on preventing complications, promoting health, and rehabilitating elderly residents of the Monsenhor Alonso Shelter Center, in addition to demystifying the pejorative concept of "palliative care" as solely focused on end-of-life care. The project offers institutionalized elderly individuals opportunities for social interaction through group and leisure activities, such as an outing to the Vitória water park. **Objective:** To report the perceptions of the students participating in the extension project during the outing with the elderly from the Monsenhor Alonso Shelter Center on November 12, 2025. **Method:** This is an experience report developed by the 6th-semester Physiotherapy students of the Higher School of Sciences of the Santa Casa de Misericórdia de Vitória – EMESCAM. The group accompanied the elderly on a trip on the Vitória water bus, using an adapted bus from the Águia Branca company. The elderly boarded the Vitória water bus bound for the Prainha water bus. There, they walked, ate, and took photos. The return trip initially took place on the same water bus, from Prainha to Praça do Papa in Vitória. Finally, the elderly continued to the Monsenhor Alonso Shelter Center on the adapted bus, concluding the outing. Throughout the journey, the elderly participants were accompanied by the social worker from the care center, the students, and the coordinating professor of the extension project. **Results:** An improvement in the social interaction and emotional well-being of the patients was observed. One elderly person, who had not left the institution for a long time, showed motivation and communication during the outing. Another participant, diagnosed with schizophrenia, who does not usually interact with the students in the project, displayed sociable behavior and sang. The outing was covered by the media, including interviews with the coordinating professor, the institution's social worker, one of the students, and the elderly participants themselves, highlighting the social impact of the activity. **Conclusion:** The outing provided physical, emotional, and social benefits to the elderly, reinforcing the importance of care strategies centered on dignity and connection, with comprehensive care for rehabilitation, disease prevention, and health promotion. The experience demonstrated the potential of physiotherapists in palliative care to promote quality of life through experiences that extend beyond the institutional environment.

**Keywords:** Palliative care. Institutionalized elderly. Physiotherapy.



## 27. THE IMPORTANCE OF PUBLIC POLICIES IN ADDRESSING CHILD SEXUAL ABUSE

### *A IMPORTÂNCIA DAS POLÍTICAS PÚBLICAS NO ENFRENTAMENTO DO ABUSO SEXUAL INFANTIL*

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**Introduction:** Mental disorders related to childhood sexual abuse (CSA) have become a significant social and public health problem. Individuals who suffered sexual abuse in childhood experience considerable impacts during adulthood and throughout their lives, including mental and physical illnesses and self-harming behaviors, resorting to self-medication, alcohol use, and chemical substances to alleviate traumatic symptoms associated with painful emotional feelings, stress, and trauma due to CSA. This interferes with communication and social coping skills. **Objective:** To describe the relationship between the benefits of implementing public policies for individuals with mental disorders due to childhood sexual abuse. **Method:** This is a literature review based on scientific articles from the PUBMED database. The search terms used were "Mental Disorders," "Public Policy," and "Child Abuse, Sexual." **Results:** Initially, the research comprised a total of 45 results, with approximately 25 scientific articles analyzed by title. Of these, 19 publications from the last 5 years were selected for abstract reading. Subsequently, after the research was completed, approximately 9 scientific articles were requested for full-text reading and composition. The studies showed that mental disorders related to sexual abuse cause significant impacts during the adulthood of the victims. This type of violence triggers psychopathologies including depression, personality disorder, anxiety, suicidal ideation, self-harm, and substance dependence, such as alcohol and drugs. Sexual abuse can increase the risk of alcohol dependence and disorders by 45%, and self-harm by 35%, in addition to unprotected sex and premature mortality. Therefore, there is a need for clinical and psychological management throughout the lives of these individuals, guaranteeing and ensuring the implementation of public policies at the regional, national, and global levels for psychological support and prevention of these risk factors. **Conclusion:** Considering the aspects presented in the study, it is essential to understand the sociodemographic magnitude and the burden of disease caused by ASI (Acute Sinus Syndrome). Furthermore, greater oversight is needed to ensure the implementation of public policies that guide public health intervention strategies.

**Keywords:** Mental Disorder. Public Policy. Child Sexual Abuse.



## 28. RIGHT TO CARE: THE EFFECTIVENESS OF MENTAL HEALTH POLICIES AND THE CONSEQUENCES OF ILLNESS AMONG WORKERS

### *DIREITO AO CUIDADO: A EFICÁCIA DAS POLÍTICAS DE SAÚDE MENTAL E AS CONSEQUÊNCIAS DO ADOECIMENTO ENTRE TRABALHADORES*

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**Introduction:** The need for urgent attention to mental health on a global scale has grown recently, given the cultural relevance of exacerbated productivity through comparison, which indicates personal and professional value based on expected results from others, leading to a weakening of mental health. Considering the interventions to be taken through health strategies and public policies, improvements in working conditions, remuneration, and benefits for workers are expected, through greater oversight in the fulfillment of established policies, in addition to the promotion, prevention, and recovery of individuals facing physical and mental exhaustion, considering factors such as: environmental conditions, social inequalities, and basic services involving workers, to reduce the impacts on mental health. **Objective:** To describe the relationship between factors of poor work conditioning that lead to the onset of mental disorders and their consequences. **Method:** This is a literature review based on the reading of scientific articles from the PUBMED database. The search terms used were “Public Policy” AND “Work” AND “Mental Disorders”. **Results:** Initially, the research comprised a total of 2,508 results, with approximately 18 scientific articles analyzed by title. From these, 15 publications from the last 5 years were selected for abstract reading. Subsequently, after the research was completed, approximately 6 scientific articles were requested for full-text reading and composition. The studies showed that the weakening of the mental health of workers in various areas is related to sleep deprivation, exhausting work schedules and shifts, leading to excessive fatigue, depression, and physical and mental health problems. Inappropriate work environments, in addition to emotional overload and pressure to meet targets aligned with low pay, are determining factors for mental breakdown. The consequences faced are low productivity, psychological damage, and absence from the workplace, consequently leading the employer and subsequently public bodies to cover paid leave during treatment. This issue involves not only a social imperative but also a financial one for companies. **Conclusion:** Considering the aspects presented in the study, progress is expected in the review of public policies in order to promote the physical and mental well-being of the active working population.

**Keywords:** Public policy. Work. Mental disorder.



## 29. ACCESS TO REHABILITATION AND ITS IMPACT ON RETURN TO SPORT IN PARA-ATHLETES TREATED AT A PHYSIOTHERAPY CLINIC-SCHOOL: CASE REPORT

### *ACESSO À REABILITAÇÃO E SEU IMPACTO SOBRE O RETORNO AO ESPORTE EM PARATLETAS ATENDIDOS EM CLÍNICA-ESCOLA DE FISIOTERAPIA: RELATO DE CASO*

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**Introduction:** Paralympic sport has become an important tool for social inclusion, as well as an effective therapeutic resource in promoting health for Paralympic athletes. Sports practice significantly contributes to strengthening self-esteem, autonomy, and quality of life for these individuals, favoring their social integration and psychological well-being. However, the high level of physical demands in Paralympic sports exposes athletes to an increased risk of musculoskeletal injuries, which can result in temporary absences from training and competitions. In this context, the physiotherapist plays an essential role, acting preventively, therapeutically, and rehabilitatively. Despite its relevance, access to physiotherapy treatment still represents a challenge for many athletes with disabilities, due to the treatment costs and the limited availability of places in public services. **Objective:** To describe the experience of physiotherapy students during their supervised internship in the orthopedics sector, focused on the care of para-athletes in a teaching clinic, highlighting how continuous access to rehabilitation contributed to the return-to-sport process. **Method:** This case report is based on activities carried out during the orthopedic physiotherapy internship at the Escola Superior de Ciências da Santa Casa de Misericórdia de Vitória (EMESCAM), accompanying para-athletes treated at the Espírito Santo State Sports Secretariat (SESPORT). Information was gathered through direct observation, clinical records, and practical experiences in the supervised care. **Results:** During the rehabilitation period, a progressive improvement in functional aspects was observed among the para-athletes treated. Many began treatment away from sports training, reporting pain, a recent history of injuries, movement restrictions, and insecurity about returning to training. With regular physiotherapy follow-up, it was possible to identify significant advances, especially in motor control, muscle strength, and stability. The internship experience allowed the students to observe that continuous access to rehabilitation favored not only functional recovery but also the engagement and confidence of the para-athletes. Feeling supported, welcomed, and guided, the patients demonstrated greater confidence in returning to sport, as well as improvements in their quality of life. This experience reinforced, for the students, the importance of regular and structured care for a safe return to sport. **Conclusion:** Continuous and qualified access to physiotherapy rehabilitation is crucial for the functionality and safe return of para-athletes to sport, consolidating sports practice as a tool for inclusion and quality of life.

**Keywords:** Physiotherapy. Quality of life. Return to sport. Para-athletes.



### 30. YOUTH, VAPING AND HEALTH: PERCEPTIONS, RISKS AND SOCIAL INFLUENCES IN ESPÍRITO SANTO

#### *JOVENS, VAPE E SAÚDE: PERCEPÇÕES, RISCOS E INFLUÊNCIAS SOCIAIS NO ESPÍRITO SANTO*

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**Introduction:** This research addresses the use and perception of electronic cigarettes in a sample of 108 participants residing predominantly in urban areas of Espírito Santo. The study arises from the growing popularity of these devices, especially among young adults, and the need to understand their perceptions regarding health risks, use, regulation, and social influence, in order to support the development of a technology. **Objective:** To describe the knowledge, attitudes, and experiences of young people regarding the use of electronic cigarettes. **Method:** Quantitative research with university students aged 18 to 29, residing in the Greater Vitória/ES Metropolitan Region. The sample, obtained by convenience and snowball sampling, included participants with access to social networks, email, or WhatsApp. A questionnaire was administered and answered remotely. The selected young people already possessed some prior knowledge of the topic. The research aimed to contribute to the development of a technology focused on this issue. This research is part of a project funded by FAPES Notice 28/2022 – UNIVERSAL, “Educational Technology focusing on the risks and harms of using Electronic Cigarettes: Caring for Yourself and Others”, TO nº 878/2023. **Results:** The majority of respondents were female (55.6%). Of the participants, 75% had already tried electronic cigarettes, although regular use is less common. 38% reported occasional social use. The majority live with regular users (73.1%). Regarding risk perception, 63 participants considered electronic cigarettes more harmful than traditional cigarettes, and 36 saw them as equally harmful. The majority do not believe in the effectiveness of electronic cigarettes for smoking cessation. The reports point to a significant openness to abandoning use through awareness of the risks. Despite this, 82.4% are aware of the associated health risks; 96.3% indicate that the design, flavors, and technology attract young people to using the device, highlighting the need for strict regulation on marketing and sales. **Conclusion:** The research reveals that young people are aware of the risks associated with vaping, including awareness of health harms. There is a high level of experimentation with such devices among this population, but habitual use is limited. The findings point to the need for educational initiatives, as well as more rigorous and comprehensive regulations aimed at preventing consumption, especially among young people. It is evident that the lack of confidence in the effectiveness of electronic cigarettes for smoking cessation increases the need to implement public policies based on scientific research.

**Keywords:** Electronic Cigarette. Health. Smoking. Media. Youth.



### 31. ON THE FRONT LINES OF THE MEDIA: REFLECTIONS ON NEWS ABOUT ELECTRONIC CIGARETTES

#### *NA LINHA DE FRENTE DA MÍDIA: REFLEXÕES SOBRE NOTÍCIAS ACERCA DOS CIGARROS ELETRÔNICOS*

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**Introduction:** In Brazil and worldwide, the use of electronic cigarettes is growing alarmingly, posing a serious public health challenge. This growth stems from misinformation about them as a possible alternative for reducing and/or quitting tobacco use; however, they use liquids containing chemical substances such as chromium, iron, lead, zinc, aluminum, and silicon, which can cause serious harm to the body. Understanding that the media plays a significant role in shaping opinion and transmitting information, it becomes relevant to analyze how and from what perspective the news reports on this topic are presented, especially since it is a new product with an attractive appearance gaining greater visibility. The media is seen as an influential tool that shapes individuals' perception and interaction with new products and behaviors. **Objective:** To analyze the content of media narratives about electronic cigarettes in a major national communication channel in 2024. **Method:** This is a methodological research study with a qualitative approach. Initially, a narrative review was conducted. Following this, news articles on the topic of electronic cigarettes were collected. For this study, g1 - Globo's news portal - was chosen due to its easy accessibility for the population. Data analysis was performed using content analysis. **Results:** The research identified 58 news reports related to the topic. After excluding duplicates and extremely brief notes (n=23), the remaining reports were read in full (n=35). Then, the previously defined inclusion/exclusion criteria were applied, resulting in the final selection of 10 reports for analysis. The following categories of analysis were identified: Mental health, Health risks and risks related to early use and the illegality of production, Nicotine dependence, Increased use among young people, Regulation and illegality. **Conclusion:** The scenario highlights the urgent need for oversight of coordinated actions between the government, health institutions, and digital platforms to contribute effectively to health promotion and reliable information about these devices, especially since, depending on media reports, the outcome could misinform or reinforce stigmas about the use of e-cigarettes. Therefore, challenging the consumption of e-cigarettes requires multifactorial collaboration to protect the population and promote healthy habits.

**Keywords:** Electronic Cigarette. Health. Smoking. Media.



**32. DEFICIENT PROFESSIONAL TRAINING AND THE BIOMEDICAL MODEL:  
IMPLICATIONS FOR COMPREHENSIVE ACCESS TO ORTHOTICS, PROSTHETICS,  
AND ASSISTIVE DEVICES FOR LOCOMOTION**

***CAPACITAÇÃO PROFISSIONAL DEFICITÁRIA E O MODELO BIOMÉDICO: IMPLICAÇÕES  
PARA A INTEGRALIDADE NO ACESSO ÀS ÓRTESES, PRÓTESES E MEIOS AUXILIARES DE  
LOCOMOÇÃO***

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**Introduction:** Professional qualification in Assistive Technology (AT) is a central element for the proper evaluation, prescription, and monitoring of orthoses, prostheses, and assistive mobility devices. However, the literature shows a persistent gap in training, associated with the predominance of the biomedical model, which reduces the understanding of disability to the biological aspect and compromises the comprehensiveness of care within the Brazilian Unified Health System (SUS). **Objective:** To examine how the lack of specific training and the predominance of the biomedical model impact access to and effectiveness of rehabilitation, highlighting repercussions on autonomy, equity, and continuity of care. **Methods:** This abstract derives from a thematic selection of a scoping review composed of 13 articles, 7 of which directly addressed the lack of professional training and the maintenance of the biomedical model as structural barriers to access to these services. The synthesis was organized based on the analytical categories of the dissertation: role of the State, expressions of the social question, right to and access to health, and proposals for improvements. The evidence was extracted based on discursive textual analysis. **Results:** Studies indicate that the lack of specific training in assistive technology (AT), coupled with the centrality of the biomedical model, results in incomplete assessments, inadequate prescriptions, abandoned or underutilized devices, and weaknesses in the issuance of technical reports, an essential step in the care pathway. This gap particularly affects regions with a lower supply of qualified professionals, deepening territorial inequalities and making access to care dependent on local availability. The lack of specializations, multi-professional residencies, and continuing education policies reinforces curricula centered on technical expertise, disregarding the subjectivity and diversity of people with disabilities. **Conclusion:** The predominance of the biomedical model and insufficient professional training are central barriers to access to assistive technology, with direct impacts on the quality of rehabilitation. Overcoming these barriers requires investments in continuing education, inclusion of AT in undergraduate curricula, strengthening of primary care, definition of multi-professional responsibilities, and encouragement of international cooperation for innovation and professional qualification.

**Keywords:** Professional qualification. Biomedical model. Assistive technology. Rehabilitation. People with disabilities.



### 33. FULL-TIME EDUCATION IN THE STATE OF ESPÍRITO SANTO: ANALYSIS OF THE CAPIXABA PROGRAM FOR SUPPORTING THE IMPLEMENTATION OF FULL-TIME MUNICIPAL ELEMENTARY SCHOOLS (PROETI)

#### *EDUCAÇÃO EM TEMPO INTEGRAL NO ESTADO DO ESPÍRITO SANTO: ANÁLISE DO PROGRAMA CAPIXABA DE FOMENTO À IMPLEMENTAÇÃO DE ESCOLAS MUNICIPAIS DO ENSINO FUNDAMENTAL EM TEMPO INTEGRAL (PROETI)*

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**Introduction:** The expansion of school-based education is a relevant strategy in the Brazilian educational landscape, aiming to promote meaningful learning, reduce inequalities, and foster the integral development of students. In Espírito Santo, the Capixaba Program for the Promotion of the Implementation of Municipal Elementary Schools in Full-Time Education (Proeti), conceived by the State Secretariat of Education (SEDU-ES), stands out with the purpose of strengthening municipal networks in the process of extending the school day and improving pedagogical practices. **Objective:** This work aims to analyze and present the guidelines, strategies, and purposes of Proeti, highlighting its contribution to the integral formation of students and to the improvement of educational quality. **Method:** The methodology adopted consists of documentary and descriptive analysis, based on official data from the School Census and institutional information provided by the State Secretariat of Education of Espírito Santo. The operational structure of the program, the areas of action, as well as quantitative data regarding the expansion of enrollments and investments made were considered. **Results:** The data indicate significant progress in the implementation of comprehensive education in the state. In 2024, 12.3% of students in the public basic education system of Espírito Santo were enrolled in full-time programs. Currently, 67 municipalities have joined the program, encompassing 200 schools and 65,451 enrollments. R\$ 253,327,000.00 has been allocated to the municipalities until 2024. The program's support also includes financial assistance, with a transfer of R\$ 3,000.00 per enrollment for three years for each participating municipality, resulting in a total transfer of R\$ 9,000.00 per full-time enrollment. The program's structure is organized into five pillars: financial support; pedagogical model and management; training structure; mentoring; and sustainability. These actions strengthen articulated teaching practices, form school teams, and promote monitoring routines, expanding the culture of comprehensive education. These results demonstrate the progress and consolidation of a structured public policy that contributes to the academic, social, emotional, physical, and cultural development of students. **Conclusion:** Proeti is configured as a strategic policy for expanding full-time education in Espírito Santo, promoting not only increased enrollment but also improved school practices and a strengthened pedagogical culture. Continued investment, expansion of actions, and the undertaking of evaluative research to measure the impact on student learning and development are recommended.

**Palavras-chave:** Educação. Tempo Integral. Espírito Santo.



### 34. EFFECT OF MELATONIN SUPPLEMENTATION ON WAIST CIRCUMFERENCE IN ADULTS WITH OBESITY: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

#### *EFEITO DA SUPLEMENTAÇÃO DE MELATONINA NA CIRCUNFERÊNCIA DE CINTURA EM ADULTOS COM OBESIDADE: REVISÃO SISTEMÁTICA E METANÁLISE DE ESTUDOS CLÍNICOS RANDOMIZADOS*

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**Introduction:** Abdominal obesity, defined by the accumulation of visceral fat, represents an independent risk factor for cardiovascular disease, metabolic syndrome, and premature mortality. Waist circumference is recognized as a sensitive marker of this adiposity and a strong predictor of cardiometabolic risk. Despite the global increase in obesity, conventional interventions show limited efficacy in the sustained reduction of visceral fat, driving the search for adjuvant strategies. In this context, melatonin, endowed with antioxidant, anti-inflammatory, and lipid metabolism-modulating properties, has demonstrated potential in experimental models to reduce the accumulation of visceral fat and attenuate the progression of obesity. However, in humans, its effects on waist circumference remain inconclusive. **Objective:** To evaluate the effect of melatonin supplementation on waist circumference in individuals with obesity. **Method:** This is a systematic review with meta-analysis of randomized clinical trials that evaluated the effect of melatonin supplementation on body mass index in obese individuals, conducted according to PRISMA guidelines and with a protocol registered in PROSPERO (CRD420251161327). The search was performed in the PubMed, EMBASE, Web of Science, and Cochrane databases, using DeCS/MeSH descriptors combined with Boolean operators. Study screening and selection were conducted using Rayyan by two independent reviewers, with a third reviewer to resolve disagreements. Data extraction was performed in a paired and independent manner. The risk of bias was assessed using the Cochrane RoB 2 instrument, while the overall quality of evidence and the strength of recommendations were assessed using GRADE. **Results:** Four studies were included, totaling 136 participants. Melatonin did not reduce waist circumference when compared to placebo (MD -0.78; 95% CI -3.01 to 1.45;  $p = 0.494$ ), with zero heterogeneity. In the *leave-one-out analysis*, the sequential exclusion of each individual study did not significantly alter the direction or magnitude of the overall effect. Egger's test showed  $p > 0.05$ , indicating no publication bias. **Conclusion:** Melatonin supplementation does not reduce waist circumference in obese individuals when compared to placebo, even in a context of zero heterogeneity and consistent sensitivity analyses. The absence of evidence of publication bias reinforces the internal robustness of the findings.

**Keywords:** Waist circumference. Obesity. Melatonin. Obesity management.



### 35. EFFECTS OF MELATONIN SUPPLEMENTATION ON BODY WEIGHT IN OBESE INDIVIDUALS: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

#### *EFEITOS DA SUPLEMENTAÇÃO DE MELATONINA SOBRE O PESO CORPORAL EM INDIVÍDUOS OBESOS: REVISÃO SISTEMÁTICA E METANÁLISE DE ESTUDOS CLÍNICOS RANDOMIZADOS*

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**Introduction:** Obesity is a chronic and multifactorial disease, marked by excessive accumulation of adipose tissue and cardiometabolic repercussions, in which weight loss and, above all, maintenance of body weight reduction remain central challenges. In this context, melatonin emerges as a modulator of energy metabolism, influencing energy balance, insulin sensitivity, and caloric expenditure, and its supplementation may contribute to body weight reduction. However, the real impact of melatonin on weight is not yet fully elucidated. **Objective:** To evaluate the effect of melatonin supplementation on weight in individuals with obesity. **Method:** This is a systematic review with meta-analysis of randomized clinical trials that investigated the effect of melatonin supplementation on body weight in individuals with obesity, conducted according to PRISMA guidelines, and the protocol was registered in the PROSPERO database (CRD420251161327). The search was conducted in PubMed, EMBASE, Web of Science, and Cochrane, using DeCS/MeSH descriptors related to the topic, combined with Boolean operators. Study screening and selection were performed using Rayyan by two independent reviewers, with disagreements resolved by a third reviewer. Data extraction was performed in a paired and independent manner, and the risk of bias of the included trials was assessed using the Cochrane RoB 2 instrument, while the overall quality of evidence and strength of recommendations were evaluated using GRADE. **Results:** Four studies were included, with a sample of 161 individuals. The outcome showed a high level of evidence. The Forest plot defined positive values in favor of placebo and negative values in favor of melatonin; the slightly positive estimate suggests a minimal trend towards placebo. However, melatonin supplementation did not show a statistically significant result associated with weight change compared to placebo (MD 0.66; 95% CI -2.38 to 3.69;  $p = 0.672$ ;  $I^2 = 0.0\%$ ). Leave-one-out sensitivity analysis showed that after removing each study, the result remains non-significant with  $I^2 = 0.0\%$ . Egger's test ( $p = 0.002$ ) indicated publication bias. **Conclusion:** The findings indicate that melatonin, in isolation, does not have a clinically relevant impact on weight, reinforcing the need for well-designed randomized clinical trials with larger sample sizes to elucidate its true role as an adjunct in the management of obesity.

**Keywords:** Melatonin. Obesity. Body Weight. Obesity Management.



### 36. MELATONIN SUPPLEMENTATION AND MODULATION OF BODY MASS INDEX IN ADULTS WITH OBESITY: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

#### *SUPLEMENTAÇÃO DE MELATONINA E MODULAÇÃO DO ÍNDICE DE MASSA CORPORAL EM ADULTOS COM OBESIDADE: REVISÃO SISTEMÁTICA E METANÁLISE DE ESTUDOS CLÍNICOS RANDOMIZADOS*

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**Introduction:** Body mass index (BMI) is the main parameter for defining and classifying obesity, calculated by the ratio between weight and the square of height (m<sup>2</sup>). According to the World Health Organization, BMI values  $\geq 30$  kg/m<sup>2</sup> indicate obesity in adults. This is a serious public health problem whose prevalence and incidence have been continuously and globally increasing in recent decades. Clinical management faces significant challenges, such as the multifactorial nature of the disease, economic and social barriers, low adherence to behavioral changes, physiological defense mechanisms against weight loss, stigmatization, and limited access to pharmacological and surgical therapies. In this context, melatonin, a hormone that regulates circadian rhythm and energy metabolism, has been investigated as a potential modulator of adiposity and weight control, and may impact body mass index.

**Objective:** To evaluate the effect of melatonin supplementation on weight, body mass index, and waist circumference in individuals with obesity. **Method:** This is a systematic review with meta-analysis of randomized clinical trials that evaluated the effect of melatonin supplementation on body mass index in obese individuals, conducted according to PRISMA guidelines and with a protocol registered in PROSPERO (CRD420251161327). The search was performed in the PubMed, EMBASE, Web of Science, and Cochrane databases, using DeCS/MeSH descriptors combined with Boolean operators. Study screening and selection were conducted using Rayyan by two independent reviewers, with a third reviewer to resolve disagreements. Data extraction was performed in a paired and independent manner. The risk of bias was assessed using the Cochrane RoB 2 instrument, while the overall quality of evidence and the strength of recommendations were assessed using GRADE. **Results:** Four studies were included, with a sample of 136 participants. Melatonin did not show a statistically significant result associated with changes in body mass index compared to placebo (MD 0.39; 95% CI -0.40 to 1.17; p = 0.332; I<sup>2</sup> = 0.0%). Leave-one-out sensitivity analysis also showed a consistently non-significant result, with I<sup>2</sup> consistently low. Egger's test showed p > 0.05, indicating no publication bias. **Conclusion:** Melatonin supplementation did not significantly reduce body mass index in obese individuals when compared to placebo. The absence of heterogeneity and publication bias reinforces the consistency of the results, but further studies are needed to elucidate potential effects of melatonin.

**Keywords:** Body Mass Index. Obesity. Melatonin. Obesity Management.



### 37. USE OF EXOSKELETON IN UPPER LIMB REHABILITATION IN POST-STROKE PATIENTS: A CASE REPORT

#### *USO DO EXOESQUELETO NA REABILITAÇÃO DO MEMBRO SUPERIOR EM PACIENTE PÓS-AVC: UM RELATO DE CASO*

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**Introduction:** According to the 2019 Global Burden of Disease report, stroke is the second leading cause of death and the third leading cause of disability. Stroke encompasses various physical, cognitive, and emotional impairments, with reduced range of motion being one of the most impactful on the performance of daily activities. In this context, physiotherapy is fundamental in the rehabilitation of functionality. Beyond conventional physiotherapy, robotic technologies have emerged as promising resources for enhancing motor control, expanding movement, and providing sensory and cognitive feedback during training. However, the use of these technologies in Brazilian public services is limited, reinforcing the relevance of reporting clinical experiences that demonstrate their functional benefits. **Objective:** To describe the functional rehabilitation process of a post-stroke patient undergoing exoskeleton therapy for the upper limb. **Method:** This is a case report of a participant in the Robotic Rehabilitation with Exoskeleton for Upper Limb Post-Stroke project. The intervention took place from September to November 2025 at the EMESCAM Physiotherapy Clinic. The robotic mechanism passively performs elbow flexion and extension, forearm pronation and supination, and finger flexion and extension movements. During the execution of movements using the exoskeleton, she was encouraged to actively participate, exerting the necessary force to perform the movement and recruit muscle fibers, promoting neuroplasticity. **Results:** A 30-year-old female patient who suffered a stroke at age 25, with left hemiparesis. The patient presented with tremor, spasticity during movement, and loss of fine motor coordination, such as in opening and closing her hand, significantly compromising her functional independence. As treatment progressed, the patient showed significant functional gains, managing to reach for a glass of water on a table, bring it to her mouth, drink the water, and return it to the surface, voluntarily releasing it. This functional gain represented an important milestone in the physiotherapy treatment, assisting the patient in performing activities that recruit movements similar to those performed by the exoskeleton in her daily life. **Conclusion:** The results were promising, enabling significant functional gains such as the ability to reach for and manipulate a glass. Furthermore, it highlighted the relevance of robotic technologies as a complement to traditional physiotherapy. Although there are limitations in accessing these resources, the report reinforces the therapeutic possibilities that help improve the quality of life of patients affected by stroke.

**Keywords:** Stroke Rehabilitation. Exoskeleton. Physiotherapy Services.



### 38. THE INSERTION OF MARKET LOGIC IN PRIMARY CARE AND THE CHALLENGES FACED BY COMMUNITY HEALTH WORKERS

#### *A INSERÇÃO DA LÓGICA DE MERCADO NA ATENÇÃO PRIMÁRIA E OS DESAFIOS DO AGENTE COMUNITÁRIO DE SAÚDE*

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**Introduction:** This research analyzes the attempt to redefine "human rights" in the context of the neoliberal offensive and its influence on public health policies in contemporary Brazil. It starts from the understanding that the expansion of market rationality and austerity policies has been promoting a deconstruction of the protection of fundamental rights, reconfiguring the role of the State and subordinating social policy to the dynamics of capital. Since 2016, with the deepening crisis of liberal democracy and the advancement of the financialization of public policies, the consolidation of a management model oriented towards efficiency and productivity has been observed, redefining the meaning of public service. In the field of health, this transformation manifests itself in Primary Health Care (PHC), where goals and indicators have come to express the insertion of market logic into the Unified Health System (SUS). Care, previously centered on comprehensiveness and humanization, is being reduced to quantitative parameters that measure performance instead of bonds, listening, and welcoming. **Objective:** To show that pressure from performance indicators transforms the relationship between professionals and the community, shifting the focus from care to bureaucratic control, which generates ethical suffering and demotivation among workers. **Method:** The research adopts a qualitative approach, configuring itself as a case study based on the professional experiences of the authors themselves, both working as Community Health Agents (CHAs). Through daily observation of work in the communities, the study seeks to understand how the imposition of targets and the demand for productivity interfere with the agents' practice and the effectiveness of public policy. **Results:** The results indicate that the work of CHAs has progressively lost its humanizing and community-oriented character, becoming increasingly focused on meeting targets and feeding information systems. This dynamic of pressure highlights the contradiction between the principles of Primary Care, centered on prevention and health promotion, and the neoliberal logic of management, which prioritizes immediate and measurable results. **Conclusion:** It is concluded that the SUS (Brazilian Unified Health System), as the main assistance policy for the most vulnerable populations, has been weakened by the commodification of care practices. The prevalence of quantitative visits to the detriment of qualitative actions empties the emancipatory potential of health work and compromises the universal right to comprehensive care. Reaffirming the public and humanized character of the SUS is, therefore, an essential condition for the defense of life and human dignity.

**Keywords:** Neoliberalism. Human Rights. Unified Health System. Primary Care. Community Health Worker.



### 39. MARKET AND HEALTH: THE INSERTION OF MARKET LOGIC IN PRIMARY CARE AND THE CHALLENGES FACED BY COMMUNITY HEALTH WORKERS

#### *MERCADO E SAÚDE: A INSERÇÃO DA LÓGICA MERCADOLÓGICA NA ATENÇÃO PRIMÁRIA E OS DESAFIOS DO AGENTE COMUNITÁRIO DE SAÚDE*

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**Introduction:** This research analyzes the attempt to redefine "human rights" in the context of the neoliberal offensive and its influence on public health policies in contemporary Brazil. It starts from the understanding that the expansion of market rationality and austerity policies has been promoting a deconstruction of the protection of fundamental rights, reconfiguring the role of the State and subordinating social policy to the dynamics of capital. Since 2016, with the deepening crisis of liberal democracy and the advancement of the financialization of public policies, the consolidation of a management model oriented towards efficiency and productivity has been observed, redefining the meaning of public service. In the field of health, this transformation manifests itself in Primary Health Care (PHC), where goals and indicators have come to express the insertion of market logic into the Unified Health System (SUS). Care, previously centered on comprehensiveness and humanization, is being reduced to quantitative parameters that measure performance instead of bonds, listening, and welcoming. **Objective:** To show that pressure from performance indicators transforms the relationship between professionals and the community, shifting the focus from care to bureaucratic control, which generates ethical suffering and demotivation among workers. **Method:** The research adopts a qualitative approach, configuring itself as a case study based on the professional experiences of the authors themselves, both working as Community Health Agents (CHAs). Through daily observation of work in the communities, the study seeks to understand how the imposition of targets and the demand for productivity interfere with the agents' practice and the effectiveness of public policy. **Results:** The results indicate that the work of CHAs has progressively lost its humanizing and community-oriented character, becoming increasingly focused on meeting targets and feeding information systems. This dynamic of pressure highlights the contradiction between the principles of Primary Care, centered on prevention and health promotion, and the neoliberal logic of management, which prioritizes immediate and measurable results. **Conclusion:** It is concluded that the SUS (Brazilian Unified Health System), as the main assistance policy for the most vulnerable populations, has been weakened by the commodification of care practices. The prevalence of quantitative visits to the detriment of qualitative actions empties the emancipatory potential of health work and compromises the universal right to comprehensive care. Reaffirming the public and humanized character of the SUS is, therefore, an essential condition for the defense of life and human dignity.

**Keywords:** Neoliberalism. Human Rights. Unified Health System. Primary Care. Community Health Worker.



#### 40. MOTHERS WHO CARING: PARENTAL EDUCATION THROUGH THERAPEUTIC PLAY WITH RECYCLABLE MATERIALS TO REDUCE SCREEN USE AND CONTINUE PHYSIOTHERAPY TREATMENT

##### *MÃES QUE CUIDAM: EDUCAÇÃO PARENTAL NO BRINCAR TERAPÊUTICO COM MATERIAIS RECICLÁVEIS PARA REDUÇÃO DO USO DE TELAS E CONTINUIDADE DO TRATAMENTO FISIOTERAPÊUTICO*

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**Introduction:** The 5 R's public policy is gaining prominence for encouraging sustainable and conscious practices, reinforcing important values beyond environmental care, and serving as a tool to promote maternal bonding. In addition, the pediatric physiotherapy environment revealed the frequent use of cell phones by mothers during sessions, negatively influencing family bonding. The importance of this proposal is justified by integrating sustainability and human care. **Objective:** To promote the reduction of screen time among mothers during appointments in the "Child Health" project. **Method:** This quantitative and descriptive study was developed from an extension project in the pediatric sector of the EMESCAM physiotherapy clinic-school, with the participation of the 8 mothers of the children being treated. Three educational workshops were held: "The dangers of excessive screen time," "Playing is therapy," and "Continuity of physiotherapy in the home environment," with playful activities such as making homemade playdough and recyclable toys. Data collection was carried out through observation and the application of an objective questionnaire that revealed mothers' perceptions regarding reduced screen time, strengthened bonds with their children, and increased environmental awareness. **Results:** The project fulfilled its objective, demonstrating the effectiveness of Parental Education in reducing screen use and consolidating play as a therapeutic tool. A significant behavioral change was observed in the mothers. The intervention led all participants (100%) to report a decrease in screen time spent in daily interactions with their children and with tasks related to them. Given the above, the strengthening of the bond emerged as a central result, with 100% of mothers confirming that the activities encourage greater attention and that therapeutic play deepened this relationship. Therefore, the creation of toys from recyclable materials proves to be an innovative and sustainable tool, with 100% of mothers expressing interest in reusing materials at home. Thus, play in its therapeutic, educational, and stimulating dimensions was validated, with all participants (100%) demonstrating an understanding of its positive impact on child development. **Conclusion:** The project highlighted the importance of physiotherapy in raising awareness about the excessive use of screens and in valuing therapeutic play. The activities promote greater interaction between mothers and children, reduce screen time, and encourage sustainability through the use of recyclable materials.

**Keywords:** Pediatrics. Child development. Recycling. Sustainability. Family power.



#### 41. ECOLOGICAL STUDY OF THE TEMPORAL TREND IN HIV/AIDS INCIDENCE IN VITÓRIA-ES, 2014–2024

##### *ESTUDO ECOLÓGICO DA EVOLUÇÃO DA TAXA DE INCIDÊNCIA DE HIV/AIDS EM VITÓRIA-ES, ENTRE 2014 E 2024*

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**Introduction:** In 2011, the Center for Strategic Information and Response in Health Surveillance (CIEVS) was implemented to evaluate the epidemiological behavior of diseases, health problems, and events occurring in the state of Espírito Santo. Subsequently, this state data is available in the e-SUS Health Surveillance system, being fundamental for epidemiological surveillance, diagnosis, counseling, prevention, and follow-up of people living with HIV/AIDS (PLWHA). **Objective:** To investigate the incidence rate of HIV/AIDS in Vitória-ES between 2014 and 2024, using the database of the Department of Informatics of the Unified Health System (DATASUS). **Method:** This is an ecological study, using public data from the DataSUS portal to calculate the incidence of HIV/AIDS cases in Vitória. The calculation was performed by dividing the annual number of cases reported in Vitória by the total population of Vitória in that year, with the result set to a population base of 100,000 inhabitants. **Results:** The incidence rate of HIV/AIDS cases in Vitória showed a difference of approximately 72% during the analyzed period. This difference may be related to... The slight increase in population (1.15%) and the significant drop in the number of new cases registered, going from values such as 108 and 117 new cases in 2014 and 2015 respectively, to 31 in 2024. The maximum incidence values occurred in 2015 (34.4 per 100,000 inhabitants) and the minimum values in 2024 (9.04 per 100,000 inhabitants). **Conclusion:** in numerical terms there was a reduction in The incidence rate in Vitória during the analyzed period reveals the importance of continuing public policy actions to control the infection. However, the persistence of notifications, even at low levels, reinforces the need to intensify prevention and monitoring strategies, especially in at-risk groups and more exposed populations, as well as to understand the profile of new cases.

**Keywords:** HIV/AIDS. Espírito Santo. Public Health. DATASUS. Incidence.



## 42. ECOLOGICAL STUDY THE FREQUENCY OF HIV/AIDS CASES BETWEEN 2014 AND 2024 IN VITÓRIA-ES

### *ESTUDO ECOLÓGICO DA FREQUÊNCIA DE CASOS DE HIV/AIDS ENTRE 2014 E 2024, EM VITÓRIA-ES*

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**Introduction:** The 1980s were marked by the Acquired Immunodeficiency Syndrome (AIDS) epidemic. At the state level, Espírito Santo has a consistent network for testing, diagnosis, and treatment management against HIV/AIDS; however, significant and relevant rates of new cases are still observed. **Objective:** To evaluate the temporal evolution of new HIV/AIDS cases in Vitória, Espírito Santo, from 2014 to 2024. **Method:** This is an ecological study using public data from the DataSUS portal to analyze the frequency of HIV/AIDS cases in Vitória. **Results:** Overall, Vitória showed 71% fewer new cases reported during the analyzed period, with the largest proportional difference occurring between 2015 and 2016 (a 31% reduction). The years 2015 and 2024 registered the highest and lowest proportions, respectively (115 and 31 new HIV/AIDS cases). **Conclusion:** Thus, a significant reduction in the proportion of HIV/AIDS cases is observed, which may indicate an improvement in the control of the HIV virus. However, since there is still a persistence of notifications, even at low levels, it is essential to intensify prevention strategies.

**Keywords:** HIV/AIDS. Espírito Santo. Public Health. DataSUS. Distribution.



### 43. STRUCTURAL AND BEHAVIORAL DETERMINANTS OF RESPIRATORY INFECTION TRANSMISSION IN BRAZILIAN SCHOOLS: A SYSTEMATIC REVIEW

#### *DETERMINANTES ESTRUTURAIS E COMPORTAMENTAIS DA TRANSMISSÃO DE INFECÇÕES RESPIRATÓRIAS EM ESCOLAS BRASILEIRAS: UMA REVISÃO SISTEMÁTICA*

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**Introduction:** Acute respiratory infections are one of the main causes of illness and school absenteeism among Brazilian children. The school environment, by bringing together a large number of students in enclosed spaces with often inadequate ventilation, favors the spread of viruses and bacteria through droplets and contaminated surfaces. The lack of sanitary infrastructure, insufficient cleaning, and low knowledge about preventive measures contribute to the high incidence of these diseases. According to the Ministry of Health (2023), respiratory infections are responsible for up to 40% of pediatric consultations and a large part of hospitalizations in children under five years of age. The COVID-19 pandemic highlighted the importance of hygiene, ventilation, and health education protocols in the school environment, reinforcing the need for permanent prevention strategies. **Objective:** To analyze the factors associated with the transmission of respiratory infections in Brazilian schools and to discuss prevention strategies aimed at promoting children's health. **Method:** This literature review was conducted in 2025 in the Virtual Health Library (VHL), with the descriptors: (“*Respiratory Tract Infections*”) AND (“*Schools*”) AND (“*Brazil*”). Seven articles were found, of which six met the inclusion criteria: original studies published between 2005 and 2025, with full text available, and focusing on the child population. **Results:** Socioeconomic factors, such as low income and limited access to health services, increase the frequency of respiratory diseases in children. The lack of coordination between CMEI (Municipal Early Childhood Education Centers) and APS (Primary Health Care) exacerbates the vulnerability of children, restricting care to curative treatment. Furthermore, the intense circulation of the influenza A (H1N1) virus among schoolchildren highlights the role of educational institutions as important transmission hotspots. The IMCI (Integrated Management of Childhood Illness) strategy proves effective in promoting early diagnosis and reducing respiratory complications, based on standardized screening, health education, and continuous monitoring of children. The high colonization by *Streptococcus* *The findings on pneumonia* in adolescents reinforce the importance of vaccination and surveillance. Finally, overcrowding, inadequate ventilation, and poor cleaning are decisive environmental factors in the spread of acute respiratory infections. **Conclusion:** Recurrent respiratory infections in the school environment reflect structural and educational shortcomings that require integrated public policies between the health and education sectors. Investments in infrastructure, hygiene campaigns, isolation of sick individuals, immunization, and professional training are fundamental to reducing transmission and promoting a healthy and safe school environment for children.

**Keywords:** Respiratory infections. Schools. Child health. Prevention. Brazil.



#### 44. PHYTOTHERAPY IN THE SUS IN THE MUNICIPALITY OF VITÓRIA-ES: A SUSTAINABLE STRATEGY FOR ODS 3 -HEALTH AND WELL-BEING

##### *FITOTERAPIA NO SUS NO MUNICÍPIO DE VITÓRIA-ES: ESTRATÉGIA SUSTENTÁVEL PARA ODS 3 - SAÚDE E BEM-ESTAR*

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**Introduction:** Phytotherapy has emerged as a complementary strategy to expand access to healthcare and value traditional knowledge within the Brazilian Unified Health System (SUS). It is not merely a complementary practice, but a strategic instrument for achieving SDG 3, as it promotes equity, disease prevention, well-being, and sustainability, reinforcing the universality and comprehensiveness principles of the public health system. International organizations such as the World Health Organization and the Pan American Health Organization have incorporated this theme into their Agendas, recognizing its relevance to integrative and sustainable health systems. In the municipality of Vitória, the Phytotherapy Program has been established since 1995, and plans are underway to reorient the actions to be developed from 2026 onwards, based on SDG 3. **Objective:** To correlate and analyze the goals of the Phytotherapy Program in light of the goals of SDG 3 – health and well-being. **Method:** An analysis of the SDG 3 targets was carried out and correlated with the Municipal Phytotherapy Policy, and the following categories were found: 1- Promoting the expansion of access and equity; 2- Democratizing access to safe and low-cost therapies, with universal health coverage; 3- The rational use of medicinal plants with anti-inflammatory and anti-platelet activity helps in the management of chronic conditions, aligning with the goal of reducing premature mortality from non-communicable diseases, and strengthens self-care practices and health education; 4- Valuing traditional knowledge; 5- Strengthening primary care. In the municipality of Vitória, phytotherapy has been incorporated into primary care, ensuring comprehensive care and reducing pressure on specialized services. **Results:** Phytotherapy integrates popular and scientific knowledge, promoting culturally appropriate well-being and encouraging the sustainable use of biodiversity, in line with the goal of access to essential medicines and safe technologies. Furthermore, phytotherapy promotes health, values traditional knowledge, and maintains sustainable development in living territories. In Vitória, 13 therapeutic gardens were implemented in primary health care, and phytotherapy courses were offered in primary health care, with 384 prescribers of phytotherapeutic products dispensed in the municipality's pharmacies, covering approximately 25,000 prescriptions per year. **Conclusion:** Phytotherapy is not only a complementary practice but a strategic instrument to achieve SDG 3, as it promotes equity, well-being, and sustainability, reinforcing the principles of universality and comprehensiveness of the Brazilian Unified Health System (SUS).

**Keywords:** Phytotherapy. SUS (Brazilian Public Health System). SDGs (Sustainable Development Goals). Sustainability. Equity.



#### 45. BARRIERS AND FACILITATORS FOR INDIVIDUALS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE: AN EXPERIENCE REPORT

##### *BARREIRAS E FACILITADORES PARA PORTADORES DA DOENÇA PULMONAR OBSTRUTIVA CRÔNICA: UM RELATO DE EXPERIÊNCIA*

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**Introduction:** Chronic Obstructive Pulmonary Disease (COPD) is a highly prevalent clinical condition among the elderly and poses a significant challenge for healthcare professionals due to the limitations that compromise quality of life. The disease is characterized by progressive and irreversible airflow obstruction, frequently associated with prolonged exposure to pollutants such as cigarette smoke or wood-burning stove smoke. Furthermore, lack of access to specialized services exacerbates the clinical picture and hinders proper management. Therefore, it is essential to understand the barriers and facilitators that influence the treatment and rehabilitation of individuals affected by COPD. **Objective:** To report the experience of a physiotherapy student during the clinical follow-up of her grandmother, who has advanced COPD, highlighting the barriers and facilitators observed in the care and rehabilitation process. **Method:** This is an experience report based on the personal experience of a physiotherapy student, based on direct observation and family accounts of the follow-up of a patient with COPD. The study involved analyzing the social context, access to health services, and the physiotherapy approaches applied, seeking to relate these aspects to the factors that hindered or facilitated treatment. **Results:** The patient, Tereza Trapiá, 81 years old, resided in the interior of Bahia, where she faced difficulties accessing specialized medical and physiotherapy care. This territorial limitation constituted a barrier in the management of the disease. With the progression of the condition, the family opted to move to Vitória/ES, which allowed for follow-up by qualified professionals. During this period, the patient presented episodes of severe bronchospasm, being admitted to the ICU of Hospital Santa Rita, where she underwent a tracheostomy. The routine included tracheal aspiration and respiratory and motor physiotherapy, with lung expansion maneuvers and active and passive mobilizations. The experience allowed us to observe the importance of humanized care and multidisciplinary action in the management of COPD. **Conclusion:** This report highlights that the barriers faced by COPD patients are related to inequalities in access to healthcare and a lack of adequate rehabilitation. On the other hand, facilitating factors, such as family support, multidisciplinary follow-up, and humanized care, contribute to improving quality of life and promoting greater adherence to treatment. Thus, the importance of public policies that expand access to comprehensive and equitable care for patients with COPD, strengthening pulmonary rehabilitation and interdisciplinary care, is emphasized.

**Keywords:** Chronic Obstructive Pulmonary Disease. Quality of Life. Physiotherapy Techniques. Elderly.



#### 46. THE LIABILITY OF MAYORS IN CASES OF ADMINISTRATIVE IMPROBITY ARISING FROM DISPROPORTIONATE PUBLIC EXPENDITURES ON ENTERTAINMENT EVENTS AND MUNICIPAL FESTIVITIES

##### *A RESPONSABILIDADE DOS PREFEITOS NO ÂMBITO DA IMPROBIDADE ADMINISTRATIVA ANTE OS GASTOS DESPROPORCIONAIS DE RECURSOS PÚBLICOS EM EVENTOS DE ENTRETENIMENTO E FESTAS MUNICIPAIS*

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**Introduction:** Municipal budget management is an essential instrument for the realization of fundamental rights and the execution of public policies aimed at collective well-being. The correct allocation of resources determines the quality of services provided in areas such as health, education, sanitation, and infrastructure. However, many municipalities allocate significant amounts to festivals and events, even in the face of significant structural deficiencies. This scenario highlights a disconnect between budget planning and constitutional priorities, compromising administrative efficiency and the legitimacy of public management. Existing studies address the legal nature of the budget, the importance of state planning and the principles of public administration, as well as accountability for acts of improbity. However, there is a gap in the specific examination of the impact of festive spending on the accountability of the Mayor and the effectiveness of social rights. This research is situated within this context, contributing to a broader understanding of the legal limits of municipal financial discretion. **Objective:** This study aims to analyze to what extent the disproportionate allocation of public resources to parties and events can give rise to liability for the Mayor, considering the constitutional framework, budgetary legislation, and the provisions of the Law of Administrative Improbity. **Method:** The research adopts a qualitative and exploratory approach, based on bibliographic research and document analysis. Constitutional norms, relevant infra-constitutional legislation (especially the Fiscal Responsibility Law and the Law of Administrative Improbity), doctrines, and studies on the public budget and administrative responsibility were examined. The analysis focused on the systematic interpretation of these elements, seeking to identify legal parameters that guide and limit the actions of the municipal manager in the use of public resources. **Results:** The legal examination revealed that the public budget establishes planning guidelines capable of prioritizing the essential needs of the community, but municipal practice demonstrates inadequate use of discretion, especially when the holding of parties is prioritized to the detriment of structuring policies. It was identified that such choices may violate principles such as legality, efficiency, economy, and fiscal responsibility. It was also found that unreasonable festive spending can fall under the categories of administrative misconduct, especially when it lacks technical justification, presents a clear disproportion, or occurs alongside the neglect of basic needs. **Conclusion:** It is concluded that the excessive allocation of public funds to festivities can compromise the purpose of the budget and imply administrative, civil, and criminal liability for the head of the Municipal Executive Branch, reinforcing the need for transparency, social participation, and institutional control.

**Keywords:** Public budget. Principles. Administrative misconduct.



#### 47. VULNERABILITY, NEGLECT, AND CHALLENGES IN HOME REHABILITATION: THE PHYSIOTHERAPIST'S PERSPECTIVE ON A COMPLEX CASE

##### *VULNERABILIDADE, NEGLIGÊNCIA E DESAFIOS NA REABILITAÇÃO DOMICILIAR: A PERCEPÇÃO FISIOTERAPÊUTICA FRENTE A UM CASO COMPLEXO*

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**Introduction:** Violence and psychological trauma directly impact physical and mental health, potentially causing or worsening functional limitations and reducing quality of life. Prolonged traumatic stress alters the autonomic nervous system, generating physical symptoms even without injuries. Physiotherapy plays an essential role in the rehabilitation and support of these patients, in partnership with other areas of health and social assistance. **Objective:** To describe the experience of physiotherapy interns from the Higher School of Sciences of the Santa Casa de Misericórdia de Vitória in a case of extreme socioeconomic vulnerability. **Method:** This is an experience report gathered through the experience of physiotherapy interns from EMESCAM during their supervised primary care internship located in the Jesus de Nazareth neighborhood in Vitória/ES. **Results:** The physiotherapy team of the Family Basic Health Unit located in Jesus de Nazareth provides home care services to the local population, prioritizing patients confined to their homes. Among them, an elderly patient, hypertensive, diabetic, and with sequelae from a stroke more than 15 years ago, presented high vulnerability, measuring 28 points according to the Clinical-Functional Vulnerability Index (IVCF-20) questionnaire, and significant functional deterioration. During home visits, precarious hygiene conditions, inadequate nutrition, accumulation of unused diapers, and incorrect use of medication were observed. Despite having financial resources, the primary caregiver does not allocate them to care, refusing equipment and services that could favor rehabilitation. The conditions of the home and the lack of family collaboration hinder the execution of physiotherapy interventions, worsening the clinical picture. Therefore, the case was discussed in matrix support meetings and referred to the Specialized Reference Center for Social Assistance (CREAS) for monitoring and social protection, and continues to be monitored by the responsible team, which will use the Network's instruments for resolution. **Conclusion:** The experience highlights the importance of interdisciplinary action and coordination between health and social assistance services in managing cases of vulnerability. The physiotherapy team's perception highlights that home care goes beyond technical interventions, as it requires active listening, social sensitivity, and involvement with public policies for family protection and support. Situations like this reinforce the physiotherapist's role as an agent of comprehensive care and defender of the rights to health and human dignity.

**Keywords:** Physiotherapy. Primary Health Care. Violence. Health Vulnerability.



#### 48. THE PERCEPTION OF PHYSICAL THERAPY STUDENTS ABOUT COGNITIVE STIMULATION ACTIVITIES CARRIED OUT WITH THE ELDERLY AT EMESCAM CLINIC-SCHOOL: AN EXPERIENCE REPORT

##### *A PERCEPÇÃO DOS ACADÊMICOS DE FISIOTERAPIA SOBRE AS ATIVIDADES DE ESTIMULAÇÃO COGNITIVA REALIZADAS COM IDOSOS NA CLÍNICA-ESCOLA EMESCAM: UM RELATO DE EXPERIÊNCIA*

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**Introduction:** Population aging reinforces the need for strategies that maintain the autonomy and cognitive functions of the elderly. Structured therapeutic activities stimulate memory, attention, visual perception, and motor coordination, favoring active aging. Studies indicate that multisensory interventions can promote brain plasticity and reduce cognitive decline, including in cases of mild dementia. **Objective:** To report the experience of physiotherapy students in applying cognitive stimulation activities to elderly people treated at the EMESCAM Clinic-School. **Method:** This is an experience report carried out during a supervised physiotherapy internship with 25 elderly people, divided into 4 groups, where activities were developed for memory, attention, temporal orientation, numerical cognition, visuospatial perception, visuomotor and fine motor coordination, rhythm, motor sequencing, planning, executive functions, decision-making, and logical reasoning, with the aim of promoting improvement or preservation of cognitive status, and stimulating creativity and socialization. **Results:** The practices were dynamic and revealed different levels of performance. Manual activities were the most accepted, with participants reporting greater satisfaction and interaction, while tasks involving the association of different elements such as numbers and colors were more difficult, requiring supervision, repetition of instructions, and a greater need for individual support. Many participants had difficulty initiating tasks, maintaining focus, or recognizing patterns, requiring adaptations such as visual cues and division into steps. Exercises requiring spatial perception were also considered complex, but allowed for progressive improvement; the other activities were carried out more easily. **Conclusion:** The experience highlighted the importance of individualized care and the appropriate selection of activities to meaningfully stimulate cognitive functions. The relevance of the bond, clear communication, and a humanized approach was emphasized, as well as the enhancement of professional sensitivity and recognition of the role of physiotherapy in the comprehensive care of the elderly.

**Keywords:** Aging. Elderly Person. Physiotherapy. Cognitive Function. Memory.



## 49. VIVÊNCIA CLÍNICA NO CUIDADO DE PACIENTE COM TUBERCULOSE EM SITUAÇÃO DE VULNERABILIDADE SOCIAL

### *VIVÊNCIA CLÍNICA NO CUIDADO DE PACIENTE COM TUBERCULOSE EM SITUAÇÃO DE VULNERABILIDADE SOCIAL*

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**Introduction:** Tuberculosis is a preventable and treatable infectious disease, but it still represents a public health challenge in Brazil, especially in contexts marked by social inequalities. Despite access to diagnosis and treatment through the Unified Health System (SUS), factors such as socioeconomic vulnerability, use of psychoactive substances, low education level, history of incomplete treatments, and living with affected family members influence therapeutic adherence and prognosis. This report describes the clinical experience in caring for a 34-year-old patient with a history of chemical dependency, low social integration, and family exposure to the disease, highlighting the impacts of social determinants on clinical evolution. **Objective:** To report the clinical experience in caring for a patient with tuberculosis in a situation of social vulnerability, highlighting care challenges, behavioral aspects, and contributions of physiotherapy to respiratory and functional rehabilitation. **Method:** Experience report developed at the Santa Casa de Misericórdia Hospital in Vitória. The patient was initially treated in the emergency room and subsequently followed up in the isolation ward. Physiotherapeutic interventions were analyzed considering the clinical, social, and family context, maintaining confidentiality and integrating the observation of interdisciplinary dynamics. **Results:** The patient presented with a productive greenish cough for about a year, afternoon fever, night sweats, sudden dyspnea, and significant weight loss. Physiotherapeutic interventions included lung re-expansion, airflow direction, deep breathing exercises, pursed-lip breathing, bronchial hygiene, active resisted exercises, pressure and decompression, and sitting at the bedside. Guidance on treatment adherence and self-care was also provided. The history of crack cocaine use, cohabitation with infected family members, and social vulnerability represented significant challenges, reinforcing the importance of a humanized approach and the integration between physiotherapy, medical team, and nursing. The therapeutic bond contributed positively to the acceptance of the interventions and the patient's engagement in treatment. **Conclusion:** The experience reinforced that tuberculosis is profoundly influenced by social and behavioral determinants. Physiotherapeutic intervention proved essential for respiratory rehabilitation, maintenance of functionality, and prevention of complications. The experience highlighted the need for sensitivity and an interdisciplinary approach for comprehensive care, especially in vulnerable settings, consolidating the role of physiotherapy in the management of complex diseases.

**Keywords:** Tuberculosis. Social determinants of health. Physiotherapy. Social vulnerability. Pulmonary rehabilitation.



## 50. PUBLIC POLICY FOR COMPREHENSIVE WOMEN'S HEALTH CARE AND THE PREVENTION OF CERVICAL CANCER IN THE MUNICIPALITY OF PRESIDENTE KENNEDY – ESPÍRITO SANTO

### *A POLÍTICA PÚBLICA DE ATENÇÃO INTEGRAL À SAÚDE DA MULHER E A PREVENÇÃO DO CÂNCER DO COLO DO ÚTERO NO MUNICÍPIO DE PRESIDENTE KENNEDY – ESPÍRITO SANTO*

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**Introduction:** Cervical cancer is a neoplasm that develops in the lower region of the uterus and represents the third most common cause of cancer death among women in Brazil. Approximately 70% of cases are related to persistent infection with human papillomavirus (HPV). The detection of viral DNA through molecular techniques, such as PCR, allows for early and effective screening, contributing to the reduction of morbidity and mortality associated with the disease. **Objective:** To discuss the relevance of implementing HPV molecular testing as a strategy to strengthen cervical cancer prevention at the municipal level. **Method:** This study adopts a descriptive and documentary approach, exploring the practice of the Public Health Policy for Women through the implementation of HPV molecular testing for cervical cancer screening and its results in the municipality of Presidente Kennedy, ES. The research was based on public data from records and reports available on the website of the Espírito Santo State Health Department (SESA-ES), covering the period of September 2024 to June 2025. **Results:** During the period of September 2024 to June 2025, 1,628 samples related to HPV molecular testing for cervical cancer screening were analyzed in the municipality of Presidente Kennedy, ES. Among the positive samples, 367 (77.1%) were classified as high-grade HPV, while 210 (44.1%) corresponded to low-grade HPV. The predominance of high-risk oncogenic genotypes reveals the effectiveness of molecular testing in the early identification of infections potentially associated with the development of precursor lesions and cervical cancer. Analysis of the monthly frequency of sample collection revealed a significant peak in October 2024, coinciding with the period of the Pink October campaigns, traditionally focused on raising awareness and preventing cancers affecting women. **Conclusion:** The data reveal that implementing HPV molecular testing in Presidente Kennedy has generated significant results in terms of volume and case detection. The high positivity rate and the high proportion of high-risk genotypes reinforce the relevance of molecular testing as an early screening tool. However, the monthly variation in sample collection indicates the importance of continuous health education actions and strengthening primary care to ensure the periodicity of the examination and the follow-up of positive cases.

**Keywords:** Public Policy. Prevention Primary. Health of Women.



## 51. CRITICAL ANALYSIS OF SANITARY INSPECTION REGULATIONS AND THEIR IMPACT ON THE WORKING CONDITIONS OF INSPECTORS

### *ANÁLISE CRÍTICA DAS NORMATIVAS DE INSPEÇÃO SANITÁRIA E SEUS REFLEXOS NAS CONDIÇÕES DE TRABALHO DOS INSPETORES*

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**Introduction:** Sanitary inspection represents an essential component of health surveillance in Brazil, acting in risk prevention and public health promotion. However, the exercise of this function faces structural and institutional challenges that compromise its effectiveness. **Objective:** This research sought to critically analyze the regulations governing sanitary inspection in the country and their impact on the working conditions and professional valuation of inspectors. **Method:** This is a reflective review based on national literature, conducted between May and June 2025. Academic databases, legislation, and institutional documents addressing sanitary inspection, health surveillance policies, and the working conditions of inspectors were consulted. The analysis followed a critical approach, articulating legal, organizational, and occupational aspects. **Results:** The review showed that, although Brazil has a robust regulatory framework that guides sanitary surveillance actions, its practical application presents significant inequalities between management levels. The decentralization of responsibilities, without adequate technical and structural support, generates asymmetries in the execution of inspections and directly impacts the quality of actions. It was also found that the working conditions of inspectors remain marked by challenges such as insufficient personnel, precarious employment contracts, lack of continuing education, and inadequate infrastructure. These factors result in an overload of tasks, occupational risks, and low professional recognition. Furthermore, the gap between regulatory content and operational realities hinders the standardization of procedures and the effectiveness of inspections. **Conclusion:** the effectiveness of sanitary inspection in Brazil depends not only on a solid regulatory framework, but also on working conditions that enable its safe and qualified application. The review showed that the effectiveness of sanitary inspection depends on the articulation between well-developed regulations and working conditions that allow for their safe and qualified execution. Strengthening public policies aimed at valuing inspectors, with investments in training, infrastructure, and occupational safety, is fundamental to consolidating a more efficient and humanized sanitary surveillance system. The revision of regulations, accompanied by participatory processes and continuous updating, represents an essential step to guarantee the protection of public health and the recognition of professionals working on the front lines of sanitary inspection.

**Keywords:** Sanitary inspection. Health surveillance. Working conditions. Public policies. Professional development.



## 52. SUSTAINABILITY AND CARE INITIATIVES IN SCHOOL MEALS: THE ROLE OF SCHOOL COOKS IN REALIZING THE HUMAN RIGHT TO ADEQUATE FOOD (HRAF)

### *AÇÕES DE SUSTENTABILIDADE E CUIDADO NA ALIMENTAÇÃO ESCOLAR: O PAPEL DAS MERENDEIRAS NA EFETIVAÇÃO DO DIREITO HUMANO À ALIMENTAÇÃO ADEQUADA E SAUDÁVEL (DHAAS)*

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**Introduction:** The National School Feeding Program (PNAE) is one of the most important Brazilian public policies in guaranteeing the Human Right to Adequate and Healthy Food (DHAAS), fundamental for social justice and human development. However, its implementation faces daily challenges, such as food waste – a direct obstacle to achieving SDG 12 (responsible consumption and production). **Objective:** To present successful practices as models of low-cost and highly reproducible innovation, providing concrete support to improve the execution of the PNAE and promote social justice in access to quality food. **Method:** This is a descriptive and analytical experience report, focused on the practical and spontaneous actions developed by school cooks in municipal education units in the city of Sinop/MT. The experiences were selected for demonstrating full use of food, efficiency, and care in guaranteeing food security. **Results:** The actions of full use revealed a high degree of creativity and efficiency. School cooks transformed organic waste into unique ingredients: parsley stalks were incorporated into homemade seasoning; and kale stalks were chopped and frozen to be added to beans, soup, and farofa (a Brazilian side dish made with toasted cassava flour). Ripe zucchini that would have been discarded were shredded and used to thicken bean broth. On another front, overripe plantains were breaded in cassava flour before frying, ensuring the texture and acceptability of a food that would otherwise be wasted. Another team replaced processed tomato paste with a natural sauce made with tomato, carrot, and beetroot. At another point, school cooks eliminated the use of oil in cooked and sautéed dishes, strengthening the healthy menu. Crucially, all actions are monitored by nutritionists, with recipes adapted for students with dietary restrictions (allergies and intolerances), reinforcing the commitment to the right to safe and individualized food. **Conclusion:** The spontaneous actions of the school cooks demonstrate that innovation generated in the school kitchen environment is a powerful catalyst for the realization of the Right to Adequate Food and for achieving the sustainability goals (SDG 12). The experiences revealed a multifaceted impact, encompassing waste management, nutritional quality, and individualized care. This report argues that the practical knowledge of the school cooks, evidenced by these successful practices, should be recognized and valued as an essential contribution to the formulation of public policies aimed at more equitable and efficient food social justice.

**Keywords:** School feeding. Human-centered nutrition and well-being. SDG 12. Sustainability.



### 53. THE JUDICIALIZATION OF POLITICS AND THE RIGHT TO HEALTH IN BRAZIL: LIMITS AND POSSIBILITIES OF JUDICIAL CONTROL

#### *A JUDICIALIZAÇÃO DA POLÍTICA E O DIREITO À SAÚDE NO BRASIL: LIMITES E POSSIBILIDADES DO CONTROLE JURISDICIONAL*

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**Introduction:** The 1988 Federal Constitution consolidated the state's obligation to promote social rights such as health, education, and work, but administrative inefficiency and poor public management have provoked growing social dissatisfaction and fueled the phenomenon of judicialization, whereby the Judiciary begins to decide political and social issues previously reserved for the other branches of government. This reality raises the central problem of this research: the legitimacy of the Judiciary's role in implementing public health policies in the face of state omission and the so-called "reserve of the possible." Previous studies have analyzed judicialization from the perspective of the separation of powers, but few have examined its role as a mechanism for the realization of the fundamental right to health, configuring the theoretical gap addressed here. **Objective:** The general objective was to understand judicial action as an instrument for the effectiveness of social rights, and, specifically, to identify factors that favor judicialization, analyze the reserve of the possible, and evaluate the impacts of judicial action on the promotion of the right to health. **Method:** The methodology adopted was qualitative, through bibliographic and documentary research, case studies of great repercussion, in addition to jurisprudence from the Supreme Federal Court (STF), Superior Court of Justice (STJ), and state courts. **Results:** The results indicate that judicial action has been fundamental in correcting state omissions, guaranteeing the minimum subsistence level and preventing social setbacks, even if it provokes institutional tensions between the powers. It was found that judicialization, although necessary to ensure the effectiveness of rights, must be guided by criteria of reasonableness, avoiding undue interference in the political sphere. The research contributes to understanding judicialization not as usurpation of competence, but as a legitimate response to administrative inefficiency, strengthening the realization of fundamental rights. **Conclusion:** It is concluded that judicial intervention is an instrument for guaranteeing the right to health, and should be exercised with balance and observance of constitutional limits, especially in light of the principle of the possible and the need for rational management of public resources. For future studies, it is suggested that empirical analysis of the effects of judicial decisions on the formulation and execution of public health policies be deepened, and that mechanisms of cooperation between the branches of government be investigated to reconcile administrative efficiency and the effectiveness of social rights.

**Keywords:** Health. Public Policies. Implementation. Judicialization. Legitimacy.



#### 54. STRATEGIES FOR PROMOTING DIVERSITY AND EQUITY IN THE SCHOOL ENVIRONMENT AT AN EDUCATIONAL INSTITUTION IN THE MUNICIPALITY OF CAXIAS-MA

##### *ESTRATÉGIAS PARA A PROMOÇÃO DA DIVERSIDADE E EQUIDADE NO AMBIENTE ESCOLAR EM UMA INSTITUIÇÃO EDUCACIONAL NO MUNICÍPIO DE CAXIAS-MA*

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**Introduction:** School management plays a central role in guaranteeing equal opportunities and building an equitable educational environment. Despite progress, barriers to the full inclusion of students from marginalized groups persist. At SENAI Caxias-MA, with a predominantly male environment and a lack of regulations focused on diversity, a gap was identified in the implementation of inclusive practices and gender equity. The problem investigated was to identify which management practices and strategies could be implemented to promote diversity and equity in this context. **Objective:** The research aimed to identify educational management practices that favor the promotion of diversity and equity. **Methodology:** The approach adopted was qualitative and interventional, developed over three months and structured in stages that included diagnostic survey, literature review, analysis and discussion of collected data, definition of strategies, and monitoring of implemented measures. The process involved the application of questionnaires to teachers and technical staff, analysis of school conflict records, and detailed interpretations of the data obtained. Based on the findings, training actions were planned and implemented, resulting in the creation of the manual "Building Inclusive Bridges: Good Practices in Education". The interventions included workshops on equity, anti-discrimination legislation, and inclusive language, as well as interdisciplinary activities focused on valuing diversity. **Results:** The results indicated an improvement in the institutional climate, a reduction in conflicts, a greater sense of security and belonging, increased student engagement, and a decrease in school dropout rates, in addition to advances in academic performance and the strengthening of interpersonal relationships, with the development of socio-emotional skills geared towards democratic coexistence. Students began to act as multipliers of inclusive practices in other social contexts, expanding the impact of the project. **Conclusion:** It was found that school management based on democratic and participatory principles is essential to implement inclusive policies. Active listening, ongoing professional development, interdisciplinary and multifactorial pedagogical practices, and collaborative planning grounded in school realities constitute pillars for consolidating an institutional culture of respect, valuing diversity, and promoting social justice. Future research could explore the sustainability of these practices in other educational contexts and the longitudinal impact of the implemented strategies on student performance and inclusion.

**Keywords:** Educational management; Diversity; Equity; School inclusion; Participatory planning.



## 55. THE MOCK JURY AS AN ACTIVE METHODOLOGY IN THE TRAINING OF HEALTH PROFESSIONALS FOR WORK IN PUBLIC POLICIES

### *O JÚRI SIMULADO COMO METODOLOGIA ATIVA NA FORMAÇÃO DE PROFISSIONAIS DE SAÚDE PARA ATUAÇÃO EM POLÍTICAS PÚBLICAS*

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**Introduction:** This is a narrative literature review of scientific articles and experience reports addressing the application of mock trials in the training of healthcare professionals. The National Curriculum Guidelines for health-related courses advocate for training that transcends technical skills, enabling future professionals to act in line with the principles of the Unified Health System (SUS) – universality, comprehensiveness, and equity – and as agents of social transformation, with critical thinking, evidence-based practice, and a commitment to social justice. In this context, active teaching-learning methodologies gain prominence, and mock trials emerge as a particularly powerful pedagogical strategy. This strategy allows students to immerse themselves in complex scenarios that reflect the challenges of public health, such as ethical dilemmas, environmental disasters, and the need for resource allocation, preparing them for qualified performance in the formulation of public policies. **Objective:** To analyze how the active methodology of mock trials contributes to the development of professional skills in health science students, enabling them to actively participate in the formulation of public health policies that respect human rights and promote social justice. **Method:** Narrative literature review, based on a theoretical-conceptual analysis focusing on the health field. The bibliographic survey was carried out in academic databases such as SciELO, PubMed, and Google Scholar, using the descriptors "mock trial," "active methodologies," "health education," "public health policies," and "human rights." Scientific articles and experience reports addressing the application of mock trials in the training of health professionals were selected. **Results:** The analyzed literature converges in pointing to mock trials as a high-impact pedagogical tool in health education, developing a set of essential skills for working in the public sphere. **Conclusion:** The mock trial proves to be a strategic active methodology for training healthcare professionals capable of transcending clinical practice and acting as agents of change in the field of public policy. The competencies developed – such as evidence-based practice, epidemiological reasoning, ethical competence, and interprofessional work skills – are fundamental for building a more just, equitable, and effective Brazilian Unified Health System (SUS). The incorporation of this methodology into health science curricula is, therefore, a promising path to train professionals who are not only technically competent but also politically aware and committed to defending the right to health as a pillar of social justice.

**Keywords:** Mock Jury. Active Methodologies. Health Education. Public Health Policies. Human Rights.



## 56. PRECARIOUS WORK AND PHYSICAL ILLNESS: CHALLENGES FOR PUBLIC REHABILITATION POLICIES IN LIGHT OF NR 01 AND PSYCHOSOCIAL FACTORS

### *PRECARIZAÇÃO DO TRABALHO E ADOECIMENTO FÍSICO: OS DESAFIOS PARA POLÍTICAS PÚBLICAS DE REABILITAÇÃO À LUZ DA NR 01 E DOS FATORES PSICOSSOCIAIS*

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**Introduction:** This integrative literature review examines how the precariousness of work has intensified due to transformations in contemporary capitalism, and how it has reconfigured labor relations, generating a scenario of instability and deterioration of working conditions. This situation has direct repercussions on workers' health, making cases of physical and mental illness more prevalent, resulting in an increase in workplace accidents due to negligence regarding safety and well-being. In this context, the recent update to Regulatory Standard No. 01 (NR 01) establishes the mandatory assessment of occupational risks, including psychosocial factors. **Objective:** To analyze the articulation between the precariousness of work and the process of physical illness among workers, discussing the challenges for the formulation and implementation of public policies for professional rehabilitation, based on the recent inclusion of psychosocial factors in NR 01. **Method:** Integrative literature review, based on scientific articles, official documents, and recent publications. The survey was conducted using academic databases and government portals, employing the descriptors "precarious work," "worker health," "NR 01," "psychosocial factors," and "professional rehabilitation." References were selected based on their relevance and timeliness. **Results:** The analysis shows that precarious work, characterized by flexible contracts, intensified activities, and psychological pressure, is directly associated with an increase in musculoskeletal disorders and workplace accidents. The updated NR 01 requires companies to manage psychosocial risks (such as harassment, overload, and lack of autonomy) and formally recognizes the impact of these factors on illness. However, professional rehabilitation policies, mostly the responsibility of the National Social Security Institute (INSS), are fragmented and insufficient. The lack of coordination between Health, Social Security, and Labor policies exacerbates the situation, resulting in a cycle of illness, leave of absence, and precarious reintegration. **Conclusion:** The inclusion of psychosocial factors in NR 01 (Brazilian Regulatory Standard 1) is a milestone for the prevention of work-related illness, but its effectiveness will depend on rigorous oversight and a change in the organizational culture of companies. Occupational physiotherapy emerges as a fundamental tool in the early identification of health problems, in the promotion of health, and in the rehabilitation of workers affected by musculoskeletal and psychosocial disorders. Integrated action between health professionals and managers can support public policies for prevention and rehabilitation in the workplace, contributing to the realization of the right to comprehensive health as provided for in the Federal Constitution.

**Keywords:** Job insecurity. Worker's health. Psychosocial factors. NR 01 (Brazilian Regulatory Standard 1). Professional rehabilitation.



## 57. HUMAN RIGHTS AND SOCIAL JUSTICE IN HEALTH AND EDUCATION: CHALLENGES FOR GUARANTEEING THE RIGHTS OF VULNERABLE GROUPS

### *DIREITOS HUMANOS E JUSTIÇA SOCIAL EM SAÚDE E EDUCAÇÃO: DESAFIOS PARA A GARANTIA DE DIREITOS DE GRUPOS VULNERÁVEIS*

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**Introduction:** Guaranteeing human rights and social justice remains an essential issue in contemporary Brazil, especially in communities marked by historical inequalities. Despite the existence of legal instruments and public policies aimed at ensuring social protection, education, and access to healthcare, barriers persist that disproportionately affect vulnerable groups. Among the observed challenges are early pregnancy among adolescents living in unequal contexts, the increase in self-harming behaviors among the elderly, and the obstacles faced by students with Autism Spectrum Disorder (ASD) in higher education. These scenarios reflect structural weaknesses and the failure of intersectoral actions in guaranteeing fundamental rights. **Objective:** To analyze the role of the State and public policies in promoting human rights and addressing social inequalities that impact pregnant adolescents, the elderly, and students with ASD. **Method:** A descriptive and integrative study, conducted through a narrative review of the scientific literature, legislation, institutional documents, and national guidelines. Publications related to health, education, and human rights were examined, focusing on social vulnerability and public policies aimed at the studied groups. The analysis was thematic, seeking to identify barriers and advances in the social protection of these individuals. **Results:** The analysis indicated that teenage pregnancy is associated with a lack of adequate sexual education, low educational attainment, and absence of social support, highlighting the need for continuous educational strategies. Among the elderly, isolation, insufficient care networks, and lack of assistance intensify the risks of self-harm. In the university context, students with ASD face difficulties related to a lack of pedagogical accessibility and institutional support, which compromises their permanence and inclusion. In all cases, fragility in integrated actions between health, education, and social assistance was observed, as well as gaps in the implementation of planned public policies. **Conclusion:** It is essential to strengthen multisectoral initiatives capable of addressing structural inequalities and expanding mechanisms for inclusion and social protection. Investments in integrated public policies, educational actions, and permanent support are fundamental to ensuring rights, promoting equity, and guaranteeing dignity for the analyzed groups.

**Keywords:** Human Rights. Social Vulnerability. Adolescence. Elderly. Educational Inclusion.



## 58. SOCIODEMOGRAPHIC AND CLINICAL PROFILE OF PATIENTS WITH ADOLESCENT IDIOPATHIC SCOLIOSIS SUBMITTED TO SURGICAL TREATMENT FOR SCOLIOSIS CORRECTION

### *PERFIL SOCIODEMOGRÁFICO E CLÍNICO DE PACIENTES COM ESCOLIOSE IDIOPÁTICA DO ADOLESCENTE SUBMETIDOS AO TRATAMENTO CIRÚRGICO PARA CORREÇÃO DE ESCOLIOSE*

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**Introduction:** Adolescent Idiopathic Scoliosis (AIS) is the most common spinal deformity among adolescents over 10 years of age, affecting 1–3% of this population. It is characterized by lateral curvature of the spine with a vertebral rotational component, of unknown etiology and with a risk of progression. It predominates in females and in thoracic curves, and can evolve into severe forms requiring posterior arthrodesis. A detailed description of the sociodemographic and preoperative clinical profile is fundamental to understanding the epidemiological reality of the disease in the population served by the Brazilian Unified Health System (SUS) and to evaluating the results of surgical treatment. **Objective:** To describe the sociodemographic profile and the preoperative clinical and radiographic characteristics of patients with AIS undergoing posterior arthrodesis. **Method:** Observational, retrospective, and descriptive study with a quantitative approach and epidemiological character. Medical records and panoramic radiographs of 42 patients operated on between 2017 and 2024 at the Santa Casa de Misericórdia Hospital in Vitória and the Alzir Bernardino Alves State Children's and Maternity Hospital were reviewed. The variables analyzed were: age, sex, declared race/color, region of origin, type of curve according to the Lenke classification, extent of arthrodesis (number of instrumented levels), proximal and distal fixation levels. Data were analyzed descriptively using IBM SPSS Statistics software, version 24. **Results:** The sample consisted of 42 patients, with a median age of 13 years (IQR 12–15), the majority being female (80.4%), residents of the Greater Vitória Metropolitan Region (64.7%), and with a balanced distribution between whites and mixed-race individuals (47.8% each). Regarding the clinical profile, double scoliotic curves were more prevalent (60.4%), as was the Lenke classification of the Main Thoracic Curve type (42.9%). All underwent long-extension arthrodesis, with a median of 11 instrumented levels (IQR 10–12). **Conclusion:** The findings confirm the classic pattern of AIS, through the profile of female predominance, early adolescence, and structured thoracic curves. It is known that thoracic curves have a high demand for long fusions in the Unified Health System of Espírito Santo. Detailed preoperative characterization constitutes an essential baseline for longitudinal studies on the effects of surgery on sagittal balance and for the optimization of screening and rehabilitation protocols.

**Keywords:** Adolescent idiopathic scoliosis. Sociodemographic profile. Posterior arthrodesis. Epidemiology. Sagittal balance.



## 59. INCLUSION POLICIES AND GUARANTEEING THE RIGHT TO EDUCATION IN THE HOSPITAL ENVIRONMENT

### *POLÍTICAS DE INCLUSÃO E GARANTIA DO DIREITO À EDUCAÇÃO NO AMBIENTE HOSPITALAR*

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**Introduction:** In accordance with the 1988 Constitution, in which the State guarantees the right to education, it is important to highlight that hospitalized children also possess this right, since they are separated from their daily reality and social interaction. Therefore, it becomes necessary to establish public policies that ensure effective access to pedagogical-educational services provided in healthcare settings, whether in inpatient situations, as traditionally occurs, or in modalities such as day hospital, week-hospital, or comprehensive mental health care services. **Objective:** To describe the policies of inclusion and guarantee of the right to education in the hospital environment. **Method:** This is an integrative review conducted through the reading of articles from the PUBMED database, using the descriptors: Hospital Education Service AND Inclusive Education AND Pediatric Hospitals. The inclusion criteria were: full texts, available in Portuguese and English, published in the last 5 years. Articles that, after reading the title and abstract, were not related to the topic or were literature reviews were excluded. **Results:** 208 studies were found in the PUBMED database. In the inclusion process, 63 articles remained; after reading the title, 29 articles were selected for full reading. After reading, only 13 comprised the final sample. The research demonstrated that public policies aimed at hospital education are based on the constitutional right to education and are directly connected to the 2030 Agenda, especially SDG 4, which seeks to guarantee inclusive education. Furthermore, initiatives such as the National Policy on Special Education from the Perspective of Inclusive Education and the guidelines of the National Council for the Rights of Children and Adolescents have helped to guarantee access to learning during hospitalization. However, there are challenges related to the lack of professional training, scarcity of pedagogical resources, and weak coordination between health and education departments. Although public policies exist that support the right to education in hospital settings, their implementation is still uneven across different regions. **Conclusion:** It was observed that pedagogical action in the hospital environment strengthens social bonds and reinforces the importance of policies that understand education as part of the care process, offering hospitalized children support, hope, and a sense of continuity of life, even amidst treatment.

**Keywords:** Hospital Education Service. Inclusive Education. Pediatric Hospitals.



## 60. EMERGENCY SCENARIOS: FACTORS ASSOCIATED WITH MOTORCYCLE TRAFFIC ACCIDENTS BY SAMU 192 IN VILA VELHA-ES

### *CENÁRIOS DE URGÊNCIA: FATORES ASSOCIADOS A ACIDENTES DE TRÂNSITO COM MOTOCICLETAS PELO SAMU 192 EM VILA VELHA-ES*

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**Introduction:** Traffic accidents remain a major public health challenge in Brazil, primarily affecting young males. Even with improvements brought about by the Brazilian Traffic Code, an increase in mortality was demonstrated between 2020 and 2023, with the latter showing 34,800 traffic deaths. This increase is directly associated with motorcycle users, whose deaths have increased more than tenfold in the last 30 years. Thus, SAMU 192 plays a strategic role in immediate assistance, harm reduction, and providing valuable data for the creation of public policies. **Objective:** To analyze the profile and factors associated with traffic accidents involving motorcycles attended by SAMU 192 in the health territories of the municipality of Vila Velha. **Method:** This is a cross-sectional observational study, with retrospective data collection from 2020 and 2021, carried out at the SAMU 192 Medical Regulation Center in Espírito Santo. Demographic data (life cycle, sex, and health territory of Vila Velha – Centro, Grande Ibes, Grande Aribiri, Grande Cobilândia, and Grande Jucu) were collected. and service history (request period, on-call period, type of traffic accident, presumed severity, health service transport, destination, death). Statistical analysis was performed using SPSS software for descriptive calculations, chi-square and chi-square residual (QSR). **Results:** It was found that 1018 (59.4%) of traffic accidents in Vila Velha in 2020 and 2021 involved motorcycles. The victim profile was characterized by male sex (78.5%), age range of 20 to 59 years (87.9%) and occurrence in the health territory of the Center (36.4%), but with a positive association with Grande Cobilândia (QSR>1.96). Regarding the associated factors (p<0.05), occurrences predominated during the afternoon (42.1%) and daytime shift (64.6%) periods, despite a positive association with the nighttime period in both variables (RQQ>1.96). Collision was the most frequent type of accident (63.9%), with a presumed severity of priority level 2 (82.9%), use of health service transport (78.9%), referral to the hospital (78.6%), and death in 4 cases (0.4%). **Conclusion:** Based on these findings, the importance of characterizing the profile and associated factors of motorcycle accidents is evident, aiming to problematize the scenario in the context of public health and allowing for clarification of occurrences and the creation of prevention policies according to the reality of the municipality.

**Keywords:** Traffic accidents. Motorcycles. SAMU (Mobile Emergency Care Service). Socio-epidemiological profile.



## 61. REFLEXIVE THEMATIC ANALYSIS FOR THE DESIGN OF SERIOUS GAMES FOR OLDER ADULTS: DEVELOPMENT REQUIREMENTS

### *ANÁLISE TEMÁTICA REFLEXIVA NO DESENHO DE JOGOS SÉRIOS PARA PESSOAS IDOSAS: REQUISITOS DE DESENVOLVIMENTO*

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**Introduction:** Falling, fearing movement, and abandoning exercise rapidly compromise autonomy in over 60-year olds, requiring home-based solutions that combine safety, clear instructions, and engagement. Serious movement games have positive effects on balance, mobility, and cognition, and understanding technological acceptance, perceived usefulness, and effort required is crucial for adherence and effectiveness. **Objective:** To investigate the perceptions and expectations of elderly people regarding a serious movement game in non-immersive Virtual Reality. **Method:** An exploratory qualitative study with five over 60-year-old individuals, without prior gaming experience, who were exposed to screens and video of the prototype. The interviews were transcribed and anonymized. The game consists of touching virtual targets at different heights and trajectories, with adjustable parameters (time, speed, reach, posture, and feedback). Reflective Thematic Analysis (Braun & Clarke) was applied in the *Human-Centred Design* context. The categories were reviewed in a segment/code matrix, ensuring traceability and interpretative transparency. **Results:** Participants valued a short tutorial, preferred moving targets, but suggested a static mode for accessibility. The timer was largely rejected, and soft sounds confirming correct answers were perceived as pleasant. Standing posture was preferred, with seated mode as optional. Disagreements arose regarding pace (continuous or with pauses) and scoring (motivating or frustrating), indicating a need for customization by user profiles. The findings were translated into traceable requirements for onboarding, feedback, time, pace, posture, and sociability. **Conclusion:** Design should prioritize safety, simplicity, and configurability, with pace control, moderate sensory feedback, and user autonomy. As a general guide, the following is recommended: (1) profile-based design (Comfort/Dynamic), (2) brief multimodal onboarding, (3) light auditory feedback, (4) posture and accessibility adjustments, (5) minimal useful telemetry with offline work capability, and (6) error tolerance and positive reinforcement throughout the game journey.

**Keywords:** Human-Centred Design. Aging. Virtual Reality. Usability.



## 62. THE PRACTICE OF HUMANIZATION IN HOSPITAL PHYSIOTHERAPY CARE: AN EXPERIENCE REPORT

### *A PRÁTICA DA HUMANIZAÇÃO NA ASSISTÊNCIA FISIOTERAPÊUTICA HOSPITALAR: UM RELATO DE EXPERIÊNCIA*

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**Introduction:** The National Humanization Policy, known as *HumanizaSUS*, was established in 2003 by the Ministry of Health as a landmark to guide practices and management in services of the Unified Health System (SUS), focusing on the dignity of the user, teamwork, qualified listening, and co-responsibility among managers, workers, and users. **Objective:** To report the experience of a physiotherapy student during her internship in a hospital setting, highlighting the practice of humanized care. **Method:** This is a descriptive and qualitative experience report, carried out by a physiotherapy student during her supervised internship in a hospital setting. The experience took place in the ward of a philanthropic hospital located in the city of Vitória (ES), between August and December 2025. **Results:** The activities were developed with hospitalized patients, mostly elderly and with chronic diseases, prioritizing comprehensive and humanized care. The experience involved conducting daily physiotherapy sessions, focusing on active listening, empathy, and acceptance, as well as valuing the therapeutic bond between the student and the patient. The aim was to integrate actions that promoted patient autonomy, with approaches adapted according to the clinical condition and physical examination, making it possible to identify the needs in each session. **Conclusion:** The experience demonstrated that humanization is an essential element in hospital physiotherapy care, as it broadens the perspective of care beyond techniques, valuing listening, acceptance, and the bond with the patient.

**Keywords:** Humanized care. Multidisciplinary team. Physiotherapy. Hospital.



### 63. THE MOBILE EMERGENCY CARE SERVICE (SAMU 192) AND THE NATIONAL POLICY FOR EMERGENCY CARE

#### *O SERVIÇO DE ATENDIMENTO MÓVEL DE URGÊNCIA (SAMU 192) E A POLÍTICA NACIONAL DE ATENÇÃO ÀS URGÊNCIAS*

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**Introduction:** The National Policy for Emergency Care (PNAU), established by the Ministry of Health in 2003, marked a significant advance in the organization of care for critical situations within the Unified Health System (SUS). Among its main strategies, the Mobile Emergency Care Service (SAMU 192) stands out, created to offer a rapid, comprehensive, and free response to urgent and emergency cases. The service represents an innovation in public health management, integrating actions of medical regulation, transport, and pre-hospital care, contributing to the reduction of morbidity and mortality from preventable causes. **Objective:** To analyze, based on a theoretical and documentary review, the importance of SAMU 192 as a structuring axis of the National Policy for Emergency Care, highlighting its legal foundations, coverage indicators, challenges, and contributions to the effectiveness of the SUS. **Method:** This is a qualitative study, based on a bibliographic and documentary review. Legal and regulatory frameworks were examined, such as Ordinances No. 1,864/2003 and No. 1,600/2011 and reports from the Ministry of Health. The analysis was based on a theoretical framework and inspired by the Legal Frameworks and studies on public policy management, seeking to better understand how SAMU 192 is implemented, financed, and evaluated. **Results:** The results indicate that SAMU has consolidated itself as the main mobile pre-hospital care strategy in the country, covering approximately 80% of the Brazilian population in 2023. There have been significant advances in the articulation between regulation centers, hospital units, and other points in the Emergency Care Network. However, challenges persist related to regional inequality in coverage, lack of infrastructure in small municipalities, and the need for continuous training of teams. Financial sustainability and inter-federative governance also stand out as critical points for the consolidation of the policy. **Conclusion:** SAMU 192 reaffirms the SUS's commitment to the universality and comprehensiveness of healthcare. Its maintenance and expansion depend on institutional strengthening, the ongoing professional development of staff, and effective integration with other public health policies. The consolidation of the National Emergency Care Policy therefore requires the recognition of SAMU as a strategic component of equity, access, and citizenship.

**Keywords:** National Policy for Emergency Care. Mobile Emergency Care Service (SAMU 102). Unified Health System (SUS).



**64. PREVENTION OF PSYCHOACTIVE SUBSTANCE USE AMONG ADOLESCENTS:  
REFLECTIONS BASED ON AN EPIDEMIOLOGICAL SURVEY IN THE GREATER  
VITÓRIA METROPOLITAN REGION**

***PREVENÇÃO AO USO DE SUBSTÂNCIAS PSICOATIVAS ENTRE ADOLESCENTES:  
REFLEXÃO A PARTIR DE UM LEVANTAMENTO EPIDEMIOLÓGICO NA REGIÃO  
METROPOLITANA DA GRANDE VITÓRIA***

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**Introduction:** The increased use of psychoactive substances among Brazilian adolescent girls, with greater vulnerability among girls, highlights the need for preventive actions that consider gender, mental health, and social inequalities. Adolescence is marked by emotional, social, and identity transformations that can favor risky behaviors, especially when associated with violence, low self-esteem, psychological distress, and the absence of support networks. In this context, the school becomes a strategic space for prevention and promotion of well-being. **Objective:** To implement actions to prevent the use of psychoactive substances among girls, strengthening the role of teachers and pedagogical teams as agents of care, protection, and promotion of mental health in the school environment. **Method:** The proposal is based on the ongoing training of the school team, addressing content on adolescence, risk and protective factors, gender inequality, social vulnerabilities, the impacts of substance use, and early signs of mental distress. The methodology includes discussion groups, case studies, guided debates, and the collective construction of preventive practices appropriate to the school routine. This approach considers scientific evidence and epidemiological data on substance use among adolescents, especially girls, and emphasizes the role of the school as a territory for health promotion. **Results:** It is expected that education professionals will expand their capacity to identify risks, support students in distress, establish protective bonds, and appropriately activate the health and social assistance network. Strengthening teaching practice in this area contributes to more welcoming, safe, and sensitive school environments for girls. The training also favors the development of socio-emotional skills, self-esteem, autonomy, and critical thinking among students, expanding protective factors and reducing vulnerabilities associated with early substance use. **Conclusion:** Preventing substance use in adolescence requires integrated strategies that consider gender specificities and the social determinants that permeate girls' lives. Teacher training is an essential tool for promoting mental health, strengthening care networks, and preventing risky behaviors. By improving the school's perspective and promoting educational practices sensitive to vulnerabilities, it contributes to healthier trajectories and the empowerment of adolescent girls.

**Keywords:** Adolescence. Prevention. Gender. Mental health. Psychoactive substances.



## 65. MENTAL HEALTH AND CHEMICAL DEPENDENCE: CHALLENGES IN A COMPREHENSIVE APPROACH

### *SAÚDE MENTAL E DEPENDÊNCIA QUÍMICA: DESAFIOS NA ABORDAGEM INTEGRAL*

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**Introduction:** According to the World Health Organization (WHO), natural or synthetic psychoactive substances are those that act on the central nervous system, with the potential to alter thoughts, emotions, and behaviors. The irrational use of these substances constitutes a significant public health problem, associated with causes of preventable morbidity and mortality worldwide. Mental well-being is essential for the health of the population and is part of the Sustainable Development Goals of the 2030 Agenda. Disorders related to the use of these substances are multifactorial, involving biological, psychological, and social aspects. The risk varies according to the quantity, combination, and frequency of consumption. Excessive use can cause serious physical, mental, and behavioral damage in the short and long term, in addition to aggravating depression, anxiety, and suicidal thoughts. Treatment should be integrated and individualized, combining pharmacological, psychotherapeutic, and social support interventions, based on scientific evidence and humanized care, promoting rehabilitation, social reintegration, and collaboration between the health, education, justice, and community sectors, thus favoring the recovery and well-being of those affected. **Objective:** This study aims to address the use of psychoactive substances and their impacts on mental health, highlighting the importance of integrated and humanized strategies for the prevention, treatment, and rehabilitation of users. **Method:** A **bibliographic study** was conducted on chemical dependency, mental health, and the challenges in the comprehensive care of these patients, using articles selected from the BVS database. The Boolean operator "AND" was used in all searches along with the descriptors: mental health, psychoactive substances, and patient care. Inclusion criteria were established to select articles in Portuguese, published in the last 5 years, and addressing the topic. After excluding 20 studies, 10 were included in this review. **Results:** The studies show that the use of psychoactive substances is strongly associated with impaired mental health, mainly in the increase in cases of depression, anxiety, and suicidal behavior. Chemical dependency is a multifactorial phenomenon, influenced by biological, social, and psychological factors. The analyzed works highlight that integrated therapeutic approaches present better results in the recovery and reintegration of individuals. **Conclusion:** Addressing substance dependence requires interdisciplinary and humanized strategies based on scientific evidence. Integration between the health, education, justice, and community sectors is essential to promote rehabilitation, reduce harm, and strengthen the mental well-being of the population.

**Keywords:** Mental Disorders. Psychoactive Substances. Patient Care.



## 66. ACUTE EFFECTS OF MID-COOLING IN TRAINING WITH BLOOD FLOW RESTRICTION ON EXERCISE FATIGUE

### *EFEITOS AGUDOS DO RESFRIAMENTO NO TREINAMENTO COM RESTRIÇÃO DO FLUXO SANGUÍNEO SOBRE A FADIGA MUSCULAR*

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**Introduction:** BFR training can elicit similar physiological training effects at lower intensities compared to traditional training approaches, however, results in higher perceived effort and greater exercise induced fatigue. Therefore, the investigation of the combination of BFR with cooling, which has been proven to lower perceptual strain and mitigate exercise fatigue, is of high interest to enhance acceptance of BFR training and allow athletes to train with manageable effort. **Objective:** Investigating the acute effects of mid-cooling in training with BFR on physiological fatigue, i.e., creatine kinase levels and counter movement jump performance, and perceptual fatigue, i.e., Hooper index. **Methods:** A total of 24 subjects participated in an experimental crossover within-subjects design. The intervention was a HIIT with BFR, cooling and BFR and a control group executing solely the HIIT. CK levels, CMJ performance, and the Hooper questionnaire were measured before the intervention, after and 24h after the intervention to analyze the effects of the intervention on physiological and perceptual fatigue. The study used three 3x3 factorial ANOVAs designs to analyze each fatigue marker individually. **Results:** The main effect of time was significant for all the fatigue markers (CK:  $p = .03$ ,  $\eta^2p = 0.40$ ; CMJ:  $p < .001$ ,  $\eta^2p = 0.56$ ; Hooper Index:  $p = .001$ ,  $\eta^2p = 0.39$ ), indicating exercise induced fatigue after the intervention and returned to baseline levels 24h post intervention. The main effect of condition was not significant for all the fatigue markers (CK:  $p = .84$ ,  $\eta^2p = 0.03$ ; CMJ:  $p = .17$ ,  $\eta^2p = 0.08$ ; Hooper Index:  $p = .67$ ,  $\eta^2p = 0.04$ ), as well as no significant interaction effect was observed (CK:  $p = .50$ ,  $\eta^2p = 0.12$ ; CMJ:  $p = .63$ ,  $\eta^2p = 0.03$ ; Hooper Index:  $p = .81$ ,  $\eta^2p = 0.04$ ). **Conclusion:** The addition of cooling to traditional BFR training does not affect exercise induced fatigue superiorly. However, cooling seems to have a greater impact on perceptual fatigue (Hooper Index) than physiological fatigue (CK and CMJ), and thus, remain a suitable option for individuals responding well to cooling during training, without negative physiological impacts on recovery.

**Keywords:** Blood Flow Restriction. Cooling. Resistance Training.



## 67. ALLOCATION OF PRE-HOSPITAL SUPPORT IN ESPÍRITO SANTO: FACTORS ASSOCIATED WITH THE DISPATCH OF SUPPORT UNITS (2020–2021)

### *ALOCAÇÃO DE SUPORTE PRÉ-HOSPITALAR NO ESPÍRITO SANTO: FATORES ASSOCIADOS AO DESPACHO DE UNIDADES DE SUPORTE (2020–2021)*

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**Introduction:** The Mobile Emergency Care Service (SAMU 192) is the main mobile component of the Emergency Care Network (RUE), operating under guidelines of regionalization, hierarchy, and time-dependent care. Medical Regulation of Emergencies organizes access and defines the dispatch of Basic Support Units (BSU), Intermediate Support Units (ISU), and Advanced Support Units (ASU), according to severity, being crucial for the efficiency and safety of pre-hospital care. **Objective:** To analyze the associations between the mobilized resource (BSU, ISU, and ASU) and demographic and care variables based on state medical regulation records. **Method:** This is a retrospective, cross-sectional observational study, including primary care visits with team dispatch between January 1, 2020, and December 31, 2021. The variables analyzed included sex, life cycle, operational cluster, period and day of the week, origin of the call, type of occurrence, presumed criticality, destination, and need for transport. Descriptive analyses and association tests (chi-square/Fisher's exact test) were performed with evaluation of standardized residuals in significant associations ( $p < 0.05$ ). **Results:** 70,184 calls were evaluated, with the most frequent dispatch being BSU (83.8%), followed by ASU (14.1%) and ISU (2.1%), the latter present only in 2021. Presumed criticality showed an association ( $p < 0.001$ ) with the type of support: critical cases received ASU with substantially greater frequency than non-critical cases. Clinical occurrences concentrated a higher rate of ASU dispatch compared to external and psychiatric causes ( $p < 0.001$ ). A progressive increase ( $p < 0.001$ ) in the use of Advanced Life Support (ALS) was observed from the age of 50 onwards, in addition to a high proportion among infants. Home calls resulted in a higher number of ALS deployments than out-of-home calls. Significant differences were also identified between operational clusters, reflecting structural and logistical influences. Between 2020 and 2021, there was a relative reduction in the use of ALS and an expansion of the Integrated Life Support Unit (ILSU), suggesting organizational adjustments. **Conclusion:** SAMU 192/ES shows coherence between risk stratification and the resource dispatched, modulated by type of incident, age, origin of the call, and territory. The findings support the improvement of clinical triggers, the use of geoprocessing for data collection, and the standardization of non-transport decisions, contributing to greater effectiveness and efficiency of pre-hospital care.

**Keywords:** Pre-hospital care. Emergency medical services. Patient transport.



## 68. PLURIACTIVITY: NATIONAL AND INTERNATIONAL EXPERIENCES OF PLURIACTIVITY, MULTIPLE OCCUPATIONS, AND INCOME DIVERSIFICATION STRATEGIES

### *PLURIATIVIDADE: EXPERIÊNCIAS NACIONAIS E INTERNACIONAIS DE PLURIATIVIDADE, MÚLTIPLAS OCUPAÇÕES E ESTRATÉGIAS DE DIVERSIFICAÇÃO DE RENDA*

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**Introduction:** Pluriactivity, understood as the combination of agricultural and non-agricultural activities, has become an essential strategy for the survival and strengthening of rural families. By diversifying income sources and reducing vulnerabilities, it allows them to adapt to changes in the labor market and transformations in rural areas. Observed in different countries, it directly influences local development, food security, and the permanence of families in the countryside. In this sense, understanding its forms of manifestation, theoretical foundations, and the role of public policies becomes fundamental, especially in the Brazilian context, where its importance is growing significantly. **Method:** The research was conducted as a narrative and reflective review between September and October 2025. Scientific databases such as SciELO and Mendeley were consulted, in addition to official documents and institutional materials. The search used descriptors such as *pluriactivity*, *multiple job-holding*, and *diversified*, combined with Boolean operators. There was no temporal restriction, allowing the inclusion of classic and recent studies. The references were organized and selected according to thematic relevance and theoretical consistency. The analysis followed a critical perspective based on contributions from the areas of public policy, rural economics, and agricultural sciences. **Results:** Pluriactivity manifests itself through the diversification of agricultural production and the association between rural activities and external occupations. In both cases, it represents a relevant alternative to increase economic stability and strengthen food security for families. Factors such as education, family composition, access to infrastructure, and proximity to urban areas influence the adoption of this practice, expanding opportunities for occupational insertion and access to essential services. The combination of activities has accompanied agrarian thought since classic authors such as Kautsky and Chayanov, consolidating itself as a fundamental instrument for strengthening family income. In Brazil, programs such as PRONAF have expanded access to credit, technical assistance, and means of production. In the European Union, policies such as the Common Agricultural Policy offer structured support, stimulating multifunctional practices in the countryside. Experiences from Portugal and Poland show that the integration between rural and urban activities responds to recent socioeconomic transformations. Brazilian initiatives such as MEI, PRONATEC Campo, PNAE, Garantia-Safra, PAA, and PRONAF contribute to professional training, credit, and marketing, with varying results across regions. This practice also aligns with SDGs 2, 8, and 12, promoting sustainable production, decent work, and strengthening the local economy. **Conclusion:** The literature indicates that pluriactivity constitutes a legitimate strategy for adaptation and autonomy in the face of economic uncertainties. In Brazil, it stands out in family farming, varying according to regional characteristics and available public policies.

**Keywords:** Agriculture. Rural development. Public policies. Sustainability.



## 69. BETWEEN POLICIES AND PRACTICES: THE ROLE OF CENTRO MARGARIDAS IN PROTECTING WOMEN FACING VIOLENCE IN LINHARES-ES

### *ENTRE POLÍTICAS E PRÁTICAS: A ATUAÇÃO DO CENTRO MARGARIDAS NA PROTEÇÃO DE MULHERES EM SITUAÇÃO DE VIOLÊNCIA EM LINHARES-ES*

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**Introduction:** Violence against women remains a serious violation of human rights and demands intersectoral responses articulating gender, social assistance, health, public security, and justice. In Brazil, the fight against this issue is institutionalized through the Maria da Penha Law (Law No. 11.340/2006), based on the Federal Constitution and the Belém do Pará Convention, and reinforced by the National Guidelines of Decree No. 7.958/2013. In Espírito Santo, the normative framework includes Law 11.775/2023, Decree 4510-R/2019, Law 14.899/2024, the State Pact for Combating Violence, and Complementary Law No. 1.038/2023, which creates the State Secretariat for Women (SESM). These instruments structure the State Network for Women, composed of Margarida Centers and Nuclei implemented in municipalities with high indicators of violence. In this context, the Margaridas Center in Linhares-ES stands out as a specialized facility focused on combating violence against women and girls, offering psychosocial and legal support, as well as educational initiatives. **Objective:** To analyze the performance of the Margaridas Center as a reference facility in the implementation of public policies for the protection and empowerment of women in situations of violence. **Method:** This is a documentary study that analyzes technical reports, legal documents, official data, and institutional materials related to the Margaridas Policy for combating violence against women in Espírito Santo. The investigation also includes the characterization of the actions developed by the Margaridas Center in Linhares-ES, allowing for an understanding of its role as a reference facility within the protection network. The analysis sought to identify established guidelines, flows, practices, and service mechanisms, as well as the Center's articulation with intersectoral public policies. **Results:** The Margaridas Center is consolidated as a strategic space for protection, support, and the guarantee of rights, acting in the visibility, formalization, and qualification of services for women in situations of violence. Its work articulates psychosocial, legal, and educational dimensions, integrating with the municipal and state network to expand access, specialized support, and prevention actions. **Conclusion:** The Margaridas Center in Linhares-ES is a fundamental resource in combating violence against women, offering shelter, psychosocial support, legal guidance, and educational activities. Document analysis indicates alignment with the national and state regulatory framework, reinforcing its contribution to the State Network for Women. Challenges regarding intersectoral coordination, structure, and service flows persist, but the Center remains essential in protecting and promoting rights, highlighting the need for continuous investment to increase its effectiveness.

**Keywords:** Legislation. Public Policies. Public Services. Addressing violence. Services for Women.



## 70. THE IMPORTANCE OF DANCE AS A THERAPEUTIC ACTIVITY IN PRIMARY CARE: AN EXPERIENCE REPORT

### *A IMPORTÂNCIA DA DANÇA COMO ATIVIDADE TERAPÊUTICA NA ATENÇÃO BÁSICA: UM RELATO DE EXPERIÊNCIA*

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**Introduction:** Population aging has increased the incidence of falls among the elderly, constituting a significant public health problem due to its physical, psychological, and socioeconomic consequences. In this context, dance emerges as a bodily practice that integrates physical, cognitive, and social aspects, favoring motor coordination, balance, and interaction among older people. Furthermore, it stands out as a pleasurable form of exercise, with potential to contribute to fall prevention, active aging, and improved quality of life. **Objective:** To describe the perception of physiotherapy students regarding their experience during their mandatory internship in Primary Care, in the context of group care with elderly individuals involving dance as a therapeutic activity. **Method:** This is an experience report developed from the participation of physiotherapy students in their mandatory internship, carried out at the Jesus de Nazareth Basic Health Unit, located in the city of Vitória – ES. The activities were developed from October to December 2025, taking place on Tuesdays in the afternoon, from 1:30 PM to 2:30 PM, following a plan of rhythmic activities with variations according to the group's needs. Choreographed movements were performed that contributed to muscle strengthening, improved balance, motor coordination, and joint mobility. **Results:** The rhythmic activities provided moments of relaxation, socialization, and physical exercise, favoring participant engagement and creating a welcoming and motivating environment. The diversity of rhythms helped maintain the group's interest, avoiding monotony and stimulating different motor and cognitive aspects, as well as strengthening interaction, promoting social bonds and a sense of belonging to the group. From the students' point of view, the experience provided a broader understanding of the physiotherapist's role in Primary Care, highlighting the importance of integrative body practices in the care of the elderly. The activity reinforced the relevance of dance as an accessible, enjoyable, and effective therapeutic strategy in promoting active aging and preventing falls. **Conclusion:** The experience highlighted the importance of the physiotherapist's role in Primary Care, especially in the care of the elderly. In addition to benefiting the participants, the experience broadened the students' training, reinforcing the role of physiotherapy in promoting the autonomy, functionality, and quality of life of the elderly population in the context of primary care.

**Keywords:** Fall prevention. Dance. Active aging. Elderly person. Primary care.



## 71. ANÁLISE DAS INTERNAÇÕES POR DIARRÉIA EM MENORES DE CINCO ANOS EM VILA VELHA (2015–2024)

### *ANALYSIS OF HOSPITALIZATIONS DUE TO DIARRHEA IN CHILDREN UNDER FIVE YEARS OLD IN VILA VELHA (2015–2024)*

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**Introduction:** Diarrheal diseases still represent a significant challenge for children's health, especially in regions with inequalities in access to basic sanitation and drinking water. In Vila Velha (ES), a municipality that has undergone important urban and social transformations in the last decade, advances have been observed in the coverage of the Family Health Strategy and in sanitary conditions. Therefore, it is essential to assess whether these improvements have resulted in a reduction in hospitalizations due to diarrheal diseases, a sensitive indicator of the effectiveness of public policies and child health care. Thus, this study proposes to analyze this trend in the municipality, contributing to the strengthening of health promotion, prevention, and surveillance actions. **Objective:** To analyze the trend of hospitalizations due to diarrhea in children under five years of age in the municipality of Vila Velha (ES), from 2015 to 2024. **Method:** This is an ecological, descriptive, and time-series study, with secondary data obtained from the SUS Hospital Information System (SIH/DATASUS). Hospitalizations with a primary diagnosis of intestinal infectious diseases (ICD-10: A00–A09) in residents of Vila Velha under five years of age were included. The variables analyzed were the annual number of hospitalizations in the age groups "under 1 year" and "1 to 4 years". Annual totals and averages per period were calculated. **Results:** Between 2015 and 2024, 512 hospitalizations for diarrhea were recorded in children under five years of age in Vila Velha, with 170 (33.2%) in children under 1 year and 342 (66.8%) between 1 and 4 years. A reduction in hospitalizations was observed from 2018 onwards, with a peak in 2018 (85 cases) and the lowest number recorded in 2023 (34 cases). Despite small annual fluctuations, the overall trend was a decrease in the number of hospitalizations. **Conclusion:** The reduction in hospitalizations for diarrhea in children under five years of age in Vila Velha between 2015 and 2024 indicates progress in sanitary conditions, vaccination coverage, and preventive actions of the Family Health Strategy. These results may be related to public policy practices in promoting child health and reinforce the importance of maintaining investments in quality infrastructure, sanitation, and Primary Care to consolidate the progress achieved in the municipality.

**Keywords:** Diarrhea. Public health. Hospitalizations.



## 72. INCIDENCE OF UROGYNECOLOGICAL SURGERIES IN PATIENTS UNDERGOING PELVIC PHYSICAL THERAPY AT THE EMESCAM CLINIC

### *INCIDÊNCIA DE CIRURGIAS UROGINECOLÓGICAS EM PACIENTES SUBMETIDAS À FISIOTERAPIA PÉLVICA NA CLÍNICA DA EMESCAM*

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**Introduction:** Urinary incontinence (UI) is a highly prevalent condition that profoundly impacts the physical, emotional, and social well-being of women, and pelvic floor physiotherapy emerges as the first line of conservative treatment, promoting autonomy and quality of life. When conservative treatment fails, referral for urogynecological surgery becomes an alternative. **Objective:** To analyze the incidence of urogynecological surgeries in patients undergoing pelvic floor physiotherapy at the EMESCAM School Clinic, understanding the relationship between the completion of physiotherapy treatment and the avoidance of surgical intervention, highlighting the role of physiotherapy in this outcome. **Method:** This was a retrospective study based on the analysis of data extracted from the electronic medical records of patients treated at the pelvic physiotherapy service of the EMESCAM School Clinic, between February and December 2024. Referrals, physiotherapy assessments, diagnoses, and progress records were analyzed, focusing on identifying the total number of patients, the treatment adherence rate (completion versus dropout), and, crucially, the incidence of urogynecological surgeries performed in the total patient group. **Results:** The results revealed that stress urinary incontinence was the most frequent diagnosis, followed by urge incontinence and mixed cases, as well as cases of detrusor overactivity and prolapse. During the study period, 60 patients were treated. Of these, 33.67% completed physiotherapy treatment, while 57.67% The study reported dropouts, highlighting challenges in adherence, often influenced by emotional issues, difficulties with transportation, shame, or lack of knowledge. Analysis of the outcomes showed that, among the patients who completed treatment, urogynecological surgery was avoided in the vast majority, with only 11.67%. Case(s) of surgical referral. **Conclusion:** Pelvic physiotherapy has proven to be an essential resource in functional recovery. The low incidence of urogynecological surgeries observed in patients who completed treatment reinforces the role of physiotherapy as a highly effective strategy in preventing progression to surgical treatment. However, the high dropout rate indicates that the effectiveness of care also depends on welcoming, health education, and strategies that strengthen the bond and adherence to treatment, crucial aspects to maximize the success rate of conservative treatment and, consequently, reduce the need for surgery.

**Keywords:** Urinary incontinence. Pelvic floor physiotherapy. Women's health.



### 73. THE PATHWAY TO ACCESSING ORTHOTICS, PROSTHETICS, AND MOBILITY AIDS WITHIN THE BRAZILIAN UNIFIED HEALTH SYSTEM (SUS): BUILDING AN EDUCATIONAL FLOWCHART

#### *O CAMINHO DO ACESSO ÀS ÓRTESES, PRÓTESES E MEIOS AUXILIARES DE LOCOMOÇÃO NO SUS: CONSTRUINDO UM FLUXOGRAMA EDUCATIVO*

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**Introduction:** Access to Orthoses, Prostheses, and Mobility Aids (OPM) involves different stages within the Care Network for People with Disabilities, marked by structural, organizational, and social barriers. Understanding this path is fundamental to revealing the critical points that hinder the effectiveness of the right to rehabilitation in the Brazilian Unified Health System (SUS). **Objective:** To graphically represent, through a flowchart, and critically analyze the stages of the OPM access process in the SUS, highlighting the main obstacles in each of them. **Methods:** The flowchart was constructed as a methodological product of a scoping review. Based on the synthesis of the findings, each stage of the dispensing process was described and accompanied by the corresponding barriers. The diagram was developed as an educational technology, aligned with the analytical axes of the research and designed to facilitate scientific communication, support managers, and subsidize decision-making processes. **Results:** The flowchart organized the OPM access process into six stages: (1) request, marked by a lack of knowledge of rights and low professional training; (2) functional assessment, compromised by the predominant biomedical approach and lack of qualification; (3) authorization, hampered by bureaucracy, coordination failures, and lack of standardization; (4) production, limited by insufficient workshops, budgetary constraints, and concentration of low-technology devices; (5) delivery, hampered by long waiting times, regional inequalities, and logistical barriers; and (6) follow-up, in which the absence of monitoring, adaptations, and integration with primary care contribute to the abandonment of devices. **Conclusion:** The flowchart clearly and visually summarizes how barriers emerge at each stage of the assistive technology supply process in the Brazilian Unified Health System (SUS), highlighting that the user's journey is marked by structural, bureaucratic, and territorial weaknesses. Its construction allowed the integration of the review findings into a practical tool for analysis and management, reinforcing the need for public policies that improve the network, strengthen the comprehensiveness of care, and reduce inequalities in access to assistive technology devices.

**Keywords:** Flowchart. Assistive Technology. Access to Health. People with Disabilities. Care Network.



## 74. SOCIODEMOGRAPHIC AND HEALTH CHARACTERISTICS OF BRAZILIAN CHILDREN UNDER FIVE YEARS OLD: FINDINGS FROM ENANI-2019

### *CARACTERÍSTICAS SOCIODEMOGRÁFICAS E DE SAÚDE DAS CRIANÇAS BRASILEIRAS MENORES DE CINCO ANOS: RESULTADOS DO ENANI-2019*

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**Introduction:** Understanding living conditions and health in early childhood is fundamental for planning integrated public policies. The National Study of Infant Feeding and Nutrition (ENANI-2019) updated information previously available only since 2006, incorporating indicators of food, nutrition, care, and home context, providing information on children under five years of age. Characterizing the studied population allows for the identification of inequalities and guides strategies for promoting equitable child development. **Objective:** To characterize Brazilian children under five years of age participating in ENANI-2019 according to sociodemographic, regional, and health service access variables. **Method:** This population-based cross-sectional study, using data from ENANI-2019, comprised 14,558 children under five years of age residing in 12,524 households across all regions of the country. Variables related to geographic location, per capita household income, maternal education and age, family composition, participation in income transfer programs, and primary health care coverage were assessed. Descriptive analyses considered the complex sampling design and the application of sample weights to ensure national and regional representativeness. **Results:** The majority of children resided in urban areas (87%). The proportion of rural households was higher in the North and Northeast, regions that also concentrated the strata with the lowest per capita household income. Maternal education showed a strong socio-spatial gradient: the percentage of mothers with up to 8 years of schooling was higher in the North and Northeast, while  $\geq 12$  years of schooling was more frequent in the South and Southeast. Primary care coverage was high nationally, although territorial differences persist in the provision of well-child visits and food promotion activities, especially in dispersed rural areas and small municipalities. **Conclusion:** The ENANI-2019 highlights the persistence of regional and socioeconomic inequalities that influence living conditions and opportunities for care in early childhood. The detailed characterization of this population supports intersectoral policies aimed at equity in child development.

**Keywords:** ENANI-2019. Early childhood. Social inequalities. Sociodemographic profile. Public health.



## 75. INEQUALITIES IN THE PREVALENCE OF EXCLUSIVE AND CONTINUED BREASTFEEDING IN BRAZIL: ANALYSIS OF ENANI-2019

### *DESIGUALDADES NA PREVALÊNCIA DE ALEITAMENTO MATERNO EXCLUSIVO E CONTINUADO NO BRASIL: ANÁLISE DO ENANI-2019*

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**Introduction:** Breastfeeding is essential for infant health, reducing morbidity and mortality and strengthening the mother-baby bond. However, its practice is influenced by social and demographic determinants. In Brazil, although there has been progress in recent decades, inequalities related to maternal income and education persist. The National Study of Infant Feeding and Nutrition (ENANI-2019) offers current and representative data on the breastfeeding situation in the country. **Objective:** To describe the prevalence of exclusive breastfeeding up to 6 months and continued breastfeeding up to 12 months, according to per capita household income, age, and maternal education, based on ENANI-2019. **Method:** Cross-sectional study with data from ENANI-2019, composed of 14,558 children under 5 years of age from all Brazilian regions. Children <6 months were included for exclusive breastfeeding and children aged 6 to 12 months for continued breastfeeding. Prevalence rates were estimated according to tertiles of per capita household income, maternal education levels ( $\leq 8$  years; 9–11 years;  $\geq 12$  years), and maternal age groups ( $\leq 19$  years; 20–34 years;  $\geq 35$  years), with 95% confidence intervals. Descriptive analyses were performed using SPSS 27 software. **Results:** The prevalence of exclusive breastfeeding up to 6 months was 45.8% (95% CI: 43.1–48.5). A higher prevalence was observed among lower-income families (52.4%). Regarding education, mothers with  $\leq 8$  years of schooling showed a higher prevalence (50.1%). Continued breastfeeding up to 12 months had a prevalence of 60.7% (95% CI: 57.6–63.7), with a similar pattern: higher among lower-income families (65.9%) and mothers with lower education (68.3%). There were no significant differences according to maternal age. **Conclusion:** The results show that social inequalities in breastfeeding persist in Brazil. Higher-income families and mothers with higher levels of education are less likely to continue breastfeeding, indicating challenges related to returning to work, social support, and cultural practices. Intersectoral strategies that include breastfeeding protection and strengthening primary care are essential to promote equity in breastfeeding.

**Keywords:** Breastfeeding. Health inequities. Child nutrition. Nutritional assessment. Public health. ENANI-2019.



## 76. TRENDS IN MORTALITY RELATED TO CYSTIC FIBROSIS BY BRAZILIAN REGIONS IN THE PERIOD FROM 2018 TO 2023 BASED ON OFFICIAL DEATH NOTIFICATIONS

### *TENDÊNCIA DE MORTALIDADE RELACIONADA À FIBROSE CÍSTICA POR REGIÕES BRASILEIRAS NO PERÍODO DE 2018 A 2023 A PARTIR DAS NOTIFICAÇÕES OFICIAIS DE ÓBITOS*

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**Introduction:** Cystic fibrosis (CF) is a chronic and progressive genetic disease that affects multiple organ systems, especially the respiratory and gastrointestinal systems, and can lead to severe complications and death. In Brazil, the entire care pathway, from neonatal screening to diagnostic confirmation and treatment centers and high-cost medications, is provided by the public health system. Analyzing CF mortality in the country allows for the identification of regional inequalities in access to diagnosis and specialized care, guiding health care planning and promoting public policies. **Objective:** To describe the epidemiological data related to cystic fibrosis mortality, by place of residence, from 2018 to 2023, according to Brazilian geographic regions, using official data from the Mortality Information System (SIM). **Method:** This is a descriptive study, based on SIM data provided by the Department of Informatics of the Unified Health System (DATASUS). Records classified under code E84 of the International Classification of Diseases (ICD-10) were selected. Data were grouped according to Brazilian regions and organized by epidemiological variables: sex, race/color, age group, year and month of death, and place of occurrence. Absolute and relative frequencies were calculated to characterize the mortality profile during the study period. **Results:** 1529 deaths from CF were reported in Brazil between 2018 and 2023. The Southeast region concentrated 42.8% of the records, followed by the Northeast (22.4%), South (17.7%), North (8.8%), and Midwest (8.2%). A trend of maintaining the annual number of deaths was observed in this analyzed interval, including during the pandemic period (2020 and 2021), with variations between 231 (2018) and 291 deaths (2022) from CF per year throughout the country. There was a predominance of deaths among males (50.4%) and white individuals (58.5%). The most frequent age group was  $\geq 75$  years (27.7%), followed by 65–74 years (15.5%). Most deaths occurred in a hospital setting (76%). **Conclusion:** Mortality from cystic fibrosis in Brazil shows an uneven distribution among regions, with a predominance of deaths in the Southeast and a greater impact among the elderly. The findings reinforce the need to strengthen epidemiological surveillance, expand access to early diagnosis, and ensure equitable policies for specialized care in the public health system.

**Keywords:** Cystic Fibrosis. Mortality. Epidemiology. Health Information Systems. Health Surveillance.



## 77. INCLUSION OF IMMERSIVE TECHNOLOGY AS A PHYSIOTHERAPEUTIC RESOURCE IN THE BRAZILIAN PUBLIC HEALTH SYSTEM (SUS): PROPOSAL FOR GUIDELINES TO GUARANTEE ACCESSIBILITY IN PUBLIC HOSPITALS

### *INCLUSÃO DA TECNOLOGIA IMERSIVA COMO RECURSO FISIOTERAPÊUTICO NO SUS: PROPOSTA DE DIRETRIZES PARA GARANTIA DE ACESSIBILIDADE EM HOSPITAIS PÚBLICOS*

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**Introduction:** The Brazilian Unified Health System (SUS) faces the challenge of improving the quality and humanization of care, particularly in the hospital setting. The use of immersive technologies (IT), such as Virtual Reality, demonstrates significant and promising potential in the physiotherapy care process, as a non-pharmacological therapeutic resource applicable to pain management, anxiety reduction, rehabilitation, and promotion of well-being in hospitalized patients. However, the absence of a regulatory framework and specific guidelines for its incorporation and systematic use in the public sector represents a barrier to its equitable and safe adoption. **Objective:** To propose a set of public policy and operational guidelines aimed at guiding the incorporation, implementation, and guarantee of accessibility of immersive technology as a complementary therapeutic resource in public hospitals that are part of the SUS network. **Method:** The research employed a qualitative and exploratory methodology, based on a systematic bibliographic review of the scientific literature and national and international normative documents, encompassing legislation, technical reports, and *guidelines*. The study evaluated the selection and use of technologies from the perspective of cost-effectiveness, patient safety, infrastructure requirements for their applicability, the need for training healthcare professionals, and equity. **Results:** The proposed guidelines address some relevant points: The creation of a Multiprofessional Technical Committee for IT Evaluation in the SUS (Brazilian Unified Health System); Standardization of *hardware* and *software* focusing on usability and biosafety in the hospital environment; Development of a continuous training program for healthcare teams; Establishment of a patient eligibility protocol for IT use, prioritizing vulnerable groups, such as pediatric patients, those with long hospital stays, and those in palliative care; and Definition of impact and cost-effectiveness metrics for monitoring and maintaining the policy. **Conclusion:** The incorporation of IT into the range of therapeutic resources of the SUS is technically feasible and ethically desirable, representing an advance in the humanization and innovation of public health care. Adopting the proposed guidelines is essential to overcome logistical challenges and ensure that access to these innovative resources is universal, equitable, and safe, in line with the principles of the Brazilian Unified Health System (SUS).

**Keywords:** Public Policy. Immersive Technology. Brazilian Public Health System (SUS). Public Hospital. Accessibility.



## 78. RIGHTS OF PEOPLE IN SITUATIONS OF SOCIOECONOMIC VULNERABILITY IN ACCESS TO HEALTHCARE: AN ANALYSIS OF BRAZILIAN PUBLIC POLICIES AND THEIR CONTRIBUTION TO SDG 1

### *DIREITOS DE PESSOAS EM VULNERABILIDADE SOCIOECONÔMICA NO ACESSO À SAÚDE: UMA ANÁLISE DE POLÍTICAS PÚBLICAS E CONTRIBUIÇÃO PARA ODS 1*

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**Introduction:** Social rights were incorporated into the 1988 Federal Constitution of Brazil, guaranteeing in legal terms universal, equal, and comprehensive access to health services and actions. This commitment is stipulated by the United Nations and included in Sustainable Development Goal 1, which ensures that all people have access to basic services and equal rights to economic resources. Individual health, in turn, is influenced by the socioeconomic conditions in which they are embedded and shaped by political forces directly linked to access to health. **Objective:** To analyze the rights of people in situations of socioeconomic vulnerability, highlighting public policies and their contribution to SDG 1. **Method:** This is an integrative review developed through a bibliographic survey. The research was conducted in the LILACS and MEDLINE databases, using the descriptors: Access to Health Services AND Socioeconomic Factors AND Public Policy. **Results:** The initial search encompassed a total of 215 articles. In the process of selecting titles and analyzing their respective abstracts, a total of 31 articles were initially selected for evaluation. Subsequently, after reading the remaining articles in full, 6 studies were found to be relevant to the theme of this work. Based on the evidence from these studies, it was found that social determinants are revalued as the root cause of the observed failure of policies aimed at reducing poverty and inequality. Therefore, health policies require focused attention, with reformulations and consolidated structures of health services, offering equitable care, considering the right to health as part of human rights. Furthermore, it is conditioned that the right to health be exercised with the capacity of health units to meet the needs of users and provide quality care. Thus, in Brazil, equitable health is mandated for all states and municipalities by Law No. 8,080, of September 19, 1990, which regulates the National Health System. **Conclusion:** This research showed that interventions that address these issues can contribute to ensuring that people in situations of socioeconomic vulnerability have access to care, guided by the strategy of affirmative action, integrating the development of the objective of eradicating poverty in all its forms.

**Keywords:** Access to Health Services. Socioeconomic Factors. Public Policies.



## 79. CHILDHOOD VACCINATION POLICIES IN REDUCING IMMUNE PREVENABLE DISEASES

### *IMPACTO DAS POLÍTICAS DE VACINAÇÃO INFANTIL NA REDUÇÃO DE DOENÇAS IMUNOPREVENÍVEIS*

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**Introduction:** Vaccination is one of the most widely accepted strategies for preserving public health, strengthening society in a healthy and resilient way. Furthermore, there is a growing recognition of its role as a proven effective intervention to prevent serious diseases and reduce the spread of various infectious agents in the community, maximizing the safety of those who cannot be vaccinated due to health comorbidities. Therefore, vaccination policy is the responsibility of the National Immunization Program (PNI), which includes a national vaccination schedule to protect individuals from the beginning of life and prevent future epidemics. **Objective:** To analyze the impact of childhood vaccination policies on the reduction of vaccine-preventable diseases. **Method:** This is an integrative review based on a literature review. The search was conducted in the PUBMED database using the descriptors: Vaccination Coverage AND Health Policy AND Children's health AND Disease Prevention. **Results:** The initial search encompassed a total of 584 articles. In the process of selecting titles and analyzing their respective abstracts, a total of 20 articles were pre-selected for evaluation. Subsequently, after a full reading of the remaining articles, 7 studies were found to be relevant to the work's theme. The analyzed studies demonstrate that, although childhood vaccination policies are fundamental, they do not, in isolation, guarantee a reduction in vaccine-preventable diseases. Their effectiveness depends directly on strengthening the governmental bodies responsible for coordinating immunization actions and expanding equitable access to vaccines in all regions of the country. It was also found that complementary strategies, such as initiatives that reduce access barriers, expand the supply of vaccines, and encourage the participation of private services and health plans, can contribute to increased vaccination coverage and more consistent implementation of immunization protocols. Thus, the decrease in mortality from vaccine-preventable diseases is confirmed as a relevant indicator of the impact and effectiveness of childhood vaccination policies. **Conclusion:** It was observed that the impact of vaccination policies on the child population is conditioned by multiple factors, including the effectiveness of vaccines, the maintenance of herd immunity, and the organization of immunization programs. Therefore, well-coordinated and accessible policies are essential to ensure continued progress in the control and prevention of vaccine-preventable diseases.

**Keywords:** Vaccination Coverage. Health Policy. Child Health. Disease Prevention.



## 80. ASSESSMENT OF WATER QUALITY IN THE RIO DAS VELHAS WATERSHED IN THE POST-PANDEMIC PERIOD

### *AValiação da Qualidade da Água na Bacia Hidrográfica do Rio das Velhas no Pós-Pandemia*

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**Introduction:** The river basin discussed here has a considerable extension within its respective state. Its use and relevance encompass diverse applications throughout its length, ranging from human consumption to agricultural use, to give an example. The Rio das Velhas originates in the mountains of Minas Gerais, in the municipality of Ouro Preto. Along its course, it cuts through the metropolitan region of Belo Horizonte, suffering impacts that reduce the quality of its waters. In this work, developed within the scope of Prof. Água at UNIFEI, the current characteristics of the waters of the Rio das Velhas basin in Minas Gerais were evaluated. For this purpose, the Water Quality Index (WQI) and the Trophic State Index (TSI) were used, based on historical series provided by the Minas Gerais Water Management Institute – IGAM, concerning the period from 2020 to 2024, the last complete cycles available at the time of this study. **Objective:** To evaluate, based on IGAM series, the water quality of the Velhas River after the Covid-19 pandemic. **Method:** For the development of this work, the authors used bibliographic research to gather information necessary for the simulations performed and the history and characteristics of the waters of the Velhas River basin. Regarding the methods, the historical series obtained were qualitatively analyzed in order to allow for an updated understanding of the real state of the river's waters under examination. **Results:** It is worth noting that, in an initial search on the ANA website, a change in technical aspects downstream of Belo Horizonte/MG was easily observed from the outset. Therefore, and based on these indications, a more in-depth study was undertaken, and it was observed, based on the simulations performed, that there is a clear deterioration in the parameters examined, both in the WQI and the IET, downstream of the state capital. **Conclusion:** It is recommended that periodic reassessment of the data and indices presented here be continued, so that efforts can be redirected in a timely and appropriate manner to improve the parameters of the waters in question.

**Keywords:** Trophic State Index (TSI). Water Quality Index (WQI). Rio das Velhas.



## 81. THE MENTAL HEALTH CRISIS IN NURSING AS A MIRROR OF SOCIAL INJUSTICE: REFLECTIONS ON RIGHTS, ETHICS, AND THE FUTURE OF CARE IN THE 21ST CENTURY

### *A CRISE DA SAÚDE MENTAL DA ENFERMAGEM COMO ESPELHO DA INJUSTIÇA SOCIAL: REFLEXÕES SOBRE DIREITOS, ÉTICA E O FUTURO DO CUIDADO NO SÉCULO XXI*

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**Introduction:** In the 21st century, healthcare places nursing at the epicenter of ethical and labor tensions. The unprecedented mental health crisis, manifested by high rates of burnout syndrome, depression, and moral exhaustion, is a direct reflection of the persistent precariousness of working conditions and the neglect of labor rights (exhausting work hours and inadequate remuneration), configuring a profound failure of social justice. **Objective:** To promote a critical and ethical reflection on the causal link between the psychological suffering of nurses and the fulfillment of their rights, positioning this debate as a central issue for social justice in the field of health. The study seeks to analyze the pathology from the perspective of ethics and the human rights of workers. **Method:** This work constitutes a theoretical-reflective study with a qualitative approach. The method is based on the critical and dialogical analysis of fundamental literature in the fields of public health, ethics in nursing, sociology of work, and labor legislation, in addition to institutional documents (COFEN). The reflective approach confronts the idealization of humanized care with the reality of practical execution in a context of professional burnout. **Results:** Mental illness in nursing is demonstrated as an organizational pathology, not an individual weakness. The lack of guaranteed rights (such as minimum wage and dignified working hours) introduces a systemic risk that compromises clinical judgment, empathy, and patient safety, making the patient the ultimate victim of this chain of injustice. Moral exhaustion emerges when professionals are prevented from providing quality care due to a lack of resources, generating an ethical deficit in the system. **Conclusion:** The mental health crisis is an unequivocal symptom of the structural social injustice that permeates the health sector. There will be no significant progress in the quality of care and patient safety as long as the profession does not have its labor rights fully guaranteed and its professional dignity restored. Transforming the work environment into a space of equity is an ethical imperative and an urgent strategy for a more just, safe, and humane future for healthcare.

**Keywords:** Labor Rights. Nursing. Social Injustice. Mental Health. Burnout Syndrome.



## 82. JUSTICE FOR CAREGIVERS: THE CHRONICLE OF PROFESSIONAL BURNOUT AS A SYMPTOM OF AN UNEQUAL PUBLIC HEALTH SYSTEM

### *JUSTIÇA PARA QUEM CUIDA: A CRÔNICA DO ESGOTAMENTO PROFISSIONAL COMO SINTOMA DE UMA SAÚDE PÚBLICA INEQUÂNIME*

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**Introduction:** Human care, in its essence, is an act of dedication and responsibility. However, in the 21st century, nursing faces a cruel paradox: while its mission is to safeguard life, its own dignity is constantly threatened. The precariousness manifested in exhausting shifts and inadequate remuneration is not merely a management statistic, but an attack on social justice. This essay is an invitation to deep reflection on how the erosion of labor rights not only corrodes the well-being of the professional, but, above all, weakens the quality and tenderness of the care that the patient deserves to receive. **Objective:** To promote an ethical and existential reflection that links the mental health of nursing professionals to the fulfillment of their rights, seeing this struggle as the foundation for just and humane care. It seeks to give voice to psychological suffering (burnout, moral exhaustion) under the light of the ethics of non-maleficence and human dignity, questioning the inertia of public policies. **Method:** This journey of reflection is built upon a sensitive and critical dialogue with fundamental literature, illuminating lived experience (phenomenology), the ethics of care, and the sociology of work. It consists of an honest confrontation between the deontological ideal—what humanized care should be—and the practical reality, executed by bodies and minds pushed to their limits. We mobilize concepts of equity, compassion, and social responsibility to support the thesis that care for the caregiver is the first form of justice for the patient. **Results:** The reflection reveals that illness is not a character flaw, but the scar of a sick system. Exhaustion is the biological cry of an environment that demands everything and offers nothing essential; it is the lack of guaranteed rights, unfair wages without rest time, which not only devalues but imposes a silent and systemic risk. A professional in a state of burnout has their capacity for empathy, judgment, and presence profoundly shaken, making the patient the invisible victim of this chain of injustice. **Conclusion:** The mental health crisis in nursing reflects the structural injustice in our sector. There is no path to excellence in care if the profession continues to have its professional dignity neglected. This reflection points to the urgent need to transform the work environment into a space of respect and equity, the only foundation for a future of healthcare that is, above all, humane and just.

**Keywords:** Professional Autonomy. Comprehensive Care. Nursing. Public Policies. Health System.



### 83. THE HORIZON OF NURSING IN THE 21ST CENTURY: BETWEEN PROFESSIONAL AUTONOMY AND THE DIRECTIONS OF PUBLIC HEALTH

#### *O HORIZONTE DA ENFERMAGEM NO SÉCULO XXI: ENTRE A AUTONOMIA PROFISSIONAL E OS RUMOS DA SAÚDE PÚBLICA*

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**Introduction:** The 21st century presents unprecedented challenges to healthcare: population aging, the emergence of new pandemics, and increasing technological complexity. In this scenario, Nursing must be seen not only as a workforce, but as a central agent of innovation and equity. The future of the profession is inseparable from today's political choices. This essay reflects on the projected trajectory for Nursing, confronting its potential with the structural resistance of Public Policies. **Objective:** To promote a visionary discussion on the strategic role of Nursing in the reconfiguration of health systems, articulating its competence with the need for transformation of Public Policies in Brazil. The aim is to analyze the transition of the care model—from a focus on disease to comprehensive care—and reflect on the ethical and political challenges to guarantee the leadership and autonomy of Nursing. **Method:** This is based on a Critical and Prospective Analysis of the paradigms of global health, the sociology of professions, and health legislation. The reflective process establishes a dialogue between the ideal of universal and equitable health and the structural barriers that limit the full performance of Nursing. We mobilize thought on the transformative power of care and the political imperative to invest in the profession. **Results:** The advancement of public health in this century depends crucially on the capacity of Nursing to exercise its leadership and full autonomy. Public Policies have an ethical duty to promote the strategic insertion of the profession at all levels of care, guaranteeing decisional autonomy and continuous investment in training. Resistance to this autonomy is a historical barrier that compromises the system's efficiency. The future of Nursing is the future of public health itself: a future of comprehensive, person-centered care, supported by professionals recognized as essential architects of health equity. Nursing has the competence to lead the reconfiguration of the care model, especially in Primary Care, promoting community-based and technically advanced care. **Conclusion:** The horizon for Nursing in the 21st century is one of protagonism. Public policies must treat the profession as a strategic pillar for the consolidation and improvement of the Unified Health System (SUS). The professional and ethical maturity of Nursing is ready to take the lead in innovative care and points to the urgent need for a profound review of regulatory frameworks and the recovery of the State's social commitment.

**Keywords:** Professional Autonomy. Comprehensive Care. Nursing. Public Policies. Health System.



## 84. QUALITY EDUCATION AS A PROTECTIVE FACTOR AND SOCIAL RIGHT IN REDUCING PREMATURE AND ACCIDENTAL MORTALITY

### *A EDUCAÇÃO DE QUALIDADE COMO FATOR DE PROTEÇÃO E DIREITO SOCIAL NA REDUÇÃO DA MORTALIDADE PREMATURA E ACIDENTAL*

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**Introduction:** Premature or accidental mortality refers to deaths occurring before the expected age, representing a challenge for public health and social development policies. In this scenario, quality education stands out as a protective factor and a social right capable of reducing these events by expanding access to knowledge, strengthening skills, and promoting greater awareness of personal and collective care. Thus, it favors safer behaviors, healthy lifestyle choices, and greater community support, aligning with the Sustainable Development Goals (SDGs) by promoting well-being, equity, and prevention of avoidable deaths. **Objective:** To analyze how quality education acts as a protective factor and a social right in reducing premature and accidental mortality. **Method:** An integrative review was conducted in November 2025 using the PubMed database, employing the descriptors "Health," "Accidents," and "Mortality, Premature." Free full-text articles published in the last five years were included. **Results:** Of the 359 studies identified, 46 were eligible; 19 were read in full, and 9 comprised the final sample. Studies indicate that low levels of education and precarious employment are associated with higher rates of premature mortality, influenced by social inequalities related to access to education. Socioeconomic factors, such as family income, parental education, and educational opportunities, increase the risk of death from external causes, while quality education reduces vulnerabilities and promotes better living conditions. Emotional difficulties have also been associated with increased premature mortality. Furthermore, educational interventions have proven fundamental in preventing accidental deaths, especially in traffic accidents, with countries with better educational indicators registering fewer preventable fatalities. Insufficient preventive education contributes to the high number of years of life lost due to accidents and risky behaviors. **Conclusion:** It was observed that SDG 4, quality education, is essential to promote health and well-being (SDG 3), reduce inequalities (SDG 10), and promote decent work and economic growth (SDG 8). Thus, the articulation of these objectives with public policies demonstrates effectiveness in reducing premature and accidental mortality.

**Keywords:** Health. Accidents. Premature mortality.



## 85. HOW DOES EARLY MARRIAGE INFLUENCE THE REPRODUCTIVE HEALTH AND PSYCHOSOCIAL WELL-BEING OF ADOLESCENT GIRLS?

### *COMO O CASAMENTO PRECOCE INFLUENCIA A SAÚDE REPRODUTIVA E O BEM-ESTAR PSICOSSOCIAL DE ADOLESCENTES DO SEXO FEMININO?*

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**Introduction:** In Brazil, in 2022, approximately 34,202 children and adolescents aged 10 to 14 lived in formalized marital unions. The early assumption of marital responsibilities directly impacts the reproductive health and psychosocial well-being of adolescent girls, highlighting the need for qualified health care and actions that guarantee dignity and quality of life for girls experiencing this reality. **Objective:** To analyze how early marital union influences the reproductive health and psychosocial well-being of female adolescents. **Method:** This is an integrative review conducted in November 2025. The search was conducted in the PubMed database, using the official DeCS/MeSH descriptors: "Spouses", "Reproductive Health", "Adolescent Health", and "Female". The inclusion criteria were: complete articles published in the last five years. Initially, 541 studies were identified. After the eligibility stage, 116 studies remained, of which 15 were selected for full-text reading. In the end, 11 studies comprised the final sample. **Results:** The studies indicate that adequate physical, mental, and social skills are essential for the development of married life; however, adolescents who marry early and face marital difficulties tend to have their biological and psychosocial development compromised. It was also identified that the couple's low level of education limits economic opportunities, leading, in some contexts, to the prioritization of family expansion as a survival and status strategy. In certain cultures, early marriage imposes social pressures that reduce the autonomy of adolescent girls and negatively affect their reproductive health. **Conclusion:** It was observed that public policies aligned with Sustainable Development Goal (SDG) 3, Good Health and Well-being, are necessary, focusing on the prevention of early marriage and the promotion of psychosocial and educational support. The findings reinforce the importance of intersectoral strategies that unite health, education, and social assistance in protecting girls in vulnerable situations, ensuring them safer, healthier, and more dignified relationships.

**Keywords:** Spouses. Reproductive Health. Adolescent Health. Women.



**86. BUILDING A HUMANIZED, RIGHTS-BASED, AND SELF-CARE PERSPECTIVE: AN EXPERIENCE REPORT ON THE DEVELOPMENT OF CLINICAL AND ETHICO-SOCIAL REASONING IN THE ELECTIVE COURSE OF MENTAL HEALTH**

***CONSTRUÇÃO DE UM OLHAR HUMANIZADO, BASEADO EM DIREITOS E NO AUTOCUIDADO: RELATO DE EXPERIÊNCIA SOBRE O DESENVOLVIMENTO DO RACIOCÍNIO CLÍNICO E ÉTICO-SOCIAL NA DISCIPLINA ELETIVA DE SAÚDE MENTAL***

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**Introduction:** Medical training demands that graduates possess both technical excellence and human sensitivity, aligning with the new National Curriculum Guidelines (DCNs) for medical courses, published in 2025. The DCNs reinforce the commitment to equity, social justice, and human rights. In this context, mental health is crucial, requiring a comprehensive approach to care and connection with public policies, such as the Psychosocial Care Network (RAPS). This report aligns with the UN Sustainable Development Goals (SDGs) 3, 4, and 10, demonstrating the importance of complementary curricular experiences. **Objective:** To describe the experience of the elective course Special Topics in Mental Health, with 40 hours of coursework, focused on building a humanized and comprehensive perspective on care, contributing to the competencies of the general practitioner required by the DCNs. **Method:** This is a qualitative and descriptive study, configured as an experience report. The course, offered in the 6th semester, involved approximately 1/3 of the class. The pedagogical method included reading and analyzing literature on the subject and discussions based on videos and personal experiences, addressing crucial themes such as the Psychiatric Reform and the discussion of stigmas. The recording of reflections and learning for analysis were based on responses to clinical cases provided and evaluated by the students. **Results:** Students sought to develop a more focused perspective to identify mental suffering and intervene in a humanized way, based on a holistic view of the health-disease process. There was development of active listening and empathy, overcoming the purely biomedical view and recognizing the social and cultural complexity of disorders. A key result was instruction in identifying and intervening in one's own mental suffering (self-care), aligning with the determination of the National Curriculum Guidelines (DCNs/2025) to promote student well-being. **Conclusion:** The elective course proves to be an effective instrument for promoting humanization, comprehensiveness, and empathy, aligning the training of the 6th semester with the contemporary competencies of the National Curriculum Guidelines for 2025. Encouraging curricula that address the social determinants of health and self-care in medical training is fundamental for the realization of the principles of human rights and the promotion of more inclusive health.

**Keywords:** Mental Health. Humanization. Medical Education. Comprehensive Care. Human Rights.



## 87. BETWEEN CONSUMPTION AND PROTECTION: REFLECTIONS ON THE CONSUMPTION OF ELECTRONIC CIGARETTES BY YOUNG PEOPLE AND ITS INTERFACE WITH THE 2030 AGENDA

### *ENTRE O CONSUMO E A PROTEÇÃO: REFLEXÕES SOBRE O CONSUMO DE CIGARROS ELETRÔNICOS POR JOVENS E A SUA INTERFACE COM AGENDA 2030*

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**Introduction:** The increasing use of e-cigarettes by young people poses a serious public health challenge, compromising the vision of the 2030 Agenda to ensure that "all life can thrive" and that "no one is left behind," highlighting regulatory gaps and the need for public policies aligned with human rights and Sustainable Development Goal (SDG) 3. In this context, understanding the political, economic, and social determinants that underpin this behavior is fundamental to strengthening prevention and control actions. **Objective:** To describe the regulatory challenges and policy perspectives for protecting youth from e-cigarette use, correlating them with human rights and the SDGs, especially SDG 3. **Method:** Narrative literature review, using the PubMed, MedLine, and Latindex databases, considering publications from the last five years. The search strategy used was: ("Electronic cigarettes" OR "vaping" OR "e-cigarettes") AND ("youth" OR "adolescents") AND ("public health" OR "regulation" OR "policy") AND ("Sustainable Development Goals" OR "Agenda 2030" OR "human rights"). The selection was based on relevance and suitability to the topic; in total, 4 articles were selected. The findings were organized into three axes: (1) Youth Health and Well-being (SDG 3); (2) Governance and Human Rights (SDG 16); and (3) Means of Implementation (SDG 17/Target 3.a). **Results:** The 2030 Agenda prioritizes addressing non-communicable diseases, including the control of tobacco products such as electronic cigarettes. Target 3.a reinforces the Framework Convention on Tobacco Control, but there are gaps in national implementation, especially in the protection of youth. The use of vaping among young people is linked to social vulnerability, digital marketing, and a perception of low risk. Integrated health, education, and trade policies, aligned with the multi-sectoral cooperation of SDG 17, are essential. **Conclusion:** Protecting youth from vaping is essential for achieving SDGs 3, 16, and 17. The effectiveness of actions depends on integrated public policies that articulate health, human rights, and democratic governance (SDG 16), supported by global and intersectoral partnerships (SDG 17). The results show a dependence on coherent policies, effective institutions, and intersectoral partnerships capable of responding to the tobacco industry's new strategies. Strengthening Target 3a should guide robust and equity-focused regulations; therefore, it implies improving regulation and ensuring safer and more equitable environments for young people, promoting healthy and sustainable environments for the development of new generations.

**Keywords:** Electronic cigarettes. Youth. Public health. Human rights. Sustainable Development Goals.



**88. SALT AND LIGHT: EXTENSION, HUMAN RIGHTS AND EQUITY IN MEDICAL TRAINING – COMPREHENSIVE CARE FOR PEOPLE EXPERIENCING HOMELESSNESS IN THE CONTEXT OF THE NEW NCMS (2025)**

***SAL E LUZ: EXTENSÃO, DIREITOS HUMANOS E EQUIDADE NA FORMAÇÃO MÉDICA – CUIDADO INTEGRAL A PESSOAS EM SITUAÇÃO DE RUA NO CONTEXTO DAS NOVAS DCNS (2025)***

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**Introduction:** Extreme poverty constitutes a serious social problem, directly affecting quality of life and representing one of the greatest challenges of the 2030 Agenda, which proposes its eradication and the reduction of inequalities. Therefore, healthcare professionals need to be prepared to work with extremely vulnerable populations, recognizing that poverty and inequality are priority global issues. The new National Curriculum Guidelines (DCNs) for Medicine reinforce the training of students committed to humanized care, equity, social justice, and human rights. In this context, the "Salt and Light" Extension Project emerges as a mandatory practice, expanding students' contact with integrative and complementary health practices and promoting comprehensive care beyond the biomedical model. **Objective:** To describe the experience of the members of the "Salt and Light" Extension Project, which operates at Shelter 1 in Vitória throughout the 2025 academic year. **Method:** This is a descriptive and qualitative experience report. The activities took place weekly during the 2025 academic year, on Friday afternoons, involving 20 medical students from the 2nd to the 8th semester. The actions were developed with residents of Shelter 1 in Vitória, focusing on promoting mental health, social interaction, and strengthening affective bonds. The activities included discussion groups with invited professionals (psychiatrists, psychologists, physical education teachers, and writers), playful workshops such as painting and caricature, as well as functional activities, dance, and yoga. The experiences were documented through minutes, photographs, institutional reports, news articles, and publications on the EMESCAM social network, expanding dissemination and encouraging the creation of new social projects. **Results:** Direct contact with poverty and vulnerability allowed students to understand the reality of people experiencing homelessness, especially those who use alcohol and other drugs. There was increased awareness among students, residents, and guests, fostering active listening, empathy, and humanization. The students were exposed to scenarios of suffering and physical and emotional deprivation, broadening their understanding of the social determinants of health and the levels of care provided by the Brazilian Unified Health System (SUS). The project contributed to training future doctors who are more aware and prepared to deal with biomedical, psychological, and social demands. Popular Extension, aligned with the National Curriculum Guidelines (DCNs), strengthens the defense of Human Rights and Social Justice, preparing professionals to work with social vulnerability and substance use. To this end, it is essential to train ethical, humane, and equitable doctors, in accordance with the principles of Law 8080/1990. **Conclusion:** The project highlights the potential of university extension in promoting humanization, comprehensiveness, and equity, reinforcing biopsychosocial care and stimulating bonds that favor the dignified reintegration of users into society.

**Keywords:** Homeless People. Community Outreach. Human Rights. Medical Education. Social Vulnerability. Medical Education.



## 89. CHALLENGES AND NURSING ROLE IN PEDIATRIC ONCOLOGIC EMERGENCIES

### *DESAFIOS E ATUAÇÃO DO ENFERMEIRO NAS EMERGÊNCIAS ONCOLÓGICAS PEDIÁTRICAS*

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**Introduction:** The contributions of nurses in pediatric oncology emergencies represent significant challenges, requiring physical and emotional preparedness to handle situations that demand providing comfort and support to the child and parents, in addition to making complex decisions related to oncological care. It is fundamental that nurses develop a keen clinical awareness regarding oncological emergencies, acquiring confidence in recognizing manifestations, establishing diagnoses, and conducting treatment. This becomes even more relevant because a large proportion of oncological conditions present rapid progression and require timely interventions to prevent worsening and reduce risks to the patient. **Objective:** To analyze the challenges faced and the performance of nurses in pediatric oncology emergencies. **Method:** This refers to an integrative review conducted in September 2025. For the selection of articles, a search was carried out in the PUBMED database. The following descriptors were used: “Emergency” and “Pediatrics” and “Nursing” and “Oncology”. The inclusion criteria defined were: full articles in English and Portuguese published in the last 10 years. **Results:** 614 studies were found in the PubMed database. In the inclusion process, 497 articles remained; after reading the titles, 46 articles were selected for full reading of their respective abstracts, leaving 23 articles that comprised the review. The analysis of the studies showed that nurses contribute a fundamental role in pediatric oncology emergencies, being essential to health systems and to the application of their clinical competencies. In this context, public policies such as the National Oncology Care Policy (PNAO) reaffirm the importance of comprehensive care, assertive communication, and welcoming the patient and family, contributing to the minimization of suffering. Furthermore, the work environment in pediatric oncology becomes a challenge for nurses, who need to manage the complexity of sensitive issues during clinical decision-making and adopt initial strategies to address moral and ethical conflicts with caregivers. **Conclusion:** It was observed that nurses face situations in the pediatric oncology environment that require them to be emotionally prepared to deal with these cancer patients. Therefore, in this situation, the nurse stands out in pediatric oncology emergencies by demonstrating ethical and moral care in the face of the situation, in addition to promoting continuous care for child cancer survivors, leading actions that seek to improve quality of life and overall physical health over time.

**Keywords:** Emergency. Pediatrics. Nurse. Oncology.



## 90. SYPHILIS AS A PUBLIC CHALLENGE: CONTRIBUTIONS OF HEALTH EDUCATION TO PREVENTION

### *SÍFILIS COMO DESAFIO DE SAÚDE PÚBLICA: CONTRIBUIÇÕES DA EDUCAÇÃO EM SAÚDE PARA A PREVENÇÃO*

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**Introduction:** Syphilis is considered a systemic and sexually transmitted disease caused by the spirochete bacterium *Treponema pallidum*. When left untreated, the disease progresses continuously through four main stages: primary, secondary, latent, and tertiary. Therefore, early detection of infected individuals, followed by effective treatment, is extremely important for the prevention and control of the disease. Furthermore, health education should be applied to the most vulnerable populations, with continuous and effective follow-up, monitoring syphilis infection or the growth of this condition in the population. **Objective:** To analyze the importance of health education as a strategy for the prevention and control of syphilis in the population. **Method:** This is an integrative review conducted in November 2025. A search of the PubMed database was performed to select articles. The descriptors used were: “Syphilis” AND “Prevention” AND “Health”. The inclusion criteria were: full articles in English and Portuguese published in the last 10 years. **Results:** 1,335 studies were found in the PubMed database. In the inclusion process, 659 articles remained; after reading the titles, 35 articles were selected for full reading of their respective abstracts, and 9 articles were identified for inclusion in the review. The analysis of the studies showed that, despite the existence of effective prevention and treatment measures for syphilis, this infection continues to be a significant social and public health concern worldwide, especially in developing countries. Although the incidence of syphilis is generally declining, a high prevalence is observed among sex workers and intravenous drug users. Furthermore, studies consistently demonstrate that a syphilis diagnosis is associated with an increased risk of infection with the human immunodeficiency virus (HIV). Therefore, addressing syphilis is crucial. The focus should not be limited to just proper diagnosis and treatment, but should also include health education measures, counseling, reinfection prevention, partner notification, and epidemiological surveillance – essential strategies for controlling this and other sexually transmitted infections. **Conclusion:** Syphilis infection represents a major public health problem, as this disease has been increasingly widespread and the number of cases is constantly growing, especially affecting populations most vulnerable to this infection. The insufficient implementation of control measures contributes to the persistence of this problem. Therefore, strengthening health education actions aimed at intervention and prevention of the disease is essential. Thus, there is a need for effective public policies for monitoring, controlling, and preventing this sexually transmitted infection, ensuring the population well-being and quality of life.

**Keywords:** Syphilis. Prevention. Health.



## 91. SCHOOL VIOLENCE AS A PUBLIC HEALTH CHALLENGE: SAFETY AND PREVENTION STRATEGIES IN CHILD PROTECTION

### *VIOLÊNCIA ESCOLAR COMO DESAFIO DE SAÚDE PÚBLICA: ESTRATÉGIAS DE SEGURANÇA E PREVENÇÃO NA PROTEÇÃO INFANTIL*

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**Introduction:** School violence has become a significant public health concern, as most aggressors exhibit psychosocial and behavioral warning signs that are often not adequately addressed. Although policies and funding prioritize enhanced security strategies and threat assessment, the importance of planning actions aimed at protecting and ensuring the safety of children who are victims of this violence is highlighted. **Objective:** To analyze the importance of safety and protection strategies in the school environment. **Method:** This is an integrative review conducted in November 2025. For article selection, a search was performed in the PUBMED database. The following descriptors were used: “School Violence” AND “Safety” AND “School Health Services” AND “Violence Prevention”. The inclusion criteria were: full articles in English and Portuguese published in the last 10 years. **Results:** 573 studies were found in the PUBMED database. In the inclusion process, 379 articles remained; after reading the titles of the respective abstracts, 21 articles were selected for full reading. After reading, only 7 comprised the review. The analyzed studies demonstrated that school violence constitutes one of the main problems that have been increasing in educational institutions, since its devastating effects on children significantly compromise their physical, social, and emotional well-being in the school context. Furthermore, child sexual abuse has proven to be highly prevalent, causing various physical and mental traumas in victims. Education and prevention programs for child sexual abuse in schools have shown promise, although it is still unclear to what extent community characteristics influence their effectiveness. Therefore, a comprehensive approach to school safety should include socio-emotional learning and early detection of threats to children, as well as the promotion of proactive child protection strategies, which are more effective in building a safe and welcoming school environment. **Conclusion:** It was observed that the lack of monitoring of school violence contributes to numerous psychological and physical traumas in children. Therefore, improving safety strategies and implementing preventive and proactive actions is fundamental to creating safe and welcoming school environments. Ensuring the well-being of students reduces fear, strengthens bonds, and promotes a more inclusive and protected school climate for all.

**Keywords:** Violence. Security. School Health Services. Violence Prevention.



## 92. PROFESSIONAL TRAINING AND HUMANIZATION: THE IMPACT OF HOSPITAL EXPERIENCE IN PHYSICAL THERAPY – AN EXPERIENCE REPORT

### *FORMAÇÃO PROFISSIONAL E HUMANIZAÇÃO: O IMPACTO DA VIVÊNCIA HOSPITALAR NA FISIOTERAPIA - UM RELATO DE EXPERIÊNCIA*

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**Introduction:** Hospital experience is an essential component in the training of physiotherapists, as it promotes the articulation between theory and practice in a real care context. In this environment, direct experience at the bedside fosters the development of technical, ethical, and relational skills. Aligned with the National Humanization Policy (PNH) of the Unified Health System (SUS), established in 2003, this experience contributes to consolidating a practice centered on welcoming. Hospital training becomes a learning space that stimulates the development of a sensitive, critical, and committed perspective on the comprehensiveness of care. **Objective:** To describe the experience of a physiotherapy student during supervised internship in a hospital setting, highlighting its relationship with the principles of the National Humanization Policy of the SUS. **Method:** This is an experience report developed from the mandatory hospital internship, carried out at the Santa Casa de Misericórdia Teaching Hospital in Vitória – ES. **Results:** The hospital experience proved fundamental for the development of the skills necessary for physiotherapy practice, promoting technical improvement, clinical safety, and integration with the multidisciplinary team. The experience highlighted the importance of humanization as a guiding principle of care, according to the National Humanization Policy (PNH), strengthening the ethical, empathetic, and co-responsible posture of the future professional. The emphasis on dialogue, active listening, and respect for the patient's uniqueness contributed to the establishment of bonds and the improvement of the quality of care. **Conclusion:** The insertion of physiotherapy students into the hospital environment is essential to consolidate a humanized and comprehensive practice, broaden the clinical perspective, improve therapeutic reasoning, and strengthen the ethical commitment to the dignity and respect of the patient.

**Keywords:** Humanized Healthcare. Physiotherapy. Hospital.



### 93. UNDERREPORTING OF CHILD VIOLENCE: AN OBSTACLE TO COMPREHENSIVE PROTECTION IN THE SUS

#### *SUBNOTIFICAÇÃO DA VIOLÊNCIA INFANTIL: UM OBSTÁCULO À PROTEÇÃO INTEGRAL NO SUS*

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**Introduction:** Child abuse affects thousands of children monthly, compromising their physical and emotional integrity and their development. Although there are public policies aimed at this problem, underreporting, by not registering all cases, distances the data obtained from the real data, limiting the full action of the State. **Objective:** To investigate the factors that cause underreporting of child abuse in the Brazilian Unified Health System (SUS) and to reflect on strategies that strengthen public policies and promote child protection. **Method:** The study is a literature review conducted in 2025 through the Virtual Health Library (BVS) and PubMed, using the descriptors ("child abuse" OR "child maltreatment") AND ("underreporting" OR "mandatory reporting") AND ("Primary Health Care" OR "Brazilian Unified Health System"). After conducting the search, 21 articles on the underreporting of violence in childhood were selected, published between 2015 and 2025, with full text and free access. **Results:** It was found that most notifications of child abuse originate from hospitals, while Primary Care still presents low levels of case reporting, reflecting a failure in early identification. This occurs mainly due to insufficient professional training, the bureaucracy involved in the notification process, and the low integration between the Brazilian Unified Health System (SUS) and Child Protective Services, which could contribute to case identification and promote the protection of children and adolescents. However, studies indicate that measures such as ongoing professional training, strengthening institutional support, and integrating information systems represent effective ways to improve health surveillance, increase the number of notifications, and ensure more effective and comprehensive protection for children and adolescents in situations of violence. **Conclusion:** Underreporting of child abuse remains a serious obstacle to comprehensive protection within the SUS, especially in Primary Care, where early identification is still limited. The review findings show that insufficient professional training, bureaucratic notification processes, and weak integration with Child Protective Services reduce the effectiveness of protection policies. On the other hand, strategies such as continuing education, institutional strengthening, and integration of information systems are proving fundamental to expanding surveillance, improving the quality of notifications, and ensuring more effective responses to children and adolescents in situations of violence.

**Keywords:** Child violence. Underreporting. Child protection. Child Protective Services.



#### 94. STATE POLICY FOR YOUTH IN ESPÍRITO SANTO: ANALYSIS OF STRUCTURE, MANAGEMENT, AND MONITORING

##### *POLÍTICA ESTADUAL PARA AS JUVENTUDES NO ESPÍRITO SANTO: ANÁLISE DA ESTRUTURA, GESTÃO E MONITORAMENTO*

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**Introduction:** The State Policy for Youth in Espírito Santo was established to strengthen rights, expand opportunities, and respond to the specific needs of the population aged 15 to 29. The development of specific public management instruments focused on youth has reinforced the presence of the topic on the government agenda and encouraged the formulation of initiatives aimed at social, educational, cultural, and productive inclusion. **Objective:** To analyze the State Policy for Youth in Espírito Santo, examining its institutional structure, management and monitoring instruments, and the main advances and challenges observed since the implementation of the most recent actions. **Method:** This is a documentary analysis of official sources, including the State Plan for Youth Policies 2022–2032, the State Pact for Youth (2022), the Methodological Guidelines of the Youth Reference Centers (CRJs), the Youth Almanac, and institutional documents produced by the State Secretariat for Human Rights (SEDHA). The analysis was complemented by secondary data from national, state, and sectoral databases, chosen for their comprehensiveness and public availability. Data from the Continuous National Household Sample Survey of the Brazilian Institute of Geography and Statistics (PNADC/IBGE) were used to characterize socioeconomic indicators of Brazilian and Espírito Santo youth; from the Jones dos Santos Neves Institute (IJSN) for regional data and monitoring of public policies; from the National Youth System (SINAJUVE) for information on government actions; from the Information System on Live Births of the Department of Informatics of the Unified Health System (SINASC/DATASUS) for birth data; and from the State Secretariat of Public Security (SESP) for violence indicators. The data were organized according to the axes of education, social participation, productive inclusion, vulnerabilities, and security. **Results:** The consolidation of an institutional framework that strengthens the policy was verified, highlighting the creation of CRJs (Youth Reference Centers) as territorial facilities for youth services, the implementation of governance bodies and participation mechanisms, and the establishment of the State Youth Fund (FEJUVES). Efforts to use evidence in management were identified, although still under consolidation, as well as actions to promote educational, cultural, and income-generating opportunities. Inequalities persist that affect youth groups and specific territories, especially those marked by greater social vulnerability, and limitations remain in the construction of an integrated monitoring system capable of supporting continuous evaluations of results and impacts. **Conclusion:** The policy shows important advances in the institutionalization and implementation of intersectoral actions for youth, but still requires continuous improvement of management, monitoring, and youth participation instruments. Strengthening federal and municipal articulation, the systematic use of indicators, and the reduction of territorial inequalities are fundamental to expanding the effectiveness and equity of the policy in the State.

**Keywords:** Youth. Public Policies. Intersectorality. Community Participation.



## 95. ANALYSIS OF MORTALITY DUE TO RESPIRATORY DISEASES IN THE ELDERLY IN THE MUNICIPALITY OF VITÓRIA AND ITS RELATION TO PUBLIC POLICIES

### *ANÁLISE DA MORTALIDADE POR DOENÇAS RESPIRATÓRIAS EM IDOSOS NO MUNICÍPIO DE VITÓRIA E RELAÇÃO COM POLÍTICAS PÚBLICAS*

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**Introduction:** Respiratory diseases are a major cause of morbidity and mortality among the elderly, due to the physiological changes of aging and the high prevalence of comorbidities in this age group. Time series analysis allows the identification of trends and vulnerable groups, contributing to prevention and management strategies in public health. **Objective:** To analyze mortality from respiratory diseases in the elderly in the municipality of Vitória between 2015 and 2023. **Method:** This is an ecological study based on secondary data from the Mortality Information System (SIM/DATASUS). Data collection was carried out in October 2025, considering the variables: year of death, age  $\geq 60$  years, sex, race, place of residence, and underlying cause of death according to ICD-10 (J40–J47). **Results:** From 2015 to 2023, 15,059 deaths were recorded in the elderly, of which 367 (2.4%) had chronic respiratory diseases as the underlying cause. The highest number of deaths occurred in 2022 (n=76), followed by 2023 (n=73), 2019 (n=72), and 2016 (n=72). There was a predominance in the age group  $\geq 80$  years (58%; n=216) and among women (51.7%; n=190). Most deaths occurred in a hospital setting (55.9%; n=205), while 31.6% (n=116) occurred at home. Regarding race/color, there was a predominance of white (58.5%; n=215), followed by brown (32.7%; n=120) and black (8.4%; n=31). The findings show that respiratory diseases continue to be a significant public health problem, with an increase in deaths in recent years. The peak in 2022 may be associated with the delayed effects of the COVID-19 pandemic. The higher mortality rate among people aged 80 and over reinforces the vulnerability of this age group. The predominance of hospital deaths suggests access to care, but the significant number of home deaths may indicate delays in seeking care. The predominance among white people may reflect the local demographic composition, although differences in access and environmental exposure should also be considered. **Conclusion:** The results reinforce the importance of the National Health Policy for the Elderly (Ordinance No. 2,528/2006), which guides comprehensive and preventive care within the SUS (Brazilian Unified Health System), and the National Policy for Comprehensive Care for People with Chronic Diseases (Ordinance No. 483/2014), which prioritizes follow-up by Primary Health Care. Continuous monitoring of these trends is essential to support preventive actions and reduce avoidable mortality among the elderly.

**Keywords:** Respiratory diseases. Elderly. Mortality. Public policies.



## 96. NUTRITIONAL STATUS AND BREASTFEEDING SITUATION AMONG BRAZILIAN CHILDREN: ANALYSIS OF NORTH AND SOUTH REGIONS BASED ON ENANI-2019

### *ESTADO NUTRICIONAL E SITUAÇÃO DE ALEITAMENTO EM CRIANÇAS BRASILEIRAS: ANÁLISE DAS REGIÕES NORTE E SUL A PARTIR DO ENANI-2019*

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**Introduction:** Breastfeeding (BF) is essential for the healthy growth and development of children, offering nutritional, immunological, and emotional benefits. Maintaining exclusive breastfeeding (EBF) in the first months of life and continued breastfeeding (CB) up to two years or more contributes to disease prevention and the promotion of child health. A reduction in breastfeeding rates is observed in the first year of life, especially in contexts of social vulnerability. Assessing the relationship between nutritional status and breastfeeding status allows for understanding regional inequalities and guiding health promotion strategies. **Objective:** To evaluate the association between the nutritional status of children up to 12 months of age and breastfeeding status (BS), comparing the North and South regions of Brazil based on data from the National Study of Infant Feeding and Nutrition - ENANI-2019. **Method:** Cross-sectional study, based on a national household survey (ENANI-2019). Children aged 0 to 12 months with complete information on weight, length, and BS were included. Nutritional status was assessed using weight-for-age, length-for-age, and weight-for-length z-scores, according to World Health Organization criteria. Breastfeeding was classified as exclusive breastfeeding (EBF), early weaning (EWB), and premature weaning (PW). Analyses were stratified by geographic region (North and South) and adjusted for per capita income, education, and maternal age. **Results:** Children exclusively breastfed (EBF) showed a higher prevalence of normal weight (74.3%) compared to those weaned prematurely (58.6%). In the North region, a higher proportion of EBF (49.7%) was observed compared to the South (42.1%), while PW was associated with a higher prevalence of overweight (14.8% vs. 9.2%). After adjusting for socioeconomic variables, the association between EBF and nutritional status remained significant ( $p < 0.05$ ), with a higher prevalence of normal weight among exclusively breastfed children and a higher frequency of overweight among those weaned prematurely. **Conclusion:** Breastfeeding showed a positive relationship with adequate nutritional status, while early weaning was associated with a higher prevalence of overweight. Regional differences reinforce the impact of social determinants on child nutrition, highlighting the importance of public policies that promote equity and support breastfeeding throughout the country.

**Keywords:** Breastfeeding. Nutritional Status. Early Weaning. ENANI-2019. Regional Inequalities.



## 97. OVERBURDENED PUBLIC HEALTH WORKERS

### *SOBRECARGA DOS TRABALHADORES DA SAÚDE PÚBLICA*

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**Introduction:** Occupational stress is a response of the body to the demands of the work environment, and can generate physical, emotional, and social wear and tear. Among public health professionals, work demands, responsibility for patients' lives, institutional pressure, and constant exposure to complex situations make these workers particularly vulnerable. Several studies indicate that organizational, relational, emotional, and biopsychosocial factors directly influence well-being, professional performance, and patient safety. Thus, understanding the causes and impacts of work overload in this group is essential to strengthen public policies, care practices, and prevention strategies focused on worker health.

**Objective:** To map, through scientific literature, the main aspects related to the risk of overload and stress among public health workers, identifying psychosocial, historical, and institutional factors that influence this process. **Method:** This is a reflective literature review, conducted between September and November 2025. The search was conducted in the LILACS and SciELO databases, as well as books and official documents. Descriptors combined with Boolean operators AND and OR were used. Articles, legislation, and documents available in Portuguese and English addressing the topic were included. There was no time frame to allow for the inclusion of recent publications and historical milestones. **Results:** The literature demonstrates that worker health in Brazil gained centrality after the 1988 Constitution, with the creation of the SUS (Unified Health System) and the incorporation of specific policies aimed at worker care, such as the Worker Health Programs (PST) and later the Worker Health Reference Centers (CEREST). This political-institutional process consolidated the understanding that worker health is influenced by both objective conditions of the work environment and subjective factors. Among the main aspects identified, the following stand out: occupational stress, burnout syndrome, mental suffering associated with work, psychosocial factors, and institutional challenges. **Conclusion:** Work overload among public health workers is a multifactorial phenomenon involving historical, political, institutional, and psychosocial dimensions. Occupational stress and burnout impact both the health of the professional and the quality of care provided. It is essential to strengthen public policies aimed at protecting workers, promote continuing education initiatives, improve working conditions, expand institutional care spaces, and develop efficient prevention and health surveillance strategies. Investing in worker health is therefore fundamental to ensuring patient safety and the effectiveness of public health actions.

**Keywords:** Worker's Health. Occupational Stress. Work Overload. Burnout Syndrome. Public Health.



## 98. ANALYSIS OF THE STATE PROGRAM OF INTEGRATED ACTIONS ON DRUGS

### *ANÁLISE DO PROGRAMA ESTADUAL DE AÇÕES INTEGRADAS SOBRE DROGAS*

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**Introduction:** The State Program of Integrated Actions on Drugs, known as Rede Abraço, was created by the Government of Espírito Santo with the objective of addressing the problems arising from the use of licit and illicit psychoactive substances. The initiative, reformulated in 2019 and relaunched in 2020, seeks to offer support, care, treatment, and social reintegration to affected individuals, in addition to promoting preventive actions and studies on the topic of drugs in the state. **Objective:** To evaluate the performance of the Rede Abraço Program, identifying its results, impacts, and opportunities for improvement. The study aims to verify whether the public policy achieves its objectives of prevention, care, social reintegration, and knowledge production about drugs, contributing to individual, family, and community well-being. **Method:** This is a documentary study that used as its basis the Rede Abraço Indicator Reports, the Rede Abraço Executive Summary, and the Observatory of International Cooperation for Development (OCID) platform of the Jones dos Santos Neves Institute. Both the raw indicators available in official documents and those developed by the authors were evaluated: rate of individuals served in street situations, sex ratio, and the Monitoring Intensity Index (IIA). **Results:** In the Prevention axis, 38 prevention initiatives were supported and encouraged, directly benefiting 3,303 people. In the Care and Treatment axis, 11,371 people were served, with 52,568 services provided at CAADs, 2,272 placements in transitional services, and 606 referrals for hospital admission. In the Social Reintegration axis, there were 745 enrollments in professional qualification courses, and in the Studies, Research, and Evaluations axis, the implementation of the Capixaba Observatory of Information on Drugs (OCID) was created, with the creation of monitoring indicators and the strengthening of scientific production on the subject. Since 2019, 15,909 citizens have been served, and it was identified that vulnerability indicators such as education, race, and income have significant data incompleteness. The 55-64 age group was the most prevalent, the sex ratio was 2.6 for the male population, and the average IIA (Individualized Assistance Index) was 6.7 consultations per individual. **Conclusion:** The Rede Abraço Program has shown significant results in structuring an integrated network of care for people affected by drug use. It stands out for its intersectoral, humanized approach based on scientific evidence. The Program has contributed significantly to the promotion of health, citizenship, and social reintegration in Espírito Santo, consolidating itself as a reference in public policies on drugs.

**Keywords:** Abraço Network. Drug Policy. Psychoactive Substances. Social Reintegration. Shelters. Comprehensive Drug Treatment.



## 99. WELL-BEING AND PSYCHOLOGICAL DISTRESS IN ADOLESCENTS: A PORTRAIT OF THE FIRST YEAR OF HIGH SCHOOL

### *BEM-ESTAR E SOFRIMENTO PSICOLÓGICO EM ADOLESCENTES: UM RETRATO DO PRIMEIRO ANO DO ENSINO MÉDIO*

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**Introduction:** Adolescence is characterized by intense brain development, in which interaction with the social environment shapes essential skills for adult life. It is a phase marked by physical, cognitive, emotional, and social changes that underpin future health and well-being. It also represents a time of greater independence, exploration of new social roles, and vulnerability to stressors. In this context, indicators of well-being, happiness, and psychological distress become fundamental to understanding the mental health of adolescents, especially in school settings. **Objective:** To assess levels of happiness and symptoms of stress, anxiety, and depression in first-year high school students from a public school in Vila Velha. **Method:** Self-administered instruments were used: Sociodemographic Questionnaire, Oxford Happiness Questionnaire (OHQ), and Anxiety, Stress, and Depression Scale (EADS-21). The sample consisted of 51 students. **Results:** The data reveal moderate well-being coexisting with high levels of psychological distress. In the OHQ, the average happiness score was 3.95 (SD = 0.95), with a predominance of intermediate happiness (86.3%). Only 3.9% reported higher subjective happiness and 9.8% lower happiness, indicating moderate emotional well-being in the majority. In the EADS-21, 54.9% presented normal stress, while 36% exhibited moderate to severe stress. Anxiety presented the most critical picture: 77% reported symptoms above normal, including 37.3% at an extremely severe level. Regarding depression, 53% reported some degree of symptomatology, with 31.4% moderate, 11.8% severe, and 2% extremely severe. **Conclusion:** The findings highlight high psychological vulnerability among adolescents, with high rates of anxiety and a significant presence of symptoms of stress and depression. Although most exhibit intermediate levels of happiness, the predominant emotional distress reinforces the need for preventive interventions and mental health promotion strategies in the school environment, focusing on psychosocial support, socio-emotional education, and continuous monitoring of youth well-being.

**Keywords:** Adolescents. Well-being. Anxiety. Depression. Stress.



100. CONTRASTS BETWEEN EMOTIONAL WELL-BEING AND SLEEP QUALITY IN HEALTH SCIENCE UNIVERSITY STUDENTS

*CONTRASTES ENTRE BEM-ESTAR EMOCIONAL E QUALIDADE DO SONO EM UNIVERSITÁRIOS DA ÁREA DA SAÚDE*

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**Introduction:** University students in the health sciences are particularly exposed to stress, high academic demands, and irregular lifestyles, factors that affect subjective well-being and sleep quality. Inadequate sleep is associated with poorer academic performance, greater psychological distress, and reduced quality of life, while indicators of well-being can act as protective factors. **Objective:** To evaluate the subjective well-being and sleep quality of university students in the health sciences at UFES (Federal University of Espírito Santo), using the Oxford Happiness Questionnaire (OHQ) and the Pittsburgh Sleep Quality Index (PSQI). **Method:** A descriptive, cross-sectional study was conducted with 156 students. Participants answered a Sociodemographic Questionnaire, the Oxford Happiness Questionnaire (OHQ), and the Pittsburgh Sleep Quality Index (PSQI). Responses were analyzed by absolute and relative frequency in each domain of the instruments. **Results:** In the OHQ, moderate to high levels of well-being predominated. Positive emotion, life satisfaction, and perception concentrated high scores. In the perception dimension, 60 students scored 5 and 54 scored 6. In positive emotion, 41 scored 4, 38 scored 5, and 32 scored 6. Domains such as dissatisfaction and interpersonal relationships showed greater dispersion. The PSQI revealed a high prevalence of inadequate sleep: 61 students reported good sleep, while 95 (~69%) reported poor sleep. Sleep latency was critical, with 42 students scoring 3. Sleep disorders were recorded in 117 students, and daytime dysfunction showed a significant impact. **Conclusion:** Although university students present moderate to high levels of happiness and subjective well-being, most report unsatisfactory sleep quality, marked by prolonged latency, nocturnal awakenings, and daytime impairments. The coexistence of favorable emotional well-being with poor sleep quality suggests a mismatch between subjective perception and lifestyle habits. The findings reinforce the need for institutional strategies to promote sleep hygiene, manage academic stress, and strengthen psychosocial care among students in the health field.

**Keywords:** Sleep quality. Subjective well-being. University students. Mental health.



## 101. SLEEP PATTERNS AND SCREEN USE AMONG 1ST-YEAR HIGH SCHOOL ADOLESCENTS

### *PADRÕES DE SONO E USO DE TELAS ENTRE ADOLESCENTES DO 1º ANO DO ENSINO MÉDIO*

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**Introduction:** Adolescence is marked by biological, psychological, and social changes that influence the sleep-wake cycle. During this period, there is a tendency to delay bedtime due to alterations in the circadian rhythm, while school and social demands reduce total sleep time. Despite this, the physiological need for rest remains stable. As a consequence, many adolescents accumulate "sleep debt" during the week and resort to prolonged periods of sleep on weekends as compensation. This pattern, coupled with excessive screen use, irregular routines, and exposure to artificial light at night, impacts physical and mental health, cognitive performance, and academic achievement. Thus, sleep deprivation is a significant public health problem among adolescents. **Objective:** To evaluate the sleep quality of first-year high school students from a public school in Vila Velha, considering sleep hygiene, chronotype, and screen use. **Method:** Self-administered instruments were used: Pittsburgh Sleep Quality Index (PSQI), Sleep Hygiene Index, Morningness/Eveningness Scale, and a questionnaire on screen use. The sample consisted of 51 students. **Results:** Regarding sleep hygiene, 6 students (11.8%) presented good hygiene, while the majority (64.7%) showed intermediate hygiene and 23.5% poor hygiene, indicating behaviors detrimental to sleep. Regarding chronotype, the intermediate profile predominated (58.8%). In addition, 25.5% were classified as moderate evening types and 2% as definitely evening types. At the extreme morning level, 9.8% were moderate morning types and 3.9% definitely morning types. The PSQI assessment showed that 82.4% presented poor sleep. **Conclusion:** The results indicate a high prevalence of poor sleep quality and inadequate sleep hygiene habits. The predominance of an intermediate chronotype, with a slight evening tendency, associated with screen use and school demands, can intensify the misalignment between biological rhythm and academic routine. The findings reinforce the need for educational actions that promote healthy sleep habits and conscious screen use.

**Keywords:** Sleep. Screens. Teenagers. High school.



## 102. THE ROLE OF PUBLIC POLICIES AND SOCIAL FACTORS IN COMBATING TUBERCULOSIS IN BRAZIL

### *O PAPEL DAS POLÍTICAS PÚBLICAS E FATORES SOCIAIS NO ENFRENTAMENTO DA TUBERCULOSE NO BRASIL*

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**Introduction:** Tuberculosis is an infectious and transmissible disease caused by the bacterium *Mycobacterium tuberculosis*, which mainly affects the lungs, but can also manifest in extrapulmonary forms, especially in immunosuppressed individuals, such as those with HIV infection. Despite being a disease known for centuries and having effective treatment, it remains a significant public health problem, affecting more than 80,000 reported cases annually in Brazil alone. **Objective:** To analyze how public policies contribute to addressing tuberculosis in Brazil, especially considering social determinants and health inequalities. **Method:** This is an integrative review on tuberculosis in Brazil, aiming to analyze the role of public policies in its control. Searches were conducted in the PubMed database, considering publications from the last 10 years. The descriptors combined by Boolean operators “Tuberculosis” AND “Public Policy” AND “Social Factors” were used, resulting in a total of 22 articles. After applying the eligibility criteria, 3 were included in the analysis. Inclusion criteria were original articles available in full, published within the defined period, in Portuguese, English, or Spanish, and addressing public policies or social determinants related to tuberculosis in the Brazilian context. The exclusion criterion was articles whose titles did not have a direct relationship with the proposed theme. **Results:** The analyzed studies show that social determinants, such as poverty, precarious housing conditions, and inequality in access to health services, continue to be factors that hinder tuberculosis control. Despite advances in public policies, challenges remain related to the integration of social and health actions, resource allocation, and the strengthening of primary care. Evidence suggests that intersectoral strategies and continuous investments are fundamental to reducing the incidence and improving the management of the disease in the country. **Conclusion:** Public policies play an essential role in combating tuberculosis in Brazil, especially when articulated with actions aimed at reducing social inequalities. The analysis shows that, although there have been significant advances in control programs, challenges related to intersectoral integration and ensuring equitable access to diagnostic and treatment services persist. The results reinforce the importance of social determinants as a central axis in the formulation of health policies and suggest continuous investments in surveillance, health education, and social policies that promote dignified living conditions.

**Keywords:** Tuberculosis. Public Policies. Social Factors. Public Health.



### 103. PHYSIOTHERAPEUTIC REHABILITATION OF SUPRASPINATUS TENDINOPATHY CONSIDERING INDIVIDUAL BARRIERS: A CASE REPORT

#### *REABILITAÇÃO FISIOTERAPÊUTICA DA TENDINOPATIA DO SUPRAESPINAL CONSIDERANDO AS BARREIRAS INDIVIDUAIS: UM RELATO DE CASO*

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**Introduction:** Shoulder, the joint with the greatest range of motion in the body, is susceptible to injuries, especially in the rotator cuff. Supraspinatus tendinopathy is a frequent cause of pain, resulting from repetitive overload and tissue degeneration. Its etiology is multifactorial, involving intrinsic factors such as aging and anatomical variations, and extrinsic factors such as repetitive strain, inadequate posture, and other functional overloads. Clinically, it manifests as pain and functional limitation, impacting activities of daily living and work, requiring a physiotherapy approach integrated with a biopsychosocial perspective. **Objective:** To report the case of a patient with bilateral supraspinatus tendinopathy, followed at the Physiotherapy Clinic of the Higher School of Sciences of the Santa Casa de Misericórdia de Vitória, ES. **Method:** This is a case report, a method using data from real events to explore and describe phenomena in their context. **Results:** A 68-year-old widowed woman of mixed race, retired, was diagnosed with bilateral supraspinatus tendinopathy, more pronounced on the right. She reported pain in both shoulders, with progressive onset since 2019, exacerbated at the end of 2024. She reported worsening pain when raising her arms and carrying objects, with no history of trauma, as well as difficulty hanging clothes and lifting weights. Bilateral ultrasound revealed supraspinatus tendinopathy with partial articular rupture of the middle bundle. Physiotherapy assessment showed significant deficits in range of motion, muscle strength, and glenohumeral and sternoclavicular joint mobility, in addition to kinesiophobia. The *Neer*, *Hawkins-Kennedy*, *Yocum*, and *Jobe* orthopedic tests were positive. The treatment focused on pain control, restoration of joint mobility, and progressive strengthening, using manual therapy techniques, isometric, concentric, and eccentric exercises with weights, closed kinetic chain exercises, and functional training. After nine sessions, a reduction in pain, an increase in range of motion, and gains in strength were observed. However, psychosocial factors, following her husband's death, her pain complaints intensified, hindering adherence to and progress in treatment, as well as contributing to her kinesiophobia. **Conclusion:** Therefore, physiotherapy treatment is fundamental for the recovery of patients with supraspinatus tendinopathy, providing gains in muscle strength, range of motion, and pain reduction. The need for a comprehensive approach is highlighted, considering biopsychosocial factors that influence the progress and adherence to treatment. Thus, physiotherapy intervention should be based not only on physical rehabilitation but also on providing support and health education, promoting autonomy and functionality for the patient.

**Keywords:** Tendinopathy. Rotator cuff. Rehabilitation.



#### 104. LGBTQIAPN+ ACTIVISM IN BRAZIL: MOTIVATIONS, PSYCHOSOCIAL IMPACTS AND CONTRIBUTIONS TO HUMAN RIGHTS PUBLIC POLICIES

##### *ATIVISMO LGBTQIAPN+ NO BRASIL: MOTIVAÇÕES, IMPACTOS PSICOSSOCIAIS E CONTRIBUIÇÕES PARA POLÍTICAS PÚBLICAS DE DIREITOS HUMANOS*

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**Introduction:** The participation of LGBTQIAPN+ individuals in social movements in Brazil occurs within a context marked by structural inequalities, violence, and political vulnerability. Activism emerges as a form of resistance, defense of rights, and promotion of social justice, while simultaneously exposing activists to risks to their mental and physical health. Understanding these impacts is fundamental for the development of public policies aligned with human rights and the Sustainable Development Goals, especially those related to reducing inequalities, health, citizenship, and institutional strengthening. **Objective:** To investigate the motivations that lead LGBTQIAPN+ individuals to engage in activism and the perceived impacts of this practice on the mental health, well-being, and living conditions of Brazilian activists, generating input for reflection and the formulation of public policies. **Method:** Eighteen activists from different regions of the country participated, with diversity in sexual orientation, race, age, and activist experience. Data collection was carried out through an online questionnaire composed of open-ended questions about activist experiences and perceived impacts, in addition to sociodemographic data. The responses were analyzed using thematic analysis, aiming to identify patterns, attributed meanings, and psychosocial dynamics present in the narratives. **Results:** Motivations for activism emerged along two main axes: the fight for rights and life purpose. Participants reported engagement motivated by the defense of life, a sense of belonging, collective strengthening, and the need to confront injustices. Activism also appears as a source of existential meaning, dedication, and compassion. Regarding impacts, negative effects associated with physical and emotional exhaustion, daily overload, and exposure to violence were identified, configuring risks related to minority stress. On the other hand, significant positive impacts emerged, such as strengthened self-esteem, self-care, building support networks, satisfaction from contributing to the community, and increased well-being through a sense of purpose. **Conclusion:** The findings reinforce the social and political importance of activist organizations, which act simultaneously in the defense of rights and in the education of society, central elements for public policies aimed at equity. The results show that LGBTQIAPN+ activism plays a fundamental role in promoting social justice, but also reveals psychosocial vulnerabilities that demand attention from the field of public policy. The study highlights the need for institutional strategies that guarantee protection, health, and citizen participation, reinforcing activism as a key element for intersectoral actions and for strengthening human rights in Brazil.

**Keywords:** LGBTQIAPN+ Activism. Human Rights. Public Policies. Mental Health. Social Justice.



## 105. JUDICIALIZATION OF PUBLIC HEALTH IN ESPÍRITO SANTO

### *A JUDICIALIZAÇÃO DA SAÚDE PÚBLICA NO ESPÍRITO SANTO*

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**Introduction:** The judicialization of public health has been a growing issue in Brazil, especially in Espírito Santo, where judicial decisions have directly impacted the provision of health services. The overload of the judicial system and the use of lawsuits as a way to guarantee the right to health demonstrate the fragility of the public health system. This study seeks to investigate the effects of judicialization on health management in the state, considering the challenges faced by managers and the impacts on the population. **Objective:** The objective of this study is to analyze the judicialization of public health in Espírito Santo, highlighting how judicial decisions affect the implementation of health policies and public management in the state. **Method:** The research is qualitative, based on bibliographic and documentary study and the historical-dialectical materialist method. The analysis of academic studies and government documents investigates how judicialization has influenced the management of public health in Espírito Santo, considering the historical, social, and economic aspects that contribute to this reality. **Results:** The results indicate that the judicialization of health in Espírito Santo has generated a significant increase in the demand for specific treatments, often beyond the reach of public administration. This has overburdened the healthcare system and led to an inefficient allocation of resources. On the other hand, the study also reveals that judicialization, in some cases, has guaranteed access to essential health services for vulnerable populations who would otherwise be helpless. **Conclusion:** The study concludes that the judicialization of public health in Espírito Santo reflects the inefficiency of the public system in adequately meeting the demands of the population. Although judicialization has guaranteed access to necessary treatments, it also poses significant challenges to budgetary management and the sustainability of the healthcare system. Future studies should delve deeper into the relationship between judicialization and resource management, as well as explore alternatives to improve the public health system and reduce dependence on the judiciary.

**Keywords:** Judicialization of health. Public health. Health management. Espírito Santo. Access to health.



## 106. THE BUDGET AND THE IMPLEMENTATION OF HEALTH POLICIES

*O ORÇAMENTO E A EFETIVAÇÃO DAS POLÍTICAS DE SAÚDE*

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**Introduction:** The efficient allocation of financial resources is fundamental to the success of health policies. The public budget is essential to ensure that resources meet the needs of the population. However, few studies explore the impact of budget management on the quality of health services, especially in developing countries. This study aims to fill this gap. **Objective:** To analyze the importance of the public budget for the effectiveness of health policies, highlighting how efficient budget management can improve access to and quality of health services. **Method:** The research is qualitative, based on bibliographic study and the historical-dialectical materialist method. The analysis of studies and government documents investigates the use of the public budget in health policies, considering the historical, social, and economic factors that influence management and the contradictions between allocated resources and public health outcomes. **Results:** The results indicate that efficient budget management is fundamental to the success of health policies. Lack of adequate planning can result in gaps in services, harming the most vulnerable populations. On the other hand, a well-structured budget, with transparency and efficiency, has the potential to improve access to healthcare and the quality of care. **Conclusion:** The study concludes that the public budget is of great value to the success of health policies. Effective management ensures the equitable allocation of resources and meets social needs. Future studies should explore the relationship between resource allocation and health outcomes, as well as investigate financing models.

**Keywords:** Public budget. Health policies. Budget management.



107. PEDIATRIC AND PSYCHIATRIC EMERGENCIES: THE ROLE OF SAMU 192 IN PUBLIC POLICIES IN ESPÍRITO SANTO

*EMERGÊNCIAS PEDIÁTRICAS E PSIQUIÁTRICAS: O PAPEL DO SAMU 192 NAS POLÍTICAS PÚBLICAS DO ESPÍRITO SANTO*

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**Introduction:** Pediatric psychiatric emergencies involve risks of self-harm or violence, particularly mood disorders and suicidal behavior. The SAMU 192 (Brazilian emergency medical service) plays an essential role in these calls. This study analyzes the sociodemographic and regulatory data of these SAMU 192 calls in Espírito Santo (2020–2021), considering patient profiles and types of emergencies. **Objective:** To analyze the sociodemographic and regulatory variables of pediatric psychiatric emergencies attended by SAMU 192 in Espírito Santo, from 2020 to 2021. **Method:** This is a cross-sectional study with retrospective data collection regarding children and adolescents experiencing psychiatric crises and receiving pre-hospital mobile care from SAMU 192/ES. The information was obtained from data collected from the Medical Emergency Regulation System, used by SAMU 192 in Espírito Santo, in 2020 and 2021. The variables collected were sociodemographic and regulatory, and were analyzed using simple descriptive statistics and association between variables, which was performed using the chi-square test of independence. **Results:** A total of 1020 calls were observed, with a higher prevalence of males (51.3%), aged 15 to 19 years (76.1%), and in the municipalities of Serra (249) and Vila Velha (222). There was a higher prevalence of agitation and situations of violence (61.4%), and most cases were classified as non-critical (89.8%). Regarding the most observed destination, hospitals (50.8%) and public institutions (60.3%) were the most significant. **Conclusion:** Pediatric psychiatric emergencies are concentrated in urban areas and are related to agitation, violence, self-harm, and suicide. Most cases require basic support, but demand rapid response from SAMU 192, which guarantees specialized response, assessment, transport, and essential initial care, being fundamental in pediatric emergency assistance.

**Keywords:** Pediatric Emergency Medicine. Pediatrics. Psychiatry. SAMU (Mobile Emergency Care Service).



108. HOSPITAL MANAGEMENT AND PUBLIC POLICIES: CHALLENGES AND POTENTIALS OF THE DEHOSPITALIZATION PROCESS IN BRAZIL

*GESTÃO HOSPITALAR E POLÍTICAS PÚBLICAS: DESAFIOS E POTENCIALIDADES DO PROCESSO DE DESOSPITALIZAÇÃO NO BRASIL*

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**Introduction:** Dehospitalization is a growing strategy in Brazilian hospital management, especially given the increased demand for long-term care and the need to reconfigure hospital services. Its focus is on transitioning patients from the hospital environment to primary healthcare or other levels of care within the Health Care Network (RAS), promoting comprehensive and humanized care. The articulation between hospitals, primary care, and public policies is essential to guarantee continuity, quality, and patient safety after discharge. **Objective:** The objective of this study is to analyze the challenges, strategies, and results of the dehospitalization process in Brazilian public hospitals, with emphasis on management practices and articulation with public policies focused on primary healthcare and the promotion of patient autonomy. **Method:** A narrative review of the national literature was conducted between 2014 and 2024, encompassing academic productions indexed in the PubMed, LILACS, and SciELO databases, complemented by consultation of ministerial regulations and institutional experiences. The analysis addressed aspects related to the implementation of multidisciplinary teams, network articulation, normative instruments, and training strategies for health professionals and family members. **Results:** The studies show that the success of dehospitalization is conditioned by the existence of well-structured institutional and public policies, integrated teams, and educational support for family members and caregivers. Benefits were identified such as reduced length of stay, decreased adverse events, improved quality of life, and patient autonomy. On the other hand, challenges persist: insufficient network resources, weaknesses in intersectoral articulation, lack of solid social programs, and difficulty in post-discharge follow-up. **Conclusion:** The dehospitalization process demands the strengthening of public policies, investment and strengthening of primary health care, incorporation of technologies such as teleconsultation, and ongoing training of professional teams. Building collaborative networks between hospital institutions, public administrators, and families is crucial to ensuring continuity of care and the social reintegration of patients. It is suggested that dialogue between administrators and policymakers be deepened to expand the conditions for responsible and safe hospital discharge in Brazil.

**Keywords:** Hospital Management. Public Health Policies. Primary Care. Dehospitalization .



109. SOCIAL RIGHTS IN BRAZILIAN HEALTH POLICY: FOCUS ON RESPONSES TO SYPHILIS AND HIV

*OS DIREITOS SOCIAIS NA POLÍTICA DE SAÚDE BRASILEIRA: ENFOQUE NAS RESPOSTAS À SÍFILIS E AO HIV*

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**Introduction:** The implementation of the right to health in Brazil depends on public policies capable of reducing inequalities and ensuring quality access to care. Among the current challenges, syphilis and the Human Immunodeficiency Virus (HIV) stand out, continuing to affect people. Vulnerable groups are disproportionately affected. Factors such as low levels of education, economic limitations, and precarious living conditions amplify these risks. The SARS-CoV-2 (COVID-19) pandemic exacerbated the situation by restricting services, reduced testing, and compromised preventive actions. Thus, understanding the response of health policies becomes essential to ensure comprehensive care. **Objective:** To analyze the effectiveness of social rights in actions aimed at combating syphilis and HIV, considering social inequalities, the impacts of the pandemic, and the capacity of public policies to guarantee universal care. **Method:** This is a descriptive and analytical study, based on a review of epidemiological data, institutional documents, and national guidelines on STIs. The analysis includes social vulnerabilities, service functioning, changes caused by the pandemic, and prevention, diagnosis, and treatment strategies were considered. Aspects such as the territorialization of actions, the organization of primary care, and the use of communication tools in health education were also considered. **Results:** The evidence shows high rates of syphilis and HIV, especially among young people, men, and vulnerable groups. The drop in testing during the pandemic hindered early diagnoses and increased cases. Congenital syphilis cases are exacerbated by prenatal care failures and poor treatment adherence. Challenges persist, such as a scarcity of diagnostic resources, difficulty in follow-up, and territorial inequalities. However, progress has been observed in the use of rapid tests. Updating protocols, digital educational strategies, and monitoring based in open data, strengthening the autonomy of the users and the guidance of policies. **Conclusion:** The results evidence that addressing syphilis, HIV and its transmission requires coordinated policies that are sensitive to social inequalities and aligned with the principles of universality and comprehensiveness. Expanding testing, strengthening prevention, and improving the quality of care in primary healthcare are essential measures. The integration of public management, health education, and social participation is fundamental to promoting equity and ensuring the right to health. Further research on social determinants is recommended, along with innovative prevention strategies.

**Keywords:** Syphilis. HIV. Public health policies. Social vulnerability. Prevention of sexually transmitted infections.



110. BETWEEN BIRTH AND KNOWLEDGE: EXPERIENCES OF INTERNS IN THE DELIVERY ROOM AND THE RIGHT TO INFORMATION

*ENTRE O NASCER E O SABER: EXPERIÊNCIAS DE ESTAGIÁRIOS NA SALA DE PARTO E O DIREITO À INFORMAÇÃO*

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**Introduction:** Humanizing childbirth involves ensuring respectful, ethical care centered on the needs of the woman and the newborn. To this end, healthcare professionals must provide clear information about procedures, choices, and stages of labor, strengthening the woman's active participation and making the delivery room a safe environment. **Objective:** To describe the experience of physiotherapy interns in the delivery room of Pró-Matre, highlighting women's right to information as a principle of humanized care. **Method:** This is an experience report based on the work of physiotherapy students from EMESCAM during their internship at the Santa Casa de Misericórdia de Vitória, Pró-Matre Unit, in October 2025. **Results:** The experience in the delivery room allowed for an understanding of the importance of humanization and the right to information during childbirth. It was observed that many women are still unaware of their rights, the stages of labor, and the indications for different delivery methods, which increases insecurity. When welcomed and guided in a clear and empathetic way, they appeared calmer, more confident, and more participative. The physiotherapist's role, integrated into the multidisciplinary team, contributed with physical and emotional support through non-pharmacological pain relief techniques, favoring the progress of labor and making the experience more positive for the mothers. **Conclusion:** The experience in the delivery room highlighted the importance of physiotherapy in promoting humanized practices, especially in guaranteeing the right to information. The experience allowed for a practical understanding of the impact of humanization on childbirth and how the lack of information still weakens women. The physiotherapeutic intervention proved fundamental in offering physical and emotional support, reducing anxiety and stimulating the woman's active participation.

**Keywords:** Physiotherapy. Labor. Humanized Childbirth.



111. PROMOTION OF SEXUAL AND REPRODUCTIVE HEALTH AMONG ADOLESCENTS:  
AN EXPERIENCE REPORT IN PUBLIC SCHOOLS OF VITÓRIA-ES

*PROMOÇÃO DA SAÚDE SEXUAL E REPRODUTIVA DE ADOLESCENTES: UM RELATO DE  
EXPERIÊNCIA EM ESCOLAS PÚBLICAS DO MUNICÍPIO DE VITÓRIA-ES*

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**Introduction:** The lack of safe spaces for dialogue to clarify doubts about the sexual and reproductive health of young people leads them to seek answers from non-specialized sources. This action generates unsafe sexual practices and misinformation about the subject. Considering the principles of comprehensive health, the territory's health team, professors, and students from the Federal University of Espírito Santo (UFES), through the School Health Program (PSE), carried out actions in the first semester of 2025 with municipal schools located in the territories served by the Consolação and Andorinhas Health Units in Vitória-ES. Thus, the motivation was centered on the integration between health and education, creating a space for exchange, guidance, and respect for the diversity of adolescents. **Objective:** To provide spaces that favor the expression of adolescents' doubts and perceptions about sexual education and reproductive health. **Methodology:** The methodology of the interventions carried out by the team of the extension project "Rhizomatic Care," from UFES, included the theoretical deepening of the themes, the outlining of the participatory dynamics, and the elaboration of support materials. Following the planning phase, the intervention began in the schools with seven meetings, five in Consolação and two in Andorinhas, held on school premises. The target population was students aged 13 to 17, due to the typical transformations of this age group. The meetings involved students voluntarily drawing cards from a box, and a discussion circle was mediated based on the chosen theme. Themes included: contraceptive methods, unplanned pregnancy, STIs, violence, gender diversity, hygiene, and body changes. In this way, the promotion of youth autonomy, as observed in the participatory methodology, is a pillar for building a more just society that values youth voices in combating inequalities in participation and ensuring that their needs are met equitably. **Results:** Active and qualified listening favored the emergence of themes connected to lived realities, broadening the relevance of the discussions. Furthermore, the process promoted respect for differences, valuing diversity within the school environment and reducing inequalities regarding access to information. The experience contributed to consolidating the school as a space for dialogue, learning, and the promotion of comprehensive health. **Conclusion:** It was found that the participatory methodology fostered bonds of trust, thus improving the quality of dialogue. Limitations observed included the low frequency of activities, which compromised the progress and challenges faced by adolescents, revealing the need for strategies that consider socioeconomic and informational factors.

**Keywords:** School Health Services. Health Education. Sexual Health. Reproductive Health; Adolescent.



## 112. ACCESS TO HEALTHCARE IN THE POST-PANDEMIC PERIOD: CHALLENGES AND PERSPECTIVES

### *ACESSO À SAÚDE NO PÓS-PANDEMIA: DESAFIOS E PERSPECTIVAS*

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**Introduction:** The COVID-19 pandemic was another historical milestone in humanity, causing significant socioeconomic and structural impacts. Healthcare services became more inaccessible, and vulnerability increased considerably, with obstacles affecting not only the population but also healthcare professionals. Therefore, the mobilization of society is important to bring new expectations and investments in public policies. **Objective:** To describe the challenges and perspectives of access to healthcare in the post-pandemic era. **Method:** As this is a literature review, the PUBMED database was used to conduct this research, applying the following descriptors: Health Services Accessibility AND Public Health AND COVID-19 AND Health promotion. The inclusion criteria were: full texts in English and Portuguese, published in the last five years. **Results:** Initially, the search yielded 195 articles. Subsequently, after applying the inclusion criteria, 169 articles remained. After reading the titles, 18 articles were selected, and 6 articles remained for the final sample. The World Health Organization (WHO) organized an initiative to reduce health inequities, including population access to these services. This strategy aims to create models of practice that assist in the effective approach to the social determinants of health to address the fragments left by the COVID-19 pandemic. In this context, even with qualified programs to promote health equity, barriers still hinder the achievement of these goals – socioeconomic and structural inequalities, health systems under pressure, and an increase in vulnerable communities – since these shortcomings drive civil society to develop health programs to eradicate this lack of health equity and, consequently, request state funds to implement these initiatives. **Conclusion:** It was observed that inequality in the post-pandemic period is still a limiting factor in achieving success in accessing health services, especially when the population seeks to encourage the implementation of strategies to overcome obstacles and shift towards new perspectives in reducing health inequities. Given this, the increased demand for policies focused on access to healthcare and improvements in the well-being of the population stands out.

**Keywords:** Accessibility to health services. Public health. COVID-19. Health promotion.



## 113. HEALTH EDUCATION AND DISEASE PREVENTION IN PUBLIC SCHOOLS

*EDUCAÇÃO EM SAÚDE E PREVENÇÃO DE DOENÇAS EM ESCOLAS PÚBLICAS*

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**Introduction:** School environments are conducive and fundamental spaces for implementing programs aimed at improving the health levels of students, especially those attending public schools lacking the physical and socioeconomic infrastructure to promote the well-being of the student body. However, even with the existence of school health promotion strategies, initiatives are still insufficient without pedagogical support and government funding to implement these educational programs. Considering the time students spend in school, it is important that this setting be used to put health interventions into practice and contribute to the healthy growth of these children's lives. **Objective:** To describe how public policies can contribute to health education and disease prevention in public schools. **Method:** As this is a literature review, the PUBMED database was used to conduct this research, applying the following descriptors: Health education AND Health promotion AND School health services AND Disease prevention AND Health policy. The inclusion criteria were: full texts in English and Portuguese, published in the last five years. **Results:** Initially, the search yielded 855 articles. Subsequently, after applying the inclusion criteria, 263 articles remained. After reading the titles, 17 articles were selected, and 7 articles remained for the final sample. The World Health Organization's (WHO) Global School Health Initiative aims to encourage schools to become healthier environments by integrating health services, food security programs, recreation and physical activity, socio-emotional support, and mental health care, since the participation of student authorities, along with health professionals and community agents, is essential for the effectiveness of this strategy. However, even though the purposes are efficient in promoting school health, investments and actions are needed to guarantee the provision of these programs, since most public schools are invisible, merely meeting the structural standards of other school environments. **Conclusion:** It was observed that the existence of qualified public policies for the prevention of pathologies through educational health programs is still ineffective in the school environment, where the absence of funds and state support hinders the implementation of school programs. Therefore, it is emphasized that health professionals, educators, and the State must seek to allocate more funds for the qualified promotion of these strategies for the well-being of the student body.

**Keywords:** Health Education. Health Promotion. Disease Prevention. School Health Services. Health Policies.



#### 114. CONTEMPORARY CHALLENGES FOR THE FORMULATION OF PEDIATRIC PUBLIC POLICIES IN MENTAL HEALTH: A LITERATURE REVIEW

##### *DESAFIOS CONTEMPORÂNEOS PARA A FORMULAÇÃO DE POLÍTICAS PÚBLICAS PEDIÁTRICAS EM SAÚDE MENTAL: UMA REVISÃO DE LITERATURA*

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**Introduction:** The inclusion of children and adolescents in public mental health policies occurred late, only in the 21st century, driven by the Psychiatric Reform, the 1988 Constitution, the Statute of Children and Adolescents in 1990, and Law 10.216/2001. Prior to this, there was no emphasis on discussing effective measures to resolve psychiatric problems for this specific group, due to historical, social, and institutional factors. Nowadays, the need to understand the obstacles to implementing public policies focused on this area in the country has become apparent. **Objective:** To analyze the main contemporary challenges faced in the formulation of public policies aimed at child and adolescent mental health in the context of the 21st century. **Method:** This is a literature review conducted in 2025 on the Virtual Health Library search platform, using the following descriptors: ("Mental Health Policy") AND ("Child" OR "Child Well-being" OR "Child Development") AND ("Brazil"). Original articles with full text of all study types were included, except for literature reviews and articles that did not correspond to the study's objective. In total, the research resulted in the selection of four final articles for the production of this review. **Results:** The selected articles collectively address the long historical process of destigmatizing child and adolescent mental health, pragmatized as a situation of neglect, abandonment, and exclusion. The redirection towards an intersectoral model of care in mental health was only made possible through the Psychiatric Reform and the emergence of Child and Adolescent Psychosocial Care Centers (CAPSi). According to the authors Nunes *et al.* (2019), the integration between CAPSi and other health networks, such as Basic Health Units, is essential for the decentralization of care. It is necessary that the entire health structure be equipped to execute the individualized therapeutic project, in a way that includes the family, the school, and the community. According to the authors Couto and Delgado (2015), CAPSi (Child and Adolescent Mental Health Centers) inextricably link the territory and the intersectoral nature of the network as gears to combat the challenges of expanding access and improving the quality of care. **Conclusion:** The consolidation of public policies focused on child and adolescent mental health in Brazil requires the strengthening of community and intersectoral networks, articulating schools, families, health services, and civil society. This integration is indispensable to guarantee comprehensive and humanized care, promoting inclusion and dignity, and thus ensuring the rights of children and adolescents.

**Keywords:** Adolescent. Child. Health Policy. Mental Health.



## 115. INCLUSIVE EDUCATION FOR STUDENTS WITH AUTISM: STRATEGIES AND PROGRESS TOWARDS ODS 4

### *EDUCAÇÃO INCLUSIVA PARA ESTUDANTES COM AUTISMO: ESTRATÉGIAS E AVANÇOS RUMO À ODS 4*

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**Introduction:** Students with neurodevelopmental disorders, such as Autism Spectrum Disorder (ASD), are more likely to require special education services and face challenges in socialization and school integration. Many students benefit from specific support, such as the Individualized Education Plan (IEP), which brings together pedagogical, psychological, and social actions planned according to their needs. In regular education, the role of teachers is essential to promote inclusive practices that ensure access to the curriculum and social participation. These guidelines are supported by the National Policy on Special Education from the Perspective of Inclusive Education and the Brazilian Inclusion Law, which guarantee the right of students with disabilities to access, remain in, and develop in mainstream schools. These actions also converge with SDG 4 of the 2030 Agenda, which aims to guarantee inclusive, equitable, and quality education for all. **Objective:** To analyze inclusive education practices for students with ASD and their challenges, considering SDG 4 and Brazilian inclusion policies. **Method:** This refers to an integrative review conducted in November 2025. Articles were selected through a search of the PubMed database. The descriptors used were: “Education” AND “Autism” AND “Students”. The inclusion criteria defined were: full articles in English and Portuguese published in the last 10 years. **Results:** 1,662 studies were found in the PubMed database. In the inclusion process, 1,246 articles remained; after reading the titles, 50 articles were selected for full reading of their respective abstracts, and 13 articles were identified for inclusion in the review. The analysis showed that, despite the existence of a consistent legal and theoretical framework for the advancement of inclusive education, its practical implementation remains limited. Many teachers report difficulties in dealing with autistic students, highlighting gaps in professional training and insufficient institutional support. The need for continuous training, as well as the presence of mental health professionals in schools, is emphasized in order to guarantee effective inclusive practices. **Conclusion:** It is concluded that, although robust policies exist and there is alignment with SDG 4, there is still a significant gap between theory and practice. Students with ASD continue to face challenges. Facing barriers to accessing the curriculum and participating in school, mainly influenced by the lack of adequate teacher training and the absence of multidisciplinary teams, these students face challenges. Strengthening continuing education and expanding specialized support are essential measures to ensure effective school inclusion and promote their development.

**Keywords:** Education. Autism. Students.



## 116. FACTORS ASSOCIATED WITH THE NUTRITIONAL STATUS OF BRAZILIAN WOMEN HEADS OF HOUSEHOLDS

### *FATORES ASSOCIADOS AO ESTADO NUTRICIONAL DE MULHERES BRASILEIRAS CHEFES DE FAMÍLIA*

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**Introduction:** In the nutritional transition experienced in Brazil, with an increase in overweight and social discrepancies in health, women assume a central role in family maintenance. Their nutritional status can reflect on the health conditions of the population and, consequently, on Brazilian health. Studies analyze factors associated with overweight among adults, but there are no analyses on female heads of household, limiting the understanding of how structural inequalities and gender roles are expressed in nutritional profiles and public health. **Objective:** To identify factors associated with the nutritional status of Brazilian female heads of household. **Method:** This quantitative study used secondary data from the 2019 National Health Survey. The sample consisted of 29,028 adult female heads of household. The dependent variable was Body Mass Index ( $\leq 24.9$  and  $> 24.9$  kg/m<sup>2</sup>) and the independent variables were: race, age group, education level (no schooling, primary, secondary, and higher education), household income (low, medium, and high), marital status, region of residence, census status, retirement status, and occupation (housewife, private sector employee, public sector employee, employer, self-employed, volunteer, military). Associations between variables were analyzed using the chi-square test with STATA 17 software. **Results:** female heads of household were predominantly mixed-race (50.3%), aged 40 to 59 years (36.6%), with no schooling (40.2%), low income (56.5%), single (41.7%), from the Northeast region of Brazil (41.2%), and urban residents (83.3%). Most participants were overweight (60%), revealing a significant prevalence of inadequate nutritional status. A significant association ( $p < 0.05$ ) was observed between the outcome and all independent variables, except region of residence and census status, with a higher prevalence of overweight among mixed-race women (27%), those aged 40 to 59 years (24.4%), those with no schooling (24.4%), those with low income (33.3%), married women (22.4%), non-retired women (42.2%), and private sector employees (20%). This reinforces the influence of social factors on the nutritional status of female heads of household, highlighting inequalities that can impact public health. **Conclusion:** Overweight is highly prevalent among Brazilian female heads of household, especially those in unfavorable social conditions. The findings contribute to understanding the interactions between gender, social inequality, and nutritional health, and highlight the need for public policies that consider the role of these women in health promotion strategies. Future research should analyze how their nutritional status relates to that of other residents, as well as the influence of working conditions on the risk of excess weight in this group.

**Keywords:** Nutritional status. Heads of households. Women. Public health. 2019 National Health Survey.



## 117. NATIONAL CURRICULAR GUIDELINES AND MENTAL HEALTH: A NARRATIVE REVIEW ON THE PROFILE OF THE 21st CENTURY MEDICAL GRADUATE

### *DIRETRIZES CURRICULARES NACIONAIS E A SAÚDE MENTAL: UMA REVISÃO NARRATIVA SOBRE O PERFIL DO EGRESSO DE MEDICINA NO SÉCULO XXI*

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**Introduction:** The National Curriculum Guidelines (DCNs) for medical courses are the main regulatory framework for medical training in Brazil. They aim to prepare a generalist, humanized, critical, and reflective professional, capable of working at all levels of care within the Unified Health System (SUS). Considering that mental health is recognized by the UN as a fundamental human right and part of Sustainable Development Goal 3 (SDG 3) — "ensure healthy lives and promote well-being for all" — it becomes essential that medical training includes competencies focused on comprehensive and humanized care in this area. **Objective:** To analyze the curricular requirements of the DCNs and discuss the expected competencies of medical graduates in the comprehensive approach to mental health. **Method:** This is a narrative literature review, a non-systematic study that describes and discusses the state of the art on the subject. The research involved the analysis of the National Curriculum Guidelines (DCNs) (Res. CNE/CES 3/2014) and articles, theses, and ministerial documents published in Portuguese, focusing on the intersection between Medical Education, Mental Health, and the Professional Profile of Graduates. The analysis prioritized the training axes—Health Care, Health Management, and Health Education—from the perspective of psychosocial care. **Results:** The DCNs guide that medical students develop competencies based on the principles of comprehensiveness and humanization, essential for mental health care. Graduates should overcome the biomedical model, adopting a biopsychosocial approach to the health-disease process, recognizing social, cultural, and emotional determinants of well-being. Key competencies include the therapeutic bond and active listening, which value the patient's subjectivity; integrated action within the Psychosocial Care Network (RAPS), articulating CAPS (Psychosocial Care Centers), Primary Care, and other services; and the ability to manage crises and work in an interdisciplinary manner. Beyond the commitment to Human Rights, combating stigma and social exclusion, the guidelines also reinforce the importance of extra-hospital practice settings, especially in the community and in Primary Care, and the use of active teaching methodologies that stimulate person-centered clinical reasoning and communication skills. **Conclusion:** The National Curriculum Guidelines (DCNs) define a graduate profile that recognizes mental health as an essential generalist competence. The 21st-century physician must be an agent of transformation, capable of promoting comprehensive, humanized care based on human rights, working in an interdisciplinary manner within the Psychosocial Care Network (RAPS), with ethics, comprehensiveness, and humanization as pillars of contemporary medical practice.

**Keywords:** Healthcare. Mental Health. Medical Education. Health Education. Comprehensive Healthcare.



## 118. CHILDBIRTH AS A TERRITORY OF DISPUTE: OBSTETRIC VIOLENCE AND STRUCTURAL RACISM IN BRAZIL

### *O PARTO COMO TERRITÓRIO DE DISPUTA: VIOLÊNCIA OBSTÉTRICA E O RACISMO ESTRUTURAL NO BRASIL*

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**Introduction:** Obstetric violence is one of the expressions of the structural inequalities that permeate Brazilian society and health services, markedly reflecting the intersections between gender, class, and race. In Brazil, Black women continue to be the main victims of dehumanizing practices and disrespect during childbirth, a result of institutional racism and the historical legacy of oppression that marks the Black female body as a territory of control and violence. Thus, understanding the racial dimension of obstetric violence is essential to broaden the debate on reproductive rights and the humanization of childbirth. **Objective:** To analyze obstetric violence in the childbirth process from the perspective of Social Work, highlighting how the race/color marker permeates the experiences of women attended at a philanthropic maternity hospital in the municipality of Vitória-ES. **Method:** The research, with a qualitative and descriptive approach, used the critical-dialectical method, articulating bibliographic review and field research. Semi-structured interviews were conducted with 30 postpartum women between February and May 2024, after approval by the Ethics Committee. Data analysis was conducted using content analysis techniques, focusing on the social and racial determinants of obstetric violence. **Results:** The participants' profile revealed that 80% self-identified as Black or mixed-race, aged between 18 and 29 years, with low levels of education, family income of up to two minimum wages, and a situation of socioeconomic vulnerability. The analysis demonstrated that Black women are the most exposed to abusive and dehumanizing practices during childbirth, such as negligence, lack of information, and interventions without consent. These findings confirm the presence of structural and institutional racism in obstetric care; some studies advocate intersectionality as key to understanding the multiple forms of violence experienced by Black women. **Conclusion:** It is concluded that obstetric violence cannot be analyzed in isolation from racial and class issues. Institutional racism manifests itself as a central determinant in the way Black bodies are treated in health services, normalizing disrespectful and dehumanizing practices. Social Work, as a profession committed to defending human rights, has a fundamental role in denouncing these violations, promoting equitable and anti-racist care, and building practices aimed at realizing the reproductive rights of Black women.

**Keywords:** Obstetric violence. Social work. Rights. Health. Racism.



119. **INEQUALITY AND SOCIAL JUSTICE: BARRIERS TO PRODUCTIVE REINTEGRATION OF WORKERS WITH DISABLING CONDITIONS**

***DESIGUALDADE E JUSTIÇA SOCIAL: BARREIRAS À REINserÇÃO PRODUTIVA DE TRABALHADORES COM CONDIÇÕES INCAPACITANTES***

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**Introduction:** Social and educational inequality in Brazil directly impacts the opportunities for productive reintegration of workers facing disabling conditions. The absence of effective public policies for retraining and professional inclusion contributes to the exclusion of vulnerable groups, especially those with low levels of education and a history of manual labor. This scenario shows that much remains to be done to guarantee the right to decent and inclusive work for all citizens. **Objective:** To analyze the barriers faced by workers with disabling conditions and low levels of education in the process of professional reintegration, highlighting the need for intersectoral public policies that guarantee the right to decent and inclusive work. **Method:** This is an experience report based on the theoretical and practical experience of a student from the Physiotherapy course at EMESCAM-ES, at the Neurology Clinic School, during the months of August to November 2025. **Results:** The analyzed experience revealed multiple barriers to productive reintegration, including the lack of accessible retraining programs, the disconnect between health and employment policies, and the insufficiency of social protection measures aimed at people with acquired disabilities. Low educational attainment proved to be a determining factor in the difficulty of adapting to new occupations, perpetuating the cycle of economic vulnerability. **Conclusion:** It is evident that social justice and decent work are still distant goals for workers with disabilities and low levels of education. The absence of integrated public policies limits the autonomy of these individuals and reinforces structural inequalities. The implementation of intersectoral actions that guarantee real opportunities for retraining and productive reintegration, promoting equity and human dignity, is necessary.

**Keywords:** Public Policy. Right to Work. Socioeconomic Factors.



**120. HEALTH AND WELL-BEING IN VITÓRIA (ES): ANALYSIS OF PREMATURE MORTALITY FROM NON-COMMUNICABLE CHRONIC DISEASES**

***SAÚDE E BEM-ESTAR EM VITÓRIA (ES): ANÁLISE DA MORTALIDADE PREMATURA POR DOENÇAS CRÔNICAS NÃO-TRANSMISSÍVEIS***

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**Introduction:** Non-communicable chronic diseases (NCDs) are mainly characterized by cardiovascular diseases, chronic respiratory diseases, neoplasms, and diabetes mellitus, as well as external causes such as accidents and violence. They are associated with conditioning factors, social determinants, and modifiable risk factors such as smoking, excessive alcohol consumption, unhealthy diet, and physical inactivity. Therefore, they represent one of the biggest public health problems in the world, resulting in premature functional disability, reduced quality of life, and high mortality rates. **Objective:** To analyze the situation of premature mortality from NCDs, in the context of Sustainable Development Goal 3 (SDG 3), in the municipality of Vitória, Espírito Santo. **Method:** This is an exploratory, analytical, and quantitative study based on the secondary indicator Sustainable Development Index of Cities (IDSC), in the Brazilian context, which contributes to the monitoring of premature mortality from NCDs at the municipal and state levels. The indicator thus aligned to the SDGs 3, which addresses the promotion from the health and of well-being. The analysis considered the municipality of Vitória, Espírito Santo, including individuals aged 30 to 69 years, expressed per 100,000 inhabitants, in the period from 2015 to 2023. as reference the threshold of 236 deaths per 100 thousand inhabitants. **Results:** It was evidenced that the level of sustainable development in Vitória is classified as medium, with a score of 53.46 on a scale of 0 to 100, occupying the 21st position in the State of Espírito Santo. The premature mortality rate of NCDs varied of 320.06 in 2015 to 272.21 in 2023, representing an approximate reduction of 15%. Despite the overall downward trend, annual fluctuations were observed, with peaks in 2019 (368.69) and improvement in 2020 (241.78). The indicator remains above the threshold of 236 deaths per 100,000 inhabitants, highlighting the need for more effective actions for the prevention and control of NCDs in the municipality. **Conclusion:** The importance of NCD surveillance in the context of public health is highlighted, as it allows for the planning, execution, and evaluation of strategies. prevention and control of mortality premature subsidizing the guidance to Public policy interventions that can promote change in the current landscape.

**Keywords:** Premature Mortality. Non-Communicable Chronic Diseases. Sustainable Development. Public Health.



121. MATERNAL OVERWEIGHT AND OBESITY AND LEPTIN IN HUMAN COLOSTRUM AND MILK: A SCOPING REVIEW

*EXCESSO DE PESO E OBESIDADE MATERNA E A LEPTINA DO COLOSTRO E LEITE HUMANOS: UMA REVISÃO DE ESCOPO*

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**Introduction:** Breastfeeding is essential for infant development, and leptin, a hormone present in human milk, participates in the regulation of nutritional status. **Objective:** To analyze the association between maternal overweight and obesity and leptin levels in colostrum and human milk. **Method:** This is a scoping literature review, following the guidelines of the Joanna Briggs Institute (JBI) and the PRISMA-ScR checklist. The search was conducted in the electronic databases Medline (via PubMed), Scopus, and Web of Science, without restriction on publication date. Articles with full text available that involved the collection of colostrum and/or milk from eutrophic and overweight/obese women were included. **Results:** 582 publications were identified in the initial search, and 19 articles were selected for review. The studies were published between 2002 and 2021, predominantly in North America and Europe. All included studies observed a positive association between leptin levels in colostrum and/or human milk and maternal anthropometric parameters, such as pre-pregnancy Body Mass Index (BMI), body fat percentage, and BMI at the time of delivery or postpartum. **Conclusion:** Leptin concentration in colostrum and human milk is positively associated with maternal nutritional status, making it essential to consider this relationship in the formulation of public policies.

**Keywords:** Overweight. Obesity. Leptin. Colostrum. Human Milk. Public Health.



122. ETHNIC-RACIAL AND CULTURAL DIVERSITY IN BRAZILIAN SOCIETY AND ITS ACADEMIC RELEVANCE: COMBATING STRUCTURAL RACISM

*A DIVERSIDADE ÉTNICO-RACIAL E CULTURAL NA SOCIEDADE BRASILEIRA E SUA RELEVÂNCIA ACADÊMICA: COMBATENDO O RACISMO ESTRUTURAL*

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**Introduction:** The Brazilian ethnic-racial dynamic is marked by profound inequalities. Law No. 10.639/2003 and the National Curriculum Guidelines for Education on Ethnic-Racial Relations (CNE/CP No. 01/2004) emerge as fundamental regulatory frameworks for confronting structural racism in education. **Objectives:** To understand ethnic-racial and cultural diversity and the reality of racism in academia. **Method:** This is a narrative review discussing race, ethnicity, culture, structural racism, and an analysis of anti-racist and intercultural public policies. **Results:** Based on education on ethnic-racial relations, there is an urgent need to deconstruct myths of racial democracy; it is necessary to propose anti-racist pedagogies that value African and Afro-Brazilian matrices, in addition to problematizing the Eurocentric epistemology that defends the ecology of knowledges. Law No. 10.639/2003 guides educational policies on Afro-Brazilian education and culture. **Conclusion:** Overcoming structural racism requires profound transformations in the curriculum and teacher training, and education assumes a central role in building a democratic, pluralistic society committed to racial equity.

**Keywords:** Ethnicity. Racism. Cultural Diversity. Social Justice. Education.



### 123. EDUCATION AND GENDER: CONTEMPORARY PERSPECTIVES FOR EQUITABLE LEARNING ENVIRONMENTS

#### *EDUCAÇÃO E GÊNERO: PERSPECTIVAS CONTEMPORÂNEAS PARA AMBIENTE DE APRENDIZAGEM EQUITATIVOS*

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**Introduction:** Building equitable educational spaces remains a challenge for educational institutions, especially given the gender inequalities still present in daily school life. Stereotypes, discrimination, and practices such as bullying continue to affect students' access, retention, and development, highlighting the need to discuss gender in education. Reflecting on this theme allows us to understand how such dynamics influence school trajectories and guide actions to create more inclusive environments. A critical approach contributes to strengthening the social role of the school in promoting justice, respect for identities, and human rights. **Objective:** To critically analyze concepts related to gender in the educational context and identify their implications for pedagogical practices and teaching-learning processes, with a view to promoting equity and democratic school environments. **Method:** The study was conducted through a narrative literature review, including scientific articles, institutional reports, and national and international normative documents. Materials aligned with Sustainable Development Goal 4 – Quality Education – were prioritized, especially those discussing inclusion, elimination of discrimination, and valuing diversity in the school environment. **Results:** The analysis showed that the concepts of sex, gender, and gender identity are fundamental to understanding inequalities present in school relationships. Stereotypes reproduced in teaching materials, teaching practices, and daily interactions influence expectations and restrict opportunities for students of different identities. Policies and guidelines that guide actions to promote equality were also identified, highlighting the importance of the school and education professionals in creating welcoming and reflective environments. Participatory and dialogical pedagogical strategies proved effective in deconstructing prejudices and expanding teaching possibilities focused on equity. **Conclusion:** Promoting gender equity in education is an essential ethical and political commitment to guarantee rights and form critical subjects. By valuing diversity, the school strengthens its social function and contributes to more just, inclusive, and respectful societies, reaffirming its responsibility in defending human rights and offering quality education for all people.

**Keywords:** Health Education. Gender Equity. Human Rights. Educational Inclusion.



124. INCLUSIVE EDUCATION AND CONTEMPORARY TEACHING PRACTICES:  
CONTRIBUTIONS TO SDG 4

*EDUCAÇÃO INCLUSIVA E PRÁTICAS DOCENTES CONTEMPORÂNEAS: CONTRIBUIÇÕES  
PARA O ODS 4*

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**Introduction:** The importance of teaching practices in the current educational context is evident in the face of the intense methodological, technological, and social transformations that permeate the teaching-learning process. In this scenario, discussing these changes becomes fundamental to contextualizing the need to strengthen pedagogical practices that promote inclusion, equity, and quality, in line with the goals of Sustainable Development Goal 4 (SDG 4), which are essential to guarantee a quality education that is inclusive and effective. **Objective:** To discuss the challenges and possibilities of inclusive teaching practice, elucidating the possibilities in student diversity as an educational principle. **Method:** A narrative literature review was conducted, with publications retrieved from the following databases: *Scientific Electronic Library Online* (SciELO) and ERIC (Education Resources Information Center). Studies, reports, and documents related to the theme of inclusive education and diversity and their contributions to the goals of Sustainable Development Goal 4 on Quality Education were included. **Results:** The use of active methodologies and tools that favor active learning, such as educational technologies, contributes to the consolidation of a more dynamic, participatory, and inclusive teaching environment, promoting significant improvements in the teaching-learning process. **Conclusion:** The articulation between theory, teaching practice, and innovative methodologies enhances quality education, stimulating the integral development of students. Finally, the importance of teaching committed to critical, reflective pedagogical processes aligned with social demands, inclusive practices, and the guidelines of SDG 4 is reinforced.

**Keywords:** Education. Teaching. Teacher training.



## 125. TECHNOLOGY AND TEACHING: CONTEMPORARY CHALLENGES AND THE USE OF ARTIFICIAL INTELLIGENCE IN EDUCATION

### *TECNOLOGIA E DOCÊNCIA: DESAFIOS CONTEMPORÂNEOS E O USO DE INTELIGÊNCIA ARTIFICIAL NA EDUCAÇÃO*

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**Introduction:** The increasing use of Artificial Intelligence (AI) tools in education has brought about significant transformations in teaching, learning, and institutional management processes. These technologies expand pedagogical possibilities but also intensify ethical challenges related to privacy, transparency, algorithmic biases, and authorship. In Brazil, this scenario is linked to ongoing regulatory debates, such as the General Data Protection Law (LGPD), the Legal Framework for Artificial Intelligence, and the guidelines of the Brazilian Digital Transformation Strategy. Despite the advances, gaps persist regarding the educational use of AI, especially concerning the protection of student data, accountability for automated decisions, transparency requirements, and mitigation of regional inequalities. Thus, it becomes essential to discuss the impacts of AI on education and the need for public policies that promote ethical, safe practices aligned with the public interest. **Objective:** To present an innovative lesson plan on ethics and regulation of AI in higher education, stimulating critical reflection on the topic. **Method:** The proposal was developed based on an active approach, combining dialogic exposition, analysis of ethical dilemmas, and a practical dynamic in the form of a simulated trial considering recent discussions on AI governance and ethical principles present in national and international documents. For the activity, a fictitious case involving plagiarism detection algorithms was developed, enabling risk analysis and the formulation of mitigation strategies. **Results:** The experience demonstrated that the methodology favors the integration between theory and practice, increasing student engagement and strengthening the understanding of the ethical and regulatory challenges of AI. The simulated trial stimulated argumentation, critical thinking, and analysis from multiple perspectives. **Conclusion:** It is concluded that the approach contributes to the development of a critical view on the use of AI in higher education and reinforces the importance of public policies that promote transparency, equity, security, and ethics. The need to expand digital literacy and consolidate specific regulatory frameworks for the educational context is highlighted.

**Keywords:** Artificial Intelligence; Regulation; Higher Education; Public Policies.



## 126. SUSTAINABILITY AND EDUCATION: THE CENTRAL ROLE OF TEACHERS IN SHAPING CITIZENS

### *SUSTENTABILIDADE E EDUCAÇÃO: A CENTRALIDADE DO PROFESSOR NA FORMAÇÃO DE CIDADÃOS*

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**Introduction:** The discussion on sustainability has gained momentum in recent decades. It is defined as the preservation of the environment and natural resources, as well as the sustainable development and growth of the planet. It is known that it depends directly on collective and individual actions of human beings, aimed at balancing social, economic, and environmental development. However, there are several challenges in its practice, requiring profound educational and structural changes. In this, the role of the teacher as a mediator of knowledge and agent of social transformation is crucial. The education professional has a fundamental role in the formation of critical, committed, and conscious students, stimulating reflection on the impact of our actions on the environment and society. **Objective:** To discuss the role of the teacher as a protagonist in promoting quality and sustainable education, in line with SDG 4 of the 2030 Agenda. **Method:** A narrative literature review was conducted, with surveys of publications in national and international databases. Studies, reports, and documents related to the leading role of teachers in quality education and their contributions to the goals of Sustainable Development Goal 4 were included. **Results:** The literature highlights the importance of education professionals as disseminators of knowledge, as well as in mediating meaningful learning, in stimulating critical thinking, and in integrating socio-environmental values into the individual. It is evident that the use of active pedagogical practices provides students with greater engagement, strengthening their autonomy and expanding their actions in a social and environmental context. Furthermore, innovating pedagogical practices to meet the needs of the learner demonstrates a continuous capacity for adaptation, guaranteeing the central principles of SDG 4. Through the pursuit of their own practices, teachers use evidence to guide pedagogical interventions, promote a welcoming environment that values diversity, and establish partnerships with the school community. In this way, they become fundamental agents in building a transformative education, capable of developing essential 21st-century skills. **Conclusion:** It is understood that teacher leadership manifests itself both in the conduct of educational practices and in the formation of citizens who are aware and committed to sustainable development.

**Keywords:** Sustainable Development Goals. Quality Education. Teacher's Role.



127. HIGHER EDUCATION AND SOCIAL INEQUALITIES: WHEN CLASS AND INCOME DEFINE ACADEMIC DESTINY

*EDUCAÇÃO SUPERIOR E DESIGUALDADES SOCIAIS: QUANDO CLASSE E RENDA DEFINEM O DESTINO ACADÊMICO*

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**Introduction:** Reflecting on access to and retention in Brazilian higher education is crucial for understanding the country's structural social inequalities. University admission, often seen as meritocratic, is historically influenced by socioeconomic factors that confer unequal advantages to individuals. It is essential to question whether the disparities observed in access data are the result of a supposed lack of individual merit or of a structural inequality rooted in society. **Objective:** The general objective of this work is to critically reflect on how social class and income influence access to and retention in Brazilian higher education. **Method:** This is a narrative literature review study in which works addressing the concept of "cultural capital" (Bourdieu), scientific studies on inequalities in education, and Brazilian public policies on quotas, PROUNI, and FIES were consulted. **Results:** Social class and cultural capital directly influence access to and retention in higher education, reflecting the expression of the social question and reproducing persistent patterns of inequality. Although policies such as quotas, PROUNI, and FIES promote increased access, they do not eliminate structural barriers. Furthermore, low-income students face greater academic and financial challenges, which can directly impact their academic and professional trajectories. **Conclusion:** It is concluded that inequality in access to higher education is a structural problem that transcends the individual sphere, requiring more robust public policies to guarantee retention and equity. Thus, it is necessary to stimulate critical reflection and the ability to propose solutions to strengthen education as a tool for social transformation.

**Keywords:** Higher Education. Social Inequality. Cultural Capital; Public Policies. Access to University.



128. **PHYSIOTHERAPY IN THE EMERGENCY AND URGENT CARE OF THE BRAZILIAN PUBLIC HEALTH SYSTEM (SUS): AN EXPERIENCE REPORT FROM THE PERSPECTIVE OF PUBLIC HEALTH POLICIES**

***FISIOTERAPIA NA URGÊNCIA E EMERGÊNCIA DO SISTEMA ÚNICO DE SAÚDE (SUS): UM RELATO DE EXPERIÊNCIA NA PERSPECTIVA DAS POLÍTICAS PÚBLICAS DE SAÚDE***

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**Introduction:** The role of physiotherapy in emergency services has gained prominence in the hospital setting, being recognized as a fundamental component for comprehensive care of critically ill patients in the Brazilian Unified Health System (SUS). Public policies such as the Emergency Care Network reinforce the need for improved care, focusing on the prevention of complications, respiratory management, and multidisciplinary integration. In this scenario, the physiotherapist plays a decisive role in clinical stabilization, optimization of mechanical ventilation, and early mobilization, contributing to the reduction of complications and the improvement of functional outcomes. **Objective:** To report the practical experience of physiotherapy students in the emergency room of a philanthropic hospital in Vitória-ES, focusing on the care of critically ill patients and the interface between clinical practice and public health policies. **Methods:** This is an experience report based on the activities of the internship carried out in the emergency room of a philanthropic hospital in Vitória-ES, under faculty supervision. The practices involved daily care for critically ill patients, including mechanical ventilation, respiratory interventions, airway management, and early mobilization. The actions were integrated into the multidisciplinary team, following institutional protocols, and included guidance for patients and their families. **Results:** During the internship, a high demand for patients with hemodynamic instability, acute respiratory failure, multiple comorbidities, and the need for ventilatory support was observed. Physiotherapeutic interventions involved adjusting ventilatory parameters, bronchial hygiene, alveolar recruitment, and techniques to optimize gas exchange. Early mobilization was applied whenever possible, considering safety criteria, contributing to the maintenance of functionality and reduction of complications associated with prolonged immobility. The practice highlighted structural and organizational challenges, such as equipment limitations, intense patient flow, and the need to prioritize care, elements that reflect structural inequalities faced by the Brazilian Unified Health System (SUS). Constant coordination with the multidisciplinary team highlighted the importance of shared care in highly complex scenarios. **Conclusion:** The experience in the emergency room allowed for a concrete understanding of the relevance of physiotherapy in urgent and emergency care, reinforcing its role in clinical stabilization, prevention of complications, and functional recovery. The students' immersion in this environment fostered the development of technical and interprofessional skills, while also highlighting advances and weaknesses in the implementation of public policies for emergency care. These experiences contribute to critical thinking, strengthening the understanding of the Brazilian Unified Health System (SUS) as a system that integrates healthcare, management, and education.

**Keywords:** Physiotherapy. Urgency and Emergency. Public Policies.



# Complete Works



**129. FUNCTIONAL REHABILITATION OF THE PELVIC FLOOR IN VAGINISMUS SECONDARY TO SEXUAL VIOLENCE IN A PATIENT TREATED AT A CHARITY HOSPITAL IN VITÓRIA-ES: CASE REPORT**

***REABILITAÇÃO FUNCIONAL DO ASSOALHO PÉLVICO NO VAGINISMO SECUNDÁRIO À VIOLÊNCIA SEXUAL EM PACIENTE ATENDIDA EM UM HOSPITAL FILANTRÓPICO DE VITÓRIA-ES: RELATO DE CASO***

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**ABSTRACT**

**Introduction:** Sexual violence represents a serious public health problem and is directly associated with pelvic floor dysfunctions, including vaginismus, characterized by involuntary contractions of the perineal muscles that hinder or prevent vaginal penetration. Women with a history of abuse have a higher prevalence of hypertonia, pelvic pain, hypersensitivity to touch, and psychosocial changes that negatively impact sexual function and quality of life. In this context, pelvic physiotherapy, when conducted with a trauma-sensitive approach, constitutes a fundamental strategy for functional rehabilitation and reduction of physical and emotional suffering. **Objective:** To report and analyze the physiotherapeutic rehabilitation process of the pelvic floor in a young woman with vaginismus secondary to sexual violence, followed up at a Pelvic Physiotherapy Clinic of a Philanthropic Hospital in Vitória-ES. **Method:** This is a descriptive clinical case report, conducted between August and November 2025 in a pelvic physiotherapy outpatient clinic of a philanthropic hospital in Vitória-ES. The evaluation included anamnesis, external inspection, perineal palpation, and functional assessment using the modified PERFECT/Oxford scale. Treatment was conducted with body awareness techniques, diaphragmatic breathing, relaxation, and progressive desensitization, in addition to the gradual use of vaginal dilators. Red/infrared LED therapy and low-intensity laser therapy were used for analgesia and reduction of hypertonia. The procedures were adapted according to the clinical response, following a trauma-sensitive approach. **Results:** A 19-year-old female patient, a user of the Brazilian public health system (SUS), with a history of childhood sexual violence and a recent episode in 2025, presented with dyspareunia, intense cramps, vulvar pain, hypersensitivity to touch, and marked hypertonia of the pelvic floor, consistent with secondary vaginismus. Initially, she only tolerated external desensitization. With the sessions, she began to accept myofascial release of the perineum, intracavitary laser therapy, guided use of dilators, and muscle coordination techniques. At the end of eight sessions, she showed significant improvement in touch tolerance, reduction in pain and cramps, progress in the use of dilators, and resumption of sexual relations without dyspareunia. **Conclusion:** Pelvic physiotherapy proved effective in the rehabilitation of vaginismus secondary to sexual violence, with improvement in pain, perineal function, and body awareness. This case reinforces the importance of humanized approaches and access to specialized services through the Brazilian Unified Health System (SUS) in the comprehensive care of women survivors of violence.

**Keywords:** Vaginismus. Pelvic Floor Physiotherapy. Sexual Violence. Public Health.



## INTRODUCTION

Sexual violence is a serious violation of human rights and a major public health problem, affecting the physical, psychological, and social integrity of victims. According to the World Health Organization (2024), approximately 30% of women worldwide have experienced physical and/or sexual violence by an intimate partner or another person, highlighting the magnitude of the problem and the need for integrated responses from health services. The WHO (2013) also emphasizes the importance of training professionals for a trauma-sensitive approach that considers welcoming, qualified listening, and comprehensive care in assisting victims.

Among the consequences of sexual violence, gynecological alterations, pelvic floor dysfunction, chronic pelvic pain, and penetration-related disorders such as vaginismus stand out (WHO, 2024; Pithavadian *et al.*, 2024). Vaginismus is characterized by involuntary contractions of the pelvic floor muscles that hinder or prevent vaginal penetration, and may be associated with physical, emotional, and psychosocial factors (Pithavadian *et al.*, 2024). The literature indicates that women with a history of sexual abuse have a higher prevalence of this condition, due to defense mechanisms in response to trauma and muscular and emotional hypervigilance (WHO, 2013). The estimated prevalence of vaginismus varies between 1% and 7% in population studies, but may be higher in specific clinical or cultural contexts.

Given this scenario, the role of pelvic floor physiotherapy in women diagnosed with vaginismus associated with a history of sexual violence is explored. Physiotherapeutic intervention includes functional assessment of the pelvic floor, muscle awareness and relaxation techniques, progressive desensitization, and body re-education, also integrating multidisciplinary work with a psychology and gynecology team (Pithavadian *et al.*, 2024). This study aims to describe the stages of physiotherapeutic rehabilitation based on recent scientific evidence and a trauma-sensitive approach, respecting the patient's limits and pace.

The relevance of the topic is reinforced by the increase in reports of sexual violence in Brazil, especially among women and adolescents. According to the Ministry of Health (Brazil, 2024), between 2015 and 2021 there was a significant increase in reports of sexual violence, predominantly involving female victims. The Brazilian Forum on Public Security (FBSP, 2023) highlights that the country registered more than 74,000 rape cases in 2022, representing an 8.2% increase compared to the previous year. Beyond the individual impact, these data demonstrate the importance of humanized and integrated care protocols, as foreseen by Law No. 11.340/2006 (Maria da Penha Law), which aims to protect women in situations of violence and guarantee support in the legal and health spheres (Brazil, 2006).

Given this context, the overall objective of this study is to report and analyze the physiotherapy intervention performed on a patient with vaginismus resulting from sexual violence, addressing the evaluation process, therapeutic planning, clinical evolution, and results obtained. It seeks to contribute to strengthening the role of physiotherapy in the rehabilitation of pelvic floor dysfunctions in victims of violence, promoting reflection on humanized and evidence-based clinical practices.

## METHOD

This is a descriptive and qualitative clinical case report that aims to present the physiotherapeutic intervention in the rehabilitation of the pelvic floor of a patient diagnosed with vaginismus associated with a history of sexual violence. The study design was based on the recommendations of the *CARE Guidelines* (Case Report Guidelines), which guide the structure and transparency of clinical case reports (Gawronski *et al.*, 2023).

The patient was treated at a pelvic physiotherapy service linked to a clinic specializing in women's health, located in a Urogynecology outpatient clinic of a philanthropic hospital in Vitória-ES. The follow-up took place between August 2025 and November 2025, totaling 8 sessions.



Initially, a detailed anamnesis was performed, including gynecological history, sexual symptoms, history of trauma, lifestyle habits, and history of previous treatment. Following this, a physiotherapeutic assessment of the pelvic floor was conducted, including external inspection, perineal palpation, functional assessment of the pelvic floor and muscle strength using the modified PERFECT/Oxford Scale (Laycock ; Jerwood, 2001), and body awareness of the genital region.

The physiotherapy intervention took place in a private and welcoming environment, with sessions lasting approximately 50 minutes, following a trauma-sensitive approach. The protocol included body awareness techniques, diaphragmatic breathing to modulate muscle tone and reduce hypervigilance, relaxation and stretching exercises for the pelvic floor, and progressive desensitization. To aid in analgesia and reduce hypertonia, technological resources such as red/infrared LED therapy and low-intensity laser therapy were used, applied externally and subsequently intracavitarily, in addition to guidance on the gradual use of vaginal dilators. The procedures were adapted according to the clinical response, prioritizing the patient's comfort, limits, and autonomy.

Clinical and functional data were described narratively, considering the evolution of symptoms and the therapeutic response throughout the treatment. Quantitative aspects (such as increased muscle strength and reduced pain) and qualitative aspects (reports of body perception and reduced anxiety associated with penetration) were observed. The analysis followed a descriptive and interpretive approach, based on current scientific literature and guidelines for good practices in pelvic floor physiotherapy.

## CASE REPORT

A 19-year-old female patient, a user of the Brazilian Unified Health System (SUS), was referred to the Pelvic Physiotherapy Clinic of a philanthropic hospital after a gynecological evaluation revealed difficulties in undergoing a Pap smear (preventive exam), complaining of dyspareunia, intense cramps, and pain in the vulvar region. During the anamnesis, she reported episodes of severe cramps accompanied by pre-syncope, sharp pains in the vaginal region, and heightened sensitivity to touch. The patient reported a history of sexual violence in childhood (from ages 7 to 14) and a recent episode that occurred in January 2025.

In the initial assessment, significant limitations to single-finger examination were observed, in addition to signs consistent with secondary vaginismus, such as hypertonia of the pelvic floor muscles, the presence of tension points and protective reflex contractions, a neuromuscular response associated with a history of violence.

Eight pelvic floor physiotherapy sessions were conducted gradually and respectfully. Initially, only external desensitization of the vulvar region was addressed. As the patient's confidence increased, resources such as red/infrared LED therapy for analgesia and muscle relaxation, myofascial release of the external Perineal Tendon Center (PTC), and laser therapy on the PTC at 3J intensity were included. The patient was instructed on the home use of vaginal dilators, experiencing initial difficulty but with progressive improvement.

In subsequent sessions, the patient began to tolerate single-finger touch. Functional assessment of the pelvic floor muscles confirmed marked hypertonia and multiple points of tension. The intervention was expanded with intracavitary laser (3J), release of painful points, and techniques for awareness and coordination of the pelvic muscles.

At the beginning of the physiotherapy follow-up, it was not possible to perform a complete assessment using the PERFECT Scale, since the patient did not tolerate single-finger touch due to intense pain and increased protective reflexes. Thus, it was not possible to measure strength, *endurance*, or the number of rapid contractions during the first consultation.

At the end of the eight sessions, with a significant reduction in pain and hypertonia, it became possible to apply the scale appropriately. The patient presented with less hyperactive pelvic floor muscles, allowing for efficient voluntary contractions. According to the PERFECT Scale, preserved strength was observed, sustaining contractions for an adequate time (*endurance*) and performing rapid contractions



compatible with the expected pattern for her age group, demonstrating improvement in motor control and muscle function after the physiotherapy intervention.

Furthermore, significant progress was observed in the use of vaginal dilators without pain, reported improvement in the intensity of cramps, and resumed sexual relations without dyspareunia, reflecting important gains in pelvic function and quality of life.

All care was provided free of charge at the physiotherapy service in the Urogynecology Outpatient Clinic of a philanthropic hospital in Vitória-ES, reaffirming the importance of access to specialized therapies within public policies aimed at women's health and the comprehensive care of victims of sexual violence.

## DISCUSSION

This report demonstrates that pelvic floor physiotherapy applied within a trauma-sensitive perspective can generate significant clinical outcomes in women with vaginismus secondary to sexual violence. These findings are consistent with the international literature, which indicates that multilevel interventions, involving muscle regulation, somatosensory desensitization, and education, are considered the gold standard in the treatment of vaginismus and penetration dysfunctions (Reissing *et al.*, 2018; Pacik; Geletta, 2017).

Women with a history of sexual violence frequently present with pelvic floor muscle hyperactivity, hypersensitivity to touch, and involuntary contraction patterns associated with traumatic bodily memory. These mechanisms are well described in neurophysiological studies that demonstrate the relationship between sexual trauma, autonomic hypervigilance, and reflex activation of the pelvic floor muscles (Levine *et al.*, 2021; Brotto, 2018). In the case presented, the marked hypertonia and vulvar pain confirm these descriptions and reinforce the importance of a gradual and safety-centered therapeutic approach.

The literature highlights that relaxation techniques, diaphragmatic breathing, and body awareness are effective in modulating muscle tension and reducing alertness, favoring the onset of desensitization (Anderson, Wise, 2020). Similarly, manual interventions such as myofascial release of the perineum and work on trigger points have been associated with decreased pain and improved pelvic function in women with vaginismus and sexual pain (Fitzgerald *et al.*, 2020).

The resources used in this case, such as low-level laser therapy and LED therapy, are also supported by the literature. Recent reviews indicate that therapeutic laser can reduce myofascial pain, modulate neuromuscular activity, and help relax overactive muscles (Alshami *et al.*, 2021; Montenegro *et al.*, 2022). Although specific studies on vaginismus are still limited, the evidence on chronic pelvic pain reinforces the plausibility of its use.

Another central component was the progressive desensitization associated with the use of dilators. Clinical studies show that graduated penetration training is one of the most effective interventions for vaginismus, with success rates that can exceed 70% to 90% when integrated with relaxation techniques and psychoeducation (Reissing *et al.*, 2018; Pacik, Geletta, 2017). The progression observed in the patient, from external touch to the comfortable use of dilators, reflects this model of effectiveness.

Beyond physical progress, the literature emphasizes the importance of the therapeutic bond, especially in women survivors of violence. Trauma-sensitive approaches reduce treatment dropout, strengthen self-efficacy, and improve treatment response (Green *et al.*, 2020; WHO, 2013). The patient's emotional evolution, increased confidence, reduced fear associated with penetration, and resumption of sexual life corroborate this understanding.

Another relevant point is the importance of interdisciplinary care. Systematic reviews show that the most effective treatment involves the integration of physiotherapy, gynecology, and psychotherapy, especially trauma-focused therapies such as EMDR or cognitive-behavioral therapy (Brotto *et al.*, 2022). Although this report focuses on the physiotherapy approach, the case aligns with the recommendation for comprehensive care foreseen in policies for the care of women in situations of violence.



Taken together, these findings reaffirm that pelvic floor physiotherapy plays a central role in the treatment of vaginismus secondary to trauma. The case presented contributes to the literature by demonstrating, in clinical practice, how the combination of evidence-based techniques, a humanized approach, and gradual progression can promote significant functional gains in a short period.

## CONCLUSION

Pelvic physiotherapy intervention based on a trauma-sensitive approach proved effective in the rehabilitation of a patient with vaginismus secondary to sexual violence, promoting significant improvement in physical symptoms, pelvic floor function, and body image. The combined use of desensitization, relaxation, myofascial release, laser therapy, and the gradual introduction of dilators, along with a supportive approach and respect for the patient's pace, allowed for significant progress in just eight sessions.

This report highlights the importance of specialized and accessible services within the public health system, as well as the need for training professionals to provide humane care to victims of sexual violence. It also reinforces the relevance of pelvic floor physiotherapy as a fundamental part of the comprehensive women's health care network.

Although the results are positive, future studies with larger samples are needed to deepen the understanding of the effects of different therapeutic protocols in women with a history of violence and associated sexual dysfunctions.

## REFERENCES

- ALSHAMI, A. M. *et al.*. Effectiveness of low-level laser therapy in the management of myofascial pain: a systematic review and meta-analysis. **Clinical Rehabilitation**, v. 35, n. 2, p. 159–172, 2021.
- ANDERSON, R. U.; WISE, D. Therapeutic relaxation training for pelvic floor hypertonicity and pelvic pain. **Current Urology Reports**, v. 21, n. 3, p. 1–8, 2020.
- BRASIL. **Lei n. 11.340, de 7 de agosto de 2006**. Cria mecanismos para coibir a violência doméstica e familiar contra a mulher. Diário Oficial da União, Brasília, 2006.
- BRASIL. Ministério da Saúde. Sistema de Informação de Agravos de Notificação (SINAN). **Violência interpessoal e autoprovocada: notificações entre 2015 e 2021**. Brasília, 2024.
- BROTTO, L. A. Psychological and physiological mechanisms underlying sexual dysfunction in women with a history of sexual trauma. **Annual Review of Sex Research**, v. 25, p. 1–18, 2018.
- BROTTO, L. A. *et al.*. Integrated multidisciplinary care for sexual pain disorders: a systematic review. **The Journal of Sexual Medicine**, v. 19, n. 4, p. 512–528, 2022.
- FITZGERALD, M. P. *et al.*. Pelvic floor physical therapy in the treatment of pelvic pain. **Obstetrics and Gynecology Clinics of North America**, v. 47, n. 4, p. 563–579, 2020.
- FORUM BRASILEIRO DE SEGURANÇA PÚBLICA (FBSP). **Anuário Brasileiro de Segurança Pública 2023**. São Paulo, 2023.
- GAWRONSKI, M. *et al.*. The CARE guidelines: updated consensus-based clinical case reporting guideline. **Journal of Clinical Epidemiology**, v. 160, p. 1–7, 2023.
- GREEN, B. L. *et al.*. Trauma-informed medical care: patient response to a primary care provider communication training. **Journal of Loss and Trauma**, v. 25, n. 2, p. 123–138, 2020.



- LAYCOCK, J.; JERWOOD, D. Pelvic floor muscle assessment: the PERFECT scheme. **Physiotherapy**, v. 87, n. 12, p. 631–642, 2001.
- LEVINE, T. R. *et al.*. Neurophysiological correlates of pelvic pain and sexual dysfunction in survivors of sexual trauma: a review. **Pain Reports**, v. 6, n. 4, p. 1–12, 2021.
- MONTENEGRO, M. L. *et al.*. Use of photobiomodulation in vulvodynia and pelvic pain: an evidence-based review. **Lasers in Medical Science**, v. 37, p. 1123–1132, 2022.
- ORGANIZAÇÃO MUNDIAL DA SAÚDE (OMS). **Responding to intimate partner violence and sexual violence against women: WHO clinical and policy guidelines**. Geneva: WHO, 2013.
- ORGANIZAÇÃO MUNDIAL DA SAÚDE (OMS). **Violence Against Women – Global Estimates 2024**. Geneva: WHO, 2024.
- PACIK, P. T.; GELETTA, S. Understanding vaginismus: definition, treatment, and outcomes. **Sexual Medicine Reviews**, v. 5, n. 2, p. 173–183, 2017.
- PITHAVADIAN, B. M. *et al.*. Multilevel intervention strategies for vaginismus and sexual pain disorders: a comprehensive review. **Journal of Women's Health**, v. 33, n. 1, p. 45–55, 2024.
- REISSING, E. D. *et al.*. Pelvic floor rehabilitation for sexual pain disorders: a review of the evidence. **Journal of Sex & Marital Therapy**, v. 44, n. 2, p. 111–128, 2018.



130. PLANNING IN PUBLIC HEALTH: THE INTEGRATION OF PHYSICAL THERAPY INTO SITUATIONAL DIAGNOSIS

*PLANEJAMENTO EM SAÚDE COLETIVA: A INSERÇÃO DA FISIOTERAPIA NO DIAGNÓSTICO SITUACIONAL*

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**ABSTRACT**

**Introduction:** Situational diagnosis is an essential tool for planning, organizing, and evaluating health actions, especially in the context of Primary Care, involving the identification of factors that directly influence the well-being of the community, thus enhancing the role of physiotherapists in building interdisciplinary and effective practices. **Objective:** This work aims to analyze, relate, and highlight the contribution of physiotherapy to situational diagnosis, through reviews and practical examples taken from databases, being developed within the scope of the Health and Community IV course of the Physiotherapy program at EMESCAM. **Method:** Based on territorial and functional analysis, specific interventions were carried out. **Results:** These showed the importance of this type of diagnosis through planning and action in Primary Care, emphasizing multidisciplinary and physiotherapeutic action to form individual and collective strategies. **Conclusion:** However, the present study demonstrates that territorial analysis and qualified listening are extremely important means to formalize interventions for a given population group. In addition to the implementation of public policies, the addition of physiotherapists to Primary Care, the identification of prevalent diseases, and health education have the potential to directly address population demands and, ultimately, meet community complaints.

**Keywords:** Territorialization of Primary Care. Public Health Surveillance. Comprehensive Health Care.



## INTRODUCTION

Situational diagnosis is an essential methodological tool for planning, organizing, and evaluating health actions, especially within the scope of Primary Care. It is a systematic process of collecting, analyzing, and interpreting information that allows for understanding the living and health conditions of a population in a given territory. This diagnosis involves identifying social, economic, environmental, cultural, and epidemiological factors that directly influence the well-being of the community, as well as considering available resources, service flows, and relationships between various social actors. More than just a data collection process, situational diagnosis represents a critical and contextualized reading of the local reality. It allows for the recognition of the main health problems, risk factors, and vulnerabilities affecting specific groups, as well as the existing potential in the territory. By integrating different dimensions of social and health life, this approach favors the formulation of more effective strategies aligned with the real needs of the population, promoting actions aimed at health promotion, disease prevention, and improving quality of life.

Based on the facts presented, it can be mentioned that situational diagnosis is a fundamental tool for planning, organizing, and evaluating health actions within the scope of Primary Health Care (PHC). It is a systematic process that aims to identify, analyze, and understand the health conditions of a population, as well as the risk factors, social determinants, and vulnerabilities that directly impact their quality of life. By gathering epidemiological, social, economic, and cultural data, this approach allows for the construction of a realistic and contextualized overview of the territory, favoring the formulation of more effective strategies aimed at health promotion, disease prevention, and strengthening equity in access to services (Mendonça *et al.*, 2021). In the field of public health, situational diagnosis assumes an even more relevant role, as it makes it possible to recognize not only the problems and limitations faced by health services, but also their potential and available resources. This critical reading of the territory guides more assertive decisions, based on evidence and aligned with the real needs of the population in the territory. Furthermore, it promotes transparency in management, encourages teamwork, and strengthens the bond between professionals and the community, contributing to the construction of more democratic and participatory practices (Queiroz and Valente, 2019). Thus, the situational diagnosis not only guides the planning of health actions but also enhances the role of physiotherapy professionals in building collective strategies that respond to local demands with sensitivity, technique, and social commitment.

Given the relevance of situational diagnosis as a strategic tool for planning, organizing, and evaluating health actions in Primary Care, this study focuses on the role of the physiotherapist in this process, emphasizing the identification of territorial demands, the promotion of functional health, and the strengthening of interdisciplinary practices. By expanding their role beyond individual rehabilitation, physiotherapists become involved in collective, educational, and preventive actions that directly align with the principles of the Family Health Strategy, contributing to the construction of more effective, humanized, and territorially-based care. In this context, the research question guiding this study is: how can the inclusion of physiotherapists in the situational diagnosis process contribute to the recognition of local vulnerabilities and to the planning of health actions that promote functionality, prevent disabilities, and strengthen comprehensive care in communities marked by social and health inequalities?

The role of the physiotherapist in this context is especially relevant because, by expanding their practice beyond individual rehabilitation, the professional integrates collective, educational, and preventive actions that directly align with the principles of the Family Health Strategy. Through situational diagnosis, the physiotherapist can identify vulnerable groups, such as pregnant women, the elderly, people with chronic diseases, or workers exposed to ergonomic risks, and propose interventions that promote functional health, prevent disabilities, and strengthen comprehensive care. Thus, situational diagnosis not only guides the planning of health actions but also enhances the role of physiotherapy



professionals in building interdisciplinary, effective, and humanized practices. By recognizing the complexity of territories and valuing the protagonism of communities, this tool contributes to the consolidation of a more efficient, equitable, and socially committed Primary Care system (São Camilo University Center, n.d.). In this scenario, the physiotherapist's role gains strategic prominence. Traditionally associated with individual rehabilitation, physiotherapy professionals are expanding their field of action in Primary Health Care by incorporating collective, educational, and preventive practices. Their inclusion in the multidisciplinary teams of the Family Health Strategy (ESF) allows for the development of actions aimed at promoting functional health, preventing disabilities, and improving quality of life, especially in vulnerable groups such as the elderly, pregnant women, people with chronic diseases, and workers exposed to ergonomic risks. Furthermore, by working in an integrated and territorially-based manner, physiotherapists contribute to strengthening Primary Health Care as a space for continuous, effective, and humanized care (Silva and Gomes, 2022). One of the main strategies is the critical reading of the territory, in which the physiotherapist analyzes the social determinants of health, identifies vulnerable groups, and recognizes patterns of illness related to functionality, mobility, and quality of life. This analysis allows for the mapping of specific needs, such as sedentary lifestyles, musculoskeletal pain, chronic diseases, and ergonomic risks, supporting the planning of actions aimed at promoting health and preventing disabilities (Bezerra, 2023). Finally, the physiotherapist works alongside doctors, nurses, community agents, and other professionals, collaborating in defining priorities and developing integrated care strategies. This work fosters interdisciplinary dialogue and strengthens the bond with the community (Silva & Gomes, 2022).

Therefore, this study aims to analyze an example collected from a database, in order to provide a critical reading of the topic addressed, relating physiotherapy to situational diagnosis, highlighting its importance, emphasizing its contribution to the identification of territorial demands, the promotion of health, and the strengthening of interdisciplinary actions in the analyzed territory.

## METHOD

This work was developed as part of the Health and Community IV course in the Physiotherapy undergraduate program at EMESCAM. The methodology adopted involved two main stages: a literature review and research of a practical example analyzed in a database.

The first stage consisted of a literature review aimed at understanding the role of situational diagnosis in the Brazilian Unified Health System (SUS), with an emphasis on the physiotherapist's role in Primary Care. Four articles and institutional documents that directly address the topic, published between 2019 and 2023, were selected. The sources used included the Fiocruz IdeiaSUS platform, the Brazilian Journal of Family Health, the Public Health Notebooks, and institutional publications from the São Camilo University Center, the Brazilian Journal of Health Review, the Nursing Journal, the Nursing in Derme Journal, the Dentistry TCC, OASIS BR, and the Dialogues in Health Journal. The selection of these references was primarily based on their relevance to the context of public health, the applicability of situational diagnosis as a planning tool, and the discussion of the challenges and perspectives of physiotherapy practice in the Family Health Strategy (ESF).

The inclusion criteria adopted were: texts published between 2019 and 2023; studies that directly addressed situational diagnosis in the Brazilian Unified Health System (SUS); publications that discuss the role of physiotherapists in Primary Care; and institutional documents recognized by health or higher education bodies. Articles that dealt exclusively with secondary or tertiary levels of health care were excluded; studies that did not mention situational diagnosis as a planning tool; and publications without full access or with excessively technical language for the undergraduate level.



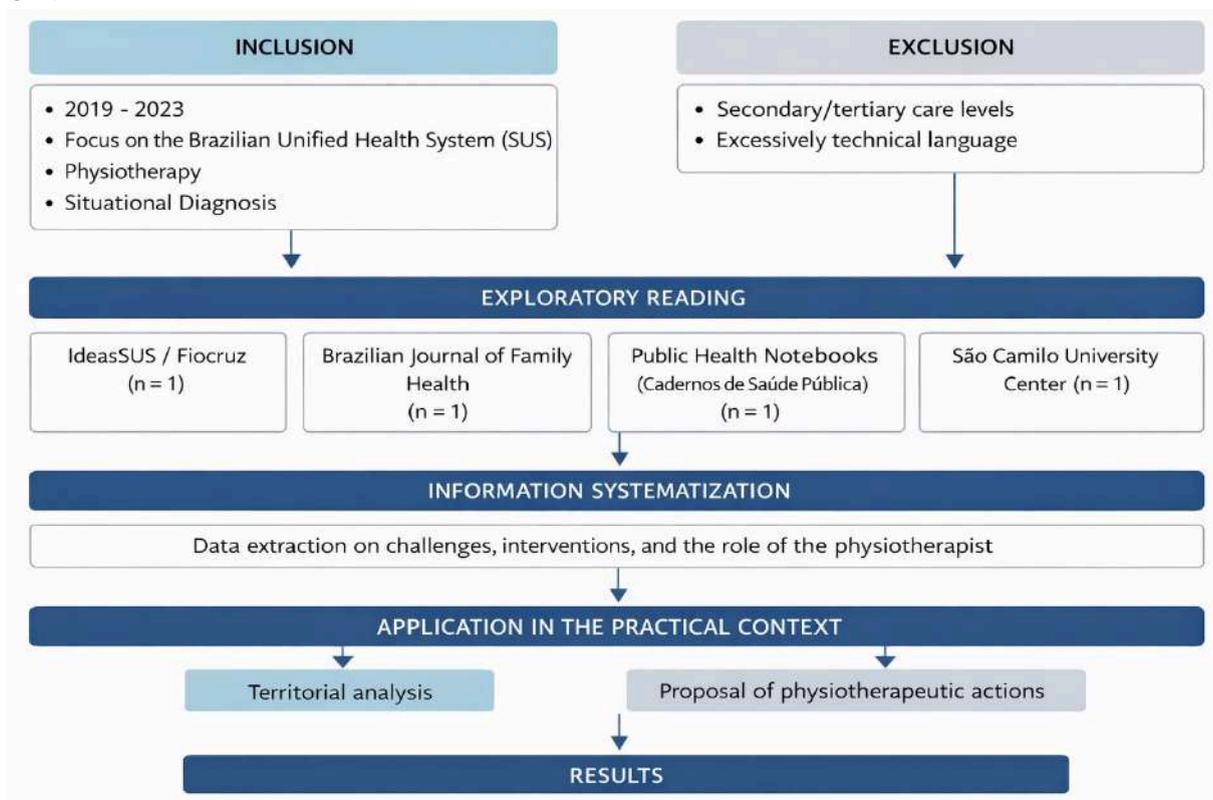
The second stage of the methodology involved the analysis of a practical example in a Riverine Primary Health Care Unit (UBSF) located in a peripheral community in Rio de Janeiro state. The analysis focused on the needs of the local population, using data collection techniques such as active listening with users and professionals, direct observation of the community and the UBSF's routine, mapping of the unit's internal processes, and analysis of local public policies and goals. This allowed for a direct observation of the community's lived reality. Based on this information, proposals for physiotherapy interventions aligned with the local context were analyzed, respecting the sociocultural specificities of the community and promoting integrated actions with the multidisciplinary team.

**RESULTS**

A critical reading of the situational diagnosis carried out in a primary health care unit located in a peripheral community revealed significant challenges faced by the community served in the area. Recurring complaints were identified regarding difficulty accessing health services, the presence of diseases, precarious socio-environmental conditions, lack of safe spaces for leisure and physical activity, and a lack of educational and preventive actions.

Based on the territorial and functional analysis of the community's residents, specific interventions were proposed, such as interviews with professionals and users, identification of prevalent diseases, educational and intersectoral actions, proposals for the inclusion of physiotherapy in the Family Health Unit (UBSF), and coordination with the Family Health Support Center (NASF). These interventions highlight the potential of situational diagnosis as a planning and action tool in Primary Care, reinforcing the importance of interdisciplinary work and the inclusion of physiotherapy in the construction of collective care strategies.

**Fig. 1) FLOWCHART OF THE SEARCH STRATEGY:**



**Table 1) Challenges identified and Physiotherapy interventions proposed.**

Challenges Identified Among Residents	Proposed Physiotherapeutic Interventions
Poor access to health services and difficulties related to physical health.	Interviews with UBSF workers and residents to understand the main demands.
Absence of a physiotherapist on the team.	Including this professional as a way to expand comprehensive care, in coordination with the NASF (Family Health Support Center).
Lack of spaces for leisure and physical activities.	Educational activities for disease prevention, health promotion, postural guidance, and physical practices.

Source: Barbosa *et al.* (2019)

## DISCUSSION:

The results presented demonstrate that the inclusion of physiotherapists in the situational diagnosis process significantly contributes to recognizing the vulnerabilities of the population and planning more effective health actions. Factors such as qualified listening, territorial presence, and sensitivity to social dynamics allow physiotherapists to identify specific population needs according to their recognized difficulties. This action favors the construction of strategies aimed at promoting functionality, preventing disabilities, and strengthening comprehensive care, aligning with the objective of increasing the effectiveness of Primary Care in communities. With the integration of educational, collective, and interdisciplinary practices, this professional assumes an active role in formulating interventions that value the specificities of the territory and promote equity in access to health. In this way, the situational diagnosis not only guides the planning of actions but also enhances the protagonism of physiotherapy as a transformative agent in building more humanized, participatory, and committed care to the local reality.

The study highlights that situational diagnosis, combined with territorialized and interdisciplinary physiotherapy practice, contributes to more effective, humanized, and contextualized practices in Primary Care. Presence in the community and qualified listening allow for the identification of specific vulnerabilities, such as those affecting women's health in the Teresópolis community – RJ, including the absence of physiotherapists and safe spaces for leisure. These findings reinforce the importance of physiotherapy as a strategic agent in health promotion and show that field research is essential to understand the real needs of the population, supporting integrated and effective actions.

The study presents limitations related to its methodological scope and depth. The literature review was restricted to a small number of sources, which may limit the diversity of theoretical perspectives. Furthermore, the practical analysis was based on secondary data from a single primary health care unit, without the application of standardized instruments or the definition of a representative sample, which restricts the generalization of the results. There were also limitations inherent to the academic context of the research, such as the short time frame, delimited scope, and absence of direct field data collection. Even so, the findings offer relevant contributions to reflection on the role of the physiotherapist in primary care.

Based on the findings and limitations of this study, it is possible to suggest future research that further explores the role of physiotherapists in situational diagnosis through field studies with primary data collection. The application of standardized instruments, such as quality of life questionnaires and functional tests, would allow for the validation of theoretical evidence with empirical data and broaden the understanding of the impact of physiotherapy in Primary Care. Furthermore, comparative investigations between territories with and without physiotherapists in the Family Health Strategy (ESF) teams could reveal significant differences in the effectiveness of care and the promotion of functional health. Another relevant line of research would be to deepen the understanding of physiotherapy care focused on women's



health, especially in contexts of social vulnerability, as pointed out in the study in Teresópolis – RJ. The importance of investigating the effects of interdisciplinary work on health outcomes is also highlighted, analyzing how the integration between professionals contributes to more effective and contextualized practices. These proposals broaden the debate initiated in this work and offer promising paths for strengthening physiotherapy as a strategic practice in public health.

## CONCLUSION

This study revealed that situational diagnosis is consolidating itself as an indispensable tool for planning, organizing, and evaluating health actions within the scope of Primary Care. By enabling a critical and contextualized reading of the Rio de Janeiro territory, this methodology favors the identification of weaknesses, potentialities, and social determinants that directly influence the living conditions and health of the population. That said, the findings showed that the inclusion of physiotherapy in this process broadens the scope of care and contributes to practices focused on prevention, health education, and the promotion of healthy habits, in line with what Silva and Gomes (2022) advocate. By integrating into multidisciplinary teams, the physiotherapist acts strategically in the construction of actions that respond to the real needs of the community, strengthening the bond with users and promoting comprehensive care.

The study analyzed in the community of Teresópolis - RJ, demonstrates that territorial analysis and qualified listening are fundamental instruments to guide contextualized and effective physiotherapy interventions. Furthermore, the actions carried out, in addition to the implementation of public policies, the inclusion of physiotherapists in the UBSF team, the identification of prevalent diseases, educational and intersectoral actions, have the potential to directly address the complaints of the analyzed group and, ultimately, meet their demands.

Thus, the study achieved its objective by demonstrating that situational diagnosis, combined with the interdisciplinary and territorialized action of physiotherapy, enhances the effectiveness of Primary Care and contributes to more humanized and transformative practices. This understanding is in line with what Mendonça *et al.* (2021) and Queiroz and Valente (2019) point out, when they highlight that situational diagnosis is an essential instrument for strengthening participatory management and for consolidating a more equitable, integrated Primary Care system committed to social transformation.

## REFERENCES

- BARBOSA, Rafaela da Silva Coelho *et al.*. Diagnóstico situacional: Ferramenta para o planejamento de ações em fisioterapia na Atenção Básica à Saúde. **Revista Baiana de Saúde Pública**, v. 43, n. 3, 2019.
- BEZERRA, M. D. W. R. de A. Diagnóstico situacional: uma ferramenta que potencializa o planejamento e execução das ações e cuidado nas equipes de ESF. **IdeiaSUS Fiocruz**, 2023.
- CENTRO UNIVERSITÁRIO SÃO CAMILO. **Diagnóstico situacional para planejamento em saúde**. São Paulo: Centro Universitário São Camilo, s.d. Ebook institucional. Available at: [https://saocamilo-sp.br/app/views/publicacoes/outraspublicacoes/Ebook\\_diagnostico\\_situacional.pdf](https://saocamilo-sp.br/app/views/publicacoes/outraspublicacoes/Ebook_diagnostico_situacional.pdf). Access on: 30 out. 2025.
- GUEDES, Erik Vinícius; ANDRADE, Melissa Pereira de. **Diagnóstico situacional: ferramenta importante para o planejamento das ações de saúde bucal no programa saúde na escola**. Trabalho de conclusão de curso do Curso de Odontologia da Universidade Tiradentes, 2018.
- QUEIROZ, M. S.; VALETE, G. Diagnóstico situacional como instrumento de gestão participativa na saúde coletiva. **Cadernos de Saúde Pública**, 2019.



QUEIROZ, Raquel Santos; VALENTE, Geilsa Soraia Cavalcanti. Diagnóstico situacional em unidade básica de saúde: contribuições para o campo da saúde coletiva: Contribuições para o campo da saúde coletiva. **Revista Enfermagem Atual In Derme**, v. 88, n. 26, 2019.

MENDONÇA, Gilberto José Montañó Góes de *et al.*. A utilização do diagnóstico situacional para o planejamento das ações na ESF. **Brazilian Journal of Health Review**, v. 4, n. 2, 2021.

SILVA, Marcos Jean Costa da. **Diagnóstico situacional de uma unidade básica de saúde**. Natal (RS), 2017.

SILVA, Rodolfo de Araújo; GOMES, Angely Caldas. A atuação do Fisioterapeuta na Estratégia Saúde da Família: um estudo transversal. **Revistas diálogos em saúde**, v. 3, n. 2, p. 5-6, 2022.

SILVA, R. M.; Gomes, A. P. A atuação do fisioterapeuta na Atenção Básica: desafios e perspectivas. **Revista Brasileira de Saúde da Família**, 2022



131. KANGAROO METHOD AND ITS RELATIONSHIP WITH THE  
SOCIO-DEMOGRAPHIC PROFILE OF NEWBORNS IN A LOW-RISK MATERNITY  
WARD

*CANGURU E SUA RELAÇÃO COM O PERFIL SOCIODEMOGRÁFICO EM RECÉM-NASCIDOS  
DE UMA MATERNIDADE DE BAIXO RISCO*

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**ABSTRACT**

**Introduction:** The Kangaroo Method is a humanized neonatal care strategy based on skin-to-skin contact, recognized for promoting mother-baby bonding, clinical stability, and breastfeeding. Evidence shows that its early initiation, preferably in the first hours of life, reduces neonatal mortality. However, sociodemographic, cultural, and care factors can influence its adherence and effectiveness, especially in public maternity hospitals serving socially vulnerable populations. **Objective:** To relate the applicability of the Kangaroo Method to the sociodemographic profile of newborns treated in a low-risk maternity hospital, characterizing this profile and the time of initiation in days of life. **Method:** A cross-sectional, quantitative observational study was conducted in the Neonatal ICU of the Santa Casa de Misericórdia Maternity Hospital in Vitória. Newborns whose guardians consented to participation and who underwent the Kangaroo Method were included. Neonates with malformations that made the practice unfeasible, clinical conditions that contraindicated it, and cases without guardian authorization were excluded. Data collection took place between August and November 2024, using electronic medical records and a questionnaire administered to mothers. Descriptive analysis characterized the sample profile using frequencies and percentages for categorical variables, and mean, standard deviation, and median for numerical variables. Interpretation was based solely on description and direct comparison of data, without statistical tests. The information was organized in spreadsheets created by the researchers, allowing for manual analysis of descriptive measures. **Results:** The sample showed a predominance of female newborns (55.6%) and of mixed race (74.1%). A large proportion of mothers resided outside the capital (92.6%), mainly in Serra (29.6%), indicating the regional nature of the maternity ward. Distance from the municipality of origin influenced the initiation and frequency of the Kangaroo Mother Care method, with mothers living closer to the municipality conducting a greater number of sessions. Sociocultural aspects, difficulties in understanding, and logistical limitations also impacted adherence. **Conclusion:** The study showed that adherence to the Kangaroo Mother Care method is influenced by social determinants of health, such as ethnicity, geographic distance, and socioeconomic vulnerability. Logistical and healthcare barriers compromised the early initiation and continuity of the method. It is concluded that institutional strategies focused on family support, health education, and territorial equity are essential to increase the effectiveness of the Kangaroo Mother Care method and promote more humanized and accessible neonatal care.

**Keywords:** Kangaroo Method. Breastfeeding. Newborn.



## INTRODUCTION

The Kangaroo Method is recognized as a model of humanized care and of great value in neonatal care. Its fundamental principle is skin-to-skin contact, which allows for the expansion of the hospital care model, overcoming the strictly technical focus and actively integrating the family unit in the newborn's recovery (Ruas, 2017). This practice is implemented through the kangaroo position, where the baby is placed vertically, in direct contact with the mother's or another family member's chest. This proximity results in proven benefits, such as strengthening the emotional bond and improving the neonate's clinical indicators (Ribeiro; Carvalho; Pereira, 2024, p. 273).

These benefits of the Kangaroo Method are reinforced by science, which highlights the impact of its immediate initiation. Starting the practice in the first hours of life has proven to be a determining factor in the survival of low birth weight newborns. A clinical trial by the World Health Organization (WHO) indicates that starting the Kangaroo Method on average 1.3 hours after birth can increase neonatal survival by 25% compared to cases of late initiation (WHO *et al.*, 2021).

Immediate skin-to-skin contact is a powerful driver of breastfeeding. Research conducted by Mekonnen and colleagues demonstrates that breastfeeding initiation occurred, on average, 2.6 days earlier in babies who underwent the Kangaroo Method compared to those who received only conventional care. This positive effect is explained by the improved thermal stability and minimization of the newborn's stress response provided by the method (Mekonnen *et al.*, 2019).

Given the above, the overall objective of this study was to relate the applicability of the Kangaroo Method to the sociodemographic profile of newborns in a low-risk maternity ward. Specific objectives included characterizing the sociodemographic profile of neonates in a low-risk maternity ward and describing the time of initiation of the method in days of life for newborns in a low-risk maternity ward.

## METHODS

This is a cross-sectional observational study with a quantitative methodology, which was carried out in the Neonatal ICU of the Santa Casa de Misericórdia de Vitória Maternity Hospital, Pró-Matre Unit, including newborns who benefited from the Kangaroo Method experience and whose legal guardians agreed to their participation in the research, based on the signing of the Informed Consent Form (ICF).

Data collection took place between August and November 2024. Newborns with congenital malformations that made the Kangaroo Mother Care method unfeasible, those with clinical conditions that contraindicated the application of the method during the data collection period, and cases in which the mother or legal guardian did not authorize participation in the study or the implementation of the Kangaroo Mother Care method were excluded. The researchers visited the Pró-Matre Maternity Hospital four times a week to collect data and conduct the study. The sample was selected using the aforementioned inclusion and exclusion criteria, and the informed consent form was presented to the guardians. After authorization, a specific data collection form was completed using an electronic medical record (sociodemographic profile) and a questionnaire was administered to the mother at the time of hospital discharge (time of initiation of the Kangaroo Mother Care method).

The following will present the variables equivalent to the Sociodemographic Profile and Applicability of the Kangaroo Method.

To identify the sociodemographic profile of the newborn, the following variables were analyzed: sex (female, male), ethnicity (white, brown, black, indigenous, Asian), place of residence (city). To determine the applicability of the Kangaroo Method, the following variable was used: time of initiation of the Kangaroo Method (days of life of the neonate).



This project was approved by the Ethics Committee through the Substantiated Opinion of the Ethics Committee number 6.115.067. It is also worth noting that all stages of the research respected the norms of Resolution 466/12, which deals with the Guidelines and Regulatory Standards for research involving Human Beings.

Descriptive data analysis was conducted to characterize the sample profile and the parameters evaluated in the study. Categorical variables were examined using absolute and relative frequencies, allowing for the identification of the proportional distribution of participants among the different categories evaluated. Numerical variables were described using measures of central tendency and dispersion, including mean, standard deviation, and median, as needed to faithfully represent the variability and behavior of the data obtained. The interpretation of the results was based exclusively on the description of the observed information and the direct comparison between the analyzed groups, without the application of inferential procedures or statistical significance tests. The data were organized in spreadsheets developed by the researchers themselves, allowing for the systematization of information and the manual analysis of the measures relevant to the analysis.

## RESULTS

The sociodemographic analysis of newborns undergoing the Kangaroo Method showed a predominance of females (55.6%) and mixed-race individuals (74.1%). Regarding origin, the majority of mothers came from municipalities outside the capital (92.6%), with the Serra region being the most represented (29.6%).

It was also observed that mothers who spent more time in the unit, especially those residing in nearby municipalities, started the Kangaroo Method earlier. Mothers from families in more distant locations faced barriers, including travel costs, external family responsibilities, and less social support.

Regarding the factors related to the applicability of the Kangaroo Method, it was observed that the average time to start the practice was 9.6 ( $\pm$  9.4) days of life for newborns in general, with the average for babies from families residing in Vitória being 6 days of life, and for those from other cities, 9.84 days of life.

Eventually, professionals' reports indicated that, although most mothers performed skin-to-skin contact adequately, some of them had difficulty maintaining the correct posture.

## DISCUSSION

The results demonstrate that sociodemographic profile exerts a significant influence on adherence to the Kangaroo Method, highlighting the importance of understanding how social, cultural, economic, and territorial factors shape the maternal experience during neonatal hospitalization. The predominance of female newborns and those of mixed race reflects the epidemiological profile of the population served by the Unified Health System (SUS) in Espírito Santo, according to data from the 2023 PNAD Continuous Survey and the SINASC (Ministry of Health, 2023). The literature highlights that skin color functions as a social marker of inequity and can affect access to prenatal care and health services, especially among Black and Indigenous pregnant women, who are more vulnerable to adverse outcomes (IBGE, 2024).

Another relevant aspect concerns geographic origin; 92.6% of postpartum women and newborns came from municipalities other than the capital, with the city of Serra being the most prominent. The distance between residence and hospital unit is one of the main determinants of adherence to the Kangaroo Method. Mothers residing in more distant cities face barriers related to prolonged travel, financial costs, low availability of transportation, and lack of a support network, factors that hinder daily stay with the newborn and compromise the continuity of humanized care practices (Nascimento et al., 2025; Montanhaur; Arenales; Rodrigues, 2022).



These territorial inequalities were directly reflected in the start of the practice: while newborns from families residing in Vitória began the Kangaroo Method on average at 6 days of age, those from other municipalities began only at 9.84 days.

In general, the average time to start the method (9.6 days) is considered late compared to current recommendations, which advocate early introduction, preferably in the first hours or days after birth, especially in cases of prematurity. This delay may be associated with the newborn's clinical instability, maternal unavailability in the unit, or structural and organizational barriers (Molin; Santos, 2023; Moraes; Marques; Gama, 2024).

Sociocultural barriers also influence the applicability of the method. Even when the mother is present, her understanding of the Kangaroo Method, her confidence in handling it, and the family support she receives determine the quality of skin-to-skin contact. The literature indicates that adequate adherence depends on clear guidance, continuous monitoring, and strengthening maternal confidence (Caetano; Pereira; Konstantyner, 2022). Reports from the nursing staff about inadequate implementation reinforce the need for consistent educational actions.

Thus, the effectiveness of the Kangaroo Method goes beyond the clinical sphere, being deeply associated with the social determinants of health. Institutional strategies aimed at equitable access, such as expanded rooming-in, social support, and transportation assistance, can promote maternal retention and increase adherence to the method. The consolidation of this practice as a universal strategy depends both on the awareness and training of teams and on the creation of real conditions that allow families to participate actively, continuously, and professionally in neonatal care.

## CONCLUSION

The analysis revealed that adherence to the Kangaroo Mother Care method is strongly influenced by sociodemographic, economic, geographic, and healthcare factors, demonstrating that the effectiveness of the practice goes beyond strictly clinical dimensions. The predominance of newborns of mixed race and from families residing in peripheral municipalities or those far from the capital confirms the presence of a more vulnerable population profile, frequently attended to in public maternity hospitals, and reinforces the need for policies that ensure equity in neonatal care.

The overall average age of initiation of the Kangaroo Mother Care method, 9.6 days of life, reveals a delay compared to current recommendations, which indicate early introduction as an essential factor for strengthening the mother-baby bond and for better clinical outcomes. Therefore, the need for investments in public policies that ensure adequate infrastructure and support for families from other locations, as well as continuous training for multidisciplinary teams, is reinforced.

In general, although the Kangaroo Method represents great potential for promoting clinical benefits and humanizing neonatal care, the study shows that its effectiveness depends directly on addressing social inequalities, expanding support for families, and improving the conditions of maternal stay in health units. Therefore, it is recommended that public maternity hospitals adopt integrated strategies involving educational actions, strengthening the family support network, and territorial equity policies.

It is concluded that, to ensure the full and universal implementation of the Kangaroo Method, it is fundamental to recognize and act upon the social determinants of health that permeate the maternal-neonatal experience. Overcoming these barriers will allow the method to be consolidated as an essential practice for promoting bonding, breastfeeding, and improving clinical outcomes in at-risk newborns, contributing to more humanized, effective, and socially just care.



## REFERENCES

- ALVES, Fernanda Nascimento *et al.*. Impacto do método canguru sobre o aleitamento materno de recém-nascidos pré-termo no Brasil: uma revisão integrativa. **Ciência & Saúde Coletiva**, v. 25, n. 11, p. 4509–4520, nov. 2020.
- CAETANO, Carolina; PEREIRA, Bianca Baptista; KONSTANTYNER, Tulio. Effect on the Practice of the Kangaroo Method on the Formation and Strengthening of the Mother-Baby Bond: A Systematic Review. **Revista Brasileira de Saúde Materno Infantil**, v. 22, p. 11–22, 9 maio 2022.
- FREITAS, Juliana De Oliveira; CAMARGO, Climene Laura De. Método Mãe-Canguru: evolução ponderal de recém-nascidos. **Acta Paulista de Enfermagem**, v. 20, n. 1, p. 75–81, mar. 2007.
- Instituto Brasileiro de Geografia e Estatística (IBGE). **PNAD Contínua: Características dos Domicílios e dos Moradores 2023**. Rio de Janeiro: IBGE; 2024.
- MANFIO, Sofia Beatriz Andrade *et al.*. ANÁLISE DAS CESARIANAS REALIZADAS ENTRE 2018 e 2022 NO BRASIL À LUZ DA CLASSIFICAÇÃO DE ROBSON. **Brazilian Journal of Implantology and Health Sciences**, v. 6, n. 6, p. 12–27, 1 jun. 2024.
- MEKONNEM, A. G., *et al.*. Os efeitos do cuidado mãe-canguru no tempo de início da amamentação entre bebês prematuros e com baixo peso ao nascer: uma meta-análise de estudos publicados. **International Breastfeeding Journal**, 2019. DOI: 10.1186/s13006-019-0206-0.
- Ministério da Saúde. **Cadernos de Atenção Básica: Saúde da Criança: crescimento e desenvolvimento**. Brasília: MS, 2022.
- Ministério da Saúde. **Saúde Brasil 2023: Análise da Situação de Saúde com Enfoque nas Crianças Brasileiras**. Brasília: SVSA/MS; 2023.
- Ministério da Saúde, Secretaria de Atenção à Saúde. **Atenção humanizada ao recém nascido método canguru diretrizes de cuidado**. [S.l.]: Ms, 2019.
- MOLIN, Rossano Sartori Dal; SANTOS, Gabriela Suzin Dos. Benefícios do método canguru para recém-nascidos prematuros de baixo peso. **Revista Eletrônica Acervo Saúde**, v. 23, n. 3, p. e11853, 12 mar. 2023.
- MONTANHAUR, C. D.; ARENALES, N. G.; RODRIGUES, Olga Maria Piazzentin Rolim. Mães de bebês em UTIN: rede de apoio e estratégias de enfrentamento. **Fractal: Revista de Psicologia**, v. 34, p. e28423, 2022.
- MORAES, Letícia De Aguiar; MARQUES, Stephany Mendonça; GAMA, Maria Gracimar Oliveira Fercury Da. ALEITAMENTO MATERNO E O MÉTODO CANGURU: UMA REVISÃO INTEGRATIVA. **REVISTA FOCO**, v. 17, n. 5, p. e5093, 23 maio 2024.
- NASCIMENTO, Maria Eduarda Bezerra Do *et al.*. A IMPORTÂNCIA DO VÍNCULO ENTRE PAIS E RECÉM-NASCIDOS NA UTI NEONATAL. **Brazilian Journal of Implantology and Health Sciences**, v. 7, n. 2, p. 2548–2557, 24 fev. 2025.
- OLIVEIRA, Cláudia Gonçalves de. Fatores associados ao aleitamento materno em recém-nascidos prematuros em unidade neonatal. **Faculdade de Medicina, Universidade Federal de Minas Gerais**, Belo Horizonte, 2021.



PIRES, Rômulo Cesar Rezzo *et al.*. Tendências temporais e projeções de cesariana no Brasil, macrorregiões administrativas e unidades federativas. **Ciência & Saúde Coletiva**, v. 28, n. 7, p. 2119–2133, jul. 2023.

RIBEIRO, Simone Nascimento S.; CARVALHO, Marcos Giovanni S.; PEREIRA, Silvana A. **Fisioterapia Neonatal: Evidências e Boas Práticas**. MedBook Editora, 2024. E-book. ISBN 9786557830987.

RUAS, Teresa Cristina B. **Prematuridade Extrema: Olhares e Experiências**. Editora Manole, 2017. E-book. ISBN 9788578683399.

WHO Immediate KMC StudyGroup, *et al.*. "Cuidado Mãe Canguru" Imediato e Sobrevivência de Bebês com Baixo Peso ao Nascer. **The New England Journal of Medicine**, v. 384, n. 31, p. 2028-2038, 2021. DOI: 10.1056/NEJMoa2026486.

ZHU, Zhen *et al.*. The efficacy of Kangaroo-Mother care to the clinical outcomes of LBW and premature infants in the first 28 days: A meta-analysis of randomized clinical trials. **Frontiers in Pediatrics**, v. 11, p. 1067183, 27 fev. 2023.



132. THE EXPRESSION OF THE SOCIAL ISSUES AND THE CHALLENGES OF FEMALE SUBJECTIVITY IN THE PUERPERIUM: PUBLIC POLICIES AND INTEGRATIVE PRACTICES AS PATHWAYS TO INTEGRAL CARE

*A EXPRESSÃO DA QUESTÃO SOCIAL E OS DESAFIOS DA SUBJETIVIDADE FEMININA NO PUERPÉRIO: POLÍTICAS PÚBLICAS E PRÁTICAS INTEGRATIVAS COMO CAMINHOS PARA O CUIDADO INTEGRAL*

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**ABSTRACT**

**Introduction:** The postpartum period is marked by physical, emotional, and social transformations, which are often interpreted as the individual responsibility of women, exacerbating the challenges experienced during this delicate phase of life. This experience also reveals the expression of social issues, reflecting structural and gender inequalities, caregiving burden, and weaknesses in public policies aimed at maternal care. Therefore, understanding the postpartum period requires recognizing that female subjectivity is impacted by social, cultural, and institutional factors that shape women's daily lives. Knowing this scenario is fundamental for the development of policies aimed at reducing gender inequality. **Objective:** To describe how social issues and female subjectivity manifest in the postpartum period and to discuss the role of public policies and Integrative and Complementary Health Practices (PICS) as strategies for comprehensive care. **Method.** A narrative literature review was conducted, based on articles available in SciELO, PubMed, and CAPES Journals, using descriptors related to women's health, subjectivity, postpartum period, and Integrative and Complementary Health Practices (PICS). **Results:** The literature shows that many women experience amplified emotional suffering due to gender inequality, the naturalization of domestic overload, and a lack of support during the postpartum period. Thus, women's psychological and emotional suffering should not be seen merely as an individual issue, but as a manifestation of social conditions and the sexual division of labor, which historically place the responsibility for care on women. Although the National Policy for Comprehensive Women's Health Care (PNAISM) represents advances that promote women's health and well-being, gaps in comprehensive care for women in the postpartum period still persist. Thus, Integrative and Complementary Health Practices (PICS), such as aromatherapy, massage, music therapy, and art therapy (especially therapeutic clowning), demonstrate potential to reduce anxiety, promote well-being, foster bonding, and expand strategies for social innovation and humanization of care in the postpartum period. **Conclusion:** Care for women in the postpartum period needs to consider social, subjective, and emotional dimensions. In this sense, PICS represent an important tool to strengthen comprehensiveness and humanization within the Brazilian Unified Health System (SUS), contributing to the recognition of women as subjects of rights in a context of multiple social vulnerabilities.

**Keywords:** social issue; female subjectivity; postpartum period; public policies; integrative practices.



## INTRODUCTION

The condition of women in the contemporary context is revealed to be traversed by multiple forms of gender, class, and racial inequality that manifest themselves both in labor relations and in caregiving responsibilities. The expression of the social question—that is, the way in which structural inequalities manifest themselves in daily life—marks women's lives on various levels: precarious labor relations, overburdened domestic care, domestic violence, lack of support in the postpartum period, absence or insufficiency of state support for women (Schwarz *et al.*, 2015).

During the postpartum period, generally understood as the time following childbirth, women face physical, emotional, and social transformations that cannot be reduced to an "individual issue," but must be understood as manifestations of social and historical gender conditions, including the sexual division of labor (De Souza *et al.*, 2022). The Brazilian State has instituted public policies focused on women's health, such as the National Policy for Comprehensive Women's Health Care (PNAISM) and the National Policy for Integrative and Complementary Health Practices (PNPIC), which recognize women as subjects of rights and propose more comprehensive care. However, it is observed that postpartum care still prioritizes the biological body (prevention, control) to the detriment of the emotional and symbolic dimensions involved in the period of motherhood (Brazil, 2022a; Brazil, 2022b).

In this sense, Integrative Practices such as aromatherapy or therapeutic clowning emerge as strategies for social innovation to promote the mental and emotional health of women: not to replace the State, but to humanize care relationships and expand the right to comprehensive health (Treptow *et al.*, 2024; Penteadó; Penteadó; Polleti, 2006).

This review article seeks to discuss how the expression of social issues and female subjectivity are articulated in the postpartum period, reflecting on the role of public health policies for women in Brazil and presenting the potential of Integrative and Complementary Practices (PICS) in the postpartum period and their role in addressing the emotional and symbolic dimensions of this period.

## METHOD

This study is characterized as a narrative literature review, of a qualitative nature, based on scientific publications available in databases such as SciELO, PubMed, and CAPES Journals, between the years 2006 and 2025.

The following descriptors were used: social issue, female subjectivity, postpartum period, maternal mental health, public health policies for women, integrative practices, aromatherapy, and therapeutic clowning.

The inclusion criteria encompassed articles in Portuguese and English that addressed the social and subjective dimensions of women's health, the role of public policies, and the application of integrative practices in promoting women's well-being. Publications prior to 2005 or those that addressed the topic in a strictly biomedical manner were excluded.

After analysis, 8 articles were selected to form the theoretical body of the review.

## RESULTS AND DISCUSSION

### **The expression of the social question and female subjectivity in the postpartum period.**

Female subjectivity, that is, how women experience, interpret, and give meaning to their lives in the context of the postpartum period, must be understood as being traversed by structural social conditions, such as the sexual division of labor, the precariousness of labor relations, the invisibility of caregiving, and the multiple forms of gender-based violence. Several studies show that the burden of



domestic care falls disproportionately on women, which directly impacts their mental and emotional health, intensifying feelings of guilt, exhaustion, and isolation (Ribeiro; Martins; De Brito, 2024; Schwarz *et al.*, 2015).

Recent research has found that women perform the majority of unpaid domestic work, and that the high time demands and imbalance between effort and reward in this type of activity are strongly associated with female mental illness. This data reinforces that, upon entering the postpartum period, women are already in a context of overload and inequality that deepens their psychic and emotional vulnerability. (Ribeiro; Martins; De Brito, 2024; Schwarz *et al.*, 2015).

The review by De Souza *et al.* (2022) on psychological distress in the postpartum period highlights that women, in absorbing the demands of the baby, the home, and breastfeeding, and experiencing the physical and hormonal changes inherent to this period, find themselves in a situation of heightened psychosocial vulnerability. The sexual division of labor is clearly evident: caregiving tasks and domestic chores, often invisible and undervalued, continue to fall on women, while the State and society tend to outsource or naturalize these responsibilities. This dynamic is a direct expression of the social question, as it reflects historical inequalities that structure women's social place, especially in the field of caregiving (De Moura; Galvão, 2023).

The research by Corrêa *et al.* (2017) on workshops with high-risk pregnant women corroborates this perspective by indicating that women's psychological suffering should be interpreted in its ethical-political dimension, as a manifestation of the social conditions and gender inequalities that shape women's daily lives.

These analyses converge with the findings of De Souza *et al.* (2022) and Schwarz *et al.* (2015), who discuss how the sexual division of labor acts as a historical mechanism of inequality and illness among women, directly interfering with their physical and mental health. The study by De Moura and Galvão (2023), in examining the ethical-political suffering of pregnant women in vulnerable situations, reinforces that the feelings of anxiety, fear, and exhaustion experienced in the pregnancy-puerperal cycle are not restricted to the individual level, but are traversed by power relations and a social structure that naturalizes gender inequality.

Furthermore, evidence suggests that the postpartum period cannot be understood merely as an "individual moment" of adaptation, but as a period in which broader social and cultural conditioning factors are expressed. The sexuality of women after childbirth, for example, reveals how the return to sexual life is influenced not only by biological factors (such as pain, reduced lubrication), but also by maternal demands, breastfeeding, body insecurity, marital estrangement, and lack of informational support from the healthcare team (De Moura; Galvão, 2023).

In this sense, understanding female subjectivity in the postpartum period requires recognizing that the psycho-emotional suffering experienced by women is, to a large extent, an expression of the social conditions and the sexual division of labor that have historically imposed on them the responsibility for care (Schwarz *et al.*, 2015). It is, therefore, a phenomenon that transcends the individual sphere and reveals the contradictions of the social question, insofar as it articulates gender inequalities, state omission, and the invisibility of reproductive work. Thus, care for women in the postpartum period requires a broader approach that considers the social and symbolic context of the postpartum period, recognizing women as subjects of rights and promoters of care, but also as legitimate recipients of comprehensive and humanized public policies (De Souza *et al.*, 2022; Bittencourt *et al.*, 2020).

### **The role of the State and public policies**

In Brazil, the National Policy for Comprehensive Women's Health (PNAISM) is consolidated as the main policy focused on women's health, offering guidelines for the promotion, protection, assistance, and recovery of women's health at all stages of life. According to the Ministry of Health's website, this



policy recognizes women as citizens with rights and provides for the integrated action of services at different stages of life, including the pregnancy-puerperal cycle, seeking to strengthen comprehensive care, primary care as the entry point, and the articulation between levels of care. Critical studies, however, point out that despite this normative framework, its implementation faces obstacles in professional training and intersectoral articulation that limit the real achievement of comprehensiveness (Brazil, 2022a).

Along the same lines, the PNPIC policy, established in 2006, establishes the incorporation of PICS within the scope of the Unified Health System (SUS), focusing on primary care, continuous, humanized and comprehensive care (Brazil, 2022b). In particular, scientific studies show that PICS applied in the postpartum period bring observed benefits such as pain relief, improved sleep quality, reduced anxiety, greater maternal well-being and strengthening of the mother-baby bond. For example, a study of complementary therapies applied by nurses to women in the postpartum period found that aromatherapy, massage, foot baths, and music therapy were used postpartum and evidenced these improvements (Fregnani *et al.*, 2025; Borges; Madeira; De Oliveira Azevedo, 2011).

However, there are still important gaps. The study by Bittencourt *et al.* (2020), which mapped the continuity of care in the postpartum period, found that many indicators of adequacy become less present in the postnatal period, highlighting weaknesses in the systematic care of women and newborns.

Additionally, Bittencourt *et al.* (2020) and Borges, Madeira, and De Oliveira Azevedo (2011) point out that care for women during the pregnancy-puerperal cycle is still strongly focused on the biological body as a means of preventing complications, controlling infections, and breastfeeding, while emotional, symbolic, and subject dimensions are neglected. For example, in the research by Corrêa *et al.* (2017), healthcare professionals reported that the separation between the "pregnant woman/mother" as an object of care and her subjective context hinders comprehensive care. Thus, despite the State formally recognizing women as subjects of rights, challenges persist in operationalizing truly comprehensive care that encompasses body, mind, emotions, and symbols, and that enables qualified listening, acceptance, and continuity in the postpartum period (De Souza *et al.*, 2022).

### **The contribution of integrative and complementary practices: enhancing the emotional health of postpartum women**

Integrative and Complementary Health Practices (PICS) are emerging as a promising field for addressing the emotional, symbolic, and relational dimensions of the postpartum period. The study by Fregnani *et al.* (2025) and Treptow *et al.* (2024), which investigated postpartum women's perceptions of the use of PICS during labor and the postpartum period, identified that practices such as aromatherapy, music therapy, meditation, yoga, acupressure, reflexology, auriculotherapy, flower essences, and massage contributed to feelings of empowerment, relaxation, well-being, self-awareness, and pain relief, in addition to promoting the strengthening of the bond with the baby and the physical and emotional recovery of the woman.

These findings allow us to affirm that PICS act not only as support for the biological dimension, promoting pain relief and physical regulation, but also as channels for the symbolic expression of motherhood, enabling a space for internal listening, re-signification of the changed body, emotional support, and recognition of the woman as a complex subject in process, and not only as a maternal function. In this sense, practices such as massage, foot baths, reflexology, aromatherapy, and therapeutic clowning reveal themselves as powerful humanization strategies, capable of integrating body, emotion, and bonding. Thus, PICS are configured as a field for expanding and re-signifying care, promoting more comprehensive and humanized attention to women in the pregnancy-puerperal cycle, as evidenced by Fregnani *et al.* (2025) and Treptow *et al.* (2024).



Clown therapy, as an integrative practice of a playful and relational nature, has demonstrated positive effects on emotional well-being, anxiety reduction, and the strengthening of affective bonds in various healthcare contexts. This practice acts not only as entertainment but also as a humanization strategy that breaks down institutional rigidity and facilitates dialogue between body, emotion, and subjectivity. In the context of the postpartum period, this humanizing potential gains special relevance, as women experience profound physical, emotional, and social transformations. Studies by Catapan, Oliveira, and Rotta (2019) and Kurudirek, Arikan, and Sarialioğlu (2021) have shown that intervention with therapeutic clowning significantly reduced pain and anxiety levels during hospital procedures, highlighting the potential of this practice to modulate physiological and psychological responses to stress.

Aromatherapy, recognized as one of the Integrative and Complementary Health Practices (PICS), has proven to be an effective strategy for promoting physical and emotional balance during pregnancy and the postpartum period. According to Penteado, Penteado, and Poletti (2006), the therapeutic use of essential oils acts holistically, contributing to the relief of symptoms such as anxiety, insomnia, nausea, and muscle tension, as well as promoting relaxation and general well-being for the pregnant woman. This practice stimulates the senses and positively influences the central nervous system, helping to reduce stress and regulate emotions during vulnerable times.

Additionally, studies by Penteado, Penteado, and Poletti (2021) and Ribeiro and Passos (2024) highlight aromatherapy as a significant tool for the well-being of pregnant and postpartum women, since the use of essential oils such as lavender and sweet orange is associated with a reduction in symptoms of anxiety, stress, and insomnia, promoting states of relaxation and emotional balance. This evidence demonstrates that Integrative and Complementary Health Practices (PICS) not only assist in the management of physical symptoms but also broaden the scope of health care, encompassing the subjective and symbolic dimensions of women's care. Thus, aromatherapy presents itself as a relevant complementary resource, capable of promoting emotional well-being, postpartum recovery, and the humanization of maternal care, strengthening the bond between mother, baby, and care environment.

However, it is important to emphasize that such practices will only be consistently effective if they are linked to public policies that actually incorporate them, and also if there is appreciation for professionals, adequate training, service structure, and articulation with traditional biomedical care. Otherwise, they remain "isolated activities," without integration into the continuous care of women. It is in this sense that Integrative and Complementary Health Practices (PICS) do not replace the State or medical-biological care; on the contrary, they function as a bridge to the emotional and symbolic dimension, expanding the right to comprehensive health and allowing the period of motherhood to be recognized as a social and subjective experience, and not just a biological one (Barros; Spadacio; Costa, 2018; Habimorad *et al.*, 2020).

Finally, it is worth remembering that for this humanization to take effect, it is necessary to think about care networks that consider not only the mother's and baby's bodies, but also the woman's life context: her family, social, cultural, and economic dynamics, her bonds, and her support system, thus promoting the individual, subjectivity, bonding, and emotional well-being (Corrêa *et al.*, 2017).

## CONCLUSION

The expression of the social question through structural inequalities, sexual division of labor, and caregiving burden impacts female subjectivity in the postpartum period; therefore, care for women during this period needs to go beyond the biological to encompass biopsychosocial aspects (Corrêa *et al.*, 2017; Ribeiro; Martins; De Brito, 2024).

It has been found that, although there are relevant public policies such as PNAISM and PNPIC, important gaps persist in comprehensive care during the postpartum period, especially with regard to



qualified listening and the welcoming of the subjective and social dimensions that permeate the maternal experience (Fregnani *et al.*, 2025; Brasil 2022b; Treptow *et al.*, 2024).

Within the context of public policies, the updated PNPIC (National Policy on Integrative and Complementary Practices) reinforces the importance of integrating these practices into the various levels of care within the SUS (Brazilian Unified Health System), recognizing their contribution to the promotion of comprehensive health, the prevention of illnesses, and the humanization of care. However, it is observed that its implementation is still uneven, limited by structural factors, insufficient training of professionals, and low institutionalization in primary care services (Barros; Spadacio; Costa, 2018; Habimorad *et al.*, 2020).

For both practice and policy, it is suggested that healthcare teams broaden their listening to the subjective demands of women in the postpartum period, recognizing them as subjects embedded in social, cultural, and economic contexts (Corrêa *et al.*, 2017; Borges; Madeira; De Oliveira Azevedo, 2011). Furthermore, the systematic inclusion of PICS in postpartum care becomes crucial, both in the training of professionals and in the articulation with existing policies. This integration can foster the creation of welcoming spaces and sensitive listening, strengthening the bond between professional and user, and enabling care to be constituted as an experience of autonomy and recognition of the woman as the protagonist of her health process (Fregnani *et al.*, 2025; Treptow *et al.*, 2024).

The State, in turn, must strengthen intersectoral action amidst health, social assistance, education, and labor, in order to address the burden of caregiving for women, domestic violence, and gender inequalities that permeate the postpartum period (Ribeiro; Martins; De Brito, 2024; Schwarz *et al.*, 2015). Such coordination is essential so that care for women is not reduced to biomedical actions, but is broadened to encompass living conditions, support networks, and the social determinants that shape their experience of motherhood (Corrêa *et al.*, 2017; De Souza *et al.*, 2022).

Ultimately, treating the postpartum period as an individual experience can obscure the social character of female suffering and perpetuate the naturalization of gender overload. Recognizing women as subjects of rights, agents and recipients of comprehensive care, and humanizing this care constitutes not only an ethical and political challenge, but an urgent necessity. In this sense, the expansion of Integrative and Complementary Health Practices (PICS) as a tool for humanization and comprehensiveness proves strategic for reconstructing a care model that understands women in their totality (body, mind and social context) and that favors the development of freer, healthier and more empowered subjectivities (Ribeiro; Martins; De Brito, 2024; Fregnani *et al.*, 2025; De Souza *et al.*, 2022).

#### **Acknowledgments:**

The authors thank the Espírito Santo State Research and Innovation Support Foundation for the financial support granted through FAPES Notice – No. 21/2023 – Women in Science Program.

#### **REFERENCES**

BARROS, N. F. de; SPADACIO, C.; COSTA, M. V. da. Trabalho interprofissional e as Práticas Integrativas e Complementares no contexto da Atenção Primária à Saúde: potenciais e desafios. **Saúde Debate**, Rio de Janeiro, V. 42, número especial 1, P. 163-173, set. 2018.

BITTENCOURT, Sonia Duarte de Azevedo, et al. Nascer no Brasil: continuidade do cuidado na gestação e pós-parto à mulher e ao recém-nato. **Rev. Saúde Pública**, v. 54, 100, out. 2020.

BRASIL. Ministério da Saúde. **Política Nacional de Atenção Integral à Saúde da Mulher – PNAISM: princípios e diretrizes**. Brasília: MS, 2022a.



BRASIL. Ministério da Saúde. **Política Nacional de Práticas Integrativas e Complementares no SUS – PNPIC**. Brasília: MS, 2022b.

BORGES, Maritza Rodrigues; MADEIRA, Lélia Maria; DE OLIVEIRA AZEVEDO, Vivian Mara Gonçalves. As práticas integrativas e complementares na atenção à saúde da mulher: uma estratégia de humanização da assistência no Hospital Sofia Feldman. **REME-Revista Mineira de Enfermagem**, v. 15, n. 1, 2011.

CAVALCANTE, Stephania Rocha et al. Terapias complementares aplicadas pelo enfermeiro à mulher no período pós-parto. **Revista Eletrônica Acervo Saúde**, v. 25, p. e17782-e17782, 2025.

CATAPAN, Soraia de Camargo; OLIVEIRA, Walter Ferreira de; ROTTA, Tatiana Marcela. Palhaçoterapia em ambiente hospitalar: uma revisão de literatura. **Ciência & saúde coletiva**, v. 24, p. 3417-3429, 2019.

CORRÊA, Maria Suely Medeiros et al. Acolhimento no cuidado à saúde da mulher no puerpério. **Cadernos de saúde pública**, v. 33, n. 3, p. e00136215, 2017.

DE SOUZA, Ana Júlia Lima et al. Depressão pós-parto: alterações fisiológicas durante o puerpério. **Revista Brasileira de Educação, Saúde e Bem-estar**, v. 1, n. 4, 2022.

DE MOURA, Tathiany Rezende; GALVÃO, Vivianny Kelly. Sexualidade feminina após o parto vaginal: relatos sobre o puerpério de mulheres primíparas. **Revista Brasileira de Sexualidade Humana**, v. 34, p. 1101-1101, 2023.

FREGNANI, Beatriz Rosa Damasceno et al. Percepções de puérperas sobre práticas integrativas e complementares em saúde utilizadas durante o trabalho de parto. **Revista Eletrônica de Enfermagem**, v. 27, p. 78002-78002, 2025.

HABIMORAD, P. H. L. et al. Implementation of brazil's national policy on complementary and integrative practices: Strengths and weaknesses. **Ciência e Saúde Coletiva**, v. 25, n. 2, p. 395–405, 1 fev. 2020.

KURUDIREK, Fatma.; ARIKAN, Duygu.; SARIALIOĞLU, Arzu. Effects of therapeutic clowning on pain and anxiety during venous blood sampling in Turkey: Randomised controlled trial. **Journal for specialists in pediatric nursing**, v.26, n.4, p. 12352, 2021.

PENTEADO, Thainá Volpi. PENTEADO, Fernanda Nathalia. POLETTI, Sofia. Aromaterapia: uma prática integrativa e complementar no bem-estar da gestante. **Revista Científica Multidisciplinar Núcleo do Conhecimento**. Ed. 11, Vol. 11, pp. 175-196, 2006.

RIBEIRO, Marlana; MARTINS, Carolina Santana; DE BRITO, Raphael Batista. Women's "mental load": reflections on inequality and violence in the sexual division of labor today. **Praxis Jurídica**, v. 8, n. 2, 2024.

RIBEIRO, L. A.; PASSOS, S. G. de. Efeitos da aromaterapia no alívio da dor durante o trabalho de parto. **Revista JRG de Estudos Acadêmicos**, São Paulo, v. 7, n. 15, p. e151260, 2024.

SCHWARZ, Rodrigo Garcia et al. Desigualdade em razão de gênero e divisão sexual do trabalho: suas consequências sobre a saúde das trabalhadoras. **Revista Direitos Humanos Fundamentais**, v. 15, n. 2, 2015.

TREPTOW, Vitória Peres et al. Práticas integrativas e utilizadas na assistência à mulher na gestação, parto e puerpério. in: saúde da mulher e do recém-nascido: novos paradigmas. **Editora Científica Digital**. p. 185-197, 2024.



**133. INTEGRATIVE AND COMPLEMENTARY PRACTICES, PUBLIC POLICIES FOR THEIR IMPLEMENTATION IN THE BRAZILIAN UNIFIED HEALTH SYSTEM (SUS) AND CONTROL OF CHRONIC NON-COMMUNICABLE DISEASES: A NARRATIVE REVIEW**

***PRÁTICAS INTEGRATIVAS E COMPLEMENTARES, POLÍTICAS PÚBLICAS PARA SUA IMPLANTAÇÃO NO SUS E CONTROLE DE DOENÇAS CRÔNICAS NÃO TRANSMISSÍVEIS: REVISÃO NARRATIVA***

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**ABSTRACT**

**Introduction:** Integrative and Complementary Health Practices (PICS) represent a set of therapeutic approaches aimed at promoting health, preventing and managing chronic diseases, acting synergistically with conventional medicine. Despite important advances, the integration of PICS into the care of Non-Communicable Chronic Diseases (NCDs) is still limited and heterogeneous in the Brazilian Unified Health System (SUS). The growing demand from the population for humanized approaches that consider biopsychosocial dimensions contrasts with the restricted supply, territorial asymmetries, and weaknesses in professional qualification. Thus, there is a need for consistent evidence to support public policy decision-making. Therefore, understanding these challenges becomes essential to strengthen the inclusion of PICS in comprehensive care. **Objective:** To describe the scientific evidence on the effectiveness of Integrative and Complementary Health Practices (PICS) in the control of Non-Communicable Chronic Diseases (NCDs) such as hypertension, type 2 diabetes mellitus, obesity, cardiovascular diseases, and eating disorders, as well as to discuss the normative frameworks and political challenges related to their implementation in the Brazilian Unified Health System (SUS). **Methodology:** A narrative literature review was conducted, consulting scientific articles in the LILACS and SciELO databases. Studies published in the last ten years, in Portuguese or English, that addressed the role of PICS in the adjuvant treatment of NCDs and in public health policies were selected. **Results and Discussion:** The results show that practices such as *Mindfulness*, yoga, tai chi, acupuncture, meditation, music therapy, and art therapy present significant benefits in the regulation of physiological and psychosocial parameters, contributing to stress management, blood glucose and blood pressure control, as well as promoting emotional well-being and adherence to treatment. In the field of public policy, the creation of the National Policy on Integrative and Complementary Practices (PNPIC) in 2006 and its subsequent expansions symbolize an institutional advance towards a more comprehensive, equitable, and humanized care model. However, challenges persist: regional inequality in supply, lack of funding, training gaps, and a scarcity of long-term research. Overcoming these barriers requires strengthening interprofessional training, investing in applied research, and creating monitoring and evaluation mechanisms that support the legitimacy of Integrative and Complementary Practices (PICS) within the Brazilian Unified Health System (SUS). **Conclusion:** PICS are strategic and complementary tools in addressing NCDs (Non-Communicable Diseases), capable of promoting autonomy, physical and emotional balance, and the humanization of care, reaffirming the SUS's commitment to the comprehensiveness and dignity of life.

**Keywords:** Integrative and Complementary Practices. Chronic Non-Communicable Diseases. Public Policies.



## INTRODUCTION

The global burden of non-communicable chronic diseases (NCDs), including cardiovascular diseases, type 2 diabetes, chronic respiratory diseases, and some types of cancer, remains a major cause of morbidity and mortality and a high demand for healthcare worldwide. Preventive and management strategies that address biological, psychological, and social dimensions are considered necessary to reduce this burden. In parallel, there is growing interest in integrative approaches that complement conventional medicine, favoring person-centered care, promoting autonomy, and managing stress—central factors in the control of NCDs (Leach *et al.*, 2019). The World Health Organization (WHO) has encouraged policies that integrate traditional, complementary, and integrative medicine into health systems based on safety and evidence (Fakih; Perbawati; Monalisa, 2022).

In Brazil, Integrative and Complementary Health Practices (PICS) were institutionalized through the National Policy on Integrative and Complementary Practices (PNPIC), institutionalized by Ordinance No. 971 of 2006 (Brazil, 2006a). Ordinances No. 1,600 of 2006 and No. 849 of 2017 expanded the range of practices admitted in the SUS, reflecting an institutional movement of incorporation (Brazil, 2006b; Brazil, 2017). Thus, the Ministry of Health currently recognizes 29 care practices, including Apitherapy, Aromatherapy, Art Therapy, Ayurveda, Biodanza, Bioenergetics, Family Constellation, Chromotherapy, Circular Dance, Geotherapy, Hypnotherapy, Laying on of Hands, Homeopathy, Anthroposophic Medicine, Traditional Chinese Medicine / Acupuncture, Meditation, Music Therapy, Naturopathy, Osteopathy, Ozone Therapy, Medicinal Plants and Phytotherapy, Chiropractic, Reflexology, Reiki, Shantala, Integrative Community Therapy, Flower Therapy, Social Thermalism / Crenotherapy, and Yoga.

The articulation between Integrative and Complementary Health Practices (PICS) and NCD prevention policies represents a potential way to increase the effectiveness and humanization of care, provided it is guided by evaluations of efficacy, safety, and equity of access (Fakih; Perbawati; Monalisa, 2022; Silva *et al.*, 2025).

Thus, the objective of this article is to review and synthesize the scientific literature and public policy documents on the effectiveness/evidence of Integrative and Complementary Health Practices (PICS) in the control and prevention of Non-Communicable Diseases (NCDs), in addition to plausible mechanisms of action, regulatory and normative frameworks for implementation in the Brazilian Unified Health System (SUS), and the challenges and recommendations for implementation at the primary care and health network levels.

## METHOD

This study consists of a narrative literature review whose central theme involves Integrative and Complementary Health Practices (PICS), their public policies for implementation in the Unified Health System (SUS), and their use as an adjunct strategy in the treatment of Non-Communicable Chronic Diseases (NCDs).

The search for studies was conducted in the LILACS and SciELO databases, using descriptors related to the investigated themes. Inclusion criteria included articles published in the last ten years, in Portuguese and English, belonging to the health field, and directly addressing Integrative and Complementary Health Practices (PICS) and their application in the context of Non-Communicable Diseases (NCDs) or public health policies. Studies published more than ten years ago, written in other languages, or that did not have a direct relationship with the proposed theme were excluded.

In the LILACS database, the descriptors “Integrative and Complementary Practices”, “Unified Health System” and “Non-Communicable Chronic Diseases” were used, combined with the Boolean operator AND. This initial search resulted in 38 publications, of which 20 met the established inclusion



criteria. A second search, incorporating the additional descriptor “public policies”, did not return results compatible with the scope of the research.

In the SciELO database, the same search strategies and criteria were applied, using the same descriptors and Boolean operator. The results obtained were equivalent to those found in LILACS, without the addition of new eligible studies. Thus, the final corpus of the review consisted of 20 scientific articles, analyzed in their entirety regarding content, objectives, methodology, and main findings.

## RESULTS AND DISCUSSION

Integrative and Complementary Health Practices (PICS) encompass a heterogeneous set of practices and knowledge ranging from mind-body approaches (meditation, *mindfulness*, yoga, tai chi), body therapies (massage, shiatsu), herbal medicine and homeopathy, to art therapies (music therapy, art therapy) and other modalities recognized by the Brazilian Unified Health System (SUS). The National Policy on Integrative and Complementary Health Practices (PNPIC) defines PICS as therapeutic resources aimed at promoting, preventing, recovering and rehabilitating health, with an emphasis on primary care and comprehensive care (Brazil, 2006a).

### **Evidence of the effectiveness of CAM (Complementary and Alternative Medicine) in the control of NCDs (Non-Communicable Diseases): a synthesis by practice.**

#### ***Mindfulness and mindful eating***

*Mindfulness* practices have emerged as effective strategies in the management and prevention of NCDs (Non-Communicable Diseases), especially by promoting self-awareness, emotional self-regulation, and improved relationship with food and the body. According to Araújo, Costa, and Melo (2021), the integration of mindfulness and nutritional counseling fosters greater awareness of eating behavior, allowing individuals to identify internal hunger and satiety signals, reduce episodes of automatic eating, and develop more balanced food choices, contributing to weight control, stress reduction, and improved metabolic parameters.

Additionally, Barbosa, De Oliveira Penaforte, and De Sousa Silva (2020) show that *mindfulness* and *mindful eating* can help treat obesity and eating disorders by reducing compulsive eating and emotional eating, as well as improving psychological well-being and adherence to healthy habits. From a physiological point of view, these practices reduce the activation of the hypothalamic-pituitary-adrenal axis and modulate the systemic inflammatory response, which contributes to the improvement of metabolic and immunological parameters. These integrated effects give mind-body practices an essential role in the comprehensive care of people with NCDs, by combining prevention, rehabilitation, and health promotion (Barbosa; De Oliveira Penaforte; De Sousa Silva, 2020).

#### **Yoga, Tai Chi, and mind-body practices**

According to Wang *et al.* (2025), in a broad review of systematic reviews and meta-analyses, yoga acts on the neuroendocrine and autonomic axes, promoting balance between the sympathetic and parasympathetic systems, reducing heart rate and improving heart rate variability, factors associated with a reduction in cardiovascular risk. In controlled clinical trials, regular practice has demonstrated significant benefits in decreasing systolic and diastolic blood pressure, reducing inflammatory markers, as well as improving glycemic control in patients with type 2 diabetes. Furthermore, individuals with obesity and metabolic syndrome showed improved body composition, greater functional capacity, and subjective well-being after structured yoga programs.



In addition, Silva *et al.* (2025) highlight that CAMs, including yoga and tai chi, are recognized in national and international clinical guidelines as safe and effective interventions in the control of hypertension and other cardiometabolic risk factors, and can act as adjuvant therapies to conventional treatments.

Tai chi and yoga show similar results in controlling hypertension and blood glucose levels, with additional benefits for balance, flexibility, and muscle strength—fundamental aspects in preventing falls and maintaining autonomy in older adults. The literature also highlights the positive effects of these practices on reducing oxidative stress and systemic inflammation, contributing to the modulation of pathophysiological processes involved in cardiovascular and metabolic diseases. When offered continuously in primary care services, these practices increase adherence to conventional treatment, reduce the need for medication in some cases, and strengthen the bond between professionals and users (Silva *et al.*, 2025).

### **Relaxation techniques, guided breathing, and meditation.**

Adler *et al.* (2019) demonstrated that slow, device-guided breathing promotes a significant reduction in blood pressure and sympathetic activity, even in young, normotensive individuals, indicating its preventive and therapeutic potential. Respiratory control acts directly on the autonomic nervous system, favoring parasympathetic predominance and reducing the physiological stress response, a factor closely linked to the development and progression of chronic diseases such as hypertension and diabetes mellitus.

The central principles of these practices consist of focused attention and emotional self-regulation, which promotes physiological and psychological balance, fundamental for controlling these conditions. Classic and recent studies indicate that meditation reduces the activation of the hypothalamic-pituitary-adrenal (HPA) axis, responsible for the stress response, decreasing cortisol levels and chronic inflammatory markers (Schneider *et al.*, 1995; Adler *et al.*, 2019).

Corroborating these findings, Schneider *et al.* (2015), in a randomized clinical trial, observed that stress reduction techniques based on relaxation and meditation resulted in a sustained decrease in blood pressure in older adults with hypertension, reinforcing the hypothesis that mind-body interventions can be effective in the psychophysiological modulation of the hypertensive response. These techniques are low-cost and easy to implement in primary care, representing an accessible intervention for vulnerable populations.

### **Acupuncture and body methods**

Methodologically sound studies demonstrate that this practice can favor the control of metabolic and inflammatory parameters, in addition to contributing to the improvement of patients' quality of life. Wu *et al.* (2024), in a systematic review and network meta-analysis, observed that different acupuncture modalities were effective and safe in reducing body weight and body mass index (BMI) in overweight and obese individuals, suggesting improved energy regulation and metabolism.

Similarly, Wang *et al.* (2022) identified that acupuncture, when associated with conventional treatment, showed significant effects in reducing fasting blood glucose and glycated hemoglobin (HbA1c) in patients with type 2 diabetes mellitus and obesity, indicating potential for therapeutic complementarity in glycemic control and insulin resistance. Wu *et al.* (2024) demonstrated that acupuncture contributed to improving renal function and reducing inflammatory markers in individuals with diabetic nephropathy, showing multisystemic benefits that go beyond symptomatic control.

### **Music therapy, art therapy and community therapies**



Art-based therapies, such as music therapy and art therapy, have been recognized for their potential to promote psychological well-being, social integration, and quality of life in people with chronic diseases. According to Feng *et al.* (2025), music therapy applied to patients with Chronic Obstructive Pulmonary Disease (COPD) resulted in significant improvements in respiratory function, exercise capacity, and subjective perception of quality of life. These findings corroborate recent reviews that demonstrate consistent reductions in pain intensity and anxiety among patients undergoing music therapy sessions, as well as improvements in mood and treatment adherence. Music, by acting on cortical and subcortical centers related to emotion and the dopaminergic system, produces physiological responses that reduce pain perception and stress levels, in addition to promoting states of deep relaxation (Bouden *et al.*, 2025).

Art therapy, in turn, acts as an instrument of symbolic expression and psychosocial integration. Studies by Stevenson and Alzyood (2025) indicate that artistic creation facilitates the processing of emotions, improves self-esteem, and reduces depressive symptoms, especially in patients with debilitating chronic illnesses. Artistic activities also strengthen support networks and a sense of belonging, essential components in maintaining mental health and adherence to ongoing care. When incorporated into community groups or rehabilitation centers, these practices enhance the humanization of care and promote the patient's protagonism in their therapeutic process.

Similarly, in the context of art therapy, a thematic synthesis of studies with adults during the pandemic showed that art therapies (visual arts, dance, creative expression) contributed to improved mood, emotional function, and social participation, factors that directly influence the management of chronic diseases and the condition of those living with functional limitations or requiring prolonged care (Stevenson and Alzyood, 2025).

### **Brazilian public policies: regulatory frameworks and implementation in the SUS (Brazilian Public Health System).**

The formulation and implementation of public policies focused on Integrative and Complementary Health Practices (PICS) within the Brazilian Unified Health System (SUS) represent a significant advance in consolidating a more comprehensive, humanized, and user-centered care model. Since the creation of the National Policy on Integrative and Complementary Practices (PNPIC) in 2006, there has been a significant increase in the recognition of these practices as adjunctive strategies in the treatment and control of Non-Communicable Diseases (NCDs). PICS contribute not only to the relief of physical and psychological symptoms, but also to strengthening autonomy and self-care, central aspects in health promotion (Leach *et al.* , 2019).

Among the main forces supporting the formulation of these policies is the convergence of Integrative and Complementary Health Practices (PICS) with the principles of the Brazilian Unified Health System (SUS): universality, comprehensiveness, and equity. They propose care that goes beyond medicalization and values subjectivity, listening, and the therapeutic bond. According to Barros, Spadacio, and Costa (2018), the inclusion of PICS in Primary Health Care (PHC) strengthens interprofessional work and promotes collaborative practices that restore the protagonism of users in the care process. This relational dimension is essential in the management of chronic diseases, which require continuous monitoring and sustainable behavioral changes over time.

Dalmolin, Heidemann, and Freitag (2019) reinforce that the incorporation of Integrative and Complementary Health Practices (PICS) into public policies represents an opportunity to redefine healthcare, integrating traditional and scientific knowledge. Furthermore, these practices broaden access to low-cost therapies with few adverse effects, becoming especially relevant in contexts of social vulnerability and budgetary constraints. In this sense, policies that promote the training of qualified



professionals, the creation of practice centers, and the sustainable financing of actions are crucial for the consolidation of these strategies within the Brazilian Unified Health System (SUS).

However, the challenges to formulating and implementing these policies are still significant. Habimorad *et al.* (2020) highlight the absence of standardized evaluation mechanisms and the fragility of funding as structural obstacles that hinder the institutionalization of PICS. Added to this is the lack of technical and scientific training among professionals, resistance from part of the traditional medical community, and regional inequality in the provision of these practices. According to Dalmolin, Heidemann, and Freitag (2019), the implementation of PICS still occurs unevenly, concentrating in municipalities with greater infrastructure and local political support, which highlights the need for more coordinated governance between the federal, state, and municipal levels.

### **Professional training and the production of scientific evidence.**

The training of healthcare professionals is one of the main pillars for the consolidation of Integrative and Complementary Health Practices (PICS) within the Brazilian Unified Health System (SUS). Barros, Spadacio, and Costa (2018) emphasize that the construction of collaborative practices requires interprofessional and interdisciplinary training that goes beyond the limits of traditional biomedicine. The development of communication, empathy, and reflective skills is essential for person-centered care and for the effective integration of integrative practices into teamwork processes. However, there are still significant gaps in academic and technical training on Integrative and Complementary Health Practices (PICS), both at the undergraduate and continuing health education levels. Habimorad *et al.* (2020) highlight that many professionals work without formal training, which can compromise the standardization and safety of practices. The inclusion of content on PICS in undergraduate curricula and in multi-professional residency programs would be an essential step to institutionalize this knowledge in the field of public health (Habimorad *et al.* , 2020).

Another fundamental aspect is the strengthening of scientific research applied to Integrative and Complementary Health Practices (PICS). Although there is growing evidence of effectiveness for various practices, there is still a lack of large-scale clinical trials and longitudinal studies to support broad public policies. In this sense, it is essential to promote collaborative research networks between universities, health departments, and SUS (Brazilian Unified Health System) institutions, with methodologies that reconcile scientific rigor and respect for traditional and popular knowledge (Silva *et al.* , 2020).

Finally, it is important to highlight that the consolidation of Integrative and Complementary Health Practices (PICS) in addressing Non-Communicable Diseases (NCDs) requires not only the recognition of their potential, but also political and institutional commitment to transforming the care model. PICS do not replace conventional medicine, but complement it, offering a broader, more preventive and humanized perspective on the health-disease process (Leach *et al.* , 2019).

## **CONCLUSION**

The evidence gathered in this study confirms that Integrative and Complementary Health Practices (PICS) represent a strategic tool in addressing Non-Communicable Diseases (NCDs), by combining conventional clinical care with approaches that strengthen autonomy, self-care, and the physical and emotional well-being of individuals. This evidence demonstrates the potential of PICS as effective and safe adjuvant interventions, with low cost and high acceptability, especially relevant in primary care settings and vulnerable populations.

Within the framework of public policies, the consolidation of Integrative and Complementary Practices (PICS) within the Brazilian Unified Health System (SUS) reflects progress towards more comprehensive, humanized care, consistent with the principles of universality and equity. The National Policy on



Integrative and Complementary Practices (PNPIC) and successive ordinances expanding the range of practices represent important institutional milestones, although they still face structural challenges. Overcoming these barriers requires investment in interprofessional training, strengthening scientific research applied to PICS, and creating mechanisms for monitoring and evaluating results that support their legitimacy within the public health system.

Thus, the effective integration of Integrative and Complementary Health Practices (PICS) into strategies for addressing Non-Communicable Diseases (NCDs) should be understood as a continuous and intersectoral process, involving both technical and scientific improvement and the valuing of traditional and community knowledge. The adoption of these practices within the Brazilian Unified Health System (SUS) represents not only a therapeutic innovation but also a paradigmatic transformation, recognizing the human being in their totality and broadening the concept of health beyond the absence of disease. In short, PICS represent a promising path for health promotion, disease prevention, and the humanization of care, reaffirming the SUS's commitment to the comprehensiveness and dignity of life.

#### **Acknowledgments:**

The authors thank the Espírito Santo State Research and Innovation Support Foundation for the financial support granted through FAPES Notice – No. 21/2023 – Women in Science Program.

#### **REFERENCES**

- ADLER, Tessa E. et al. Device-guided slow breathing reduces blood pressure and sympathetic activity in young normotensive individuals of both sexes. **Journal of Applied Physiology**, v. 127, n. 4, p. 1042-1049, 2019.
- ARAÚJO, Mayara Priscilla Dantas; COSTA, Raísa Acácio França; DE MELO, Larissa Grace Serafim Nogueira. Atenção plena e aconselhamento nutricional na promoção da consciência do comportamento alimentar: revisão integrativa. **Research, Society and Development**, v. 10, n. 16, p. e17101623003-e17101623003, 2021.
- BARBOSA, Marina Rodrigues; DE OLIVEIRA PENAFORTE, Fernanda Rodrigues; DE SOUSA SILVA, Ana Flavia. *Mindfulness, mindful eating* e comer intuitivo na abordagem da obesidade e transtornos alimentares. SMAD, **Revista Eletrônica Saúde Mental Álcool e Drogas** (Edição em Português), v. 16, n. 3, p. 118-135, 2020.
- BARROS, N. F. de; SPADACIO, C.; COSTA, M. V. da. Trabalho interprofissional e as Práticas Integrativas e Complementares no contexto da Atenção Primária à Saúde: potenciais e desafios. **Saúde em Debate**, v. 42, n. esp. 1, p. 163–173, 2018.
- BOUDEN, Selma et al. Effect of music therapy on pain in rheumatic and musculoskeletal disorders: A systematic review. **British Journal of Pain**, p. 20494637251382096, 2025.
- \_\_\_\_\_. Ministério da Saúde. **Portaria nº 971, de 03 de maio de 2006**. Aprova a Política Nacional de Práticas Integrativas e Complementares (PNPIC) no Sistema único de Saúde Brasileiro. 2006a.
- \_\_\_\_\_. Ministério da Saúde. **Portaria nº 1.600, de 17 de julho de 2006**. Aprova a constituição do Observatório das Experiências de Medicina Antroposófica no Sistema Único de Saúde (SUS). 2006b.
- \_\_\_\_\_. Ministério da Saúde. **Portaria nº 849, de 27 de março de 2017**. Inclui novas práticas à Política Nacional de Práticas Integrativas e Complementares (PNPIC). Diário Oficial da União: seção 1, Brasília, DF, 28 mar. 2017.



DALMOLIN, I. S.; HEIDEMANN, I. T. S. B.; FREITAG, V. L. Integrative and complementary practices in the unified health system: Unveiling potentials and limitations. **Revista da Escola de Enfermagem da USP**, v. 53, 2019.

FAKIH, Muhammad; PERBAWATI, Candra; MONALISA. Relevance of WHO traditional medicine strategy (2014-2023) with traditional health care policy in the perspective of national law and international law. **Asian Journal of Legal Studies**, v. 1, n. 1, p. 25-34, 2022.

FENG, Xiaofang et al. The effects of music therapy on patients with chronic obstructive pulmonary disease: A systematic review and meta-analysis. **Physiotherapy Theory and Practice**, v. 41, n. 7, p. 1478-1494, 2025.

HABIMORAD, P. H. L. et al. Implementation of Brazil's National Policy on Complementary and Integrative Practices: Strengths and weaknesses. **Ciência & Saúde Coletiva**, v. 25, n. 2, p. 395-405, 2020.

LEACH, Matthew J. et al. The effectiveness of integrative healthcare for chronic disease: A systematic review. **International journal of clinical practice**, v. 73, n. 4, p. e13321, 2019.

SCHNEIDER, Robert H. et al. A randomized controlled trial of stress reduction for hypertension in older African Americans. **Hypertension**, v. 26, n. 5, p. 820-827, 1995.

SILVA, G. K. F. da et al. Política Nacional de Práticas Integrativas e Complementares: trajetória e desafios em 30 anos do SUS. **Physis: Revista de Saúde Coletiva**, v. 30, n. 1, 2020.

SILVA, Marcus Tolentino et al. Integrative and complementary healthcare practices for hypertension: a summary of recommended clinical guidelines. **Epidemiologia e Serviços de Saúde**, v. 34, p. e20240844, 2025.

STEVENSON, Hayley; ALZYOOD, Mamdooh. Healing through art: a thematic synthesis within a quasi-systematic review of art's impact on adult mental well-being during the COVID-19 pandemic. **BMC Public Health**, v. 25, n. 1, p. 1641, 2025.

WANG, Feifei et al. Yoga and chronic diseases: an umbrella review of systematic reviews and meta-analyses. **Medical Review**, n. 0, 2025.

WANG, Ying et al. Acupuntura no tratamento da obesidade combinada com diabetes mellitus tipo 2: uma revisão sistemática e meta-análise de ensaios clínicos randomizados controlados. **Complementary Therapies in Clinical Practice**, v. 49, p. 101658, 2022.

WU, Cui et al. Eficácia da acupuntura para nefropatia diabética: uma revisão sistemática e meta-análise de ensaios clínicos randomizados controlados. **Iranian Journal of Public Health**, v. 53, n. 11, p. 2404, 2024.



134. OCCUPATIONAL ACCIDENTS INVOLVING VENOMOUS ANIMALS:  
GENDER-BASED ANALYSIS IN ESPÍRITO SANTO

*ACIDENTES DE TRABALHO COM ANIMAIS PEÇONHENTOS: ANÁLISE POR SEXO NO  
ESPÍRITO SANTO*

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**ABSTRACT**

**Introduction:** Accidents involving venomous animals are classified as neglected tropical diseases and represent a public health challenge, especially among rural workers. The topic aligns with Sustainable Development Goal (SDG) 3, which aims to ensure a healthy life for all. **Objective:** To describe the prevalence of occupational accidents involving venomous animals according to sex in Espírito Santo, between 2020 and 2024. **Method:** This is an ecological, descriptive study based on secondary data obtained from TABNET/DATASUS. Accidents were evaluated by occupational circumstance, with percentage analysis by sex and calculation of the sex ratio (male/female) by microregions. Spatialization was performed using thematic maps generated in QGIS. **Results:** Men presented a bigger percentage of accidents in microregions of São Mateus, Linhares and Nova Venécia, similar to the female sex. The ratio between the sexes showed a greater magnitude in regions with smaller number absolute of cases. **Discussion:** Bigger prevalence among men may be associated with the male predominance in agricultural activities. Factors such as occupation, territory, and gender directly influence the frequency and profile of accidents. **Conclusion:** The results indicate the need for territorially-based preventive actions that are sensitive to gender issues. A limitation is the lack of information regarding the specific venomous animal and the activity performed at the time of the accident.

**Keywords:** Venomous animals. Workplace accidents. Gender differences. Worker's health.



## INTRODUCTION

Accidents involving venomous animals are classified as neglected tropical diseases and are part of the Sustainable Development Goals (SDGs) agenda, particularly SDG 3, which aims to ensure healthy lives and promote well-being for all (UN, 2015a). These conditions primarily affect vulnerable populations, especially rural workers such as farmers, who are often exposed to unsafe occupational environments and lack adequate training for the prevention of these accidents (Brazil, 2024). Therefore, addressing these accidents is directly related to the global public health goals outlined in the 2030 Agenda (UN, 2015b).

In 2023, Brazil recorded approximately 340,000 accidents involving venomous animals, an average of 932 cases per day, with scorpions (200,959), spiders (43,933), bees (33,658), snakes (32,514), caterpillars (7,140), and other animals (18,350) being the most frequent causes (Brazil, 2025b). In Espírito Santo Holy, such accidents represent one challenge recurring the health public, intensified by the great extension of areas rural dedicated to the cultivation of coffee, increasing the exhibition from the vulnerable population. Even with fewer absolute cases, the incidence in the state is high in rural areas and among men, requiring quick and targeted responses from public policies (Espírito Santo, 2023).

New public policies have been developed in Brazil with the aim of protecting the health and safety of workers. Regulatory Standard No. 31 (NR-31) specifically addresses safety and health in rural work, encompassing activities in agriculture, livestock farming, forestry, logging, and aquaculture. Among its guidelines, it emphasizes the requirement that, in cases of accidents involving venomous animals in the workplace, the worker should be immediately referred to the nearest emergency service. The standard also reinforces the mandatory use of Personal Protective Equipment (PPE), as stated in NR-06, with particular emphasis on the use of leg protectors, which are key in preventing accidents caused by snake bites and other venomous animals in rural areas (Brazil, 2021). Despite these regulatory advances, significant challenges remain in the prevention and management of accidents, especially in contexts where social and demographic factors influence the cases occurrence.

Given the presented regulatory context and epidemiological scenario, the objective of this study is to analyze the prevalence of work-related accidents due to bites from venomous animals according to sex in the state of Espírito Santo, from 2020 to 2024, aiming to discuss the possible influences of gender issues on the occurrence and management of these occupational events.

## METHOD

This study consists of a descriptive ecological research, based on the use of secondary data. The information was obtained from the DATASUS Information System, through the TABNET platform, at the website <https://datasus.saude.gov.br/informacoes-de-saude-tabnet/>, on June 26, 2025.

Data regarding the number of work-related accidents involving venomous animals, classified according to occupational circumstances, were used. The analysis involved the percentage distribution of cases by sex (female and male), as well as the calculation of the sex ratio, defined as the fraction between the number of accidents in male individuals and the number of accidents in female individuals (male/female).

The geographical area of study comprises the state of Espírito Santo, from 2020 to 2024. Data were organized into tables, presenting percentages and ratios by sex and by microregion. For spatial analysis, the state was subdivided under the official classification of 13 geographical microregions: Barra de São Francisco, Montanha, São Mateus, Nova Venécia, Linhares, Colatina, Santa Teresa, Vitória, Afonso Cláudio, Alegre, Guarapari, Cachoeiro de Itapemirim, and Itapemirim (IBGE, 1990).

Data spatial representation was carried out using thematic maps developed in software QGIS,

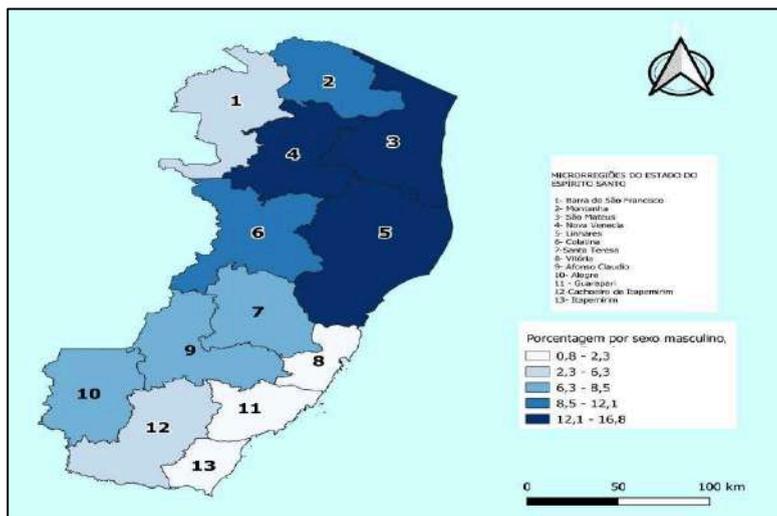


version 3.24. Such maps were generated from the files departing from Brazil and the Espírito Santo state, organized by Geographic microregions. The vector files were obtained from the official website of the Brazilian Institute of Geography and Statistics (IBGE) in June 2024 .

**RESULTS**

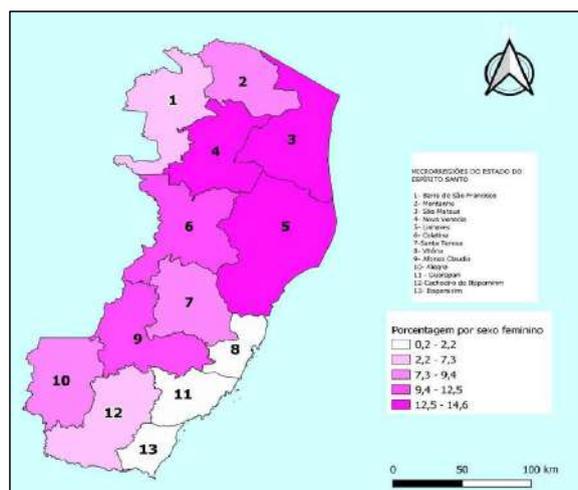
The results showed that, in the state of Espírito Santo, the percentage of accidents involving venomous animals related to occupational circumstances among males ranged from 12.1% to 16.8% in the microregions of São Mateus, Nova Venécia, and Linhares. On the other hand, the microregions of Vitória, Guarapari, and Itapemirim had the lowest percentages, ranging between 0.8% and 2.3%.

Figure 1- Map of the Espírito Santo state, presenting the distribution percentage of accidents by venomous animals among male individuals, according to occupational circumstance.



Regarding women, when evaluating work-related accidents involving venomous animals, a higher percentage (12.5% to 14.6%) was observed in the microregions of São Mateus, Nova Venécia, Colatina and Afonso Claudio. Of form similar to the observed to the male, Vitoria, Guarapari and Itapemirim also registered you younger values (0.2% the 2.2%).

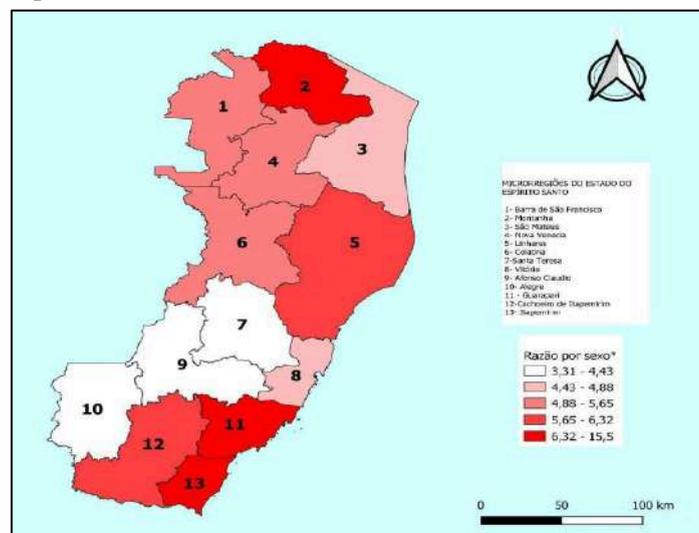
Figure 2- Map of state of Espírito Santo, presenting the distribution percentage of accidents by venomous animals among female individuals, according to occupational circumstance





The accident ratio between sexes (male/female) showed that, in all microregions of Espírito Santo, accidents were more frequent among males. The highest ratios, which showed the greatest magnitude (between 6.32 and 15.5), were recorded in the microregions of Montanha, Linhares, Guarapari, Cachoeiro de Itapemirim, and Itapemirim. On the other hand, the microregions of Vitória, Guarapari, and Itapemirim presented the lowest ratios between the sexes, with values ranging between 3.31 and 4.43.

Figure 3 - Map of Espírito Santo showing the representation of accidents involving venomous animals by occupational circumstance related to the ratio of male to female sex.



## DISCUSSION

The state of Espírito Santo, with a territorial extension of 46,074 km<sup>2</sup> distributed across 78 municipalities organized into 13 microregions with distinct socioeconomic and geographic profiles (IBGE, 1990; IBGE, 2025), presents marked spatial heterogeneity in the distribution of accidents of work involving animals venomous. THE analysis revealed concentration Systematic notifications in the microregions of São Mateus, Linhares, and Nova Venécia for both sexes, with additional emphasis on Afonso Cláudio among women.

These regions, what include 17 of the 78 municipalities of state, share features such as predominance of activities rural large extensions territorial and significant interface between anthropized areas and natural environments, factors plausibly associated with greater occupational exposure. the animals venomous. THE settings geographical of these microregions, Characterized by mosaics of agricultural properties, forest fragments, and transition areas, it creates ecological conditions favorable to the presence and proliferation of venomous species, intensifying the occupational risk for rural workers (IBGE, 1990; IBGE, 2025).

Node present study, it was verified bigger prevalence of cases between men, standard what it may be aligned to the profile occupational predominant in the microregions more affected, where Activities such as agricultural work, clearing, harvesting, and managing perennial crops represent high-risk situations due to frequent contact with soil, dense vegetation, and storage structures. This finding is widely corroborated by national and international literature: Meschial et al. (2013) they documented predominance male in scale national, while Paula Junior (2020) identified what 61% of



notifications put scorpions in Colatina (ES) occurred in men. Mota et al. (2025), analyzing the municipality of Brazil New (SHOVEL), reinforce that association to the to demonstrate a high incidence linked to agricultural work performed mostly by men, especially in field activities that require direct handling of materials and vegetation.

In level international, Chippaux (2015) points what approximately 70% of the Accidents involve male individuals, indicating that this unequal occupational exposure transcends different cultural, geographic, and ecological contexts. On the other hand, studies such as the of Barbosa (2016), node River Big of North, reveal bigger vulnerability female, especially in accidents with spiders in environments households and peridomiciliary areas, associated with the traditional participation of women in cleaning and caregiving activities. These differences demonstrate what, despite from the trend general, factors regional environmental, social and the specific characteristics of the venomous animal can modify the epidemiological profile of those who are bitten.

However, studies such as that of Barbosa (2016), carried out in Rio Grande do Norte, reveal greater vulnerability female in contexts specific, especially in accidents with Spiders of the genera *Loxosceles* and *Phoneutria* occurring in domestic and peridomestic environments, pattern associate the participation traditional of women in activities of cleaning, organization and domestic care. This finding partially diverges from the results of Braga and Braga (2017), Ladeira and Ax (2017) and of records of the Center of Information and Assistance Toxicological from Santa Catarina (CIATox-SC), which consistently indicate a male predominance even in urban and peri-urban areas.

These discrepancies demonstrate that, although there is a predominant trend of greater male involvement, the pattern is not uniform. Regional factors, specific environmental conditions, modes of social and labor organization, and the biology of the venomous animal itself can significantly alter the profile of those affected. Added to this is methodological heterogeneity. between you studies differences us criteria of selection, us systems of notification and in the temporal frameworks, which also influences the variations observed between the sexes.

In that scenario, to understand the dynamics of the accidents by venomous animals in the Espírito Santo state requires an integrated understanding of the territory, occupational contexts, and socio-environmental conditions, allowing the design of public policies and preventive strategies to be more precise and effective.

## CONCLUSION

This study demonstrated what the distribution percentage of the accidents of work put The incidence of bites from venomous animals is relatively similar between men and women in different microregions. of state of Espírito Santo. Nonetheless, the reason between you sexes (male/female) showed higher values in microregions with a lower prevalence of accidents. An important limitation of the study is the lack of detail about which species of venomous animals were involved. they are involved in each microregion, good as the absence of information on The type of occupation performed at the time of the accident. Even so, this data indicates that such variables are fundamental for a more precise understanding of the profile of gender-related accidents.

## REFERENCES

BARBOSA, G. D. Perfil epidemiológico dos acidentes por animais peçonhentos no Estado do Rio Grande do Norte, Brasil. **Revista de Enfermagem da UFSM**, Santa Maria, v. 6, n. 1, p. 10–22, 2016. Available at: <https://periodicos.ufsm.br/reufsm/article/view/19513>. Access on: 28 jun. 2025.



BRAGA, I. A.; BRAGA, J. U. Epidemiologia dos acidentes por animais peçonhentos no Brasil em 2015. **Cadernos de Saúde Pública**, Rio de Janeiro, v. 33, n. 6, e00034716, 2017. Available at: <https://www.scielo.br/j/csp/a/WX5PY4WvVbXWb5BvNzTqbcC/?lang=pt>. Access on: 28 jun. 2025.

BRASIL. Ministério da Saúde. **Guia de animais peçonhentos do Brasil**. Brasília, 2024. Available at: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/a/animais-peconhentos/publicacoes/guia-animais-peconhentos-do-brasil.pdf/view>. Access on: 26 jun. 2025.

BRASIL. Ministério do Trabalho e Emprego. **Norma Regulamentadora nº 31** – Segurança e saúde no trabalho na agricultura, pecuária, silvicultura, exploração florestal e aquicultura. Aprovada pela Portaria MTE nº 3.214, de 8 de junho de 1978. Atualizada pela Portaria MTP nº 410, de 7 de julho de 2021. Available at: <https://www.gov.br/trabalho-e-emprego/pt-br/assuntos/inspecao-do-trabalho/normas-regulamentadoras/nr-31>. Access on: 26 jun. 2025.

CHIPPAUX, J. P. Epidemiological review of envenomations in Brazil. **Journal of Venomous Animals and Toxins including Tropical Diseases**, Botucatu, v. 21, n. 1, 2015. Available at: <https://www.scielo.br/j/jvatitd/a/pKZHpR5Df5FgmdDvbLvmJ3f>. Access on: 28 jun. 2025.

CIATox-SC – Centro de Informação e Assistência Toxicológica de Santa Catarina. Relatório Anual de Atendimento Toxicológicos. **Florianópolis**, 2022. Available at: <https://www.saude.sc.gov.br/index.php/documentos/toxicologia/ciatox>. Access on: 28 jun. 2025.

ESPÍRITO SANTO. Secretaria de Estado da Saúde. Boletim Epidemiológico – Animais Peçonhentos – Regional Metropolitana. Nº 38, SE38-1. **Vitória**, 2023. Available at: <https://saude.es.gov.br/Media/sesa/Regionais%20de%20Saúde/Metropolitana/BOLETIM%20EPIDEMIOLÓGICO%20-%20ANIMAIS%20PEÇONHENTOS%20-%20REGIONAL%20METROPOLITANA%20-%20Nº%2038%20-%20SE38-1.pdf>. Access on: 26 jun. 2025.

IBGE. **Espírito Santo: panorama**. Rio de Janeiro, 2025. Available at: <https://cidades.ibge.gov.br/brasil/es/panorama>. Access on: 28 jun. 2025.

IBGE. **Divisão regional do Brasil em mesorregiões e microrregiões geográficas**. Rio de Janeiro: IBGE, 1990. Available at: <https://biblioteca.ibge.gov.br/visualizacao/livros/liv100600.pdf>. Access on: 28 jun. 2025.

LADEIRA, C. F.; MACHADO, M. P. Caracterização dos acidentes por animais peçonhentos no Brasil: uma análise por sexo. **Revista Brasileira de Medicina do Trabalho**, São Paulo, v. 15, n. 4, p. 330–337, 2017. Available at: <https://rbmt.org.br/details/1330/pt-BR>. Access on: 28 jun. 2025.

MESCHIAL, W. C. et al. Acidentes de trabalho por animais peçonhentos notificados no Brasil no período de 2007 a 2012. **Revista Brasileira de Medicina do Trabalho**, São Paulo, v. 11, n. 1, p. 28–36, 2013. Available at: <https://rbmt.org.br/details/273/pt-BR>. Access on: 28 jun. 2025.

MOTA, D. A. et al. Perfil epidemiológico dos acidentes por animais peçonhentos no município de Brasil Novo – PA entre 2019 e 2022. **Research, Society and Development**, v. 14, n. 3, p. e447842023, 2025. Available at: <https://rsdjournal.org/index.php/rsd/article/view/44784>. Access on: 28 jun. 2025.

PAULA JÚNIOR, R. A. de. Acidentes escorpiônicos no município de Colatina/ES: análise epidemiológica de 2017 a 2019. **Revista Brasileira de Saúde Ambiental**, v. 23, n. 1, p. 15–22, 2020. Available at: <https://revbraspsicoambiental.org.br/colatina2020>. Access on: 28 jun. 2025.



ORGANIZAÇÃO DAS NAÇÕES UNIDAS (ONU). **Objetivo de Desenvolvimento Sustentável 3:** assegurar uma vida saudável e promover o bem-estar para todos, em todas as idades. Brasília, 2015. Available at: <https://brasil.un.org/pt-br/sdgs/3>. Access on: 26 jun. 2025.

ORGANIZAÇÃO DAS NAÇÕES UNIDAS (ONU). **Transformando nosso mundo:** a Agenda 2030 para o Desenvolvimento Sustentável. Brasília, 2015. Available at: <https://brasil.un.org/pt-br/91863-agenda-2030-para-o-desenvolvimento-sustentavel>. Access on: 26 jun. 2025.



**135. PUBLIC POLICIES TO COMBAT BACTERIAL AND VACCINATION COVERAGE STRATEGIES FOR CHILDREN UNDER 5 YEARS OF AGE**

***POLÍTICAS PÚBLICAS DE COMBATE A MENINGITE BACTERIANA E ESTRATÉGIAS DE COBERTURA VACINAL A CRIANÇAS MENORES DE 5 ANOS***

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**ABSTRACT**

**Introduction:** Bacterial meningitis is one of the most significant public health problems, especially among newborns and children under five years of age, a group vulnerable to rapid clinical progression, high mortality, and permanent neurological sequelae. In Brazil, policies such as the National Immunization Policy (PNI), the National Policy for Comprehensive Child Health Care (PNAISC), and the Statute of Children and Adolescents (ECA) guide actions to protect children's health. However, regional inequalities, barriers to access to diagnosis, and logistical and structural limitations persist, hindering the effectiveness of preventive strategies. The articulation of these policies with the goals of SDG 3.2 reinforces the urgency of expanding initiatives that reduce preventable deaths and promote equity in care. **Objective:** To analyze public policies aimed at the prevention and control of bacterial meningitis in children under five years of age, identifying challenges related to vaccination coverage, epidemiological surveillance, and social inequalities in the Brazilian context. **Method:** An integrative review was conducted in the PubMed database, encompassing publications from 2020 to 2025. The descriptors “Risk Factors”, “Meningitis”, and “Child” were used. The initial search returned 2,149 studies. After applying filters for full texts in English or Portuguese, time frame, and thematic relevance, 375 articles remained for evaluation. Reading titles and abstracts resulted in the final selection of 10 studies. The data were organized into an analytical table, including study type, objectives, and main results. **Results:** The studies reveal that, despite the reduction in incidence after the introduction of vaccines such as Hib and pneumococcal, weaknesses persist in the prevention and control of bacterial meningitis in Brazil. The North and Northeast regions present lower vaccination coverage, limitations in access to primary care, difficulties in the transport and storage of immunobiologicals, and lower laboratory capacity. Limited use of SINAN epidemiological data to support strategic actions was also identified, in addition to challenges in the distribution of the ACWY vaccine and the lack of universal coverage for meningococcal B. The literature also reinforces the importance of early screening, multidisciplinary training, and educational campaigns directed at families, especially in areas of greater vulnerability. **Conclusion:** Although there are normative and technological advances, bacterial meningitis remains a preventable disease that requires more integrated, equitable, and territorially focused public policies. Strengthening vaccination coverage, improving epidemiological surveillance, training professionals, and expanding educational actions are essential strategies to reduce regional inequalities, protect childhood, and promote social justice in addressing this disease.

**Keywords:** Risk Factors. Meningitis. Children.



## INTRODUCTION

Bacterial meningitis is a significant public health problem, especially in childhood, due to its high mortality rate, potential for permanent neurological sequelae, and rapid clinical progression. It is an invasive infection in which bacteria reach the bloodstream, multiply, and migrate to the cerebrospinal fluid, potentially affecting the meninges (pia mater, dura mater, and arachnoid). Among children under five years old, the main etiological agents include *Streptococcus pneumoniae*, *Neisseria meningitidis*, and *Haemophilus influenzae*, responsible for high morbidity and mortality in several countries (Chen *et al.*, 2022).

From an epidemiological lens, bacterial meningitis remains one of the main infant mortality causes in socioeconomic unequal regions, reflecting weaknesses in vaccination coverage, access to diagnosis and epidemiological surveillance. In a study at a Chinese maternal and child medical center, 173 newborns were diagnosed with bacterial meningitis of multiple etiologies. A predominance of males (60.1%) was noted, with most cases in children under one year (82.7%), and 50.9% being nearly 29 days old – an age group especially vulnerable to invasive infections (Chen *et al.*, 2022).

Therefore, it is important to highlight the challenges facing the Ministry of Health, such as the need to promote greater equity in the distribution of vaccines against bacterial meningitis, especially in regions of extreme social vulnerability. This effort must consider the principle of universality, guaranteeing the immunization of children under 5 years of age. Added to this is the implementation and strengthening of mandatory disease notification services in all Brazilian states and municipalities, especially those with a high incidence of bacterial meningitis (ECA, 1990).

In this context, it is noted that the guidelines of the National Policy for Comprehensive Child Health Care (PNAISC) reinforce the State's responsibility in protecting children's health from the gestational period up to 9 years of age, with special emphasis on early childhood. Its seven strategic axes contribute to healthy development and the reduction of infant mortality. Also, Law 8.069/1990, which regulates the Statute of Children and Adolescents (ECA), highlights in its article 7 the State's duty to ensure children and adolescents equal and comprehensive access to health (PNAISC, 2024).

By linking these guidelines to Global goals, Child Health becomes analogous to Sustainable Development Goal (SDG) 3.2, which aims to ensure the health and well-being of the population, focusing on reducing maternal mortality and preventing avoidable deaths of newborns and children under 5 years of age. This goal directly converges with the strategies needed to address bacterial meningitis in Brazil, reinforcing, along with epidemiological data and current regulations, the urgency of robust public policies capable of expanding prevention actions, strengthening vaccination coverage, and improving early detection of the disease, in order to reduce morbidity and mortality associated with bacterial meningitis in the pediatric population (UN, 2025).

In this sense, the importance of norms that expand vaccination coverage against meningitis C becomes evident, coupled with the development of campaigns targeted at pregnant women, aiming to prevent vertical transmission. Such strategy demands a qualified performance of health professionals, which is why the Ministry of Health must keep invested in the training of teams to conduct screening consultations and prenatal care in primary care. Additionally, prevention campaigns for many types of bacterial meningitis are key to improve population's knowledge and engagement (Brazil, 2025).

Finally, it is worth highlighting that axes structured by the PNAISC include comprehensive health care during pregnancy, childbirth and birth, encouragement of breastfeeding, promotion of healthy complementary feeding and attention to childhood illnesses, pathologies and accidents. These elements constitute the basis for a care network able to act in an integrated and preventive manner, contributing directly to the control and reduction of bacterial meningitis in the country (Brazil, 2025).

This study aims to link the plan to combat bacterial meningitis in the 2030 Agenda with Social Justice and Human Rights in the 21st century, as well as the challenges for formulating public



policies aimed at reducing the incidence of bacterial meningitis in newborns and children (Dubey *et al.*, 2022).

**METHOD**

This study is an integrative review conducted in the PubMed database, considering publications between 2020 and 2025. Initially, for the initial research, a search was conducted using the Health Sciences Descriptors (DeCS) in English, from which the following terms were selected: "Risk Factors", "Meningitis", and "Child", which were used in the PubMed database. The inclusion criteria adopted were complete articles available in English and Portuguese that presented clinical analyses or randomized trials related to bacterial meningitis in children under five years old.

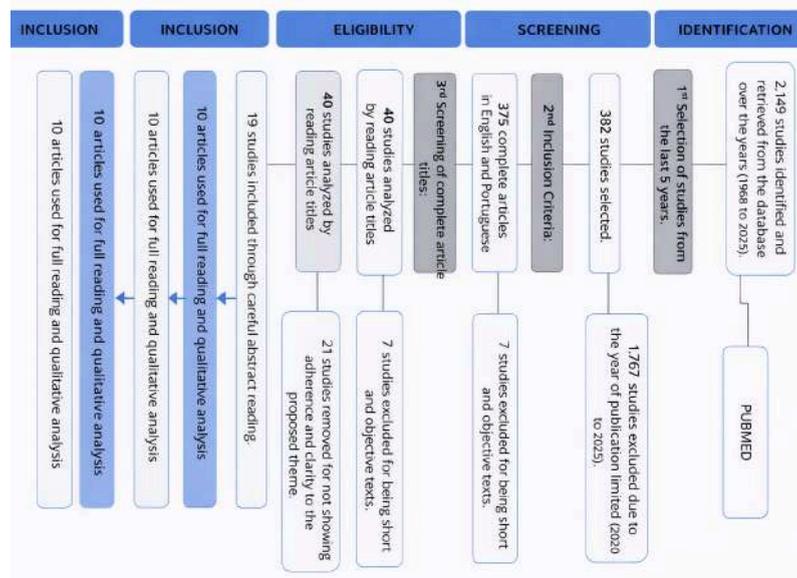
To guide the construction of the narrative and the conduct of the research, the following guiding question was formulated: "What are the main public policies for the prevention and control of bacterial meningitis in children under five years of age in Brazil, and how do they address challenges related to vaccination coverage, epidemiological surveillance, and social inequalities?"

Based on the initial search, studies were selected by analyzing titles and abstracts, excluding texts that did not demonstrate alignment with the central objective of the investigation. Subsequently, a thorough reading of the abstracts that met the inclusion criteria was carried out, followed by a full reading of the eligible articles to compose the final sample of this integrative review. Finally, a table was created containing a detailed flowchart, representing all the steps of the methodological process adopted and allowing a clear view of the procedures used to obtain the results that underpin this study.

**RESULTS**

The initial search resulted in approximately 2,149 publications. After applying inclusion and exclusion criteria, considering full texts and scientific abstracts published between 2020 and 2025, the number was reduced to 382 records. Subsequently, filtering by full articles available in Portuguese and English, 375 studies were identified. After a thorough reading of the abstracts, 10 articles were selected for full reading and composition of the sample, as shown in the flowchart of **Figure 1**.

**Figure 1 - Flowchart.**



**Table 1 - Description of the main studies found with their respective years and place of publication.**



DOI	Author	Year of publication and database	Title of the work	Type of study	Objective
<a href="https://doi.org/10.1111/joim.13488">https://doi.org/10.1111/joim.13488</a>	Nils Block, Birgitta Henriques-Normark; Felipe Wagner, Eva Morfeldt	PubMed 2022	"Bacterial meningitis: etiology, risk factors, disease trends and serious sequelae over 50 years in Sweden."	Observational Cohort Study	"The aim was to analyze the incidence of deaths from bacterial meningitis in children and newborns, before and after the introduction of the H. influenzae type B vaccine and the pneumococcal vaccine, as preventive measures against this disease."
<a href="https://doi.org/10.3389/fcimb.2022.1092468">https://doi.org/10.3389/fcimb.2022.1092468</a>	Danchun Chen, Benyu Tang, Ying Li, Kelu Zheng; Kelu Zheng, Xiaojin Li; Wen-Xiong Chen; Fei Gao, Yuanyuan Gao, Kaili Shi	PubMed 2023	"Characteristics and risk factors of bacterial meningitis caused by <i>Streptococcus agalactiae</i> , <i>Streptococcus pneumoniae</i> , or <i>Escherichia coli</i> in Guangzhou, China, from 2015 to 2022"	Unidentified	"To portray the action of three distinct pathogens, such as: <i>Streptococcus agalactiae</i> , <i>Streptococcus pneumoniae</i> or <i>Escherichia coli</i> in pediatric bacterial meningitis."
<a href="https://doi.org/10.1186/s12887-023-04007-z">https://doi.org/10.1186/s12887-023-04007-z</a>	Jin Feng Wu , Song Xiao Jie ; Yue Hu , Jin Chen ; Li Jiang	PubMed 2023	"High-risk factors associated with refractory childhood bacterial meningitis in southwest China."	Clinical Study	"To investigate the association between bacterial meningitis and neurological complications at the Chongqing Medical University Children's Hospital."
<a href="https://doi.org/10.1007/s00431-023-04860-1/">https://doi.org/10.1007/s00431-023-04860-1/</a>	Nan Peng, Lizhen Fu; Xiaohua Liang, Qi Lu	PubMed 2023	"Risk factors for neonatal meningitis brain abscess: a propensity score-matched study."	Case-Control Study	"The aim is to investigate the clinical characteristics and pathophysiological factors of abscesses in neonates who have meningitis."
<a href="https://doi.org/10.1016/j.jpeds.2019.07.003">https://doi.org/10.1016/j.jpeds.2019.07.003</a>	Daniela Caldas Teixeira, Lilian Martins Oliveira Diniz, Nathalia Sernizon Guimarães; Henrique Morávia de Andrade Santos Moreira, César Caldas Teixeira; Roberta Maia de Castro Romanelli	PubMed 2020	"Risk factors associated with outcomes in pediatric bacterial meningitis: a systematic review."	Integrative Review	"The study reports that early diagnosis, implementation of antibiotic therapy, and timely identification of the pathogen are crucial factors in delaying the progression of bacterial meningitis in newborns. However, neurological sequelae and the progression of young patients to death are intertwined factors after the initial diagnosis of the disease."



<a href="https://doi.org/10.1016/j.ijid.2022.03.032">https://doi.org/10.1016/j.ijid.2022.03.032</a>	Himanshu Dubey; Philipp Oster; Mir Sohail Fazeli; Paulo Serafini; Lisa Leung; Amine Amiche	PubMed 2022	Risk factors for developing invasive meningococcal disease and related mortality: a literature review and meta-analysis	Systematic Review	"To understand the clinical characteristics and investigate the risk factors for the development of meningococcal disease in patients of various age groups, as a complication resulting from bacterial meningitis."
<a href="https://doi.org/10.1002/lary.32133">https://doi.org/10.1002/lary.32133</a>	<i>Eelam A. Adil; Charlotte Cox, Hae-Young Kim; Michael J. Cunningham</i>	PubMed 2025	"Risk of short- and long-term meningitis after pediatric transsphenoidal endoscopic surgery"	Retrospective Case-Control Study	"To determine the risks of developing meningitis in the long and short term in pediatric patients who have undergone transsphenoidal surgery in the pituitary region."
<a href="https://doi.org/10.1080/07853890.2021.2004318">https://doi.org/10.1080/07853890.2021.2004318</a>	Huwai Wang; Xueping Zhu.	PubMed 2021	"Bacterial meningitis with a positive cerebrospinal fluid culture increases the risk of neurological damage among newborns."	Retrospective Review and Collection of Clinical Databases.	"To analyze the relationship between bacterial meningitis in neonates with positive and negative cultures for the pathogen, present in cerebrospinal fluid (CSF), and the risk of developing severe clinical manifestations in positive CSF cultures."
<a href="https://doi.org/10.1007/s00431-024-05788-w">https://doi.org/10.1007/s00431-024-05788-w</a>	Laura Lempinen; Rist Saat; Sakke Niemelä; Anu Laulajainen-Hongisto; Antti A. Aarnisalo; Nieminen Tea; Jussi Jero	PubMed 2024	"Neurological Sequelae Following Childhood Bacterial Meningitis."	Retrospective Review.	"The study aims to investigate the development of neurological sequelae, as well as the clinical evaluation, causative pathogens, diagnoses, and therapeutic measures in 1-month-old neonates at the tertiary care level, within the time frame of 2010 to 2020."
<a href="https://doi.org/10.3389/fcimb.2024.1408959">https://doi.org/10.3389/fcimb.2024.1408959</a>	``Zixuan Wang; Lijing Ye; Pan Fu; Xia Wu; Jun Xu; Yingyi Ye, Shuezhen Han, Changing Wang, Hui Yu``.	PubMed 2024	"Clinical outcomes and risk factors of <i>Acinetobacter baumannii</i> meningitis in pediatric patients at a hospital in China."	Retrospective Study.	"This article makes it possible to analyze pediatric patients, including two neonates who tested positive for bacterial meningitis, and to associate this finding with cerebrospinal fluid (CSF) tests, leukocyte counts, and decreased glucose levels."

Source: Prepared by the author (2025).

Thus, it is noted that the cited studies aimed to determine the main causes of bacterial or purulent meningitis in newborns, as well as the neurological dysfunctions that this pathology can cause during the diagnostic evaluation. Therefore, they highlighted tests and culture media, such as the detection of bacteria in cerebrospinal fluid, treatments, and preventive measures, such as vaccination against purulent meningitis (Brazil, 2024).

## DISCUSSION

The studies analyzed show that, although vaccination has significantly contributed to the decrease in the incidence of bacterial meningitis, regional inequalities persist in early diagnosis and implementation of vaccination coverage, such as socioeconomic disparities that impact continuity of care, and a lack of scientific knowledge about the vaccine, resulting in low adherence to vaccination coverage. A study conducted at the Children's Hospital of Chongqing Medical University identified 109 patients, aged from one month to 12 years, diagnosed with refractory bacterial meningitis (BM), with 58.7% of them being neonates and children under 12 years of age (Wu *et al.*, 2023).

According to the Meningitis Epidemiological Panel, created by the Secretariat of Surveillance and Environment, in 2024, approximately 488 cases of meningococcal disease were registered throughout Brazil. National data indicate that the North and Northeast regions have lower vaccination coverage and a higher incidence of meningococcal disease, reflecting structural inequalities in access to healthcare. These inequalities include: lower availability of primary care services in rural and riverside areas; logistical difficulties related to the transport of immunobiologicals and maintenance of the cold chain; and geographical barriers that hinder the population's movement to vaccination centers (Meningitis Epidemiological Panel, 2024).

Furthermore, the fragility of intersectoral communication between primary care, public management, and laboratory surveillance is evident. The National Network of Laboratories in Public Health (RNLSP), linked to the Notifiable Diseases Information System (SINAN), has its performance compromised by delays in the analysis and effective use of epidemiological data, especially in regions of intense social vulnerability and limited access to health services. Thus, relevant information fails to be converted into prevention and health promotion actions directed at newborns (SINAN, 2019).

This situation raises questions about the effectiveness of the use of data fed by SINAN: are they merely being archived, or are they actually being used to support policies for protecting children's health in areas with limited access to information on bacterial meningitis? (Wang and Zhu, 2024).

In addition, regional inequality in access to serotyping and molecular diagnosis stands out, especially in states with less developed laboratory infrastructure. This limitation increases analysis time, delays notification, and hinders case tracking, favoring disease outbreaks in children under 5 years of age (Teixeira *et al.*, 2020).

Another relevant factor relates to the obstacles faced by primary care in carrying out vaccination campaigns in riverside, indigenous, and quilombola communities. The distance from basic health units, logistical difficulties in transportation, and the lack of sufficient professionals hinder the application of immunizations in these populations (Hu *et al.*, 2023).

Additionally, although the Brazilian Unified Health System (SUS) provides several vaccines against bacterial meningitis, there is still no universal adherence to all serotypes in the vaccination schedule, as is the case with meningococcal B. This gap highlights limitations of the public authorities

in guaranteeing equitable access to immunizations and compromises the comprehensive protection of children under 5 years of age (PNI, 2013).

Given these perspectives, there is a need to implement public policies that expand vaccination coverage for newborns in the North and Northeast regions, ensuring that children and pregnant women residing in areas of extreme social vulnerability are reached. The importance of increasing adherence to prenatal screening is also reinforced as an essential strategy to prevent cases of bacterial meningitis in newborns (SVSA, 2025).

To improve outbreak control, it is necessary to consolidate support programs for municipal authorities, guaranteeing resources for actions promoting health and preventing bacterial infections (Block *et al.*, 2022). Furthermore, it is essential to ensure that the epidemiological data compiled by SINAN are effectively used to guide intervention strategies, and not merely archived.

Within the scope of recent government actions, the Ministry of Health and the WHO established the Guidelines for Addressing Meningitis 2030, which foresee the updating of vaccination schedules. Technical Note No. 77/2025 determined the progressive replacement of the meningococcal C vaccine with ACWY in the childhood immunization schedule, maintaining two doses of C in the first months and incorporating ACWY for children aged 1 to 4 years. Among the persistent challenges are the unequal distribution of this immunizing agent and the complex logistics of storage and transport. To overcome these barriers, the Ministry has promoted vaccination campaigns, expanded prenatal care actions, and encouraged research aimed at preventing vertical transmission (SVSA, 2025).

Given this scenario, it is reinforced that public policies aimed at combating bacterial meningitis should include not only expanding vaccination coverage, but also strengthening epidemiological surveillance and intersectoral communication between different levels of health care. Integration between managers and professionals can transform data into concrete prevention actions, reduce social inequalities, and ensure equal access to health for the children (Dubey *et al.*, 2022).

## CONCLUSION

The findings of this study show that, although Brazil has important public policies such as the National Immunization Program (PNI), the National Policy for Comprehensive Child Health Care (PNAISC), the Statute of Children and Adolescents (ECA), and the guidelines of the 2030 Agenda, the prevention and control of bacterial meningitis in children under five years of age still face significant structural barriers. Vaccination coverage remains uneven across regions, especially in the North and Northeast, where logistical, territorial, and socioeconomic challenges hinder access to immunobiologicals and compromise equity in child protection.

Furthermore, epidemiological surveillance, despite being an essential component for disease monitoring, still presents weaknesses related to the use of SINAN data, delays in laboratory confirmation, and the difficulty of performing serotyping in municipalities with less infrastructure. These factors delay early diagnosis, hinder the identification of outbreaks, and limit the response capacity of the health system. In parallel, low adherence to the vaccination schedule and lack of knowledge among families reinforce the need for territorially targeted educational actions and ongoing training for health teams.

Thus, it is concluded that effectively tackling bacterial meningitis requires more integrated and equitable public policies guided by regional vulnerabilities. Expanding vaccination coverage, strengthening epidemiological surveillance, training professionals, and intensifying health education

strategies are fundamental measures to reduce inequalities, protect childhood, and advance the prevention of avoidable deaths, as advocated by SDG 3.2. Only through intersectoral and evidence-based actions will it be possible to guarantee comprehensive care and social justice for Brazilian children vulnerable to this disease.

## REFERENCES

- ADIL *et al.*, 2025. Risco de meningite a curto e longo prazo após cirurgia endoscópica transfenoidal pediátrica. **The Laryngoscope**, v. 135, n. 8, ago. 2025. DOI: 10.1002/lary.32133.
- BLOCK *et al.*, 2022. Meningite bacteriana: etiologia, fatores de risco, tendências da doença e sequelas graves durante 50 anos na Suécia. **Journal of Internal Medicine**, v. 292, n. 2, p. 350-364, ago. 2022. DOI: 10.1111/joim.13488.
- CHEN *et al.*, 2023. Características e fatores de risco da meningite bacteriana causada por *Streptococcus agalactiae*, *Streptococcus pneumoniae* ou *Escherichia coli* em Guangzhou, China, de 2015 a 2022. **Frontiers in Cellular and Infection Microbiology**, v. 12, art. nº 1092468. DOI: 10.3389/fcimb.2022.1092468.
- DUBEY *et al.*, 2022. Fatores de risco para contrair doença meningocócica invasiva e mortalidade relacionada: uma revisão sistemática da literatura e meta-análise. **International Journal of Infectious Diseases**, v. 119, p. 1-9, jun. 2022. DOI: 10.1016/j.ijid.2022.03.032.
- FERREIRA *et al.*, 2020. Efeitos de intervenções precoces focadas na família no desenvolvimento de crianças nascidas prematuras e/ou em risco social: uma metanálise de ensaios clínicos. **Journal Pediatr (Rio J)**, v. 96, n. 1, p. 20-38, jan./fev. 2020.. DOI: 10.1016/j.jpmed.2019.07.003.
- LEMPINEN *et al.*, 2024. Sequelas neurológicas após meningite bacteriana infantil. **Europe Journal Pediatric**, 183, 5203–5212 (2024). DOI: 10.1007/s00431-024-05788-w.
- PENG, N., Fu, L., Liang, X. *et al.*, 2023. Fatores de risco de abscesso cerebral na meningite neonatal: um estudo pareado por escore de propensão. **Europe Journal Pediatric**, 182, 2215–2223 (2023). DOI: 10.1007/s00431-023-04860-1.
- TEIXEIRA *et al.*, 2020. Fatores de risco associados aos desfechos da meningite bacteriana pediátrica: uma revisão sistemática. **Jornal de Pediatria (Rio J)**, v. 96, n. 2, p. 159-167, jan./fev. 2020. DOI: 10.1016/j.jpmed.2019.07.003.
- WANG, H., & ZHU, X., 2021. A meningite bacteriana com cultura positiva do líquido cefalorraquidiano aumenta o risco de danos neurológicos em neonatos. **Annals of Medicine**, 53(1), 2201–2206. DOI: 10.1080/07853890.2021.2004318.
- WANG Z. *et al.*, 2024. Desfechos clínicos e fatores de risco da meningite por *Acinetobacter baumannii* em pacientes pediátricos em um hospital terciário na China. **Front. Cell. Infect. Microbiol.** DOI: 10.3389/fcimb.2024.1408959.
- WU, J., Song, X., Hu, Y. *et al.*, 2023. Fatores de alto risco associados à meningite bacteriana refratária na infância no sudoeste da China. **BMC Pediatr**, 23, 220 (2023). DOI: 10.1186/s12887-023-04007-z.

**136. CHALLENGES FOR THE IMPLEMENTATION OF THE NATIONAL POLICY FOR MATERNAL AND PARENTAL BEREAVEMENT HUMANIZATION**

***DESAFIOS PARA IMPLEMENTAÇÃO DA POLÍTICA NACIONAL DE HUMANIZAÇÃO DO LUTO MATERNO E PARENTAL***

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**ABSTRACT**

**Introduction:** Pregnancy loss, fetal death, and neonatal death generate a profound emotional and social impact on mothers and families. Historically, Brazilian policies have given little recognition to this experience, resulting in insufficient support and weaknesses in services. Law No. 15.139/2025, which establishes the National Policy for the Humanization of Maternal and Parental Grief, represents progress, but still faces barriers in its implementation. **Objective:** To critically analyze the challenges for the implementation of the National Policy for the Humanization of Maternal and Parental Grief in Brazil. **Method:** An integrative, qualitative review was conducted, searching the PUBMED and BVS databases (2015–2025) using the descriptors "Women's Health," "Public Policies," and "Stillbirth." Official documents, WHO guidelines, and national legislation related to the topic were also consulted. **Results:** Initially, the search yielded 289 articles. After reviewing the titles, 18 articles were selected, and 10 remained for the final sample. The analysis revealed progress in recognizing maternal grief as a public health issue; however, gaps persist in policy implementation. Insufficient professional training, lack of suitable environments for mothers of stillborn infants, failures in sensitive communication, and a scarcity of continuous psychological support stand out. Social and structural inequalities exacerbate maternal suffering and compromise the effectiveness of actions. **Conclusion:** It is concluded that to guarantee dignified and humane care, it is necessary to strengthen the infrastructure of services, train teams, adopt sensitive protocols, and ensure continuity of care within the SUS (Brazilian Unified Health System). Recognizing maternal grief as a right and a health need is essential to reduce inequalities and promote comprehensive care.

**Keywords:** Women's Health. Health Policy. Stillbirth.

## INTRODUCTION

The history of public policies aimed at mothers of stillborn children has advanced in recent years, reflecting the growing recognition of the need for psychological, social, and care support for these women during parental bereavement. In 2025, Law No. 15.139/2025 was enacted, establishing the National Policy for the Humanization of Maternal and Parental Bereavement (PNHLM), with the purpose of ensuring humane care for mothers and their families in the face of pregnancy losses, fetal deaths, and neonatal deaths (Brazil, 2025a).

However, there is a clear need to strengthen public policies and promote a more empathetic approach to interventions aimed at maternal health and reducing stillbirth rates. On a global scale, initiatives such as the Action Plan for Every Newborn seek to reduce neonatal deaths in 193 countries by 2030, highlighting that, in addition to preventing stillbirth, it is essential to offer psychological support, high-quality care, and compassionate practices that promote the well-being of bereaved parents (Atkins et al., 2023).

In this context, it is emphasized that women who experience pregnancy loss often lack psychological and psychiatric support, facing grief in solitude. Multiprofessional support, based on sensitive communication and emotional support, is essential to reduce suffering, promote mental health, and preserve the dignity of these women (Peracchini et al. 2023).

In this direction, Bill No. 7/2024, proposed on January 29, 2024, and still under consideration in the Federal Senate, presents itself as a complementary initiative by proposing the inclusion of new paragraphs in Article 19-J of Law No. 8,080/1990. The bill seeks to strengthen and operationalize the National Policy for the Humanization of Maternal and Parental Grief, making measures such as the provision of separate beds and psychological support mandatory. In this way, it aims to detail the practical application of this policy in hospitals of the Unified Health System (SUS), giving mandatory character to measures that were previously only recommendations (Brazil, 2024a).

Although previous policies such as the Stork Network have advanced the humanization of maternal and child care, gaps still persist in the implementation and consolidation of this practice in health services. Many bereaved families still face lack of assistance, inadequate approaches, and absence of psychosocial support, revealing a mismatch between what is foreseen in public policies and the reality experienced in the SUS (Ministry of Health, 2015).

Given this, the objective of this work is to critically analyze the challenges for the implementation of the National Policy for the Humanization of Maternal and Parental Grief in Brazil.

## METHOD

This is an integrative, qualitative review, constructed from a broad, reflective, and critical analysis of the available literature on the subject. The bibliographic search was conducted in the PUBMED and Virtual Health Library (VHL) databases, using the descriptors: "Women's Health" AND "Public Policies" AND "Stillbirth".

Publications published in the last ten years (2015 to 2025) were adopted as inclusion criteria. The selection of material occurred in stages, beginning with a careful reading of titles and abstracts, followed by a full reading of texts that demonstrated potential to contribute to the discussion and critical deepening of the topic. Studies that presented conceptual, contextual, or analytical relevance to understanding the challenges related to the humanization of maternal and parental grief were included.

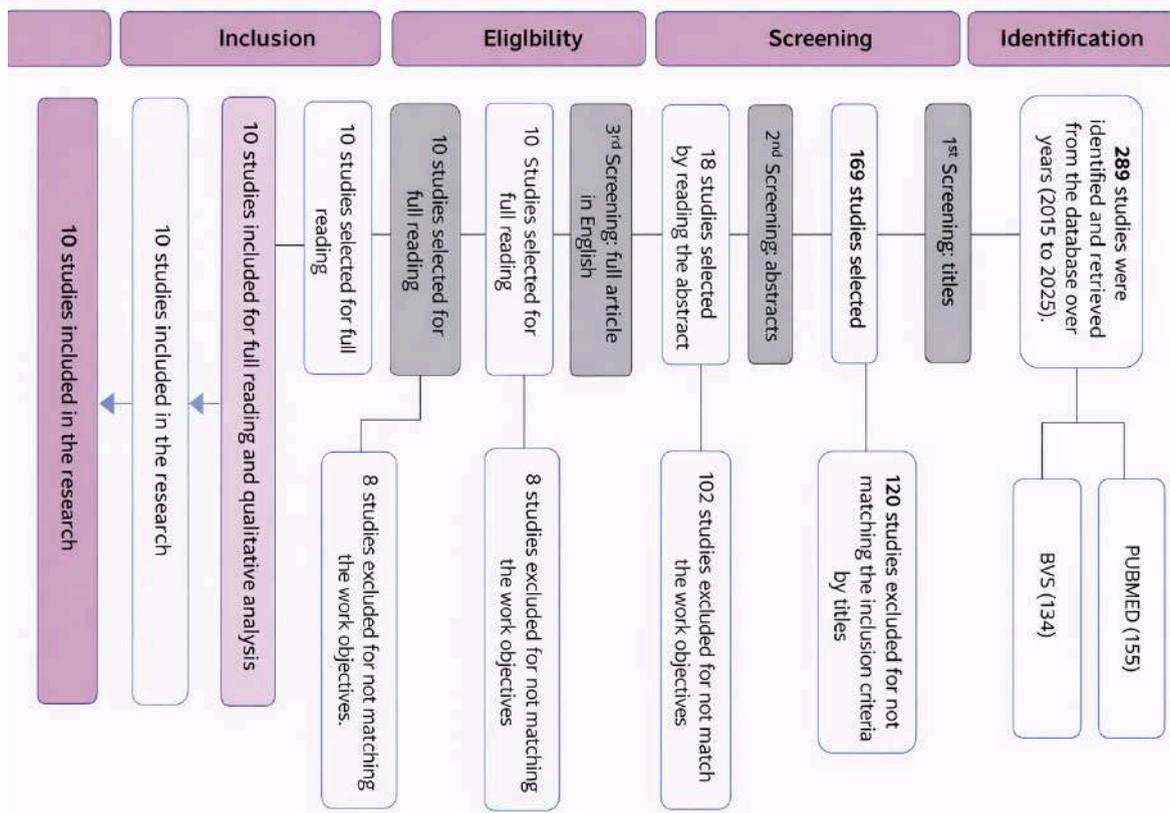
In addition to scientific articles, this review incorporated official documents from the Ministry of Health, such as the National Humanization Policy (PNH) and the Humanization Program in Prenatal Care and Childbirth (2002), as well as guidelines from the World Health Organization (WHO) on grief and support for women. Draft laws related to guaranteeing humane care for bereaved mothers were also analyzed.

Finally, the 1988 Federal Constitution was used as a complementary normative framework, especially regarding the rights to health, human dignity, and comprehensive care, contributing to contextualizing the debate within the Brazilian legal framework.

## RESULTS AND DISCUSSION

The initial search identified 289 articles, 155 from the PubMed database and 134 from the BVS (Virtual Health Library). Subsequently, the inclusion criteria defined for this narrative review were applied: availability of full text and publications within the time frame of 2015 to 2025. After the initial screening, 18 articles remained, of which 10 were selected to compose the final sample after reading titles, abstracts, and evaluating thematic relevance. To complement the analysis, official documents, guidelines, legislation, and bills related to the humanization of care in cases of pregnancy loss, fetal death, and neonatal death were included.

Figure 1 - PRISMA Flowchart



Source: Prepared by the author, 2025.

**Table 1** - Description of the main studies found with their respective years of publication and place of publication.

Author(s)	Title of the work	Year / Base	Objective
Bethany Atkins; Lindsay Kindinger; Muhammad P. Mahindra; Zoe Moatti; Dimitrios Siassakos	<i>Stillbirth: prevention and bereavement support</i>	2023 – PubMed	To synthesize current evidence on stillbirth prevention and highlight the importance of competent bereavement care for parental well-being.
Eric Ssegujja; Isaac Ddumba; Michelle Andipartin	<i>Prioritizing interventions to achieve the objectives of maternal health policies and mitigate the risks of stillbirths.</i>	2021 – PubMed	To identify prioritized strategies for reducing stillbirth risks in the local implementation of global actions in Uganda.
Vicki Flenady; Aleena M. Wojcieszek; Philippa Middleton; David Ellwood; Jan Jaap Erwich; Michael Coory	<i>Stillbirths: A warning about the need for action in high-income countries.</i>	2016 – PubMed	To present disparities in stillbirth rates in high-income countries and highlight priority actions to prevent avoidable cases.
Maggie Redshaw; Julie M. Hennegan; Jane Henderson	<i>Impact of holding a baby after a stillbirth on maternal mental health.</i>	2016 – PubMed	To compare mental health outcomes at 3 and 9 months between women who did or did not hold their babies after stillbirth.
V. Pingray; F. Altabe; P. Vazquez; M. Correa; M. Pajuelo; JM Belizan	<i>Stillbirth rates in 20 Latin American countries: an ecological study.</i>	2018 – PubMed	Describe national stillbirth rates and their changes over the years, relating them to socioeconomic indicators and health coverage.
Jennifer A. Hall; Lorna Benton; Andrew Copas; Judith Stephenson	<i>Pregnancy intention and outcome: a systematic review and meta-analysis</i>	2017 – PubMed	To evaluate evidence regarding the relationship between intention to conceive and outcomes such as spontaneous abortion, stillbirth, low birth weight, and neonatal mortality.
Martina Perracchini; Andrea Agostini; Alessio D'Angelo; T. Sicignano; G. Santoni; E. Finale; M. Ceccanti	<i>Psychological support for women who have experienced stillbirth: quality of obstetric care.</i>	2023 – BVS	To investigate the role of obstetric, psychological, and psychiatric care in perinatal mortality.
Seble Mengistu; Adera Debella; Teshale Mulatu; Firehiwot Mesfin; Kababa T. Danusa; Merga Dheresa	<i>Stillbirths and associated factors in an Ethiopian university hospital.</i>	2022 – BVS	To assess the prevalence of stillbirth and associated factors.
Cyprian M. Mostert	<i>Impact of national health promotion policy on stillbirth rates in South Africa</i>	2021 – BVS	To analyze and quantify the impact of the National Health Promotion Policy on stillbirth rates.
João Azaare; Patricia Akweongo; Genevieve C. Aryeetey; Duah Dwomoh	<i>Impact of the policy of free maternal care in Ghana: a historical cohort protocol.</i>	2020 – BVS	To measure the contribution of the free maternal care policy to the use of services and its impact on fetal, perinatal, and neonatal mortality.

Source: Prepared by the author (2025).

The 1988 Federal Constitution establishes, in its Article 196, that health is a right of all and a duty of the State, ensured through social and economic policies aimed at reducing risks and guaranteeing universal and equal access to services for the promotion, protection, and recovery of health. In this context, pregnancy loss or fetal death constitutes a profoundly significant event for a woman, with emotional repercussions that can last a lifetime. Thus, the need for humanized care and comprehensive support for the woman and her family during this sensitive period becomes evident. Article 1, item III, reinforces this understanding by establishing the dignity of the human person as a foundation of the Republic, legitimizing the State's duty to ensure respectful and welcoming care for bereaved mothers, encompassing their physical and emotional well-being (Brazil, 1988).

In this sense, Law No. 15.139/2025 represents a significant advance by ensuring specific rights for mothers of stillborn children, such as the possibility of choosing a companion during childbirth, the provision of an adequate space and the necessary time to say goodbye to the baby, as well as being accommodated in separate wards from pregnant women with viable pregnancies. The legislation also updates provisions of Law No. 6.015/1973, allowing the official registration of children born without life, which guarantees symbolic and legal recognition to families. Thus, the new law strengthens the humanization of care and establishes clear guidelines so that health services can offer more sensitive and respectful care in situations of pregnancy loss. (Brazil, 2025a).

Bill 4226/2024, currently under consideration in the Chamber of Deputies, seeks to strengthen support for mothers facing fetal loss or stillbirth. Bill 4226/2024, proposed by Deputy Fernanda Melchionna, also in 2024, aims to amend Law No. 8.080/1990, seeking to offer these mothers differentiated care, with an isolated care flow, a welcoming protocol, a trained team of doctors, nurses and psychologists, clear information about the fate of the fetus and guidance for psychological and family support, assistance with lactation issues when necessary, an appropriate space for close family members to accompany and say goodbye, as well as medical investigation and future reproductive planning, if desired by the woman (Brazil, 2024b).

Measures, when articulated with public policies, have the potential to reduce social inequalities and decrease perinatal morbidity and mortality. Reproductive intention is often related to outcomes. However, pre-conception and family planning ensures that women receive guidance and support before pregnancy, reducing maternal-fetal risks. It is not only necessary to expand access to health services, but also to consider that health policies aim for reproductive autonomy, ensuring that couples have informed decision-making power in conception planning (Hall et al., 2017).

Health promotion policies are fundamental to improving health outcomes through interventions aimed at improving quality of life. They focus on identifying, reporting, quantifying, and determining the causes, thus contributing to the preventability of maternal and neonatal deaths and stillbirths, with the intention of indicating essential actions for their prevention. Therefore, the main objective of these policies is to reduce inequalities by providing education, access to health services, and increasing profitability, among other factors that are crucial in impacting maternal and perinatal mortality (Mostert, 2021).

The National Policy for Humanization in Prenatal and Birth Care (PHPN) has as its central objective to improve healthcare care and management within the SUS (Brazilian Unified Health System), understanding welcoming as an ethical, relational, and solution-oriented practice aimed at all users. The PHPN emphasizes the importance of a welcoming, safe, and respectful environment, especially in maternity hospitals, delivery rooms, and neonatal units. In this context, the need to guarantee dignified care for grieving women is highlighted, based on empathy, qualified listening, and psychological support from the moment of loss until the post-discharge period (Brazil, 2002).

Maternal suffering resulting from pregnancy loss is recognized as legitimate, regardless of gestational age or the condition of the fetus or newborn. Early losses, stillbirths, or neonatal deaths produce profound emotional impacts, demanding a sensitive and comprehensive approach from healthcare teams. Thus, humanizing the care of mothers who experience stillbirth becomes essential to minimize emotional harm and ensure respect for the grieving process.

In this context, Law No. 15.139/2025, which establishes the National Policy for the Humanization of Maternal and Parental Grief, represents a significant milestone by incorporating and strengthening the principles already established by the National Humanization Policy (PNH). This legislation reinforces the commitment of the Brazilian Unified Health System (SUS) to humanized

practices in situations of gestational and neonatal loss, promoting dignity, qualified care, and support for families at an extremely sensitive time (Brazil, 2004).

The effects of public policies aimed at improving perinatal and neonatal outcomes demonstrate significant progress in reducing stillbirth, which remains a relevant public health challenge. In addition to its epidemiological dimension, stillbirth represents a significant source of suffering and grief for mothers and families, reinforcing the need for comprehensive strategies that integrate prevention, qualified care, and emotional support (Asante et al., 2020).

Stillbirth remains a serious public health problem, especially in low- and middle-income countries, where a large proportion of deaths are considered preventable. In line with the Global Action Plan to End Preventable Newborn and Stillbirth Deaths, promoted by the UN and WHO, the need to expand access to quality maternal and neonatal care is highlighted, strengthening surveillance and improving prenatal, delivery and postpartum care. These recommendations aim to significantly reduce stillbirth rates by 2030 (Mengistu et al., 2022).

In the national context, the approach to maternal grief is also contemplated in the documents of the Stork Network, which emphasize guaranteeing women's rights after pregnancy loss. Among the recommended actions are psychological and social support from the moment of diagnosis, the provision of emotional support throughout the hospitalization period, and outpatient follow-up in Primary Health Care, with physical and emotional assessment, ensuring that care is continued after hospital discharge (Ministry of Health, 2015).

The Manual for Surveillance of Infant and Fetal Death and the Committee for the Prevention of Infant and Fetal Death highlights that maternal grief has historically been undervalued in health services, reflecting a social view that tends to minimize the loss due to the lack of prior interaction with the baby. This process results in the silencing of maternal suffering, frequently marked by comments that downplay the pain, hindering the full recognition of the experience of grief in the face of stillbirth (Brazil, 2009).

In terms of social rights, Article 357 of Normative Instruction INSS/PRES No. 188/2025 ensures the right to maternity pay for women employed under the Consolidation of Labor Laws (CLT) in cases of stillbirth. The benefit, guaranteed for 120 days, aims to preserve the woman's income during the period of leave necessary for her physical recovery, emotional support, and adequate experience of the grieving process (Brazil, 2025b).

Additionally, the SUS Users' Charter reinforces the principles of humanization in care, establishing in Article 2 that every person has the right to orderly and organized access to actions and services for the promotion, prevention, protection, treatment, and recovery of health. Article 3 complements this principle, stating that the user must receive adequate, qualified care in a timely manner and with a guarantee of continuity of care. These rights necessarily include situations of greater emotional complexity, such as maternal bereavement, requiring continuous professional training and adequate conditions to ensure humanized reception, clear communication, and respect for the dignity of women (Brazil, 2011).

There is a growing need for effective public policies and an empathetic approach to maternal health, especially regarding the reduction of stillbirths and comprehensive care for families affected by pregnancy loss. Recent evidence points to the urgency of global strategies to reduce both the incidence of stillbirths and the emotional impacts of these events. In this context, the Action Plan for Every Newborn is a central initiative, proposing a reduction in neonatal deaths and stillbirths in 193 countries by 2030. In addition to preventive efforts, the plan highlights the need for sensitive and

compassionate psychological care, aiming to promote the well-being of grieving parents (Atkins et al., 2023).

The Pan American Health Organization (PAHO), in conjunction with the WHO, reaffirms this agenda through the resolution approved at the 48th Directing Council and the 60th Session of the Regional Committee, which establishes the Regional Strategy and Action Plan on Newborn Health. This proposal integrates continuous care for the mother, newborn, and child, focusing on reducing social, economic, ethnic, and gender inequalities that directly influence perinatal outcomes. The strategy emphasizes that neonatal and maternal mortality should be treated as a priority in national health plans, through the strengthening of health systems based on Primary Care (Pan American Health Organization; World Health Organization, 2008).

For international policies aimed at reducing stillbirth rates to have a concrete impact, it is essential to train frontline professionals. Adequate training for these workers directly influences the quality of prenatal, perinatal, and postnatal care, as well as enabling health education initiatives that raise public awareness about the importance of prenatal care. In this sense, accessible social campaigns and communication strategies are fundamental for translating and interpreting public policies effectively, preventing essential goals from being compromised by implementation failures (Sssegujja et al., 2021).

Evidence also demonstrates that socioeconomic inequalities exert a significant influence on the risk of stillbirth. Women in more vulnerable conditions are more likely to experience pregnancy loss due to difficulty accessing timely and adequate prenatal care. Improving the social determinants of health, such as income, education, and access to services, is therefore an essential strategy to reduce these adverse outcomes. Furthermore, rural-urban differences in access to healthcare exacerbate the risk in remote regions, where geographical and structural barriers limit assistance (Flenady et al., 2016).

Psychological support is an indispensable component in the care of mothers who experience stillbirths, considering the short- and long-term emotional repercussions. In cases of loss after fertility treatments, the impact tends to be even more intense, as it involves not only the gestational loss but also the grief over a family project built with significant emotional, physical, and financial investment. Such situations can contribute to prolonged grief, depression, and anxiety (Redshaw et al., 2016).

The social and institutional invisibility of stillbirths further exacerbates maternal suffering. When the issue is not recognized by health systems and does not appear consistently in statistics, the pain tends to be silenced, hindering the social validation of grief. Furthermore, the absence of effective surveillance systems prevents the identification of avoidable factors, limiting interventions that could prevent new cases. The lack of understanding of the cause of the loss intensifies anguish, fuels fear of future pregnancies, and compromises maternal psychological well-being. Thus, support for bereaved women is both a demand for humanization and a fundamental public health strategy (Pingray et al., 2018).

## **CONCLUSION**

Given this scenario, it is concluded that the implementation of public policies aimed at women who experience gestational death constitutes an urgent public health demand. Both during labor induction and in the period following the delivery of the stillborn newborn, it is essential that these women receive humane care, empathetic listening, and qualified support. Attention should be

directed towards avoiding expressions and behaviors that minimize or invalidate their suffering, recognizing the depth and uniqueness of perinatal grief.

Although the National Policy for the Humanization of Maternal and Parental Grief represents an important milestone by providing for exclusive wards and comprehensive support, structural inequalities persist in public health services. Many hospitals lack adequate infrastructure to care for pregnant women experiencing perinatal distress, especially those in contexts of greater social vulnerability, highlighting a gap between what is stipulated in the regulations and the reality experienced by users of the Brazilian Unified Health System (SUS).

Therefore, it is essential to advance the debate and the formulation of effective policies that ensure welcoming, respectful, and sensitive hospital environments for these women. Promoting care free from stigma and judgment helps women in labor experience and reframe their grief with dignity, autonomy, and comprehensive support. The consolidation of humanized practices, therefore, not only guarantees rights but also strengthens the quality of care and emotional protection during one of the most delicate moments in a mother's journey.

## REFERENCES

ASANTE, F. A.; AKWEONGO, P.; ARYEETAY, G. C.; DWOMOH, D. et al. *Impact of free maternal health care policy on maternal health care utilization and perinatal mortality in Ghana: protocol design for historical cohort study*. **Reproductive Health**, v. 17, article 169, 2020. DOI: 10.1186/s12978-020-01011-9.

ATKINS, Bethany *et al.*. Stillbirth: prevention and supportive bereavement care. *BMJ medicine*, v. 2, n. 1, p. e000262, 2023.

**BRASIL**. Câmara dos Deputados. **Projeto de Lei nº 4.226, de 2024**. Altera a Lei nº 8.080, de 19 de outubro de 1990, para dispor sobre a obrigatoriedade de atendimento diferenciado e protocolos de acolhimento às mães em situação de natimorto ou óbito fetal. Apresentado por Fernanda Melchionna. Brasília, DF, 1 nov. 2024b. Available at: <https://infoleg-autenticidade-assinatura.camara.leg.br/CD242357174500>. Access on: 7 ago. 2025.

**BRASIL**. Constituição (1988). Constituição da República Federativa do Brasil de 5 de outubro de 1988. Available at: Presidência da República (Brasil), site 'Planalto'. Access on: 14 ago. 2025.

**BRASIL**. Instituto Nacional do Seguro Social. Instrução Normativa PRES/INSS nº 188, de 8 de julho de 2025. Altera a Instrução Normativa PRES/INSS nº 128, de 28 de março de 2022, que disciplina as regras, procedimentos e rotinas necessárias à efetiva aplicação das normas de direito previdenciário. Diário Oficial da União, Brasília, DF, 10 jul. 2025b. Seção 1, p. 65.

**BRASIL**. Lei nº 15.139, de 23 de maio de 2025. Institui a Política Nacional de Humanização do Luto Materno e Parental e altera a Lei nº 6.015, de 31 de dezembro de 1973, para dispor sobre o registro de criança nascida morta. *Diário Oficial da União*, Brasília, Seção 1, p. 1, 26 maio 2025a.

**BRASIL**. Ministério da Saúde. Conselho Nacional de Saúde. Carta dos Direitos dos Usuários da Saúde. 3. ed. Brasília, DF: Ministério da Saúde, 2011. 28 p. (Série E. Legislação de Saúde). ISBN 978-85-334-1834-9. Available at: <http://www.conselho.saude.gov.br>. Access on: 15 ago. 2025.

**BRASIL.** Ministério da Saúde. Humanização do parto. Humanização no Pré-natal e Nascimento. Brasília, DF: Ministério da Saúde, Secretaria Executiva, 2002. 28 p. Available at: <https://bvsmms.saude.gov.br/bvs/publicacoes/parto.pdf>. Access on: 07 ago. 2025.

**BRASIL.** Ministério da Saúde. *Rede Cegonha: Rede de Atenção — gravidez, parto, puerpério e crianças até dois anos de idade. Revisão dos Parâmetros da Portaria da Rede Cegonha.* Brasília: Ministério da Saúde, 2015. Available at: <https://www.gov.br/saude/pt-br/aceso-a-informacao/gestao-do-sus/programacao-regulacao-controle-e-financiamento-da-mac/programacao-assistencial/arquivos/se-o-b-rede-de-aten-o-gravidez-parto-puer-p-rio-e-crian-as-at-do.pdf/view>. Access on: 14 ago. 2025.

**BRASIL.** Ministério da Saúde. Secretaria de Vigilância em Saúde. Departamento de Análise Epidemiológica e Vigilância de Doenças Não Transmissíveis. Painel de Monitoramento da Mortalidade Infantil e Fetal. Available at: <https://svs.aids.gov.br/daent/centrais-de-conteudos/paineis-de-monitoramento/mortalidade/infantil-e-fetal/?s=MSQyMDI0JDEkMSQzNSQ3NiQxJDEkMCO0MDA2JDAkMCO1JDIkNDAwMDAxJDA=>>. Access on: 24 out. 2025.

**BRASIL. Ministério da Saúde. Secretaria de Vigilância em Saúde; Secretaria de Atenção à Saúde.** *Manual de vigilância do óbito infantil e fetal e do Comitê de Prevenção do Óbito Infantil e Fetal.* 2. ed. Brasília: Ministério da Saúde, 2009. 96 p. (Série A. Normas e Manuais Técnicos). ISBN 978-85-334-1613-0. Available at: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/s/saude-da-crianca/publicacoes/manual-de-vigilancia-do-obito-infantil-e-fetal-e-do-comite-de-prevencao-do-obito-infantil-e-fetal/@/@download/file>. Access on: 14 ago. 2025.

**BRASIL.** Ministério da Saúde. Secretaria-Executiva. Núcleo Técnico da Política Nacional de Humanização. *HumanizaSUS: Política Nacional de Humanização: a humanização como eixo norteador das práticas de atenção e gestão em todas as instâncias do SUS.* Brasília: Ministério da Saúde, 2004. 20 p. (Série B. Textos Básicos de Saúde).

**BRASIL.** Senado Federal. **Projeto de Lei nº [sem número], de 2024a.** Altera a Lei nº 8.080, de 19 de outubro de 1990, para dispor sobre a obrigatoriedade das redes pública e privada de saúde oferecerem leito ou ala separada para mães de natimorto ou que tenham tido óbito fetal, e dá outras providências. Brasília, DF: Senado Federal, 2024a. Available at: <https://legis.senado.leg.br/sdleg-getter/documento?dm=9539458>. Access on: 7 ago. 2025.

FLENADY, Vicki *et al.*. Stillbirths: recall to action in high-income countries. **Lancet**, v. 387, n. 10019, p. 691–702, 2016.

**HALL, J. A. et al.** Pregnancy Intention and Pregnancy Outcome: Systematic Review and Meta-Analysis. **Maternal and Child Health Journal**, New York, v. 21, n. 3, p. 670–704, mar. 2017. Available at: <https://doi.org/10.1007/s10995-016-2237-0>. Access on: 12 nov. 2025.

**MENGISTU, B. Z. et al.** Stillbirth and associated factors among women who gave birth at Hiwot Fana Specialized University Hospital, Harar, Eastern Ethiopia. **Frontiers in Pediatrics**, Lausanne, v. 10, e820308, 2022. Available at: <https://doi.org/10.3389/fped.2022.820308>. Access on: 12 nov. 2025.

**MOSTERT, C. M.** *The impact of national health promotion policy on stillbirth and maternal mortality in South Africa.* **Public Health**, v. 198, p. 118-122, 2021. DOI: [10.1016/j.puhe.2021.07.009](https://doi.org/10.1016/j.puhe.2021.07.009)

ORGANIZAÇÃO PAN-AMERICANA DA SAÚDE; ORGANIZAÇÃO MUNDIAL DA SAÚDE. **Estratégia e plano de ação regionais sobre a saúde do recém-nascido no contexto do processo contínuo da atenção à mãe, ao recém-nascido e à criança.** Resolução CD48.R4, Rev.1, 48º Conselho Diretor, 60ª Sessão do Comitê Regional, Washington, D.C., 29 set.–3 out. 2008. Available at: <https://iris.paho.org/handle/10665.2/408>. Access on: 22 ago. 2025.

**PERACCHINI, M. et al.** The psychological support for women who underwent a stillbirth during their pregnancy: the quality of midwifery care. **Rivista di Psichiatria**, Roma, v. 58, n. 4, p. 143-153, jul./ago. 2023. Available at: <http://dx.doi.org/10.1708/4064.40476>. Access on: 12 nov. 2025.

PINGRAY, V. et al. Stillbirth rates in 20 countries of Latin America: an ecological study. **BJOG: An International Journal of Obstetrics & Gynaecology**, [s.l.], v. 125, n. 10, p. 1263-1270, set. 2018. DOI: 10.1111/1471-0528.15294.

REDSHAW, Maggie; HENNEGAN, Julie M.; HENDERSON, Jane. Impact of holding the baby following stillbirth on maternal mental health and well-being: findings from a national survey. *BMJ open*, v. 6, n. 8, p. e010996, 2016.

SSEGUJJA, Eric; DDUMBA, Isaac; ANDIPARTIN, Michelle. Prioritization of interventions in pursuit of maternal health policy objectives to mitigate stillbirth risks. An exploratory qualitative study at subnational level in Uganda. *BMC health services research*, v. 21, n. 1, p. 53, 2021.

**137. THE PERSPECTIVE OF PUBLIC POLICIES ON THE CARE OF WOMEN WHO USE DRUGS: A SCOPING REVIEW**

***O OLHAR DAS POLÍTICAS PÚBLICAS SOBRE O CUIDADO DAS MULHERES USUÁRIAS DE DROGAS: UMA REVISÃO DE ESCOPO***

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**ABSTRACT**

**Introduction:** Gender inequalities permeate the daily lives of women who use drugs and influence the care offered through public harm reduction policies for this population. **Objective:** To understand how Brazilian public policies address the treatment of women who use drugs. **Method:** A scoping review of the literature from the PUBMED/MEDLINE, Scielo, LILACS/BVS, Google Scholar, and Digital Bank of Theses and Dissertations (BDTD) databases. **Results:** The different records included in this review point to an androcentric treatment of Brazilian public policies towards women who use drugs, based on issues such as stigma, violence, and the absence of a gender perspective in the care and attention given to women. **Conclusion:** There is a need to improve the integration of a gender approach in public policies aimed at drug users.

**Keywords:** Women. Women's Health. Gender. Drug Use. Public Policies.

## INTRODUCTION

The psychosocial impacts of drug use in Brazil are marked by significant challenges in the development of public policies aimed at caring for this population. According to Soares (2009), the "war on drugs" policy, characterized by criminalization, viewed substance use as a "police matter." Its main objective was to curb the growth of consumption and trafficking; however, these measures did not achieve the expected success, resulting in harm and human losses. In contrast, approaches aligned with harm reduction policies, centered on health care and community involvement, have proven to be powerful and effective strategies.

Subsequently, with the establishment of the National System of Public Policies on Drugs (SISNAD), by Law No. 11,343/2006, known as the Drug Law, principles, guidelines, and resources were defined for the care and social reintegration of users and dependents (BRASIL, 2006). However, the war on drugs policy reverberates in daily life as a veritable war on people. From this perspective, considering vulnerable populations implies recognizing that historically constructed gender inequalities organize social relations in Brazil.

Expectations regarding female behavior are differentiated and affect all spheres of social life (CONNELL, 1987). Thus, gender dynamics in the context of drugs reflect these asymmetries. It is estimated that 15% of men and 5.2% of women between the ages of 12 and 65 have used illicit substances in their lives (FIOCRUZ, 2017). However, the female experience with drugs presents specificities determined by the social role of gender. The use of crack and cocaine, for example, is frequently associated with situations of physical and sexual violence and exploitation, either as a consequence of use or as a survival strategy (SILVA, 2012).

The perspective of male domination understands sex differences as the basis for creating hierarchical social distinctions that place women in a subordinate position (RUBIN, 1997). Although there are efforts, such as the National Policy for Comprehensive Women's Health Care (BRASIL, 2011), a view still prevails that links the female condition to motherhood and the body as a target of control, sustained by biological determinism (MACHADO, 2022).

Given this, it becomes essential to break with stigmas and strengthen public policies committed to harm reduction, recognizing that gender inequalities holistically permeate the daily lives of women who use drugs. Identifying these discrepancies in the field of health and social assistance at all levels and by all actors in the network should contribute to improving care and addressing historical challenges. Therefore, the objective of this work is to analyze whether the literature points to this perspective on this issue, seeking to understand how Brazilian public policies understand the treatment aimed at women who use drugs.

## METHOD

This work is a descriptive study, specifically a scoping review. A scoping review is a method of evidence synthesis that aims to systematically identify and map the breadth of available evidence on a particular topic, field, concept, or question. Unlike systematic reviews, which aim to answer precise clinical questions, scoping reviews seek to provide an overview or map of the evidence, combining white literature – that commonly found in formal and conventional publications in reliable databases – and grey literature – that produced outside traditional commercial or academic publication channels (PETERS et al., 2024).

In this research, the authors followed the scoping review process based on the following steps proposed by the Joana Briggs Institute (JBI): (I) establishing the central hypothesis/question; (II) identifying relevant studies; (III) selecting and including studies (PETERS et al., 2024). Therefore, starting from the formulation of the guiding question: "Is there a different perspective in public policies regarding the care of men and women in relation to drug use?" (step I), the authors conducted a search in databases such as PUBMED/MEDLINE, Scielo, LILACS/BVS, Google Scholar, and the Digital Bank of Theses and Dissertations (BDTD) via the Coordination for the Improvement of Higher Education Personnel (CAPES), in order to identify index studies that could serve as guides for more advanced searches within each database (step II).

Following extensive research guided by the research question, the authors used the PCC (Population, Concept, Context) mnemonic proposed by the JBI method to assist in developing the search strategy for each database. PCC is a mnemonic used to structure research questions and is closely related to constructing coherent search terms that encompass the content researched by the authors. Furthermore, it serves as a guide for constructing a clear and meaningful title for a scoping review (PETERS et al., 2024). Therefore, the authors developed the following mnemonic: Person (Women), Concept (Public Policies), Context (Drug Use), which was subsequently used to construct the search terms for each database.

Following stage III (selection and inclusion of studies), the authors selected specific search terms for each of the selected databases, namely: PUBMED/MEDLINE, Scielo and LILACS/BVS for white literature; and BDTD for grey literature. The search terms, databases, inclusion criteria, and the number of results from each database are described and listed in Table 1.

Table 1 - Search Strategy and Literature Mapping by Database

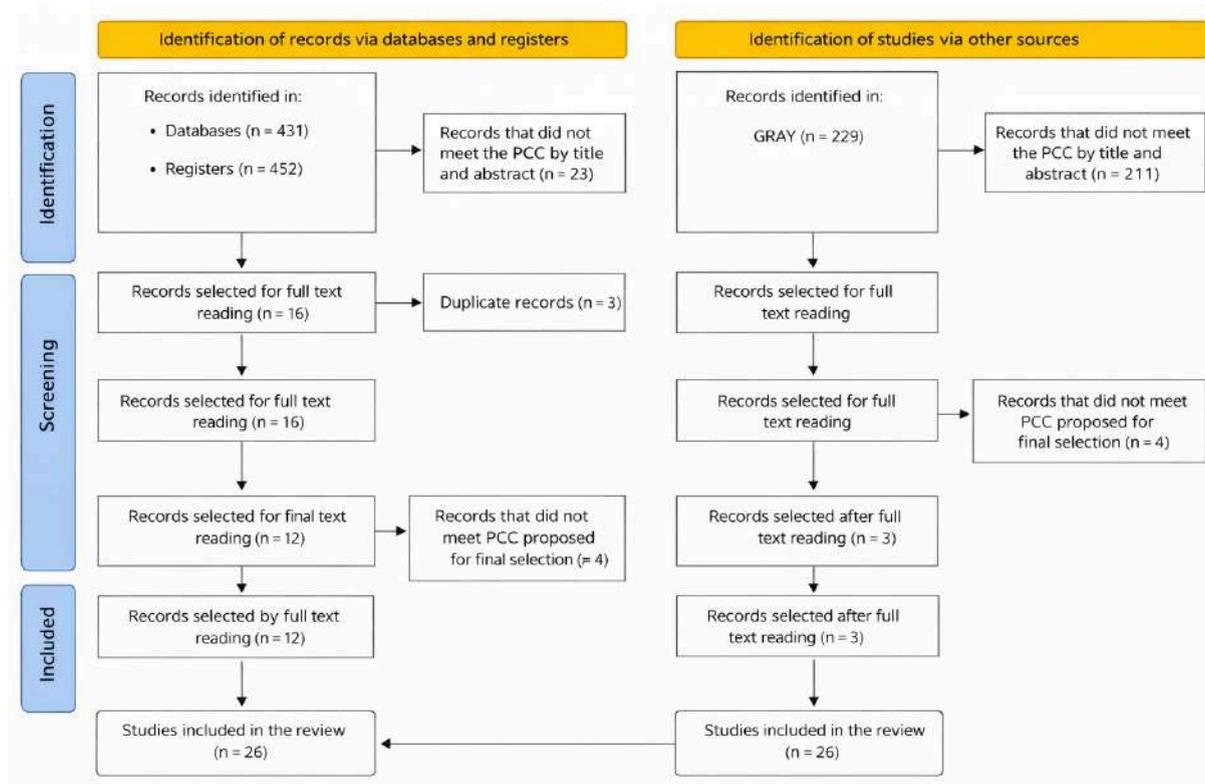
Search strategy	Database	Inclusion filters	Results
<i>drugs AND (woman or women) AND (public policy OR mental health)</i>	PUBMED/MEDLINE	2015 - 2025 Full text Free text Portuguese	76
<i>(Crack OR Cocaine OR "drug use" OR drugs OR drug OR alcohol OR alcoholism) AND (gender OR "gender and health" OR woman OR "women's health")</i>	SCIELO	2015 - 2025 Full text Free Portuguese text	129
<i>(Crack OR Cocaine OR Alcohol OR Alcoholism OR Drugs OR Drug) AND (Gender and Health OR Gender OR Woman OR Women's Health) AND Politics</i>	BDTD (via GOV.br)	2015 - 2025 Portuguese	224
<i>Cocaine Crack OR Drug Users OR Psychotropic Drugs OR Agent, Psychoactive OR Agents, Psychoactive OR Drug, Psychoactive OR Drug, Psychotropic OR Drugs, Psychoactive OR Drugs, Psychotropic OR Psychoactive Agent OR Psychoactive Agents OR Psychoactive Drug OR Psychoactive Drugs OR Psychopharmaceutical OR Psychopharmaceuticals OR Psychotropic Drug OR Substance-Related Disorders) AND Gender and Health OR Women's Health OR Gender</i>	LILACS/BVS	2015 - 2025 Full text Free text Portuguese Complete BVS Collection	23

Source: The authors (2025).

## RESULTS

The results from the different databases were obtained by applying the respective search terms along with the inclusion criteria, namely: literature from the last 10 years, full text, free text, and text in Portuguese. After that, the authors followed a flow of selection and removal of records based on the exclusion criteria, which were: records published outside the last 10 years; records in languages other than Portuguese; incomplete records; paid records; duplicate records; and records that do not include the mnemonic PCC proposed by the authors, either in the title and abstract and/or in the full reading of the records themselves. For the flow of selection and removal of records in order to construct the material necessary for the final selection of this research, the authors used the PRISMA flowchart, shown in **Figure 1**.

Figure 1 - PRISMA Flowchart



Source: Adapted from *PRISMA* (2020).

In total, 452 records from white literature (PUBMED/MEDLINE, SciELO, and LILACS/BVS) were identified for title and abstract evaluation. Of these, 429 fell short in some aspect of the PCC mnemonic proposed by the authors, meaning they did not simultaneously encompass all three axes – Women, Public Policies, Drug Use – in their titles and/or abstracts. Therefore, from the 23 records that were well-evaluated based on title and abstract reading, the authors removed 3 duplicate records. Thus, 20 records were selected for full-text reading, of which 18 did not fulfill one or more aspects of the PCC proposed by the authors after full-text reading, resulting in only 2 records in the final selection of white literature records included in this review.

The records in the grey literature databases (BDTD) followed the same inclusion and exclusion criteria and the same selection and removal workflow as the records in the white literature databases, except for the removal of duplicate records, which were not found in the BDTD. At the end of the grey literature screening, 4 records were selected after full reading and included in this review.

Below, Table 2 finally shows the 6 records selected for this review.

Table 2 - Records selected for final review

Authors/Year	Title	Objective	Method
SILVA, Patrícia Castro de Oliveira; SOUZA, Cecília de Mello e; PERES, Simone Ouwinha, 2021	<i>Drug use from a gender perspective: an analysis of the life stories of middle-class youth in Rio de Janeiro.</i>	Understanding how normative gender patterns of masculinity and femininity permeate drug use.	Qualitative Participant observation and interviews
Wheat, Ana, 2022	<i>"Women are very difficult": The (lack of) public and religious support for female drug addicts in São Paulo's Cracolândia.</i>	To investigate the impact of services offered to the female population suffering from chemical dependency.	Qualitative Observation participant and interviews
SANTOS, Rejane Ferreira dos, 2016	<i>Policies for the care of women with alcohol and other drug use disorders assisted at a psychosocial care center in Salvador, Bahia.</i>	To examine the impacts of alcohol abuse on women's lives and the resulting impediments to treatment adherence.	Qualitative Interviews
BOLZAN, Liana de Menezes, 2015	<i>Where are the women? The homogenization of healthcare for women who use drugs.</i>	To analyze how health and mental health policies address gender-related issues concerning women who use psychoactive substances.	Qualitative Documentary research and interviews
SANTOS, Ana Beatriz de Sousa Silva dos, 2024.	<i>The (in)visibility of women in drug policy: an analytical perspective on drug user care policy in Brazil.</i>	Identify in the documents of the Brazilian national drug policy how the care for women and the issue of drug use are addressed.	Qualitative Document analysis
SILVA, Érika Barbosa de Oliveira; PEREIRA, Adriana Lenho de Figueiredo; PENNA, Lúcia Helena Garcia, 2017.	<i>Gender stereotypes in the psychosocial care of female cocaine and crack users.</i>	To analyze the conceptions of health professionals regarding women who use crack and cocaine and receive psychosocial care.	Qualitative Interviews

Source: The authors (2025).

It is important to point out, however, that the records included in this final review were mostly from the BDTD (Brazilian Digital Library of Dissertations and Texts), as well as those that most directly answered the guiding question of the authors of this research. This may suggest, then, that the topic "public policies from a gender perspective" is not yet widely debated by the scientific community at the national level, as exemplified by the low number of records identified in the other databases included in this research.

## DISCUSSION

The results found from this scoping review indicate that, although academic production addresses the theme of gender and substance use, there are few findings when we focus on the development of specific public policies for this population. Therefore, it is worth reflecting that public policies aimed at women who misuse alcohol and other drugs remain superficial, limited, and fragmented. The small number of studies found reinforces the hypothesis that the topic is still under-debated in the scientific and political fields.

The selected studies share a central point in common: gender inequalities permeate the lives and care offered to these women, from the understanding of the professionals who attend to them to the length of time they remain under the care of health services. Male domination in gender relations takes on multiple facets within the context of drug use. Silva P., Souza, and Peres (2021) address how men use drugs to affirm their masculinity, while women who use them are stigmatized as "*sluts and problematic*," reinforcing binary views of the purity or profanity of the female figure. Women who use drugs are represented with deteriorated images of their humanity, seen as unpredictable and dangerous. As discussed by Santos R. (2016), the repression of women who use alcohol and drugs by society takes on a discriminatory and disproportionate stance compared to that faced by men, leading to the silence and suffering of the victims. The authors highlight that public policies fail to incorporate the perspectives of inequality and suffering faced by women due to the stigmatization of their roles as users. Trigo (2022) reinforces this paradigm by stating that support policies leave women helpless with care models marked by androcentrism, since within the support systems themselves there is greater stigmatization of women and moral-behavioral judgments, given that they were conceived from male perspectives.

Social expectations imposed on women are also observed where there is a failure in supporting female drug users. Santos A. (2024) and Silva E., Pereira and Penna (2017) discuss how women are expected to fulfill a social role of motherhood, raise children, and be representative of docility and submission, and that this view is reinforced by the very health professionals who treat them. Children and household maintenance are used as motivating factors for women to abandon addiction and develop skills as part of their rehabilitation, while this reinforces a reductionist conception of women, reduced to their reproductive role.

Both authors state that there is a need for better training of health professionals and social workers involved, so that they understand women as multidimensional individuals and do not restrict themselves to reinforcing stereotypical roles as part of female rehabilitation. Bolzan (2015), in turn, observes that public policies recognize gender perspectives, but are still incipient in the planning of actions, and the stigmas and prejudices experienced by women diminish their practical impact.

Thus, this review highlights the urgency of public policies sensitive to gender issues and care strategies that promote the building of autonomy, breaking historical stigmas, and focusing on women who use drugs as targets of public policies and subjects of rights. Only through this paradigm shift will it be possible to achieve citizenship, the building of autonomy, care in freedom, and the production of life.

## CONCLUSION

The results of this study allow us to conclude that, although Brazilian public policies recognize the need for comprehensive women's health, they do not address mental health, much less

the harmful use of alcohol and drugs. The proposed objective was achieved by highlighting that women remain exposed to stigma, violence, and gender inequalities, indicating that actions are insufficient in providing care. Despite normative advances with specific legislation, a gap is observed between the real and the ideal. The gender perspective appears fragmented, limited by moralization and structural barriers that hinder women's access to and retention in healthcare.

This reinforces the need to further integrate a gender perspective into public policies.

## REFERENCES

- BOLZAN, Liana de Menezes. **Onde estão as mulheres? A homogeneização da atenção à saúde da mulher que faz uso de drogas**. 2015. Dissertação (Mestrado em Serviço Social) — Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, 2015.
- BRASIL. **Lei nº 11.343, de 23 de agosto de 2006**. Institui o Sistema Nacional de Políticas Públicas sobre Drogas – Sisnad; prescreve medidas para prevenção do uso indevido, atenção e reinserção social de usuários e dependentes de drogas; estabelece normas para repressão à produção não autorizada e ao tráfico ilícito de drogas; define crimes e dá outras providências. Available at: <https://www.jusbrasil.com.br/cadastro>. Access on: 14 nov. 2025.
- BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. **Política Nacional de Atenção Integral à Saúde da Mulher: princípios e diretrizes**. 1. ed., 2. reimpr. Brasília, DF: Ministério da Saúde, 2011. 82 p. (Série C. Projetos, Programas e Relatórios). ISBN 978-85-334-0781-7.
- CONNELL, R. W. **Gender and power: society, the person and sexual politics**. Stanford: Stanford University Press, 1987.
- MACHADO, Jacqueline Simone de Almeida; PENNA, Cláudia Maria de Mattos. As políticas públicas de saúde e a fragmentação do corpo feminino em útero e peito. **Physis: Revista de Saúde Coletiva**, v. 32, n. 2, e320221, 2022. Available at: <https://doi.org/10.1590/S0103-73312022320221>. Access on: 14 nov. 2025.
- MARLATT, G. A. **Redução de danos: estratégias práticas para lidar com comportamentos de alto risco**. Porto Alegre: Artmed, 1999.
- PETERS, Micah D. J. *et al.*. Scoping reviews. In: AROMATARIS, Edoardo; LOCKWOOD, Craig; PORRITT, Kylie; PILLA, Bianca; JORDAN, Zachary (ed.). *JBIM Manual for Evidence Synthesis*. JBI, 2024. Cap. 10. Available at: <https://synthesismanual.jbi.global>. DOI: 10.46658/JBIMES-24-09.
- PRISMA. **PRISMA 2020 Flow Diagram**. Available at: <https://www.prisma-statement.org/prisma-2020-flow-diagram>. Access on: 17 nov. 2025.
- RUBIN, Gayle. O tráfico de mulheres: notas sobre a “economia política” do sexo. **Cadernos Pagu**, n. 8, p. 11–58, 1997.
- SANTOS, Ana Beatriz de Sousa Silva dos. **A (in)visibilidade das mulheres na política de drogas: uma perspectiva de análise da política de atenção a usuários de drogas no Brasil**. 2024. 50 f. Dissertação (Mestrado em Psicologia) — Universidade Federal do Pará, Instituto de Filosofia e Ciências Humanas, Belém, 2024.

SANTOS, Rejane Ferreira dos. **Políticas de atenção às mulheres com transtornos por uso de álcool e outras drogas assistidas num Centro de Atenção Psicossocial em Salvador, Bahia.** 2016. Dissertação (Mestrado em Políticas Sociais e Cidadania) — Universidade Católica de Salvador, Salvador, 2016.

SILVA, C. A. M. A dimensão de gênero no consumo de crack e o cuidado em saúde. *Revista Brasileira de Enfermagem*, Brasília, v. 65, n. 6, p. 950–956, 2012.

SILVA, Érika Barbosa de Oliveira; PEREIRA, Adriana Lenho de Figueiredo; PENNA, Lúcia Helena Garcia. Estereótipos de gênero no cuidado psicossocial das usuárias de cocaína e crack. *Cadernos de Saúde Pública*, Rio de Janeiro, v. 34, n. 5, 2018. DOI: 10.1590/0102-311X00110317.

SILVA, Patrícia Castro de Oliveira e; SOUZA, Cecília de Mello e; PERES, Simone Ouvinha. Uso de drogas sob a perspectiva de gênero: uma análise das histórias de vida de jovens das camadas médias no Rio de Janeiro. *Saúde e Sociedade*, v. 30, n. 1, p. e190538, 2021. DOI: 10.1590/S0104-1290.2021190538.

SOARES, Luiz Eduardo. **A guerra às drogas fracassou.** Folha de S.Paulo, São Paulo, 31 out. 2009. Caderno Tendências/Debates. Available at: <https://www1.folha.uol.com.br/fsp/opiniaio/fz3110200909.htm>. Access on: 14 nov. 2025.

TRIGO, Ana Luisa. **“Mulher é muito difícil”: O (des)amparo público e religioso das dependentes químicas na cracolândia de São Paulo.** 2022. Tese (Doutorado em Ciência da Religião) – Pontifícia Universidade Católica de São Paulo, São Paulo, 2022.

**138. MAPPING BARRIERS TO ACCESS TO PULMONARY REHABILITATION IN A HIGHER EDUCATION INSTITUTION: INTEGRATION BETWEEN UNIVERSITY EXTENSION AND PUBLIC HEALTH POLICIES**

***MAPEAMENTO DAS BARREIRAS DE ACESSO À REABILITAÇÃO PULMONAR EM UMA INSTITUIÇÃO DE ENSINO SUPERIOR: INTEGRAÇÃO ENTRE EXTENSÃO UNIVERSITÁRIA E POLÍTICAS PÚBLICAS DE SAÚDE***

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**ABSTRACT**

**Introduction:** Pulmonary rehabilitation (PR) is recognized as an essential intervention for people with chronic respiratory diseases, but its adherence is still limited due to multiple factors that hinder patient access. Studies indicate that logistical and socioeconomic barriers directly influence user participation and continuity in the program. In this context, it becomes fundamental to understand how these barriers manifest themselves in different realities, including outpatient teaching services. **Objective:** To identify the access barriers faced by patients treated in the Pulmonary Rehabilitation Project at EMESCAM, considering geographical, physical, and socioeconomic aspects. **Method:** A cross-sectional, observational, and descriptive study was conducted with 24 participants of the Pulmonary Rehabilitation Project at the EMESCAM teaching clinic. Data were collected using a structured electronic questionnaire, and the results were analyzed using descriptive statistics, expressed as absolute and relative frequencies. **Results:** The majority of participants were female (79.16%) and elderly (50% ≥60 years). Regarding commuting, 62.5% used public transportation and 75% took more than 30 minutes to reach the service. Although 50% reported no physical limitations for commuting, 37.5% reported difficulty walking long distances or the presence of pain/fatigue. Most were retired or pensioners (58.33%), indicating possible dependence on a fixed income. Despite the barriers, 50% had been in the program for more than six months, and most rarely or never missed a session due to commuting (83.33%). These findings are consistent with studies that highlight logistical issues, low income, and functional limitations as factors that hinder adherence to pulmonary rehabilitation. **Conclusion:** The observed barriers show that geographical, socioeconomic, and physical factors hinder access to pulmonary rehabilitation. Understanding these challenges is essential to creating strategies that broaden accessibility and promote patient adherence.

**Keywords:** Pulmonary rehabilitation. Access barriers. Physiotherapy.

## INTRODUCTION

Pulmonary rehabilitation (PR) has become established in recent decades as an essential component of care for chronic respiratory diseases, integrating physical training, health education, and self-care strategies. Unlike exclusively pharmacological approaches, PR acts on modulating the systemic impacts of the disease, promoting greater clinical stability and better performance in daily activities (Spruit *et al.*, 2013). The importance of PR intensifies given the high global burden of pulmonary diseases, especially COPD, which affects approximately 400 million people, 80% of whom reside in low- and middle-income countries, where morbidity and mortality are even more significant (Adeloye *et al.*., 2022; Lim *et al.*, 2025).

Patients with respiratory diseases frequently present with dyspnea, muscle weakness, and exercise intolerance, factors that reinforce a cycle of inactivity and progressive decline in functional capacity (Pepin *et al.*, 2007; Hill *et al.*., 2023). These limitations negatively impact autonomy, social participation, and quality of life. Studies demonstrate that pulmonary rehabilitation improves symptoms, increases exercise tolerance, and reduces hospitalizations and mortality, making it a decisive intervention in the management of COPD and other chronic conditions (McCarthy *et al.*., 2015; Lim *et al.*, 2025). Thus, understanding its effects and expanding access to it are fundamental steps to improve the quality of care.

However, access to pulmonary rehabilitation is still marked by significant inequalities beyond the simple availability of rehabilitation programs. Many patients with chronic respiratory diseases face limitations that hinder the initiation and continuation of treatment, resulting in low adherence and less favorable clinical outcomes. Difficulties in accessing services stem from multiple social, economic, geographical, physical, and emotional barriers. The interaction of these dimensions compromises the right to comprehensive care, highlighting the need to understand how these factors interact and interfere with the population's access to pulmonary rehabilitation programs (Fonte *et al.*., 2020; Dorásio *et al.*, 2022; Rodrigues *et al.*, 2021).

Understanding these barriers becomes fundamental for strengthening public policies and promoting equity in access to health services. Pulmonary rehabilitation, in addition to reducing symptoms and improving functional capacity, has the potential to decrease hospitalizations and costs to the health system, which directly impacts the quality of life of patients and the sustainability of the Unified Health System (SUS) (Pierobon, *et al.*, 2017). Thus, identifying the barriers that limit the population's access to these services represents an essential step to ensure more inclusive, humane, and efficient care for the population living with chronic lung diseases.

Given this scenario, the objective of this study is to identify and analyze the access barriers faced by patients treated by a Pulmonary Rehabilitation Project at a teaching clinic of a private college in Vitória-ES, considering geographical, physical, psychological, and socioeconomic aspects.

## METHOD

This is a cross-sectional, observational, and descriptive study with a quantitative approach, conducted through the application of an electronic questionnaire. The research was carried out within the scope of the Pulmonary Rehabilitation Project offered by the teaching clinic of the Higher School of Sciences of the Santa Casa de Misericórdia de Vitória (EMESCAM), an institution located in the municipality of Vitória – ES, which offers outpatient care to patients with chronic respiratory diseases, allowing the analysis of factors related to access, adherence, and continuity of treatment.

The sample consisted of patients served by the project, selected using a non-probabilistic method. Inclusion criteria included adult patients diagnosed with chronic respiratory diseases and active participation in the project for at least four weeks. Those not actively participating in the project were excluded. The data were collected using a proprietary structured questionnaire containing questions about socioeconomic profile, transportation, perception of health, and barriers faced in preventing patients from attending weekly appointments.

The sociodemographic variables investigated included: sex (female, male), age (under 18; 18 to 29; 30 to 44; 45 to 59; and 60 years or older), family income (up to 1 minimum wage; from 1 to 2; from 2 to 3; and from 3 to 5 minimum wages), municipality/neighborhood of residence (Vitória, Vila Velha, Serra, Cariacica, Aracruz, Caparaó), and occupational status (retired or pensioner; cares for family members/household; unemployed; INSS; BPC).

Information was also collected regarding the length of participation in the project (less than 1 month; 1 to 3 months; 4 to 6 months; more than 6 months), the presence of physical limitations that hinder mobility (no; difficulty walking long distances; intense pain or fatigue; need for a wheelchair or assistive device), and the use of medication related to the pulmonary condition (yes; no), including the method of obtaining it (health center; private purchase; both; Citizen Pharmacy). Aspects related to mobility were also analyzed, such as: the main means of transport used to reach the institution (public transport; private car; ride-hailing app/taxi; ambulance or special transport), average travel time (less than 15 minutes; 15 to 30 minutes; 31 to 60 minutes; 61 to 120 minutes; more than 2 hours), and frequency of absences due to transportation difficulties (never; rarely; sometimes). The quantitative data were organized and tabulated in *Microsoft Excel* and analyzed using simple descriptive statistics, being presented in absolute and relative frequencies .

The study respected the ethical precepts foreseen in Resolution No. 466/12 of the National Health Council. It is part of an umbrella project approved by the Research Ethics Committee of EMESCAM, under opinion No. 6.162.191 and CAAE: 70645323.9.0000.5065. All participants electronically consented to their participation, in a Free and Informed Consent Form (TCLE) and a Free and Informed Assent Form (TALE), prepared according to current regulations.

## RESULTS

The sample consisted of 24 patients, of both sexes, participating in the Pulmonary Rehabilitation Project offered by the teaching clinic of the Higher School of Sciences of the Santa Casa de Misericórdia de Vitória (EMESCAM). The data obtained from the applied questionnaire regarding the analysis of the sociodemographic profile and factors related to access, adherence, and continuity of treatment were compiled and analyzed, as shown in Table 1:

Table 1 – Responses from participants in the Pulmonary Rehabilitation Project

Sociodemographic Variables (n=24)	n (%)
<b>Sex</b>	
Feminine	19 (79.16%)
Masculine	5 (20.84%)
<b>Age</b>	
Under 18 years old	2 (8.3%)
18 to 29 years old	1 (4.16%)
30 to 44 years old	4 (16.66%)

45 to 59 years old	5 (20.84%)
60 years or older	12 (50.0%)
<b>Income Family</b>	
Up to 1 minimum wage	6 (25.0%)
From 1 to 2 minimum wages	11 (45.83%)
Between 2 and 3 minimum wages	3 (12.5%)
Between 3 and 5 minimum wages	3 (12.5%)
<b>Neighborhood/City</b>	
Vitoria	9 (37.5%)
Vila Velha	5 (20.84%)
Mountain range	5 (20.84%)
Cariacica	3 (12.5%)
Aracruz	1 (4.16%)
Caparaó	1 (4.16%)
<b>Occupational Situation</b>	
Retired or pensioner	14 (58.33%)
Takes care of family members / household	5 (20.84%)
Unemployed	2 (8.3%)
INSS	2 (8.3%)
BPC	1 (4.16%)
<hr/>	
<b>Variables Related to Access, Adherence, and Continuity of Treatment (n=24)</b>	<b>n (%)</b>
<hr/>	
<b>How long have you been attending the rehabilitation program?</b>	
More than 6 months	12 (50.0%)
4 to 6 months	6 (25.0%)
Less than 1 month	3 (12.5%)
1 to 3 months	3 (12.5%)
<b>Do you have any physical limitations that make it difficult to move around?</b>	
No	12 (50.0%)
Difficulty walking long distances	6 (25.0%)
Severe pain or fatigue	3 (12.5%)
Need for a wheelchair or assistive device.	1 (4.16%)
<b>Do you take any regular medication related to your lung condition?</b>	
Yes	20 (83.33)
No	4 (16.66%)
<b>How do you get this medication?</b>	
I'll pick it up at the gas station.	11 (45.83%)
I buy	5 (20.84%)
Pick it up at the gas station and buy it.	2 (8.3%)
Citizen Pharmacy	2 (8.3%)
Does not use medication.	4 (16.66%)
<b>What is the main mode of transportation you use to get to your appointment?</b>	
Public transport	15 (62.5%)
Private car	5 (20.84%)
Ride-hailing app or taxi	3 (12.5%)
Ambulance or special transport (municipal vehicle)	1 (4.16%)
<b>How long, on average, does it take you to get to the institution (going there)?</b>	
31 to 60 minutes	9 (37.5%)
61–120 minutes (1 to 2 hours)	9 (37.5%)
15 to 30 minutes	4 (16.66%)
Less than 15 minutes	1 (4.16%)
More than 2 hours	1 (4.16%)

#### How often did you miss sessions due to commuting?

Never	11 (45.83%)
Rarely	9 (37.5%)
Sometimes	3 (12.5%)

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Source: Prepared by the author (2025).

Analysis of the participants (n=24) showed a predominance of females, representing 79.16% of the sample, while men accounted for 20.84%. Half of the respondents were 60 years of age or older, evidencing a predominantly elderly population; 8.3% were under 18 years of age, 4.16% were between 18 and 29 years of age, and the remaining age groups were distributed in an intermediate manner. Regarding income, 25% lived on up to 1 minimum wage and 45.83% on between 1 and 2 minimum wages, while the 2–3 and 3–5 minimum wage brackets each totaled 12.5%. In terms of origin, 37.5% were from Greater Vitória, followed by Vila Velha and Serra (20.84% each), Cariacica (12.5%), and locations such as Aracruz and Caparaó (4.16% each).

Regarding occupational status, 58.33% were retired or pensioners, 20.84% were homemakers or family members, and there were records of unemployment (8.3%), leave of absence due to INSS (8.3%), and receipt of BPC (4.16%). As for the length of participation in the project, 50% had been participating for more than six months, 25% between four and six months, while 12.5% had started less than a month ago and 12.5% between one and three months ago. Half reported no mobility difficulties, but 25% reported difficulty with long distances, 12.5% intense pain or fatigue, and 4.16% dependence on a wheelchair or assistive technology.

Most (83.33%) regularly used pulmonary medication: 45.83% obtained it at the health center, 20.84% purchased it, 8.3% combined both methods, and 8.3% picked it up at the Citizen's Pharmacy; only 16.66% did not use continuous medication. Public transport was the most used means of transportation (62.5%), followed by private car (20.84%), ride-hailing app/taxi (12.5%), and ambulance/special transport (4.16%). The commute was mostly long: 37.5% took between 31–60 minutes and 37.5% between 61–120 minutes; only 4.16% were less than 15 minutes and another 4.16% exceeded two hours. Finally, regarding the impact of travel on attendance, 45.83% never missed sessions, 37.5% reported rare absences, and 12.5% reported occasional absences, indicating that, despite the distances, most maintain regularity in their follow-up appointments.

## DISCUSSION

The results of this study reveal a quite characteristic profile of users of public pulmonary rehabilitation programs. A predominance of women (79.1%) and individuals aged 60 or older (50%) was observed, which is consistent with previous findings describing greater participation of elderly people in rehabilitation services due to the accumulation of respiratory comorbidities, functional limitations, and a greater need for continuous monitoring (Dorásio *et al.*, 2022). The high prevalence of retirees and pensioners (58.3%) also reinforces this pattern, since individuals in this age group present greater clinical vulnerability and use health services more frequently.

Another relevant finding is the predominance of participants with income up to two minimum wages (70.8%), residence concentrated in the municipalities of Greater Vitória, Vila Velha and Serra (79.1%), and majority use of public transport (62.5%). These factors were extensively discussed by Fonte, Gomes and Cruz *et al.* (2020), who identified that socioeconomic barriers, such as limited income, dependence on public transport and long commutes, directly influence attendance and

retention in pulmonary rehabilitation programs. In the present study, although a large proportion of users take between 31 and 120 minutes to reach the institution (75%), more than half reported never or rarely missing sessions due to commuting, which suggests good organization of the service and engagement of participants, despite the difficulties.

Regarding self-reported physical limitations, 50% of participants reported an absence of functional barriers, while 25% mentioned difficulty walking long distances and 12.5% reported intense pain or fatigue. Such conditions are commonly described in the literature as significant obstacles to accessing and remaining in rehabilitation programs, especially in individuals with chronic obstructive pulmonary disease (COPD), who frequently present with low functional capacity and exercise intolerance (Dorásio *et al.*, 2022).

Regular use of pulmonary medication was reported by 83.3% of participants, mostly obtained from primary health care units (45.8%). This finding aligns with Rodrigues *et al.* (2021), who highlight that regular access to pharmacotherapy is one of the factors that facilitate clinical stability, allowing patients to participate more safely and frequently in rehabilitation activities. However, the fact that 20.8% still depend on direct purchase of medication may represent a potential factor in treatment abandonment, as discussed by Fonte *et al.* (2020).

The high adherence to the program, especially considering that 50% have been attending the service for more than six months, reinforces the importance of the therapeutic bond and the support offered by the multidisciplinary teams. Recent studies indicate that well-structured programs, with effective communication and continuous monitoring, tend to have a higher retention rate, even in the face of logistical barriers (Rodrigues *et al.* , 2021; Dorásio *et al.*, 2022). In this sense, the findings of the present study suggest that the service analyzed offers favorable conditions for continuity of care, which aligns with current recommendations for strengthening public policies aimed at the rehabilitation of people with chronic respiratory diseases.

## CONCLUSION

The results presented demonstrate that barriers to access and adherence to pulmonary rehabilitation remain complex and multifactorial, involving logistical, socioeconomic, informational, and perceptual aspects. Factors such as travel time, type of transportation used, family income, level of functionality, and prior knowledge about the treatment directly influence patient engagement. These findings are aligned with evidence from the literature, which reiterates the importance of integrated strategies that include health education, professional training, expansion of rehabilitation delivery options, and continuous patient support.

Given this, the need for public policies that promote more accessible, flexible, and equitable care models is reinforced, considering regional particularities and the living conditions of the population served. Investing in alternative modalities, such as hybrid or home-based programs, and strengthening communication between different levels of care can represent a significant step forward in expanding access to pulmonary rehabilitation.

## REFERENCES

ADELOYE, D. *et al.*. Global, regional, and national prevalence of, and risk factors for, chronic obstructive pulmonary disease (COPD) in 2019: a systematic review and modelling analysis. **The Lancet Respiratory Medicine**, v. 10, p. 447–458, 2022.

DORÁSIO, L. B. et al. Barreiras e facilitadores para o encaminhamento de pacientes com doença pulmonar obstrutiva crônica à reabilitação pulmonar e indicação à prática de atividade física: um estudo qualitativo. **HU Revista**, v. 48, 2022. DOI: 10.34019/1982-8047.2022.v48.36278.

FERREIRA, D. H. *et al.*. Two sides of the same coin: a qualitative study of patient and caregiver co-existence with chronic breathlessness associated with chronic obstructive pulmonary disease (COPD). **BMC Palliative Care**, v. 19, p. 64, 2020. DOI: 10.1186/s12904-020-00572-7.

FONTE, C.; GOMES, B.; CRUZ, S. *et al.*. Barreiras à adesão ao programa de reabilitação pulmonar de pacientes com DPOC. **ASSOBRAFIR Ciência**, v. 11, e42396, 2020. DOI: 10.47066/2177-9333.AC.2020.0016.

HANANIA, N. A.; O'DONNELL, D. E. Dispneia relacionada à atividade na doença pulmonar obstrutiva crônica: consequências físicas e psicológicas, necessidades não atendidas e direções futuras. **International Journal of Chronic Obstructive Pulmonary Disease**, v. 14, p. 1127–1138, 2019. DOI: 10.2147/COPD.S188141.

HILL, K. *et al.*. O papel da percepção da doença no medo relacionado à dispneia na doença pulmonar obstrutiva crônica. **Journal of Clinical Medicine**, v. 13, p. 200, 2023. DOI: 10.3390/jcm13010200.

HILL, K. *et al.*. The role of illness perceptions in dyspnoea-related fear in chronic obstructive pulmonary disease. **Journal of Clinical Medicine**, v. 13, p. 200, 2023.

LIM, Y. L. *et al.*. Barriers and enablers to centre-based pulmonary rehabilitation for patients with chronic obstructive pulmonary disease in low- and middle-income countries: a systematic review. **Journal of Global Health**, v. 15, 04255, 2025.

McCARTHY, B. et al. Pulmonary rehabilitation for chronic obstructive pulmonary disease. **Cochrane Database of Systematic Reviews**, 2015.

O'DONNELL, D. E. *et al.*. Dispneia na DPOC: novas perspectivas mecanísticas e implicações para o manejo. **Advances in Therapy**, v. 37, p. 41–60, 2020. DOI: 10.1007/s12325-019-01128-9.

PEPIN, V. *et al.*. Capacidade de exercício na doença pulmonar obstrutiva crônica: mecanismos de limitação. **COPD**, v. 4, p. 195–204, 2007. DOI: 10.1080/15412550701480489.

PEPIN, V. *et al.*. Exercise capacity in chronic obstructive pulmonary disease: mechanisms of limitation. **COPD**, v. 4, p. 195–204, 2007.

PIEROBON, A. *et al.*. Self-reported adherence in patients with COPD, psychosocial factors and mild cognitive impairment in pulmonary rehabilitation. **International Journal of Chronic Obstructive Pulmonary Disease**, v. 12, p. 2059–2067, 2017. DOI: 10.2147/COPD.S133586.

RODRIGUES, N. *et al.*. Barreiras à inclusão na reabilitação pulmonar: análise do conhecimento médico. **einstein** (São Paulo), v. 19, eAO6115, 2021. DOI: 10.31744/einstein\_journal/2021AO6115.

SPRUIT, M. A. *et al.*. An official American Thoracic Society/European Respiratory Society statement: key concepts and advances in pulmonary rehabilitation. **American Journal of Respiratory and Critical Care Medicine**, v. 188, p. e13–e64,

139. THE INSTITUTIONAL DISCHARGE OF ADOLESCENTS FROM SHELTERS UPON REACHING ADULTHOOD AND THE STATE'S RESPONSIBILITY TO PROVIDE COMPENSATION THROUGH EFFECTIVE PUBLIC POLICIES

*O DESLIGAMENTO INSTITUCIONAL DOS ADOLESCENTES ABRIGADOS EM DECORRÊNCIA DA MAIORIDADE E A RESPONSABILIDADE DE CONTRAPRESTAÇÃO DO ESTADO POR MEIO DE POLÍTICAS PÚBLICAS EFETIVAS*

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**ABSTRACT**

**Introduction:** This study analyzes the process of institutional discharge of adolescents in foster care upon reaching the age of majority, from the perspective of the Doctrine of Integral Protection, seeking to understand the State's responsibility in guaranteeing effective public policies aimed at the transition to adulthood. **Objective:** The objective is to identify the existing gaps between normative provisions and the practical effectiveness of state actions, verifying how the absence of post-foster care support impacts the autonomy and social inclusion of these young people. **Method:** The research adopts a qualitative approach and the deductive method, based on documentary and bibliographic analysis of legislation, international treaties, and theoretical studies. **Results:** The results indicate that institutional discharge, when not accompanied by consistent public policies, accentuates social vulnerability and exposes young people to the so-called "double invisibility"—family abandonment and state neglect. **Conclusion:** It is concluded that the lack of concrete actions for social reintegration, such as assisted housing, professional training, and financial support, compromises the effectiveness of the principle of comprehensive protection and contributes to the reproduction of cycles of exclusion and juvenile criminalization.

**Keywords:** Disconnection. Adulthood. Full Protection. Invisibility.

## **INTRODUCTION**

Social inequality in Brazil, marked by deep historical roots, is directly reflected in the weaknesses of public policies for the protection of children and youth. Family breakdown, poverty, and lack of opportunities create a scenario that exposes children and adolescents to social vulnerability and the need for state intervention. In this context, institutional care emerges as a protective measure foreseen by the Statute of the Child and Adolescent (ECA), and should guarantee their full development and the right to family and community life.

However, it is observed that while necessary in certain situations, institutional care often culminates in a new cycle of exclusion: the moment of institutional discharge. Upon reaching adulthood, numerous young people are forced to leave the institutions where they have lived for years, without being assured support mechanisms for the transition to adult life. This abrupt rupture highlights the fragility of public policies and the inadequacy of measures aimed at the emotional, social, and economic preparation of these individuals.

Given this, the present study is limited to analyzing the process of institutional discharge of adolescents in foster care due to reaching the age of majority, seeking to understand how the absence of effective public policies compromises the autonomy and development of these young people. The research aims to investigate the State's responsibility in promoting compensatory policies that ensure compliance with the principle of comprehensive protection.

The relevance of this work lies in the need to highlight a social problem that is still little explored, which directly involves the realization of fundamental human rights and the constitutional duty of the State to protect children and adolescents. Understanding the existing gaps between legislation and institutional practice contributes to the advancement of academic debate and to the improvement of public policies aimed at social inclusion and the prevention of trajectories of vulnerability and potential entry into the paths of crime.

The overall objective of this study is to critically analyze the process of institutional discharge of adolescents in foster care due to reaching the age of majority, in light of the State's responsibility to ensure, through effective public policies, a gradual and dignified transition to adult life, in accordance with the principle of comprehensive protection provided for in the Federal Constitution and the Statute of Children and Adolescents.

## **METHOD**

This research adopts a qualitative approach, exploratory and descriptive in nature, based on the deductive method. The choice of this method is justified by the need to start from general principles — notably the constitutional and legal foundations of comprehensive protection — to critically understand the existing shortcomings in the practical implementation of public policies aimed at the institutional discharge process of adolescents in foster care due to reaching the age of majority.

As a technical procedure, documentary and bibliographic research was used. The documentary research consisted of the analysis of national and international legislation, such as the 1988 Federal Constitution, the Statute of Children and Adolescents (Law No. 8.069/1990), the Convention on the Rights of the Child (1989), and the infra-legal regulations governing institutional care and gradual discharge. The bibliographic research relied on doctrinal works, scientific articles,

and official reports that discuss the themes of comprehensive protection, social vulnerability, and public policies aimed at children and youth.

The qualitative method was chosen because it allows for a deeper understanding of the social phenomenon under investigation, considering the human, social, and institutional dimensions involved. Therefore, the aim was not only to describe reality but also to interpret it critically, identifying the gaps between normative discourse and state practice.

The data analysis was conducted interpretatively, based on theoretical categories extracted from the literature and documents studied, allowing for a correlation between legal foundations, constitutional principles, and the reality experienced by young people leaving foster care institutions. This approach made it possible to identify the main challenges and propose reflections on the need for concrete public policies that ensure the effective fulfillment of the doctrine of integral protection.

## RESULTS

An analysis of the institutional discharge of adolescents upon reaching the age of majority and the state's responsibility for providing corresponding public policies reveals a reality marked by structural gaps and insufficient concrete actions. The results indicate that, although the Brazilian legal system has a robust normative framework—consolidated by the 1988 Federal Constitution, the Statute of the Child and Adolescent (ECA), and international human rights treaties—the effectiveness of these norms is weakened by the absence of continuous and adequately funded public policies. The gap between the norm and practice is the main obstacle to guaranteeing comprehensive protection, demonstrating that the State, in many cases, limits itself to the formality of legislation, without offering real conditions for autonomy and social reintegration to young people leaving foster care institutions.

The data obtained from the theoretical and documentary review indicate that institutional disengagement, in most cases, occurs abruptly, without planning and without socioeconomic support, making the process an experience of helplessness and discontinuity. Young people who have lived under state guardianship for years, upon reaching adulthood, are forced to face adult life without emotional, educational, or financial support. This rupture reveals the lack of transition policies and post-placement support, which directly contributes to the worsening of social vulnerability and the increase in exclusion and marginalization rates.

Another relevant finding is that state omission not only perpetuates inequality but also reinforces the phenomenon of "double social invisibility." Abandoned by their families and, subsequently, by the state, these young people face a void of belonging and social reference, hindering the construction of their identities and the full exercise of citizenship. Analysis of bibliographic sources, such as Figueiró (2013), Oliveira and Milnitsky-Sapiro (2007), and Morais and Moreira (2019), demonstrates that the lack of specific policies for this critical phase of life compromises the principle of comprehensive protection and leads to severe psychological, emotional, and economic consequences for the individual.

The results also show a direct correlation between the lack of structured public policies and the growth of juvenile crime. The absence of opportunities for study, work, and housing leads many former inmates to find in illicit practices a means of immediate survival. The criminological theories of Baratta, Liszt, and Lyra help to understand this phenomenon as a product of structural inequalities and poor social organization, reinforcing the idea that the State, by neglecting its social function, becomes an indirect agent in the production of crime.

Furthermore, it was found that successful, albeit isolated, experiences with supervised residences and vocational training programs demonstrate the potential of transition policies when there is planning and institutional support. These experiences reveal that investment in preventive social policies can significantly reduce rates of institutional recidivism, strengthen the autonomy of young people, and promote civic inclusion. Thus, the results show that the effectiveness of comprehensive protection depends less on new legal texts and more on the concrete, articulated, and sustainable implementation of existing norms.

In summary, the findings of this research reinforce the urgency of reforming public policies regarding reception and discharge, in order to guarantee that the process of leaving institutions is accompanied by measures of social, professional, and community inclusion. The absence of such policies compromises the integrity of constitutional principles and perpetuates the historical cycle of exclusion, invisibility, and inequality that marks the lives of young people leaving institutions.

In practical terms, a minimum set of recommendations is proposed for consideration in public policy and regulatory reform: 1. Standardization of the discharge plan: making mandatory the existence of an individualized discharge plan, with a schedule, qualification goals, psychosocial actions, and guarantees of temporary housing, with this plan to be integrated into the CONANDA (National Council for the Rights of Children and Adolescents) supervision instruments and social control bodies; 2. Specific financial allocation: creation of state and municipal funds or budget lines destined for post-reception, with predictability, control, and evaluative counterparts; 3. Regulated supervised residences: institutionalizing and financing assisted housing models that offer a gradual transition, with management protocols, self-management training, and accountability mechanisms; 4. Articulated qualification and insertion programs: establishing partnerships with technical education systems, companies, and apprenticeship programs, with hiring goals and post-training follow-up; 5. Ongoing psychosocial support: ensure the availability of mental health services, therapeutic follow-up, and a community support network during the transition period; 6. Intersectoral governance mechanisms: formalize local and regional committees that articulate social assistance, health, education, labor, public safety, and the Public Prosecutor's Office, with shared indicators and clear responsibilities; 7. Monitoring and evaluation: establish exit indicators (employment, housing, social connection) and long-term indicators (relapse, occupational stability) and submit programs to independent evaluations; 8. Professional training: train technicians, educators, and institutional teams for transition practices based on evidence, human rights, and an empowerment perspective.

Finally, the existence of legislation promoting public policies aimed at this social segment is acknowledged; however, the final finding is that these policies lack practical effectiveness. It is important to emphasize that promoting these policies, in order to ensure minimum conditions of dignity, autonomy, and social inclusion for young ex-prisoners, is a legal and constitutional duty, and a right of citizens.

## **DISCUSSION**

The trajectory of child and youth protection policies in Brazil reveals a profound historical transformation, marked by the shift from a repressive and paternalistic model to a conception based on human rights and the dignity of the person. For a long time, the Brazilian State treated children and adolescents in vulnerable situations as objects of social control, using institutionalization as the main form of "protection." This practice, of a punitive and welfare-oriented nature, ignored the

individualities and developmental needs of those sheltered, reducing them to mere recipients of public charity.

This reality began to change with the Federal Constitution of 1988, which introduced the Doctrine of Integral Protection, recognizing children and adolescents as subjects of rights and assigning to the family, society, and the State the joint responsibility for their protection and development.

The consolidation of this new perspective occurred with the creation of the Statute of Children and Adolescents (ECA) in 1990, which regulated constitutional principles and established guidelines aimed at preserving family and community life, giving institutional care an exceptional and temporary character. The Statute incorporated commitments made by Brazil in international treaties, such as the 1989 Convention on the Rights of the Child, reaffirming the state's duty to guarantee the physical, emotional, and social development of minors at risk. This normative evolution intensified with the institution of the National Plan for the Promotion, Protection, and Defense of the Right of Children and Adolescents to Family and Community Life (PNCFC) in 2006, which sought to replace the logic of permanent shelter with policies aimed at strengthening family ties and overcoming prolonged institutionalization.

Despite this legislative progress, the gap between the text of the law and its practical application remains evident. The realization of the rights guaranteed by the Statute of Children and Adolescents (ECA) and the Constitution is hampered by obstacles such as the lack of coordination between federative entities, the scarcity of financial resources, and the fragility of public policies aimed at children and youth. The State, although it has assumed the role of guarantor of comprehensive protection, often fails to implement it through effective and continuous actions. This limitation is aggravated by the absence of monitoring, bureaucracy, and the precariousness of the social service network. Thus, comprehensive protection, even when provided for by law, remains fragile when not accompanied by structured policies, with budgets and focused on permanent results.

This lack of effectiveness in public policies is directly reflected in the social invisibility of institutionalized adolescents. These young people experience a unique form of exclusion that manifests itself both in family and social neglect, and in the omission of the State itself. When they turn 18, the law obliges them to leave the foster care institutions, regardless of whether they are emotionally, financially, and psychologically prepared to face adult life.

This forced and helpless transition culminates in what many authors call "double invisibility": first, abandonment by family and society; then, abandonment by the state. The absence of transition policies that guarantee support, housing, and professional integration causes many young people to return to the vulnerability that motivated their initial placement, perpetuating a cycle of exclusion and precariousness.

The invisibility of these young people is reinforced by social stigmas that associate institutional care with delinquency and incapacity, hindering their integration into the job market and community life. By failing to offer adequate support, the State perpetuates the social exclusion it should combat, neglecting the constitutional principle of comprehensive protection. Researchers such as Oliveira and Milnitsky-Sapiro highlight that youth policies are often provisional and subject to political interests, lacking continuity and effectiveness. Invisibility, therefore, is not only a consequence of poverty but also a reflection of institutional structures that fail to guarantee basic rights and promote the social emancipation of these individuals.

To break this cycle, it is essential to understand institutional disengagement as a pedagogical and social process, and not simply as a physical departure from the institution. This phase should be

accompanied by intersectoral public policies that involve professional training, assisted housing, psychosocial support, and job placement programs. Planned and gradual disengagement is the only way to ensure that institutional care fulfills its educational and protective function, preparing young people for independent living. Neglecting this stage means transforming the end of institutional care into yet another marker of exclusion and vulnerability, contradicting the foundations of human dignity and citizenship.

The state's responsibility in the face of this reality is unquestionable. The state cannot limit itself to stating rights, but must create concrete mechanisms that make them enforceable. As Norberto Bobbio warns, the contemporary challenge is no longer to establish the basis for human rights, but to guarantee them. In the case of fostered adolescents, this guarantee translates into the need for transition policies that ensure a dignified, planned, and monitored discharge. The absence of training programs, housing, and psychological support transforms adulthood into a breaking point, leaving the young person helpless and exposed to new social risks.

State responsibility must also be understood from the perspective of constitutional solidarity, a principle that imposes on the Union, the States, and the Municipalities the shared duty to implement policies aimed at comprehensive protection. This co-responsibility is essential to ensure the effectiveness of rights and prevent the omission of one federative entity from hindering the execution of measures. Policies such as supervised residences, first-job programs, and temporary financial assistance are examples of counter-measures that the State could offer to guarantee a safe and sustainable transition. Empirical studies prove that the lack of adequate preparation for adult life significantly increases the risks of unemployment, poverty, and recidivism in criminal behavior, demonstrating that investment in transition policies is, at the same time, a form of social prevention and promotion of dignity.

The lack of effective policies and social support after release also contributes to a worrying phenomenon: the increase in juvenile crime. Many young people leaving foster care institutions, without concrete opportunities for social reintegration, end up seeing crime as an immediate alternative for survival. This scenario is explained by Rational Choice Theory, according to which the individual acts based on cost-benefit assessments within the conditions imposed upon them. When the State fails to offer legitimate means of subsistence, it increases the attractiveness of illegal alternatives.

Critical criminology, represented by authors such as Alessandro Baratta and Roberto Lyra, goes further by demonstrating that juvenile delinquency is rooted in structural causes. Economic inequality, lack of opportunities, and social stigma form a context that pushes young people towards marginality. In this sense, state omission is not merely an administrative failure, but a factor in the production of crime. The lack of educational, psychological, and professional support perpetuates the cycle of exclusion and prevents the construction of autonomous trajectories.

From this perspective, crime prevention cannot be reduced to repressive penal policies, but must integrate comprehensive social policies aimed at reducing risk factors and strengthening protective factors. Education, professional integration, and access to housing are more effective instruments for crime prevention than any punitive measure. Primary prevention, as advocated by Baratta, should address the structural causes of exclusion, guaranteeing dignified living conditions. Thus, ensuring institutional release as a planned and assisted process is also a form of modern and humanistic criminal policy.

The state's omission in monitoring young people after they leave foster care therefore represents a direct violation of the Doctrine of Integral Protection and the principle of human dignity.

A well-conducted institutional discharge is more than an administrative act: it is the realization of a fundamental right to autonomy and citizenship. Only through continuous, intersectoral public policies committed to social inclusion will it be possible to break the cycle of invisibility, prevent the criminalization of youth, and ensure that each young person leaving an institution can rebuild their life with dignity and real opportunities.

## CONCLUSION

The reflection developed throughout this work allows us to affirm that the effectiveness of comprehensive protection for children and youth depends on the State's capacity to transform its legal precepts into concrete and continuous actions. The observed reality reveals a mismatch between normative discourse and practical execution, resulting in a process of institutional disengagement that is unstructured and dehumanized. This disconnection between norm and practice has direct effects on the lives of young people leaving foster care, who, upon leaving the institution, face a lack of emotional, social, and economic support, often being pushed back into the marginalization that the system should have prevented.

It is concluded that institutional disengagement needs to be understood as an integral and essential part of public protection policy, and not as its termination. Reaching the age of majority should not represent the end of state responsibility, but the transition to a new stage of support and inclusion. It is essential that there be individualized disengagement plans, initiated before the age of 18, that include psychosocial support, professional training, and integration into the job market. Only through a planned and coordinated process between different sectors—education, social assistance, health, housing, and work—will it be possible to ensure that disengagement translates into autonomy, and not abandonment.

The need for a new social pact between the State and civil society is also evident. Policies aimed at youth cannot remain conditioned by a logic of provisionality or depend on isolated initiatives; they need to be structured, financed, and monitored transparently. Fulfilling the doctrine of integral protection requires political and ethical commitment, based on the idea that investing in emancipation is investing in citizenship and public safety. Institutional disengagement, therefore, should be seen as a planned and progressive pedagogical stage that ensures the strengthening of individual capacities and the right to a dignified and autonomous life.

It has been found that state omission in managing this process exacerbates inequalities and increases the social vulnerability of young ex-prisoners. The lack of specific transition policies, training programs, and financial support constitutes a direct violation of the principle of comprehensive protection and the dignity of the human person. Discharge without adequate preparation represents not only an administrative failure but also a practical denial of fundamental rights guaranteed by the Constitution and international human rights treaties to which Brazil is a signatory.

Based on the literature analyzed, it is possible to affirm that investing in preventive social policies is more efficient and less costly than adopting subsequent punitive or compensatory measures. Ensuring a safe and guided transition is not only a matter of social justice, but also of public safety, insofar as it reduces the chances of recidivism in vulnerability and criminalization among young people. The State, therefore, must cease acting reactively and assume a proactive stance, committed to the emancipation and inclusion of young people.

Thus, the central conclusion of the study is that the effective implementation of the principle of comprehensive protection depends on transforming institutional care into an instrument of emancipation, not exclusion. This requires a stable public policy with mandatory national guidelines and mechanisms for oversight and funding. Only in this way will it be possible to break the cycle of "double invisibility," ensure that young people leaving institutional care have access to the opportunities necessary for their full development, and consolidate a State truly committed to human rights, dignity, and social justice.

## REFERENCES

ARANTES, Esther Maria de Magalhães. Rostos de Crianças no Brasil – A criminalização da criança pobre. In: PILOTTI, Francisco; RIZZINI, Irene (org.). **A Arte de Governar Crianças: A história das políticas sociais, de legislação e de assistência à infância no Brasil**. 1. ed. Rio de Janeiro: Universitária Santa Úrsula, 1995. p. 207 – 218.

ASSIS, Simone Gonçalves de. **Levantamento Nacional das Crianças e Adolescentes em Serviço de Acolhimento**. São Paulo: Hucitec Editora, 2013. Available at: [https://aplicacoes.mds.gov.br/sagi/dicivip\\_datain/ckfinder/userfiles/files/LIVRO\\_Levanta](https://aplicacoes.mds.gov.br/sagi/dicivip_datain/ckfinder/userfiles/files/LIVRO_Levanta%20Nacional_Final.pdf) mento%20Nacional\_Final.pdf. Access on: 07 dez 2023.

BARATTA, Alessandro. *Criminologia Crítica e Crítica do Direito Penal*. 3. ed. Rio de Janeiro/RJ: Instituto Carioca de Criminologia, 2016

BRASIL. **Constituição (1988). Constituição da República Federativa do Brasil**. Promulgada em 5 de outubro de 1988.

BRASIL. **Lei nº 8.069, de 13 de julho de 1990**. Dispõe sobre o Estatuto da Criança e do Adolescente, e dá outras providências.

BOBBIO, Norberto. **A era dos direitos**. Rio de Janeiro: Campus, 1992.

BARBOSA, Ariel Dantas; GOMES, Laiane Santana. Não tinha teto, não tinha nada: um estudo sobre invisibilidade social com moradores em situação de rua da cidade de Alagoinhas-BA. **Revista Tempo Amazônico**, v. 6, n. 2, p. 131-153, 2019. Disponível em [https://www.ap.anpuh.org/download/download?ID\\_DOWNLOAD=2085](https://www.ap.anpuh.org/download/download?ID_DOWNLOAD=2085). Access on: 15 dez. 2022.

CANOTILHO, J.J. Gomes. O Círculo e a Linha, **Da Liberdade dos Antigos à Liberdade dos Modernos, na Teoria Republicana dos Direitos Fundamentais, in Estudos sobre Direitos Fundamentais**. Coimbra Editora, 1 ed., Coimbra, 2004.

CONVENÇÃO DOS DIREITOS DAS CRIANÇAS. **Decreto nº 99.710, de 21 de novembro de 1990**. Disponível em [https://www.planalto.gov.br/ccivil\\_03/decreto/1990-1994/d99710.htm](https://www.planalto.gov.br/ccivil_03/decreto/1990-1994/d99710.htm). Access on: 14 dez. 2022.

CAPELLARI, Amanda. Poéticas insurgentes: o desligamento institucional por maioria. Universidade Federal do Rio Grande do Sul, **Instituto de Psicologia, Programa de Pós-graduação em Psicologia Social e Institucional**, 2019. Disponível em <https://lume.ufrgs.br/handle/10183/205354>. Access on: 14 dez. 2022.

CARDOSO, Suliane da Silva. **O Processo de Desligamento Institucional e suas Problemáticas**.

Programa de Pós-Graduação em Ciências Sociais, PUCRS, 2019. Disponível em <https://editora.pucrs.br/anais/1422/assets/edicoes/2019/arquivos/8.pdf>. Access on: 14 dez. 2022.

CONSELHO DE ASSISTÊNCIA SOCIAL (CNAS). **Plano Nacional de Promoção, Proteção e Defesa do Direito de Crianças e Adolescentes à Convivência Familiar e Comunitária**. 2006. Disponível em [https://www.mds.gov.br/webarquivos/publicacao/assistencia\\_social/Cadernos/Plano\\_Defesa\\_Crianças\\_Adolescentes%20.pdf](https://www.mds.gov.br/webarquivos/publicacao/assistencia_social/Cadernos/Plano_Defesa_Crianças_Adolescentes%20.pdf). Access on: 14 dez. 2022.

CONSELHO NACIONAL DO MINISTÉRIO PÚBLICO. **CNMP divulga dados sobre acolhimento de crianças e adolescentes**. Disponível em <https://www.cnmp.mp.br/portal/todas-as-noticias/3702-cnmp-divulga-dados-sobre-acolhimento-de-criancas-e-adolescentes>. Access on: 14 dez. 2022.

COSTA, L.; DELL'AGLIO, D. A rede de apoio social de jovens em situação de vulnerabilidade social. In: R. Libório & S. Koller (Orgs.). **Adolescência e juventude: risco e proteção na realidade brasileira**. São Paulo: Casa do Psicólogo, 2009. p. 219-264.

FAKUDA, C.; BRASIL, K.; ALVES, P. Fatores de risco e proteção: considerações sobre gênero. In: R. Libório & S. Koller (Orgs.). **Adolescência e juventude: risco e proteção na realidade brasileira**. São Paulo: Casa do Psicólogo, 2009. p. 107-131.

FIGUERÓ, M. E. S. da S.; CAMPOS, H. R.. *Psicologia Argumento*, Curitiba, v. 31, n. 72, p. 113-125, 2013. Disponível em [https://www.ciespi.org.br/media/files/fcea049a8ec4d511ecbe6e5141d3afd01c/f280ecba8c4d711ecbe6e5141d3afd01c/AR19ACI042\\_2013.pdf](https://www.ciespi.org.br/media/files/fcea049a8ec4d511ecbe6e5141d3afd01c/f280ecba8c4d711ecbe6e5141d3afd01c/AR19ACI042_2013.pdf). Access on: 15 dez. 2022.

FONSECA, C. Os direitos da criança - dialogando com o ECA. In: C. Fonseca, V. Terto Junior, C. F. Alves (Orgs.). **Antropologia, diversidade e direitos humanos: diálogos interdisciplinares**. Porto Alegre: Editora da UFRGS, 2004.

GARCIA, N. L. **Acolhimento Institucional e o Desligamento Obrigatório. Trajetórias, significados e perspectivas futuras para as adolescentes**. Universidade Federal de Santa Catarina, Centro Socioeconômico, Departamento de Serviço Social. Florianópolis, 2019. Disponível em <https://repositorio.ufsc.br/bitstream/handle/123456789/204014/Nicole%20Lazzari%20Garcia.pdf?sequence=1>. Access on: 14 dez. 2022.

GONÇALVES, L. C. S.; FABRIZ, D. C. **Dever Fundamental: a construção de um conceito**. In: C. M. De Marco, M. C. C. Pezzella, W. Steinmetz (Orgs.). *Série Direitos Fundamentais Civis: teoria geral e mecanismos de efetividade no Brasil e na Espanha-Tomo I*. 1.ed. Joaçaba: Editora Unoesc, 2013.

GOVERNO FEDERAL. Carta de Constituição de Estratégias em Defesa da Proteção Integral dos Direitos da Criança e do Adolescente. 2012. Disponível em [https://crianca.mppr.mp.br/arquivos/File/cartas/carta\\_de\\_constituicao\\_de\\_estrategias\\_em\\_defesa\\_das\\_crianças.pdf](https://crianca.mppr.mp.br/arquivos/File/cartas/carta_de_constituicao_de_estrategias_em_defesa_das_crianças.pdf). Access on: 14 dez. 2022.

HACK, Ana Lúcia Albuquerque de Souza. **O acolhimento institucional de crianças e adolescentes e a garantia do direito à convivência familiar e comunitária**. 2016. 101 f. Trabalho de Conclusão de Curso (Graduação) - Curso de Serviço Social, Universidade Federal de Santa Catarina, Florianópolis, 2016.

KOLLER, S.; MORAIS, N.; CERQUEIRA-SANTOS, E. **Adolescentes e jovens brasileiros: levantando fatores de risco e proteção.** In: R. Libório & S. Koller (Orgs.), *Adolescência e juventude: risco e proteção na realidade brasileira.* São Paulo: Casa do Psicólogo, 2009. p. 17-56.

MINISTÉRIO DO DESENVOLVIMENTO SOCIAL E COMBATE À FOME. **Orientações técnicas: Serviços de Acolhimento para Crianças e Adolescentes.** 2º ed, 2009. Disponível em [https://www.mds.gov.br/webarquivos/publicacao/assistencia\\_social/Cadernos/orientacoes-tecnicas-servicos-de-acolhimento.pdf](https://www.mds.gov.br/webarquivos/publicacao/assistencia_social/Cadernos/orientacoes-tecnicas-servicos-de-acolhimento.pdf). Access on: 14 dez. 2022.

MORAIS, J. L. B. de; MOREIRA, N. C. **Constitucionalismo, Estado de Direito e a Invisibilidade social que “teima” em continuar.** *Revista de Direitos e Garantias Fundamentais*, Vitória, v. 20, n. 3, p. 11-30, set./dez. 2019. Disponível em <https://sisbib.emnuvens.com.br/direitosegarantias/article/view/1798/pdf>. Access on: 14 de dez. 2022.

OLIVEIRA, A. P. G. de; MILNITSKY-SPAIRO, C. Políticas públicas para adolescentes em vulnerabilidade social: abrigo e provisoriedade. *Psicologia: Ciência e Profissão* [online], v. 27, n. 4, 2007. Disponível <<https://www.scielo.br/j/pcp/a/PvLJR7FsZwqhtk3X7K39SGp/abstract/?lang=pt>>. Access on: 14 dez. 2022.

ORGANIZAÇÃO DAS NAÇÕES UNIDAS. **Committee on the rights of the child. Concluding observations on the combined second to fourth periodic reports of Brazil.** 2015. Available at: <http://www.ohchr.org>. Access on: 14 dez. 2022.

PRESIDÊNCIA DA REPÚBLICA. **Plano Nacional de Promoção, Proteção e Defesa do Direito de Crianças e Adolescentes à Convivência Familiar e Comunitária.** Secretaria Especial dos Direitos Humanos, Ministério do Desenvolvimento Social e Combate à Fome e Conselho Nacional dos Direitos da Criança e do Adolescente (CONANDA). Disponível em [https://www.mds.gov.br/webarquivos/publicacao/assistencia\\_social/Cadernos/Plano\\_Defesa\\_Crianças\\_Adolescentes%20.pdf](https://www.mds.gov.br/webarquivos/publicacao/assistencia_social/Cadernos/Plano_Defesa_Crianças_Adolescentes%20.pdf). Access on: 14 dez. 2022.

SILVA, M. E. S. da. **Acolhimento Institucional: A Maioridade e o Desligamento.** *Centro de Ciências Humanas, Letras e Artes.* Programa de Pós-Graduação em Psicologia. Universidade Federal do Rio Grande do Norte. Natal, 2010. Disponível em [https://repositorio.ufrn.br/bitstream/123456789/17469/1/MarthaESS\\_DISSERT.pdf](https://repositorio.ufrn.br/bitstream/123456789/17469/1/MarthaESS_DISSERT.pdf). Access on: 15 dez. 2022.

SOUZA, I. F. de; SERAFIM, R. N. V. Os Direitos Humanos da Criança: Análise das Recomendações do Comitê dos Direitos da Criança das Nações Unidas. **Revista de Direitos e Garantias Fundamentais.** Vitória, v. 20, n. 1, p. 191-218, jan./abr. 2019. Disponível em <https://sisbib.emnuvens.com.br/direitosegarantias/article/view/1134/pdf>. Access on: 14 dez. 2022.

VIANA, Eduardo. **Criminologia.** 9. ed. Volume

140. SCHOOL DELAY AMONG ADOLESCENTS AGED 15 TO 17: AN ANALYSIS OF PERSISTENCE IN ELEMENTARY EDUCATION

*ATRASO ESCOLAR ENTRE ADOLESCENTES DE 15 A 17 ANOS: UMA ANÁLISE DA PERMANÊNCIA NO ENSINO FUNDAMENTAL*

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**ABSTRACT**

**Introduction:** School delay among adolescents aged 15 to 17 constitutes a serious challenge for Brazilian education, reflecting historical inequalities, social vulnerabilities, and structural weaknesses that hinder adequate school progression. This phenomenon, known as age-grade distortion, compromises individual development, reduces educational opportunities, and deepens regional and socioeconomic inequalities. **Objective:** To analyze the retention of adolescents aged 15 to 17 in elementary education in the municipalities of Espírito Santo, seeking to identify territorial patterns and gender differentials that highlight educational inequalities associated with age-grade delay. **Method:** This is an ecological study with a quantitative approach, based on secondary data extracted from the Espírito Santo Education Data System (SEDRA) and the Brazilian Institute of Geography and Statistics (IBGE). Indicators referring to the year 2022 were analyzed, including the proportion of adolescents aged 15 to 17 enrolled in elementary education according to gender and municipality. The analysis included the creation of thematic maps using QGIS 3.24 software, as well as the organization of tables with school attendance rates by appropriate age, allowing visualization of territorial inequalities and differences between population groups. **Conclusion:** Understanding educational disparities among municipalities in Espírito Santo is fundamental to supporting the development of public policies capable of addressing school delays among adolescents. Analyzing territorial patterns and gender differences provides important insights for improving educational strategies, contributing to reducing age-grade distortion, promoting equity in access to education, and strengthening school retention among this population.

**Keywords:** school delay; adolescents; elementary education; educational inequality; Espírito Santo.

## INTRODUCTION

In Brazil, thousands of young people face a silent battle against school delay, which goes far beyond the numbers; it is a daily struggle against inequalities, social vulnerabilities, and disruptions in their educational trajectories. This phenomenon, called grade-level delay, is not limited to the accumulation of grade repetitions; it reveals interrupted school paths, social challenges, and profound historical inequalities. However, even before the pandemic, many children and adolescents, especially those living in peripheral areas or far from urban centers, already faced significant challenges to remain in school (Petersen et al., 2022).

When the COVID-19 pandemic closed schools, many students became disconnected not only from the classroom, but also from the learning, social, and supportive environment that school represents. This situation exposed the fragility of public policies to guarantee equity in access to education (Petersen et al., 2022).

Furthermore, Bartholo et al. (2022) warn that Brazil was one of the countries most affected by the disruption of regular education during the pandemic period. This is because, unlike other nations that managed to maintain some level of continuity through structured remote learning, in our country, millions of students were simply disconnected from school.

As a result, the losses in the learning process were profound and asymmetrical, because while students from higher classes managed to maintain a certain pace, the poorest saw their school development regress. The authors estimate that, in 2020 alone, young Brazilians lost between 9 and 15 months of learning, which puts the country in a worrying position compared to other international contexts (Bartholo et al., 2022).

On the other hand, when analyzing the behavior of adolescents nearing the end of basic education, the risk of dropping out of school becomes even more alarming. In this sense, Lichand and Christen (2020) demonstrated that sending motivational messages via cell phone (known as nudges) was able to significantly reduce school dropout among adolescents. Therefore, these results show that engagement and retention in school depend not only on pedagogical content, but also on emotional, motivational, and contextual factors.

This reality, unfortunately, reflects a series of obstacles ranging from learning difficulties to disruptions in their educational trajectory, which demonstrates how much the education system, in many cases, fails to keep up with the needs of these young people (UNICEF, 2024, Silva, 2017).

Unfortunately, many young people of the appropriate age for high school remain enrolled in lower educational levels, reflecting learning difficulties, disruptions in their educational trajectory, and an education system that does not always keep pace with the needs of these students (UNICEF, 2024). One of the main reasons for this mismatch is the high rate of grade repetition, common in public schools, which contributes to demotivation and increased school dropout (Costa; Pereira; Pires, 2023).

Furthermore, financial difficulties lead many teenagers to interrupt their studies to work and help with family income (Folha, 2023; IBGE, 2023). Another important factor is fragile emotional and mental health, often affected by contexts of violence, neglect, and lack of support. For example, for girls, there are also specific challenges, such as the overload of domestic tasks and early pregnancy, which contribute to school interruption (IBGE, 2023).

The consequences of falling behind in school are harsh and long-lasting, because the greater the gap between age and grade level, the higher the probability of dropping out permanently, compromising self-esteem and reducing the chances of personal and professional development (Redalyc, 2024; Viana; 2025). Furthermore, this learning gap makes it difficult to understand

classroom content, generating a feeling of exclusion that exacerbates the young person's social vulnerability.

As a result, the difficulty in completing basic education limits access to better job and income opportunities, perpetuating inequalities and restricting future prospects (IBGE, 2023; Redalyc, 2024).

This reality must be changed by providing basic student conditions, addressing issues such as unequal access to public resources and services, insufficient educational policies, and a lack of adequate teacher training. Understanding this data is fundamental to directing specific actions towards rural communities, predominantly Black territories, or vulnerable groups, such as girls facing early pregnancy, with the goal of promoting true educational equity.

The Brazilian Institute of Geography and Statistics (IBGE), through surveys such as the Continuous National Household Sample Survey (PNAD Contínua) and the Demographic Census, provides reliable and detailed data on enrollment and age-grade discrepancy, segmented by gender, race, and geographic location (IBGE, 2023). The indicator showing the proportion of adolescents aged 15 to 17 enrolled in primary education is an essential analytical tool for comparing regions and social groups and evaluating the impact of public policies.

Measuring this reality is essential to support effective interventions, since by mapping the patterns of lag, managers and researchers can identify critical areas, evaluate programs such as FUNDEB (National Fund for the Development of Basic Education), and adjust strategies based on concrete evidence. This ensures greater transparency, efficiency, and fairness in the application of public resources and in the development of educational policies.

Given this scenario, this study aims to analyze the retention of adolescents aged 15 to 17 in primary education in the municipalities of Espírito Santo, focusing on identifying territorial patterns and gender differences that reveal educational and social inequalities associated with school delay. This is based on the analysis of data from the Espírito Santo Education Data System (SEDRA).

## **METHOD**

This is an ecological study based on secondary data on the percentage of students outside the school age range and the gross rate of students of ideal school age in the State of Espírito Santo. The information was obtained through the SEDRA website, at the address <https://sidra.ibge.gov.br/pesquisa/censo-demografico/demografico-2022/amostra-educacao>, for year 2022. Data were used regarding people aged 15 to 17 who attended school, by educational level, according to age groups, sex, and color or race.

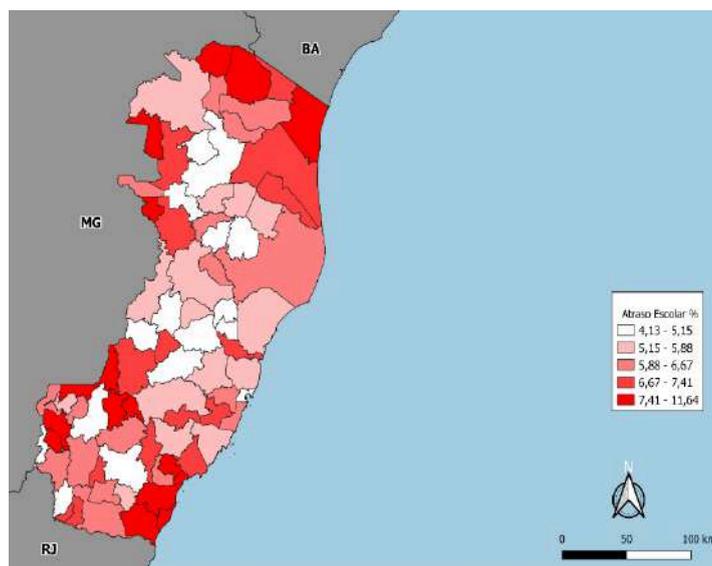
The information was collected according to the following steps: Accessing the SIDRA browser: Selecting the database of "*People aged 6 to 17 years old who attended school, by level of education, according to age groups, sex and color or race*" Selecting the variables, running the query and analyzing the data.

Information regarding enrollment rates in primary education for 15-17 year olds was represented in a geographic map, created using QGIS software, version 3.24. The map was constructed from shapefiles of Brazil and Espírito Santo, segmented by municipalities. The information, organized in tables, includes enrollment retention rates by appropriate school age, showing the prevalence of the variable among men and women.

## **RESULTS**

The analysis of the 78 municipalities in Espírito Santo highlights that 15 of them have the lowest rates, between 4.13% and 5.88%, regarding the percentage of 15-17 year olds who remained in elementary school in 2022. Conversely, 16 municipalities showed percentages between 7.41% and 11.64%, indicating worse rates related to remaining in elementary school.

Figure 1 - Map showing the percentage of school delay among adolescents aged 15 to 17 in 2022.



According to the analysis of SEDRA data related to school delay among adolescents aged 15 to 17 and their retention in elementary school, the municipality of São José do Calçado presented 93.8% of enrollments at the appropriate school age, considered the best rate in this percentage. Of this total, 93.34% are women and 94.27% are men.

Regarding the qualitative variable of gender, for males, the municipality that stands out with the best percentage of enrollments of school-age children is Bom Jesus do Norte with 96.39% of enrollments completed. For females, the municipality that stands out is Ponto Belo with 96.05%.

It is worth noting that, according to national data, 85.25% of enrollments correspond to the appropriate school age. In the state of Espírito Santo (ES), this rate is 83.55%, which shows an index close to the national average.

Table 1 - Percentage of adolescents aged 15 to 17 enrolled in primary education at the appropriate school age, by municipality and sex. Brazil and Espírito Santo, 2022.

<b>Brazil, Federal Unit and Municipality</b>	<b>Total</b>	<b>Men</b>	<b>Women</b>
Brazil	85.25	84.99	85.53
Espirito Santo	83.55	82.81	84.32
Afonso Cláudio (ES)	77.53	65.52	90.88
White Eagle (ES)	86.13	83.48	87.68
Água Doce do Norte (ES)	81.55	79.95	83.14
Alegre (ES)	86.83	82.28	92.04
Alfredo Chaves (ES)	82.97	73.91	90.22

<b>Brazil, Federal Unit and Municipality</b>	<b>Total</b>	<b>Men</b>	<b>Women</b>
Alto Rio Novo (ES)	81.25	77.6	85.22
Anchieta (ES)	85.4	85.94	84.89
Apiacá (ES)	76.99	72.39	81.65
Atilio Vivácqua (ES)	86.33	83.97	89.35
Baixo Guandu (ES)	82.08	80.42	83.98
Barra de São Francisco (ES)	86.89	83	90.32
Boa Esperança (ES)	81.99	79.6	84.57
Bom Jesus do Norte (ES)	89.72	96.39	83.71
Brejetuba (ES)	76.81	74.45	79.56
Cachoeiro de Itapemirim (ES)	82.36	79.95	84.84
Cariacica (ES)	83.21	81.35	85.2
Castelo (ES)	80.55	76.36	84.55
Colatina (ES)	86.63	84.82	88.69
Conceição da Barra (ES)	81.4	79.47	83.58
Conceição do Castelo (ES)	71.15	78.61	63.02
Divine of Saint Lawrence (ES)	79.99	73.77	86.88
Domingos Martins (ES)	76.32	76.85	75.78
Pains of the Rio Preto (ES)	78.46	76.03	80.79
Ecoporanga (ES)	84.29	82.26	86
Fundão (ES)	71.61	63.13	80.88
Governor Lindenberg (ES)	76.01	75.19	76.98
Guaçuí (ES)	82.16	80.84	83.48
Guarapari (ES)	82.95	86.53	79.13
Ibatiba (ES)	75.05	76.97	73.47
Ibiraçu (ES)	86.46	87.3	85.59
Ibitirama (ES)	75.26	72.73	78.08
Iconha (ES)	93.26	93.45	93.03
Irupi (ES)	72.56	73.28	71.52
Itaguaçu (ES)	67.73	60.43	75.08
Itapemirim (ES)	83.57	77.25	89.3
Itarana (ES)	72.53	64.13	81.91
Iúna (ES)	75.28	67.27	82.9
Jaguaré (ES)	82.49	80.31	84.67
Jerônimo Monteiro (ES)	88.48	91.13	85.96
João Neiva (ES)	79.81	77.03	82.55
Orange of the Earth (ES)	87.28	88.46	85.96
Linhares (ES)	82.91	83.73	82.09
Mantenópolis (ES)	89.1	93.38	84.15
Marataízes (ES)	83.12	78.82	89.33
Marshal Floriano (ES)	85.76	86.97	84.68
Marilândia (ES)	76.8	69.04	83.47
Mimoso do Sul (ES)	75.7	72.41	80.66
Mountain (ES)	85.3	82.6	88.28
Mucurici (ES)	89.65	92.22	86.92

<b>Brazil, Federal Unit and Municipality</b>	<b>Total</b>	<b>Men</b>	<b>Women</b>
Muniz Freire (ES)	80.73	75.68	86.9
Muqui (ES)	85.83	86.84	84.86
Nova Venécia (ES)	83.8	88.12	79.16
Pancas (ES)	74.11	73.21	75.07
Pedro Canário (ES)	83.88	82.92	84.91
Pinheiros (ES)	83.17	80.18	86.1
Piúma (ES)	86.88	83.92	90.27
Ponto Belo (ES)	84.86	71.94	96.05
President Kennedy (ES)	87.08	80.47	94.13
Bananal River (ES)	75.09	66.95	85.05
Rio Novo do Sul (ES)	90.42	88.87	92.03
Santa Leopoldina (ES)	73.16	78.75	67.75
Santa Maria de Jetibá (ES)	65.32	62.97	67.97
Santa Teresa (ES)	77.93	74.8	81.71
São Domingos do Norte (ES)	86.25	85.8	86.84
São Gabriel da Palha (ES)	76.78	79.75	73.85
São José do Calçado (ES)	93.78	94.27	93.34
São Mateus (ES)	84.98	84.24	85.76
São Roque do Canaã (ES)	78.26	80.66	76.05
Serra (ES)	84.37	84.97	83.71
Sooretama (ES)	80.48	82.17	78.89
Vargem Alta (ES)	81.41	81.11	81.68
Venda Nova do Imigrante (ES)	86.91	84.47	89.12
Viana (ES)	85.28	85.61	84.93
Vila Pavão (ES)	86.25	87.84	84.62
Vila Valério (ES)	73.86	78.03	69.17
Vila Velha (ES)	84.77	84.8	84.73
Vitória (ES)	89.96	91.35	88.55

Source: Data retrieved from SIDRA – IBGE Statistical Tables Database, 2022.

## DISCUSSION

The results obtained in this research show that, although Espírito Santo has a primary school retention rate for adolescents aged 15 to 17 close to the national average (83.55% in ES versus 85.25% in Brazil), a significant portion of young people still remain at school levels below their appropriate age range. This phenomenon of age-grade delay, corroborated by data from IBGE (2023) and UNICEF (2024), reinforces the structural and social difficulties faced by these students, which go beyond academic performance and reflect profound issues of inequality and social vulnerability (Silva, 2017).

The variation observed among the municipalities of Espírito Santo, where some have retention rates above 90% and others below 75%, indicates regional heterogeneity and the need for more targeted and contextual educational policies. Municipalities such as São José do Calçado and Bom Jesus do Norte, which exhibit better rates, may benefit from local factors that favor school

continuity, such as better socioeconomic conditions, educational infrastructure, or specific student engagement initiatives, which deserves further investigation.

The difference between the sexes in school retention, with some localities showing a higher percentage of girls enrolled at the appropriate age, highlights the influence of specific sociocultural and economic factors (Costa; Pereira; Pires, 2023). As pointed out in the literature (IBGE, 2023; Redalyc, 2024), girls face particular challenges, such as early pregnancy and the burden of domestic tasks, which can compromise their educational trajectory, although in certain contexts they demonstrate greater persistence in their studies. Boys, in some regions, tend to have higher dropout rates, possibly linked to factors such as child labor or greater involvement in activities outside of school.

Observing the geographical distribution of municipalities with the highest percentage of 15- to 17-year-old adolescents enrolled in primary education at the appropriate age, a relevant pattern emerges: the best rates are concentrated outside the metropolitan region of Espírito Santo. In contrast, five of these municipalities, located in the northern region and eleven in the southern region of the state, show the highest percentages of individuals with inappropriate school age when compared to the large urban centers and the main industrial hub of Espírito Santo.

This finding challenges the expected logic that more socioeconomically developed regions, such as Greater Vitória, would present better educational indicators. On the contrary, the data reveal that municipalities in the interior, even with less access to urban infrastructure and technological resources, have been achieving more positive results in terms of school retention. This phenomenon may be related to factors such as stronger community ties, schools with lower dropout rates due to proximity to families, or more effective local educational policies, which deserves further investigation. This regional heterogeneity reinforces the need for public educational policies that take into account territorial specificities, avoiding homogeneous solutions disconnected from local realities (UNICEF, 2018).

The COVID-19 pandemic, as discussed by Petersen *et al.* (2022) and Bartholo *et al.* (2022), further aggravated the situation of adolescents at risk of academic delay, especially those in vulnerable socioeconomic contexts, due to the interruption of in-person teaching and the difficulty of accessing remote learning. This highlights the urgency of measures that not only recover lost learning but also address the structural causes of educational inequality.

Furthermore, the significant rate of adolescents outside the appropriate age for high school who remain in elementary school indicates a failure of the educational system to offer alternatives that maintain engagement and adequate academic progress, such as learning recovery programs and curriculum flexibility. As suggested by Lichand and Christen (2020), motivational and psychosocial support strategies can be fundamental to reducing dropout and grade repetition.

## CONCLUSION

Therefore, a detailed understanding of the territorial and social disparities presented in this study is essential to guide the formulation of more effective public policies that promote educational equity and contribute to reducing the age-grade gap, providing these adolescents with real conditions for remaining in and succeeding in school.

## REFERENCES

BARTHOLO, T. L. et al. Learning loss and learning inequality during the Covid-19 pandemic. **Ensaio: Avaliação e Políticas Públicas em Educação**, 2022. DOI: 10.1590/S0104-40362022003003776.

FOLHA DE S. PAULO. Evasão escolar: Por que fenômeno é alto no Brasil? 10 jul. 2023. Available at: <https://www1.folha.uol.com.br/opiniaio/2023/07/por-que-os-jovens-saem-precocemente-da-escola.shtml>. Acesso em: 15 jun. 2025.

IBGE. Trabalho é principal motivo de abandono escolar no Brasil. 7 jun. 2023. Available at: <https://www1.folha.uol.com.br/educacao/2023/06/necessidade-de-trabalhar-e-principal-motivo-de-abandono-escolar-no-brasil.shtml>. Acesso em: 15 jun. 2025.

LICHAND, G.; CHRISTEN, J. Using Nudges to Prevent Student Dropouts in the Pandemic. **arXiv**, set. 2020. Available at: <https://arxiv.org/abs/2009.04767>. Acesso em: 15 jun. 2025.

PETERSEN, A. S. et al. Pandemia e fracasso escolar: algumas reflexões. **Imagens da Educação**, v. 13, n. 1, 2022. DOI: 10.4025/imagenseduc.v13i1.61508. Available at: <https://ojs.uem.br/ojs/index.php/ImagensEduc/article/view/61508>. Access on: 15 jun. 2025.

REDALYC. A relação de fatores individuais, familiares e escolares com a distorção idade-série no ensino público brasileiro. 2024. Available at: <https://www.redalyc.org/journal/4004/400454872005/html/> Access on: 15 jun. 2025.

UNICEF. Brasil reduz distorção idade-série, mas 13% dos estudantes do ensino fundamental público estão com dois ou mais anos de atraso escolar, alerta UNICEF. São Paulo, 04 jun. 2024. Available at: <https://www.unicef.org/brazil/comunicados-de-imprensa/brasil-reduz-distorcao-idade-serie>. Access on: 15 jun. 2025.

UNICEF Brasil. *Panorama da distorção idade-série no Brasil*. Brasília: UNICEF Brasil, 2018. Available at: [https://www.unicef.org/brazil/media/461/file/Panorama\\_da\\_distorcao\\_idade-serie\\_no\\_Brasil.pdf](https://www.unicef.org/brazil/media/461/file/Panorama_da_distorcao_idade-serie_no_Brasil.pdf). Access on: 15 jun. 2025.

SILVA, W. Evasão escolar no ensino médio no Brasil/Schoolevasion in high school in Brazil. *Educação em Foco*, v. 19, n. 29, p. 13–14, 2017. DOI: <https://doi.org/10.24934/eef.v19i29.1910>

COSTA, M. M. .; PEREIRA, A. dos S.; PIRES, R. V.. MOTIVOS DE ABANDONO ESCOLAR NO BRASIL: ANÁLISE DE DADOS DA PNAD CONTÍNUA DE 2019. **Boletim de Conjuntura (BOCA)**, Boa Vista, v. 15, n. 43, p. 104–120, 2023. DOI: 10.5281/zenodo.8111841. Disponível em: <https://revista.ioles.com.br/boca/index.php/revista/article/view/1615>. Access on: 14 jun. 2025.

VIANA, Janice Santos; PELEGRINI, Tatiane; MORES, Giana de Vargas. O impacto da educação infantil sobre a reprovação e o abandono escolar: uma análise para a região Sul do Brasil. **Revista Meta: Avaliação**, [S.l.], v. 17, n. 56, p. 285-309, oct. 2025. ISSN 2175-2753. DOI: <http://dx.doi.org/10.22347/2175-2753v17i56.4960>.

## 141. THE INFLUENCE OF GAMBLING ON PUBLIC HEALTH: A NARRATIVE REVIEW

### *INFLUÊNCIA DOS JOGOS DE AZAR NA SAÚDE PÚBLICA: UMA REVISÃO NARRATIVA*

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#### ABSTRACT

**Introduction:** Gambling has accompanied human society for millennia, assuming cultural, economic, and recreational functions. In Brazil, even under strong state repression throughout the 20th century, practices such as lotteries, bingo, and informal betting remained present in daily life. With technological advancements and the globalization of digital markets, online platforms and sports betting have become central to public debate. This scenario has broadened access to and frequency of betting, intensifying risky behaviors, especially among young people and vulnerable populations. This expansion generates significant impacts on public health, such as behavioral dependence, anxiety, indebtedness, and family conflicts, in addition to deepening structural inequalities. **Objective:** To analyze the influence of gambling on public health, considering historical, cultural, social, and legal aspects, as well as the effects of betting on individual and collective vulnerabilities in Brazil. **Method:** This is a narrative review with a qualitative approach, constructed from scientific productions available in databases such as PubMed, BVS, and SciELO. The search was exploratory, prioritizing studies that addressed gambling, its social impacts, and the development of Brazilian public policies. As a narrative review, there was no rigid inclusion protocol, allowing for a broad theoretical-reflective synthesis of the phenomenon. **Results:** The analyzed studies reveal that gambling has strong cultural roots in Brazil, marked by community practices and historical cycles of prohibition and attempts at state regulation. Digitalization has expanded continuous access to online gambling, favoring impulsive behaviors and the development of addiction. Among the associated vulnerabilities are: progressive indebtedness, weakening of family relationships, anxiety, depression, and emotional distress. Socially disadvantaged populations are more affected, as they see gambling as an illusory possibility of economic advancement. In the legal field, although recent laws, such as Law No. 14.790/2023, seek to regulate betting and expand user protection, gaps persist in oversight, advertising regulation, and harm prevention. **Conclusion:** It was observed that gambling constitutes a growing public health problem in Brazil. Its expansion in the digital environment intensifies social and emotional vulnerabilities, requiring intersectoral public policies that articulate health, education, social assistance, and economic regulation. Advancing in oversight, offering psychosocial support, and holding companies accountable is fundamental to reducing harm and promoting comprehensive care, balancing economic freedom and social protection.

**Keywords:** Gambling. Public policy. Public health.

## INTRODUCTION

The act of gambling can be understood as a social practice in which an individual voluntarily risks a resource, usually of a financial nature, on an event with an uncertain outcome, guided by the expectation of gain and the symbolic meaning attributed to risk. Furthermore, the intermittent reinforcement mechanisms present in gambling can intensify the repetition of the behavior and contribute to the development of problematic patterns or behavioral dependence, highlighting the multidimensional complexity of the phenomenon (Calado and Griffiths, 2016).

Gambling doesn't have a single point of origin, but has existed for over 5,000 years in different civilizations. The oldest records are from Mesopotamia, where the first data were found around 3000 BC. Simultaneously, Egypt, China, Greece, and Rome developed their own forms of games and betting, ranging from religious rituals to sporting competitions and state lotteries. Over time, especially in Europe, these practices became institutionalized, culminating in the emergence of the first casinos and the consolidation of gambling as a social, economic, and cultural phenomenon (Schwartz, 2013).

Thus, the popularization of betting in the contemporary world stems from the combination of the institutionalization of traditional modalities, the development of sports media, the digitization of services, and the expansion of online platforms. The advancement of digital betting platforms and the popularization of bets have placed gambling at the center of discussions about regulation, public health, and social protection in Brazil. Although historically present in Brazilian daily life, betting has gained new dimensions with digitization, becoming more accessible, frequent, and potentially harmful. This expansion has provoked debates about its impacts on the social, economic, and emotional lives of individuals (Aquino, 2022).

Over the last few decades, gambling has gone from a restricted practice, previously linked to casinos, bingo halls, and lotteries, to a mass phenomenon, available 24 hours a day through apps and sports broadcasts. This change intensifies risky behaviors, especially among young people and vulnerable populations, who see in gambling an illusory promise of quick income and financial advancement. This increases the need for analyses that relate these practices to the social determinants of health (Ciribelli and Costa, 2025).

However, the contemporary scenario challenges this paradigm: globalization, technology, and international commercial pressure have made prohibition insufficient to contain the advance of online betting. Thus, regulatory gaps emerge that hinder consumer protection and weaken the State's ability to control a highly lucrative and rapidly growing market (Cavalcante *et al.*, 2024).

Furthermore, the impacts of gambling go beyond the economic sphere. They produce concrete effects on mental health, such as anxiety, behavioral dependence, and depression, in addition to triggering debt, family conflicts, and emotional suffering (Goodman, 1994). These factors reveal the need for intersectoral public policies that articulate health, education, social assistance, and justice, in order to prevent harm and ensure support for affected groups.

Therefore, the objective of this study is to analyze the influence of gambling on public health.

## METHOD

This is a narrative literature review, with a qualitative approach, focused on analyzing public policies on gambling and their implications for the physical, social, and emotional well-being of individuals affected by the inequalities and illnesses produced by this system. This review allows for a

theoretical-reflective approach to available scientific texts, without the need for a detailed methodological protocol with defined criteria to guide the selection and analysis of data (Martins, 2015).

This method is relevant for understanding the challenges and gaps in the implementation of these public policies focused on this topic. Therefore, the selection of theoretical material was exploratory, based on its relevance to this study. The collected studies were consulted in the PubMed, BVS, and SciELO databases.

## **RESULTS AND DISCUSSION**

### **Social construction of betting in Brazil: culture and controversies**

Understanding the presence of gambling in Brazil requires looking beyond digital platforms and recognizing that there is a deep cultural link with the act of betting. Even before the internet existed, gambling was already part of Brazilian social life: bingo games organized at family parties, betting at rodeos in the countryside, traditional official lotteries, as well as domino and card games that bring together many elderly people in public squares. These practices, often associated with leisure and community life, show how gambling has been normalized over the decades (Mota and Padilha, 2020).

However, this scenario did not develop linearly. Since the 1920s, Brazil has experienced a constant movement of legal prohibitions and flexibilities, revealing political disputes, economic interests, and moral tensions that permeate society. In other words, when online betting arrived, it found a terrain already marked by historical controversies (Benatte, 2002).

The most recent turning point occurred in 2018, when President Michel Miguel Elias Temer Lulia sanctioned Law No. 13.756/2018, which authorized fixed-odds sports betting in the country (Brazil, 2018). This model allows bettors to know in advance how much they can win, which has contributed to popularizing the practice, especially after the pandemic and the accelerated advancement of digital technologies. Even so, it is important to highlight that traditional games of chance, such as casinos, roulette, and slot machines, remain prohibited in Brazil, precisely because they depend exclusively on luck, without the intervention of skill or strategy (Favere, 2024).

Despite the ban, access to international platforms is widespread. Since the internet knows no borders, many people participate in betting sites based outside the country, creating a scenario of vulnerability, lack of legal protection, and social risk. In Brazil, the only type of betting that has been truly regulated for decades is horse racing, which has its own legislation (Mazar et al., 2020).

This set of factors, such as cultural heritage, legislative gaps, easy access, and the absence of robust public policies, helps to explain why gambling is gaining so much ground and how this impacts public health, especially among vulnerable populations (Gimenez, 2024).

Therefore, understanding how gambling took root in Brazil also means recognizing the weaknesses that arise from this process. When tradition, legal loopholes, and technology meet, conditions are created for many individuals to find in gambling not only leisure, but also a false promise of a quick solution to complex problems. It is from this reality that vulnerabilities emerge that need to be critically discussed in the context of public health.

### **Social impacts and the production of structural vulnerabilities.**

Given this historical and cultural context, it becomes evident that gambling is not limited to a recreational activity: it produces concrete impacts on people's lives and deepens existing inequalities. The social consequences associated with gambling, especially among more vulnerable populations, reveal a complex scenario involving financial, emotional, and even mental health risks (Holits Júnior et al., 2024).

The relationship between gambling and social vulnerability must be analyzed within a structural context that involves historical inequalities, lack of access to rights, and precarious living conditions. In the poorest social strata, gambling tends to take on an illusory character of rapid upward mobility, functioning as a symbolic promise of life change. This expectation, while understandable, intensifies exposure to behavioral and financial risks, especially when there are no alternatives for economic inclusion or effective social safety nets (Goodman, 1994).

In this sense, gambling acts as a trigger for debt cycles that can affect not only the individual, but entire families. Successive financial losses compromise income, housing, food, and other basic needs, generating cumulative effects that deepen pre-existing vulnerability. In many cases, gambling-related debts are accompanied by informal loans, sales of essential goods, and weakening of family relationships, creating an environment of constant tension (Junior; Shockness; Do Carmo Azevedo, 2024).

In the emotional realm, frequent participation in gambling, especially quick-resolution games like digital ones, is associated with anxiety, impulsivity, repeated frustrations, and, in more severe cases, the development of compulsive behaviors. These impacts are even more severe among individuals already experiencing chronic stress, such as unemployment, financial difficulties, or social instability. Thus, the logic of gambling amplifies negative emotional states and contributes to psychological exhaustion (Silva, 2025).

Another important element concerns stigma. People who face financial problems stemming from gambling are often blamed for their choices, which hinders their search for help and reduces access to mental health care services. In this way, this individual blame masks structural aspects, such as the lack of preventive policies, absence of financial education, and massive exposure to advertising from betting platforms (Laves, 2024).

Finally, it is crucial to consider that the combination of social vulnerability and easy access to gambling, especially in the digital environment, creates conditions conducive to social ills. The absence of clear regulations, consumer protection measures, and prevention programs contributes to the perpetuation of harmful cycles. Therefore, understanding these relationships is essential for proposing public policies that address not only the direct effects of gambling, but also the social determinants that make certain groups more susceptible to its impacts.

### **Regulatory frameworks and public policy guidelines at stake in Brazil**

The discussion about public policies related to gambling in Brazil has intensified in recent decades, especially in light of the expansion of digital betting platforms. Historically, the country adopted a prohibitive stance, marked by the banning of casinos and strict control over lottery modalities. However, economic, technological, and cultural changes have driven debates about regulation, security, and social responsibility in the sector. This movement highlights the need for a legal framework that protects the population and prevents social harm associated with gambling (Ragazzo and Ribeiro, 2012).

In recent years, especially since 2023 with Law No. 14,790/2023, which establishes new guidelines for the regulation of sports betting and *betting platforms*, the issue has gained prominence (Brazil, 2023). The legislation has advanced in recognizing the activity, establishing rules for the operation of companies, and creating monitoring and oversight mechanisms. One of the central justifications for regulation is consumer protection, including measures for transparency in odds of winning, betting limits, and actions to prevent compulsive behavior. This approach seeks to balance economic interests with social responsibility (Cavalcante et al., 2024).

Furthermore, the need for intersectoral policies that link health, social assistance, education, and justice is highlighted, recognizing that the effects of gambling cut across multiple dimensions of social life. Regulation also requires companies to invest in user protection mechanisms, such as self-exclusion tools and identification of problematic behavior (Santos, 2025).

Brazil still faces significant challenges in consolidating a robust and coherent policy. This includes the need to improve educational campaigns, establish guidelines for responsible advertising, ensure effective oversight, and strengthen the psychosocial support network to assist people affected by gambling behavior. Therefore, existing legal frameworks provide a foundation, but their effectiveness depends on rigorous implementation, continuous monitoring, and social participation in the debate (Ragazzo and Ribeiro, 2012).

In this sense, it becomes necessary to visualize the main regulatory milestones that have influenced the construction of public policies for the sector over time. The following table summarizes the main legal instruments, their characteristics, and their direct implications on how Brazil has controlled, prohibited, or regulated gambling.

Table 1 - Legal instruments and their implications for gambling.

Year	Legal Instrument	Implications
1941	Decree-Law No. 3,688/1941 – Law on Criminal Offenses	It prohibits gambling throughout the national territory, classifying as a misdemeanor activities whose winnings depend exclusively or mainly on luck.
1946	Decree No. 9,215/1946	It officially abolishes casinos in Brazil, citing moral and social harm. It represents the biggest milestone in state repression of gambling.
1967	Decree-Law No. 204/1967	It consolidates lotteries as a Union monopoly, reinforcing the state-controlled nature of official betting.
1991	Bill No. 442/1991	It proposes legalizing casinos, bingo, and the <i>jogo do bicho</i> (a type of illegal lottery). Despite being brought up several times, it has never been voted on, highlighting intense political disputes.
1998	Law No. 9,615/1998 (Pelé Law) and subsequent regulations	It prevents the exploitation of bingo and gambling by sports entities, closing legal loopholes that were previously used.
1990–2004	Provisional Measures of the “Zico Law” and “Pelé Law” (various editions)	They create and then repeatedly abolish rules for bingo, generating legal instability and encouraging informality.
2004	Provisional Measure No. 168/2004 (later converted)	It definitively revokes the authorization for bingo halls to operate. It reaffirms the prohibition of gambling in the country.
2014	Bill No. 186/2014	The discussion about legalizing casinos, bingo, and the <i>jogo do bicho</i> (a type of illegal lottery) resumes. The political debate remains active, but it is not put to a vote.
2018	Law No. 13.756/2018	It authorizes fixed-odds sports betting in Brazil. It does not legalize casinos, bingo, slot machines, or the <i>jogo do bicho</i> (illegal lottery). It paves the way for the arrival of “bets”.

2023	Bill No. 3,626/2023	It proposes full regulation of online betting sites, with tax rules, company registration, and user protection mechanisms. Still under discussion.
2023–2024	Federal Government debates on the regulation of betting.	Discusses taxation, protection criteria, licensing, oversight, and combating money laundering in the betting market. The process is still under development.

Source: Prepared by the author (2025).

The trajectory of the regulatory frameworks presented shows that public policies for gambling in Brazil have historically been shaped by a prohibitive rationale, supported by arguments of a moral, economic, and social nature. According to the author Souza (2006), public policies are the result of state choices that express values, societal models, and competing interests. In the case of gambling, these choices have oscillated between social control, responses to economic pressures, and attempts to preserve moral order.

As shown in Table 1, the criminalization of gambling has become a structuring axis of Brazilian regulation, beginning with Decree-Law No. 3,688, which classified gambling as a misdemeanor and reinforced the idea that the practice represented a risk to public order. This view was further developed with Decree No. 9,215/1946, which abolished casinos under the justification of protecting "morality and good customs," a typical discourse of the period, aligned with the paternalistic role of the State in containing behaviors considered deviant (Silva, 2022).

In the following years, regulation was marked by legal intermittency, especially regarding bingo. The alternation between permissions and restrictions, as demonstrated by the "Zico Law," the "Pelé Law," and various provisional measures, generated what Secchi (2014) calls an "unstable institutional environment," favoring informality and hindering effective oversight mechanisms. In this context, the state's exploitation of lotteries (Decree-Law No. 204/1967) appears as a strategic exception, revealing that the State maintained control over institutionalized forms of betting when there was a revenue-raising interest.

From 2010 onwards, the landscape began to reshape itself in the face of the globalization of digital markets and the intensification of betting platforms. Law No. 13.756/2018 inaugurated a new cycle by allowing fixed-odds sports betting, opening space for so-called "bets," which have become social, economic, and media phenomena in the country. As Castells (2018) points out, technological transformations alter patterns of sociability and consumption, requiring new forms of regulation. This explains the emergence of recent debates, such as Bill No. 3626/2023, which seeks to establish consumer protection criteria, oversight mechanisms, and tax rules adapted to the digital environment.

In light of these milestones, it is clear that Brazilian gambling policy is currently shifting from a moralizing and repressive logic to an agenda focused on regulation, social accountability, and governance of the digital market. These movements respond, above all, to the contemporary need to guarantee legal security, combat illicit practices, reduce social harm, and establish a balance between economic freedom and user protection (Carrion, 2024).

In summary, the table highlights not only the regulatory evolution, but also the social and political conflicts that permeate the regulation of the sector, reflecting tensions between repression, state revenue collection, public morality, and economic expansion—tensions that continue to shape the current debate on betting and gambling in Brazil.

## CONCLUSION

In summary, gambling in Brazil constitutes a complex phenomenon involving historical disputes, economic interests, and direct impacts on public health. Its expansion, especially through digital platforms, highlights social vulnerabilities and amplifies emotional and financial risks for a large part of the population. Thus, although recent regulatory frameworks represent progress in the attempt to organize and oversee this market, significant gaps remain in consumer protection and the promotion of preventive actions.

Thus, addressing the challenges related to gambling requires intersectoral public policies capable of coordinating health, social assistance, education, and economic regulation. It is concluded that only an integrated approach can balance economic freedom, social protection, and health promotion in the contemporary Brazilian context.

## REFERENCES

AQUINO, Samuel Rodrigues Maia. Jogos de azar: Uma análise de legalidade das apostas esportivas á luz do ordenamento jurídico Brasileiro. Trabalho de Conclusão de Curso (Graduação em Direito) – Universidade Federal de Campina Grande, Campina Grande, 2022.

BENATTE, Antônio Paulo. **Dos jogos que especulam com o acaso: contribuição a historia do" e; jogo de azar" e; no Brasil (1890-1950).** 2002. Tese de Doutorado. [sn].

BRASIL. **Lei n. 13.756, de 12 de dezembro de 2018.** Dispõe sobre o Fundo Nacional de Segurança Pública (FNSP), sobre a destinação do produto da arrecadação das loterias e sobre a promoção comercial e a modalidade lotérica denominada apostas de quota fixa; altera diversas leis e revoga dispositivos. Diário Oficial da União, Brasília, DF, 13 dez. 2018.

BRASIL. **Lei n. 14.790, de 29 de dezembro de 2023.** Dispõe sobre a modalidade lotérica denominada apostas de quota fixa. Diário Oficial da União: seção 1, Ed. Extra J, Brasília, DF, 30 dez. 2023.

CALADO, Filipa; GRIFFITHS, Mark D. Problem gambling worldwide: An update and systematic review of empirical research (2000–2015). **Journal of behavioral addictions**, v. 5, n. 4, p. 592-613, 2016.

CAMARGO, Marília Teixeira. A legalização dos jogos de azar e cassinos no Brasil.2020. Trabalho de conclusão de curso Bacharelado em Direito). 2020. Pontifícia Universidade Católica de Goiás, Goiânia, 2020.

CARRION, Anna Carolina Zanella Machado. Influenciadores digitais e a responsabilização penal: uma análise da divulgação de jogos de azar nas redes sociais. 2024.

CASTELLS, Manuel. **O poder da identidade.** Editora Paz e Terra, 2018.

CAVALCANTE, Luana Teixeira et al. COMPORTAMENTO E ASPECTOS RELACIONADOS AO CONSUMIDOR DE APOSTAS ONLINE. **Boletim de Conjuntura (BOCA)**, v. 20, n. 58, p. 276-300, 2024.

CIRIBELI, João Paulo; COSTA, Carolaine Gaione. ANÁLISE DA ABRANGÊNCIA DOS JOGOS DE AZAR ONLINE NO BRASIL: legislação, prática e fiscalização. **Revista Científica UNIFAGOC-Jurídica**, v. 10, n. 1, 2025.

FAVERE, Daniel Macedo de. Cassinos online hospedados no exterior e suas operações dentro do mercado brasileiro: desafios legais e regulatórios. 2024.

GIMENEZ, Alicia Ribeiro Pinto Andrade. **Casas de Apostas no Brasil: A Influência da Publicidade e a Necessidade de Estratégias de Marketing Social**. 2024. Dissertação de Mestrado. Universidade NOVA de Lisboa (Portugal).

GOODMAN, Robert. Legalized Gambling as a Strategy for Economic Development. [S.l.]: United States Gambling Study, 1994.

HOLITS JÚNIOR, Matheus Eduardo Sanches et al. A Influência Negativa dos Jogos de Azar em Crianças e Adolescentes. 2024.

JUNIOR, Gilson Lopes Moreira; SHOCKNESS, Herman Winte Rodrigues; DO CARMO AZEVEDO, Delner. Relação do Estado brasileiro com os jogos de azar. **Revista Ibero-Americana de Humanidades, Ciências e Educação**, v. 10, n. 10, p. 4656-4672, 2024.

LAVES, Jéssica Mirian Sampaio et al. Envolvimento em jogos de azar entre os alunos do 3º ano do ensino médio de escolas públicas de Manaus: a relevância da educação financeira para evitar decisões equivocadas. 2024.

MARTINS, GA. Manual para elaboração de monografias e dissertações. São Paulo: Atlas, 2015.  
MAZAR, Alissa et al. Gambling Formats, Involvement, and Problem Gambling: Which Types of Gambling Are More Risky? **BMC Public Health**, [s.l.], v. 20, n. 1, 18 maio 2020.

MOTA, HS; PADILHA, MF. Jogos de azar no Brasil: seu histórico legal entre 1946 e 2024 e análise sobre os impactos sociais e econômicos de uma possível legalização. **BRASIL**, 2020 02, p. 36, 2020.  
RAGAZZO, Carlos Emmanuel Joppert; RIBEIRO, Gustavo Sampaio de Abreu. O dobro ou nada: a regulação de jogos de azar. **Revista Direito GV**, v. 8, p. 625-650, 2012.

SCHWARTZ, David. Roll the Bones: The History of Gambling. 2. ed. [S.l.]: Winchester Books, 2013.

SECCHI, Leonardo. **Políticas públicas: conceitos, esquemas de análise, casos práticos**. Cengage Learning, 2014.

SILVA, André Luís Gonçalves Coutinho. A (in) constitucionalidade do monopólio de Estado sobre os jogos de azar: o paradoxo do Estado que proíbe, mas faz. 2022.

SILVA, Vinícius Germano Almeida. CICLO VICIOSO E CONSEQUÊNCIAS DOS JOGOS DE AZAR. **BIUS-Boletim Informativo Unimotrisaúde em Sociogerontologia**, v. 51, n. 45, p. 1-12, 2025.

SOUZA, Celina. Políticas públicas: uma revisão da literatura. **Sociologias**, Porto Alegre, ano 8, nº 16, jul/dez 2006, p. 20-45.

## 142. THE ROLE OF SCHOOL IN SHAPING EATING HABITS: AN ANALYSIS OF PUBLIC POLICIES TARGETED AT ADOLESCENTS

### *O PAPEL DA ESCOLA NA FORMAÇÃO DE HÁBITOS ALIMENTARES: ANÁLISE DAS POLÍTICAS PÚBLICAS VOLTADAS PARA ADOLESCENTES*

Júlia Mayse Soares Gonçalves<sup>1</sup>, Tainá Rodrigues Xavier<sup>1</sup>, Melissa Nascimento Honorato<sup>1</sup>, Sara Marvila Vieira<sup>1</sup>, Fabiana Rosa Neves Smiderle<sup>1</sup>.

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#### ABSTRACT

**Introduction:** Adolescence is a period marked by intense physical, social, and emotional transformations that directly influence eating behavior. Factors such as media, social inequalities, family life, and the marketing of ultra-processed foods shape choices that increasingly result in the rise of youth obesity in Brazil. In this scenario, the school assumes a strategic role as a promoter of health, especially for adolescents in situations of food vulnerability. **Objective:** To analyze the role of the school in shaping eating habits in adolescents and the public policies aimed at this population. **Method:** This is a narrative literature review, with a qualitative approach and a theoretical-reflective character, conducted using scientific works available in the PUBMED, SciELO, and BVS databases. Studies addressing eating behavior, adolescence, public policies, and government programs related to the promotion of healthy eating in the school environment were selected. **Results:** The school stands out as a health-promoting environment, as it offers not only adequate nutrition, especially through policies such as the National School Feeding Program (PNAE), but also pedagogical opportunities that favor the development of healthy habits. The social determinants of health, such as income, access to fresh food, community environment, and media influence, strongly impact food choices, reinforcing inequalities. Despite this, implementation faces challenges, including a lack of resources in schools, fragmented educational actions, disarticulation between sectors, and a strong influence from the food industry. **Conclusion:** It was observed that public policies have great potential to transform the school environment and promote healthy food choices, but their effectiveness depends on intersectoral articulation, adequate funding, and continuous educational practices. The school, by integrating education, food, health, and social rights, becomes a central space for building autonomy and critical thinking in adolescents. However, to reduce inequalities and address obesity, it is necessary to overcome structural limitations and strengthen the impact of policies on daily school life.

**Keywords:** Public policies. Nutrition. Adolescents. School.

## INTRODUCTION

Adolescence is a period of transition between childhood and adulthood. Physical, mental, emotional, sexual, and social development is characteristic of this phase. Furthermore, it constitutes a unique phenomenon that can vary according to culture, social class, ethnicity, gender, age, and the personality of each individual, and therefore can be experienced in distinct ways (Roehrs, 2010).

One of the main conflicts faced in adolescence is the loss of the childhood body, resulting from the transformations triggered by puberty, which ultimately demand the construction of a new body image (Nunes and Guimarães, 2009).

Linked to this “new” recognition of the body, and amidst the various transformations, eating behavior is affected and influenced by some personal factors related to self-image, values, references, and physiological needs; and external factors that correspond to the habits of the family group, social and cultural influences, interaction with friends, and advertisements broadcast by the media (Zanini et al., 2013).

Obesity in Brazil has been growing rapidly, and this increase is reflected in the most recent indicators. In 2022, the country recorded a proportion of overweight children almost three times higher than the global average (14.2% versus 5.6%). Among adolescents, the scenario is even more worrying: in that same year, 31.2% were overweight, almost double the world average, estimated at 18.2% (Fiocruz, 2025).

Adolescents can be classified as a nutritionally vulnerable group, as they frequently have an inadequate diet in the face of increased energy and nutrient needs required by the growth process (Feijó et al., 1997). This set of factors highlights the need for effective and continuous interventions that help young people make healthier and more critical food choices.

Although several factors contribute to this phenomenon, the influence of food industry marketing and policies that favor it cannot be ignored. Added to this is the fact that, in many countries, healthier and more nutritious foods remain expensive, making them inaccessible to a large portion of lower-income families and communities (PAHO, 2015).

Therefore, the school plays a fundamental role in shaping the eating habits of adolescents, especially considering that many of them do not have the means to obtain adequate meals outside the home. In many contexts, the school is the only place where these young people have access to a balanced and nutritious diet, which reinforces its social function. Thus, in addition to guaranteeing the right to food, the school institution acts as an important instrument of health education, contributing to the construction of healthier choices and to the reduction of food inequalities (Gambardella, 1999).

Therefore, the objective of this work is to analyze the role of the school in shaping eating habits in adolescents and the public policies aimed at this population.

## METHOD

This is a narrative literature review, with a qualitative approach, focused on analyzing public policies for adolescents and the role of schools in dietary habits and their implications for the physical, social, and emotional well-being of individuals affected by obesity and high consumption of ultra-processed foods. This review allows for a theoretical-reflective approach to available scientific texts, without the need for a detailed methodological protocol with defined criteria to guide the selection and analysis of data (Martins, 2015).

This method is relevant for understanding the role of schools in shaping eating habits, and the potential challenges and gaps in the implementation of public policies focused on this issue. Therefore, the selection of theoretical material was exploratory, based on its relevance to this study. The collected studies were consulted in the PubMed, BVS, and SciELO databases.

## **RESULTS AND DISCUSSION**

### **The school as a health-promoting environment and the social determinants of eating behaviors in adolescence.**

Adolescence is a phase marked by intense physical, emotional, and social transformations that directly influence young people's perspective on themselves and, especially, how they relate to food. In this context, the school stands out as a privileged environment for promoting health, because in addition to being a space for daily interaction, it is also a territory where values, identities, and social practices are constructed (Souza, 2025).

Furthermore, eating behavior at this stage is strongly shaped by social determinants, such as family income, access to food, cultural patterns, social relationships, and media influence, and can be positively transformed by educational actions that the school community is able to develop continuously (Rossi; Moreira; Rauen, 2008).

The social determinants of health have a significant impact on adolescents' eating habits. Young people living in poverty or food insecurity have greater difficulty accessing fresh and nutritious foods, making them more vulnerable to consuming ultra-processed foods, which are generally cheaper and widely advertised by the industry. Furthermore, family routines, time available for meal preparation, and the community environment, such as the presence of markets, fairs, and healthy restaurants in the area, directly influence what these young people eat. Added to this, the pressure exerted by unrealistic aesthetic standards and the massive marketing of processed foods contribute to inadequate food choices, reinforcing existing inequalities (Neves et al., 2021).

In this scenario, the school emerges as a space capable of reducing these inequalities by promoting health education and offering adequate meals when integrated with public policies. Pedagogical activities, food education workshops, school gardens, debates on advertising, and discussion groups about body and health help adolescents develop a critical sense regarding consumption (Batista et al., 2024).

More than just transmitting information, health education within schools makes it possible to reflect on how social, economic, and cultural factors shape food choices. This approach broadens students' understanding of food as a social phenomenon and not just a biological one, encouraging autonomy and healthier decision-making (Rossi; Moreira; Rauen, 2008).

Thus, understanding the school as a health-promoting environment implies recognizing its capacity to act beyond the transmission of content, becoming a space for social transformation. By articulating pedagogical practices, intersectoral actions, and public policies, the school not only mitigates structural inequalities that permeate the eating behavior of adolescents, but also strengthens the formation of critical subjects capable of understanding food as a right, identity, and cultural expression (Silva; Teixeira; Ferreira, 2014).

In this way, by promoting reflection, autonomy, and more equitable food environments, the school makes a decisive contribution to building healthier life trajectories and consolidating a food culture based on conscious and sustainable choices.

### Public food policies for adolescents and their impact on health.

When analyzing the eating habits of adolescents in Brazil, it becomes evident that their choices are not constructed solely at an individual level, but are profoundly influenced by social, economic, and cultural contexts. In this scenario, public policies emerge as essential tools to reduce inequalities and promote environments that favor healthy habits. They function as mechanisms of social protection, guaranteeing not only access to adequate food, but also guiding educational, regulatory, and formative practices that are directly reflected in daily school life (Cunha et al., 2025).

However, understanding the role of these policies requires recognizing that their creation occurs amidst structural tensions. On one hand, there is the State's commitment to promoting health, food security, and the comprehensive education of adolescents. On the other hand, there are market forces, especially from the ultra-processed food industry, which invests heavily in marketing targeted at young people. Thus, the formulation and implementation of food policies do not happen entirely by chance; they are traversed by disputes of interests that influence the reach and effectiveness of actions carried out in schools (Vale et al., 2022).

Furthermore, the mere existence of laws, programs, and guidelines does not guarantee that adolescents will experience, on a daily basis, school environments that truly promote health. Many schools face budgetary constraints, logistical difficulties, a shortage of qualified professionals, and a lack of coordination between health and education. Therefore, when presenting the set of public policies aimed at school meals, it is essential to observe not only their objectives and proposals, but also to reflect on their limitations, challenges, and transformative potential (Batista Filho, 2021).

Thus, the following table summarizes the main regulatory frameworks, programs, and guidelines related to adolescent nutrition in Brazil, highlighting their general objectives and contributions to promoting healthier eating practices. This organization allows us to visualize how different policies interact with each other, forming a protective network that supports school actions. At the same time, it makes it possible to identify gaps that still persist and need to be addressed so that schools can fully contribute to the formation of appropriate eating habits.

Table 1 - Public policies and implications for infant nutrition.

Public Policy	Implications for infant nutrition
PNAE – National School Feeding Program (1955 / reformulation 2009)	It offers healthy meals at school; limits ultra-processed foods; encourages whole, unprocessed foods; and ensures adequate nutrition for many vulnerable teenagers.
ECA – Statute of the Child and Adolescent (1990)	It guarantees the right to adequate food; protection against abusive advertising of harmful foods.
PNAN – National Food and Nutrition Policy (1999 / updated 2011)	It includes actions to prevent obesity and promote healthy eating among adolescents; it connects Primary Care and schools.
PNPS – National Health Promotion Policy (2006)	It promotes healthy school environments; reinforces the prevention of childhood obesity; and supports nutrition education activities.
Law No. 11,346 – Creation of SISAN (2006)	It guarantees the human right to adequate food; it structures policies that impact the nutrition of adolescents, especially in schools.
Dietary Guidelines for the Brazilian Population (2014)	It forms the basis for educational activities with adolescents; guides healthy food choices; and is an instrument for pedagogical projects and school health programs.
Framework for Food and Nutrition Education (2012)	It provides a basis for educational practices and projects on healthy eating in schools; it promotes a critical view of food.
Strategic Action Plan for Addressing NCDs 2011–2030 (2011)	It includes actions to prevent obesity and promote healthy eating during adolescence.

Regulation of Food Advertising – CONANDA (Resolution No. 163/2014)	Restricts abusive advertising of ultra-processed foods targeting children and adolescents.
Strategic Action Plan for Addressing NCDs 2011–2030	It includes actions to prevent obesity and promote healthy eating during adolescence.

Source: Prepared by the author (2025).

The role of schools in promoting healthy eating habits is strengthened by a set of Brazilian public policies that recognize the impact of the social determinants of health and seek to reduce inequalities. Among these, the National School Feeding Program (PNAE) stands out, guaranteeing adequate meals for basic education students and prioritizing unprocessed or minimally processed foods, contributing to reducing disparities in access among adolescents from different socioeconomic backgrounds. In many cases, these meals represent the main source of healthy food for young people in vulnerable situations (Dos Santos Silva; De Almeida, 2023).

Another relevant milestone is the School Health Program (PSE), which links health and education to develop health promotion actions, including nutritional assessment, obesity prevention, food education activities, and encouragement of balanced eating. These actions directly address social factors that impact eating behavior, such as accessible information, autonomy, and community belonging (Batista; Mondini; Jaime, 2017).

Furthermore, the Framework for Food and Nutrition Education and the Dietary Guidelines for the Brazilian Population offer pedagogical guidelines based on cultural and social principles, encouraging schools to treat food as a social practice that involves identity, territory, and human rights. These policies are also articulated with the National Health Promotion Policy (PNPS) and the National Food and Nutrition Security System (SISAN), which reinforce adequate food as a right and recognize the need to combat inequalities in access to healthy food among adolescents (Pimenta; Rocha; Marcondes, 2015; Alves and Jaime, 2014).

Furthermore, the family, as the primary nucleus of socialization, exerts a strong influence on the formation of adolescents' tastes and food preferences, being one of the most relevant social determinants for understanding the acceptance or rejection of foods offered at school. When the home environment presents a limited dietary pattern, high consumption of ultra-processed foods, or an absence of shared meals, young people tend to reproduce these patterns in the school environment, often refusing preparations such as fruits, vegetables, or foods that are not very present in their daily lives (Cunha et al., 2025).

On the other hand, for those living in situations of food insecurity, the school represents the only place where they find balanced meals, reinforcing its social function and its role in guaranteeing the human right to adequate food. Thus, when considering the influence of family and material living conditions on food choices, it becomes evident that the action of public policies is fundamental to supporting both the school and the students, reducing inequalities and favoring the development of healthier habits (Silva; Teixeira; Ferreira, 2014).

In this way, public policies not only support the actions developed by the school, but also recognize that promoting healthy eating habits among adolescents is an essential strategy to address social inequalities and build healthier communities. By integrating food, health, education, and social rights, these policies allow the school to fully fulfill its role of forming critical, conscious citizens capable of making safer and more nutritious food choices throughout their lives.

## CONCLUSION

Schools play a strategic role in promoting healthy eating habits among adolescents, especially in the face of social inequalities that limit access to fresh foods and favor the consumption of ultra-processed foods. The set of public policies focused on school meals forms an important safety net, which includes everything from providing adequate meals to pedagogical guidelines for health education practices.

However, challenges persist: insufficient resources, fragmented actions, the influence of the food industry, and a lack of integration between sectors hinder the effectiveness of these policies. To move forward, it is essential to strengthen intersectoral coordination, increase investments, ensure qualified professional training, and promote critical, continuous, and contextualized pedagogical practices.

It is concluded that promoting healthy eating during adolescence should be understood as an action of equity, citizenship, and guarantee of rights, and not merely as an individual choice. Thus, the school, in conjunction with public policies, plays a decisive role in building healthy environments and developing critical, autonomous individuals capable of making conscious food choices throughout their lives.

## REFERENCES

ALVES, Kelly Poliany de Souza; JAIME, Patricia Constante. A Política Nacional de Alimentação e Nutrição e seu diálogo com a Política Nacional de Segurança Alimentar e Nutricional. **Ciência & Saúde Coletiva**, v. 19, p. 4331-4340, 2014.

BATISTA FILHO, Malaquias. Análise da Política de Alimentação e Nutrição no Brasil: 20 anos de história. **Cadernos de Saúde Pública**, v. 37, p. e00038721, 2021.

BATISTA, Mariangela da Silva Alves; MONDINI, Lenise; JAIME, Patrícia Constante. Ações do Programa Saúde na Escola e da alimentação escolar na prevenção do excesso de peso infantil: experiência no município de Itapevi, São Paulo, Brasil, 2014. **Epidemiologia e Serviços de Saúde**, v. 26, n. 3, p. 569-578, 2017.

BATISTA, Rosana de Oliveira Santos et al. Nutriarte: oficina pedagógica como prática de educação alimentar. **Caderno Pedagógico**, v. 21, n. 4, p. e3869-e3869, 2024.

CUNHA, Rosevane de Oliveira et al. Ambiente alimentar de escolas públicas e privadas brasileiras: associação com o consumo de alimentos ultraprocessados e evolução temporal a partir da Pesquisa Nacional de Saúde do Escolar (PeNSE). 2025.

DOS SANTOS SILVA, Priscila; DE ALMEIDA, Cristiane Costa. Programa Nacional de Alimentação Escolar (PNAE): política pública de garantia de alimentação saudável e nutricional que auxilia no processo de aprendizagem e na superação da vulnerabilidade. **Revista Ibero-Americana de Humanidades, Ciências e Educação**, v. 9, n. 4, p. 9370-9395, 2023.

FEIJÓ RB, Sukster EB, Friedrich L, Fialho L, Dziekaniak KS, Christini DW, et al. Estudos de hábitos alimentares em uma amostra de estudantes secundaristas de Porto Alegre. *Pediatrics* 1997; 19(4): 257-62.

Fundação Oswaldo Cruz (Fiocruz). **Obesidade em crianças e jovens cresce no Brasil na pandemia**. Rio de Janeiro: Fiocruz, 24 nov. 2023.

- GAMBARDELLA AMD. Práticas alimentares de adolescentes. *Revista de Nutrição* 1999; 12(1):55-59.
- MARTINS, GA. Manual para elaboração de monografias e dissertações. São Paulo: Atlas, 2015.
- NEVES, Simone Carvalho et al. Os fatores de risco envolvidos na obesidade no adolescente: uma revisão integrativa. **Ciência & saúde coletiva**, v. 26, p. 4871-4884, 2021.
- NUNES, Cidinéia Barreto; GUIMARÃES, W. A. Alterações do comportamento alimentar na adolescência: anorexia, bulimia e obesidade. **Monografia do curso de psicologia). Universidade Vale do Rio Doce, Governador Valadares, 2009.**
- Organização Pan-Americana da Saúde (OPAS). Cuidados inovadores para condições crônicas: organização e prestação de atenção de alta qualidade às doenças crônicas não transmissíveis nas Américas. Washington, DC: OPAS; 2015.
- PIMENTA, Teófilo Antonio Máximo; ROCHA, Renato; MARCONDES, Nilsen Aparecida Vieira. Políticas Públicas de intervenção na obesidade infantil no Brasil: uma breve análise da Política Nacional de Alimentação e Nutrição e Política Nacional de Promoção da Saúde. **Journal of Health Sciences**, v. 17, n. 2, 2015.
- ROEHRHS, Hellen; Maftum, Mariluci Alves; Zagonel, Ivete Palmira Sanson. Adolescência na percepção de professores do ensino fundamental. **Revista da Escola de Enfermagem da USP**, v. 44, p. 421-428, 2010.
- ROSSI, Alessandra; MOREIRA, Emília Addison Machado; RAUEN, Michelle Soares. Determinantes do comportamento alimentar: uma revisão com enfoque na família. **Revista de Nutrição**, v. 21, p. 739-748, 2008.
- SILVA, Edleuza Oliveira; AMPARO-SANTOS, Lígia; SOARES, Micheli Dantas. Interações entre práticas alimentares e identidades: resignificando a escola pública e a alimentação escolar. **Cadernos de Saúde Pública**, v. 35, p. e00217918, 2019.
- SILVA, Julyana Gall da; TEIXEIRA, Maria Luiza de Oliveira; FERREIRA, Márcia de Assunção. Alimentação na adolescência e as relações com a saúde do adolescente. **Texto & Contexto-Enfermagem**, v. 23, p. 1095-1103, 2014.
- SOUZA, Samantha de Oliveira. Concepções de adolescência, saúde mental e bem-estar: um estudo com adolescentes de diferentes contextos. 2025.
- VALE, Diôgo et al. Determinantes sociais em saúde associados à vivência da fome entre adolescentes do Brasil. **Ciência & Saúde Coletiva**, v. 27, n. 7, p. 2895-2909, 2022.
- ZANINI, Roberta De Vargas et al. Consumo diário de refrigerantes, doces e frituras em adolescentes do Nordeste brasileiro. **Ciencia & saude coletiva**, v. 18, p. 3739-3750, 2013.

**143. HOSPITALIZATIONS FOR CONDITIONS SENSITIVE TO PRIMARY CARE:  
EFFECTIVENESS OF PRIMARY HEALTH CARE IN BRAZIL AND THE STATE OF  
ESPÍRITO SANTO**

***INTERNAÇÕES POR CONDIÇÕES SENSÍVEIS À ATENÇÃO PRIMÁRIA: EFETIVIDADE DA  
APS NO BRASIL E ESTADO DO ESPÍRITO SANTO***

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**ABSTRACT**

**Introduction:** Hospitalizations for conditions sensitive to primary care (HSPC) are indicators of the effectiveness of Primary Health Care (PHC), as they reflect the capacity of services to prevent and manage avoidable illnesses. Although Brazil has reduced HSPC in recent years, this decrease is uneven across regions, revealing disparities that, in Espírito Santo, impact the planning of the Brazilian Unified Health System (SUS). The objective is to analyze the spatial distribution of HSPC rates in the microregions of Espírito Santo in 2024, identifying regional inequalities that indicate different levels of PHC effectiveness. **Methods:** This is an ecological, descriptive study using secondary data extracted from DATASUS and IBGE. Hospitalizations for vaccine-preventable diseases were analyzed, rates per 10,000 inhabitants were calculated in the microregions, organized in spreadsheets, and represented in thematic maps in QGIS to highlight territorial inequalities. **Results:** Significant variation was observed in ICSAP rates among the microregions of Espírito Santo. Montanha, Santa Teresa, and Guarapari presented the highest rates (0.813-2.775), suggesting weaknesses in primary health care, while Barra de São Francisco, São Mateus, and Alegre showed lower rates (0-0.43), indicating greater effectiveness. **Discussion:** These differences point to structural, socioeconomic, and primary health care quality inequalities among the regions. It is noteworthy that simply expanding the coverage of the Family Health Strategy (ESF) does not guarantee a reduction in ICSAP; it is necessary to invest in the qualification of services, integration between levels of care, and regionalized planning. **Final considerations:** The findings reinforce the importance of public policies that strengthen the ESF, respecting local specificities to reduce avoidable hospitalizations and promote greater equity and comprehensiveness in health care.

**Keywords:** Primary Prevention. Primary Health Care. Quality Indicators in Health Care. Health Services Evaluation.

## INTRODUCTION

Hospitalizations for Primary Care Sensitive Conditions (HCPCs) are hospitalizations that, theoretically, could be avoided or reduced with a well-structured and effective primary health care system. They are considered important indicators for evaluating the quality of services offered in primary care, as they reflect failures or inadequacies in the prevention, early diagnosis, and management of common health problems in the community (Macedo *et al.*, 2019).

Primary Health Care plays a fundamental role in the organization of the Unified Health System (SUS), being the preferred entry point for most of the population's health needs. Thus, the presence of high rates of ICSAP (Infections Related to Primary Care) may indicate problems related to access, coverage, and quality of services provided by the Family Health Strategy (ESF) teams, which is the main strategy for strengthening PHC in Brazil (Oliveira *et al.*, 2020).

In Brazil, over the past few years, there has been a trend of decreasing rates of ICSAP (Infections with Chronic Sensitivity to Primary Care), largely attributed to the expansion of Family Health Strategy (ESF) coverage and the improvement of prevention and health promotion actions. However, this reduction has not occurred homogeneously throughout the country, and significant regional inequalities can be identified, revealing different levels of effectiveness of Primary Health Care (PHC) (BRASIL, 2023).

In Espírito Santo, as in other Brazilian states, monitoring the ICSAP (Index of Care for Allergy and Community-Based Healthcare) is essential for the management of the SUS (Unified Health System), as it allows for the identification of municipalities that need greater investment in the qualification of healthcare teams, infrastructure, and service provision. The analysis of this indicator also contributes to the planning of public policies better suited to local and regional needs, promoting equity and efficiency in the healthcare system.

Therefore, studying hospitalizations for conditions sensitive to primary care is extremely important for understanding the performance of primary health care, identifying critical points, and proposing improvements in care for the population. Furthermore, this topic is relevant for discussing the challenges and potential of the Brazilian Unified Health System (SUS), especially in the current context, which increasingly demands comprehensive, humanized care focused on preventing avoidable health problems.

The objective of this study is to analyze the spatial distribution of hospitalization rates for conditions sensitive to primary care (HSPC) in the microregions of the state of Espírito Santo in the year 2024, identifying possible regional inequalities that reflect the effectiveness of Primary Health Care (PHC).

## METHODOLOGY

This is an ecological study, based on descriptive data, conducted in June 2025. Data on the number of cases of the following diseases, immunized diseases, were downloaded from the DATASUS platform (Department of Informatics of the Unified Health System), through the SIH/SUS Morbidity system: Tuberculosis of the nervous system, Miliary tuberculosis, Neonatal tetanus, other tetanuses, Diphtheria, Pertussis, Measles, Rubella, Acute hepatitis B, Mumps [epidemic parotitis], Bacterial meningitis, not classified, other part.

Subsequently, to calculate the incidence rate, data was downloaded from the demographic and economic data system of the resident population in microregions of the State of Espírito Santo via the

DATASUS platform and also from the Brazilian Institute of Geography and Statistics (IBGE), highlighting the SUS Hospital morbidity based on hospitalization rates for conditions sensitive to primary care for the microregions of the State of Espírito Santo in a time frame during the year 2024.

To obtain the expected data, a specific order of criteria must be followed for its extraction, as described below:

Information on hospitalizations for conditions sensitive to primary care was obtained from the "Epidemiology and Morbidity" section of DATASUS (<https://datasus.saude.gov.br/informacoes-de-saude-tabnet/>), through the SUS Hospital Morbidity system, selecting the "General, by place of residence – from 2008" database. The chosen geographic scope was the state of Espírito Santo, with data from 2024. The variables selected were "IBGE Microregion" (row) and "Year of care" (column).

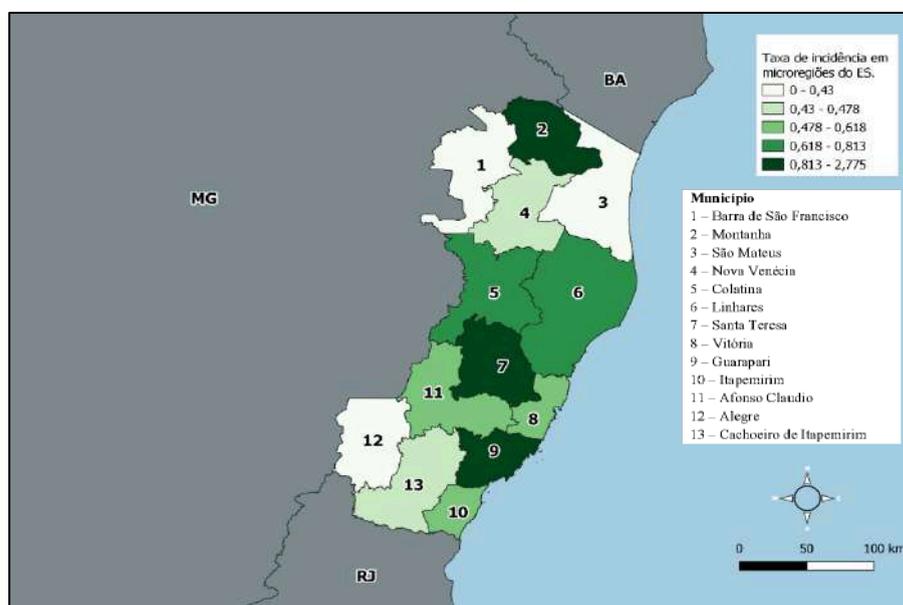
The following primary healthcare-sensitive causes of hospitalization were included in the list of morbidities: tuberculosis of the nervous system, miliary tuberculosis, neonatal tetanus, other tetanus, diphtheria, pertussis, measles, rubella, acute hepatitis B, mumps (epidemic parotitis), and unclassified bacterial meningitis. After configuring the variables and selecting the desired filters, the data were processed and exported for analysis. To calculate the incidence rate, population data were extracted from the "Demographic and Socioeconomic Information" tab of DATASUS, in the "Resident Population" section, using the "Population Estimates by Municipality, Sex and Age – 2000 to 2021" database, and supplemented with IBGE data for the year 2024. The ICSAP rate was expressed per 10,000 inhabitants, allowing comparison between microregions.

The data were organized into spreadsheets using Microsoft Excel software and subsequently used to construct a thematic map with the aid of QGIS software. The map was categorized by incidence ranges, with the aim of identifying regional inequalities and evaluating the effectiveness of Primary Health Care in Espírito Santo.

## RESULTS

The map of the ICSAP rate in the microregions of Espírito Santo in 2024 shows a marked heterogeneity in the distribution of these hospitalizations, highlighting important disparities in the performance of Primary Health Care (PHC) in the state (Figure 1).

Figure 1 - Map of the Incidence Rate of Hospitalizations for Conditions Sensitive to Primary Care.



The microregions with the highest rates relating to Montanha (2), Santa Teresa (7) and Guarapari (9) comprise the most critical range (0.813–2.775), suggesting persistent weaknesses in primary health care, whether due to access barriers, low effective coverage or lower problem-solving capacity. These territories require further analysis, as they reflect a higher risk of avoidable hospitalizations.

In contrast, the microregions of Barra de São Francisco (1), São Mateus (3) and Alegre (12) have the lowest rates (0–0.43), indicating better performance of primary health care in the prevention and appropriate management of sensitive conditions. In these regions, the observed pattern may be associated with greater continuity of care, integration of teams and better organization of services.

Intermediate microregions, such as Vitória (8), Itapemirim (10) and Afonso Cláudio (11), exhibit moderate variation, reflecting internal inequalities in the state and possible differences in infrastructure, local management, team composition and socioeconomic context.

The findings reveal that the effectiveness of primary health care in Espírito Santo is uneven, reiterating the importance of specific strategies to improve care, especially in areas with a higher incidence of avoidable hospitalizations. More than expanding the coverage of the Family Health Strategy, it is necessary to guarantee quality of care, coordination of care, and integration between levels of care to reduce avoidable hospitalizations in the state.

## DISCUSSION

The findings of this study highlight significant inequalities in the rates of Hospitalizations for Primary Care Sensitive Conditions (HPCS) among the microregions of Espírito Santo in 2024. The range found (0–2,775 per 10,000 inhabitants) reinforces the heterogeneity of the effectiveness of Primary Health Care (PHC) in the state, aligning with what the national literature describes regarding the unequal distribution of PHC resolution among Brazilian regions and municipalities (Pereira; Silva; Lima Neto, 2014).

The interpretation of this indicator follows the framework of Alfradique *et al.* (2009), according to which the ICSAP reflects the capacity of primary health care to prevent complications and adequately manage conditions that should be resolved at the outpatient level. Ordinance No. 221/2008 reinforces this strategic function by institutionalizing the Brazilian List of ICSAP, composed of 19 groups of causes directly related to the performance of Primary Health Care, ranging from vaccine-preventable diseases and conditions to chronic conditions whose adequate management in primary health care reduces the risk of hospitalization.

Microregions such as Montanha, Santa Teresa, and Guarapari, located in the most critical range (0.813–2.775), suggest possible structural deficiencies in primary health care, such as low coverage of the Family Health Strategy (ESF), a lack of multidisciplinary teams, fragility in care flows, and low clinical resolution. National literature already indicates that the presence of high rates in regions with apparent formal coverage of the ESF may indicate qualitative weaknesses in the care model, as shown in the study by Magalhães and Morais Neto (2017) for Goiânia: regions with high ESF coverage still presented high rates of care-sensitive conditions (ICSAP), due to the low quality of care provided.

Microregions such as Montanha, Santa Teresa, and Guarapari, located in the most critical range (0.813–2.775), suggest persistent structural deficiencies in primary health care, such as low effective coverage of the Family Health Strategy, a lack of multidisciplinary teams, weaknesses in

care flows, and low clinical resolution. This behavior is consistent with national studies that show that high rates of ICSAP (Infections Related to Primary Care) can indicate problems with access, insufficient infrastructure, and low quality of care provided, even in contexts with formal expansion of primary health care ( Magalhães; Morais Neto , 2017).

In contrast, microregions such as Barra de São Francisco, São Mateus, and Alegre, located in the lower risk range (0–0.43), indicate more effective performance of primary health care. This pattern may be related to greater clinical resolution, greater continuity of care, and better integration with secondary and tertiary levels of care. In Goiânia, for example, Magalhães and Morais Neto (2017) observed that the territories with the lowest rates of avoidable hospitalizations were precisely those with better staffing structure, greater availability of equipment, better organization of services, and more favorable indicators of work processes in primary health care, reinforcing the association between organizational quality and reduction of avoidable hospitalizations.

Intermediate regions, such as Vitória, Itapemirim, and Afonso Cláudio, reveal the complexity of the factors that impact the effectiveness of primary health care. In these territories, factors such as persistent socioeconomic inequalities, variations in the Human Development Index (HDI), differences in installed infrastructure, specific epidemiological profiles, and the capacity of municipal management itself decisively influence healthcare outcomes. These elements interact with each other, producing heterogeneous scenarios in which advances coexist with structural limitations, even in regions with higher urban density or greater availability of services.

The results of this study also align with previously documented historical trends. Between 2000 and 2006, Brazil recorded a 15.8% reduction in ICSAP ( Alfradique *et al.* , 2009), and subsequent analyses show consistent progress over the last few decades. However, the persistence of high rates in certain microregions of Espírito Santo in 2024 indicates that these gains were not distributed equitably across the territory, reinforcing the need for regionalized strategies that consider the specific vulnerabilities of each context.

Furthermore, as highlighted by Oliveira *et al.* (2009), the increase in ICSAP in certain regions should be interpreted as a warning sign, triggering monitoring, evaluation, and local intervention mechanisms. Thus, the simple quantitative expansion of ESF coverage does not guarantee a reduction in ICSAP: it is necessary to improve the quality of care, focusing on risk management, care coordination, and user-centered care.

The findings demonstrate that the effectiveness of primary health care in Espírito Santo remains marked by territorial inequalities, revealing persistent weaknesses in some microregions and greater organization in others. Despite national advances, the maintenance of high rates in certain territories shows that structural and organizational improvements have not reached the entire state equitably.

Given this scenario, it becomes essential to adopt regionalized strategies that articulate the qualification of teams, improvement of the infrastructure of primary health care units, strengthening of care coordination, and effective integration of the healthcare network. The ICSAP (Integrated System for Primary Care) should continue as a central instrument for monitoring and planning, allowing the identification of vulnerabilities, guiding interventions, and promoting greater equity and effectiveness in Primary Care.

## CONCLUSION

The results of this study highlight significant inequalities in hospitalization rates for conditions sensitive to primary care among the microregions of Espírito Santo in 2024. While some regions demonstrate greater effectiveness of primary health care in preventing complications and reducing hospitalizations, others still face significant challenges related to access, quality, and effectiveness of services. These findings reinforce the need for specific and territorially-based interventions, focusing on improving the quality of primary care, strengthening the Family Health Strategy, and increasing integration with other levels of health care.

The need for public policies that strengthen the network of healthcare services provided to the population, delivering quality and safety, is evident. This study reveals disparities between microregions, highlighting the lack of equity and universality in the Primary Healthcare network in the state of Espírito Santo. However, it is important to understand the socioeconomic particularities that characterize each microregion, a fact that reinforces the need for a plan based on decentralization to improve user access.

## REFERENCES

ALFRADIQUE, M. E. *et al.*. Internações por condições sensíveis à atenção primária: a construção da lista brasileira como ferramenta para a avaliação da Atenção Básica. *Cadernos de Saúde Pública*, Rio de Janeiro, v. 25, n. 6, p. 1337–1349, jun. 2009. DOI: <https://doi.org/10.1590/S0102-311X2009000600016>.

BOING, A. F. *et al.*. Redução das internações por condições sensíveis à atenção primária no Brasil entre 1998–2009. *Revista de Saúde Pública*, São Paulo, v. 46, n. 2, p. 359–366, 2012.

BRASIL. Ministério da Saúde. **DATASUS – Informações de Saúde (TABNET)**. Brasília, DF: Ministério da Saúde, [s.d.]. Available at: <https://datasus.saude.gov.br/informacoes-de-saude-tabnet/>. Access on: 26 jun. 2025.

BRASIL. Ministério da Saúde. **Informações de saúde: estatísticas vitais**. DATASUS, 2023. Available at: <https://datasus.saude.gov.br>. Access on: 5 jun. 2025.

BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Portaria nº 221, de 17 de abril de 2008. Publica a Lista Brasileira de Internações por Condições Sensíveis à Atenção Primária. *Diário Oficial da União*: seção 1, Brasília, DF, 18 abr. 2008. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/sas/2008/prt0221\\_17\\_04\\_2008.html](https://bvsmms.saude.gov.br/bvs/saudelegis/sas/2008/prt0221_17_04_2008.html). Access on: 28 jun. 2025.

MACEDO, L. R. *et al.*. Internações por condições sensíveis à atenção primária no Brasil: uma revisão sistemática. *Revista de Saúde Pública*, São Paulo, v. 53, p. 1–10, 2019.

MAGALHÃES, A. L. A.; MORAIS NETO, O. L. Desigualdades intraurbanas de taxas de internações por condições sensíveis à atenção primária na região central do Brasil. *Ciência & Saúde Coletiva*, Rio de Janeiro, v. 22, n. 6, p. 2049–2062, 2017. DOI: <https://doi.org/10.1590/1413-81232017226.16632016>.

OLIVEIRA, E. X. G. de; PINHEIRO, R. S.; SERRUYA, S. J. Atenção primária à saúde e as internações por condições sensíveis à atenção primária. *Revista Panamericana de Salud Pública*, v. 26, n. 6, p. 478–484, 2009. Available at: <https://iris.paho.org/handle/10665.2/8499>. Access on: 26 jun. 2025.

OLIVEIRA, M. M. *et al.*. Tendência das internações por condições sensíveis à atenção primária no Brasil: implicações para o SUS. **Ciência & Saúde Coletiva**, Rio de Janeiro, v. 25, n. 9, p. 3473-3481, 2020.

PEREIRA, F. J. R.; SILVA, C. C.; LIMA NETO, E. A. Condições Sensíveis à Atenção Primária: uma revisão descritiva dos resultados da produção acadêmica brasileira. **Saúde em Debate**, Rio de Janeiro, v. 38, n. especial, p. 331-342, 2014.

**144. SUSTAINABILITY AND IMPACT ON PUBLIC POLICIES: AN EXPERIENCE  
REPORT ON THE "ZERO WASTE IN SCHOOL MEALS" PROJECT IN SINOP (MT)**

***SUSTENTABILIDADE E INCIDÊNCIA EM POLÍTICAS PÚBLICAS: RELATO DE  
EXPERIÊNCIA DO PROJETO "ZERO DESPERDÍCIO NA MERENDA ESCOLAR"  
EM SINOP (MT)***

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**ABSTRACT**

**Introduction:** The context of school meals in Brazil is governed by the National School Feeding Program (PNAE), which, in addition to providing meals, establishes Food and Nutrition Education (FNE) as one of its essential guidelines. **Objective:** to describe the experience of the "Zero Waste in Schools" project. Snack School and your connection with the formulation of local public policies, specifically the Charter To Sustainability of Synopsis. **Methodology:** This experience report is characterized as a descriptive qualitative study. **Results:** THE implementation of Project "Zero Waste in Snack School The intervention at the Maria Amaro Municipal Elementary School resulted in a significant change in students' consumption and waste disposal habits. After an intervention period of approximately 3 months, post-consumer disposal assessments were conducted. (leftovers-ingestion) demonstrate one reduction considerable no total food waste offered in snack school. **Conclusion:** That report of experience This reinforces the need to effectively integrate Food and Environmental Education. integrated into the school curriculum through active and practical methodologies. This integration not only enhances the education of a new generation. of consumers more conscious, aligned with the principle of Consumption and Production Responsible of SDGs 12, but also guarantees one A more solid, effective, and participatory path to sustainable development at the municipal level.

**Keywords:** Nutrition. Snack School. Sustainability.

## INTRODUCTION

The context of school meals in Brazil is governed by the National School Feeding Program (PNAE), which, in addition to providing meals, establishes Food and Nutrition Education (EAN) as one of its core values. your guidelines essentials (Brazil, (2009). Nutrition education, fundamental for the formation of healthy habits, is a strategy for promoting health and food and nutritional security (FNS), aiming at autonomous practice. and volunteer of healthy choices, permeating the school curriculum (Brazil, 2018; Brazil, 2022). Such This perspective aligns with the guidelines of the Dietary Guidelines for the Brazilian Population, which advocates the consumption of unprocessed or minimally processed foods as the basis of the diet and encourages autonomy for conscious choices (Brazil, 2014).

The concern with food children healthy and reinforced for the Society The Brazilian Society of Pediatrics (SBP) emphasizes school age as a critical period for correcting dietary excesses and deficits and for encouraging the consumption of whole foods, fruits, and vegetables, highlighting the role of family and school as references for incorporating healthy practices (SBP, 2024).

On a global scale, efforts to promote fairer and more sustainable food systems find support in the Sustainable Development Goals (SDGs) of the United Nations (UN). Specifically, SDG 12 seeks to "Ensure sustainable consumption and production patterns" and aims to halve per capita global food waste at the retail and consumer levels, and reduce losses along production chains (UN, 2015).

In this context, we find the city of Sinop, located in northern Mato Grosso. The municipality, founded in 1974, and result from the policy of occupation from the Amazon Legal Brazilian Today, it stands out as the main city in its macro-region, ranking among the municipalities with a high Development Index. Human (HDI) per capital) of 0.754 and Product Internal Gross GDP of R\$ 55,310.53, reflecting increasing economic development and quality of life (Sinop, 2023).

Sinop's commitment to sustainability is reinforced put initiatives places, such as the III Sinop Sustainable event. The event aims to foster debates and exchanges of ideas. experiences and practices for a more just and resilient society, articulating actions and generating concrete proposals for sustainable public policies, focusing on themes such as organic production, agroecology and a healthy future (Sinop, 2025).

In this context, the sector from the Snack School of Sinop he has if positioned as agent Regarding Sustainable Development, the municipality achieved an important institutional milestone with the active participation of its nutritionists in the III Sinop Sustainable event, where they had the opportunity to contribute to the drafting of the Sinop Sustainability Charter. Therefore, this report is not an isolated initiative, but rather the practical embodiment of the formal commitments undertaken by the municipality, aligning the management of school meals with the principles of the SDGs.

This experience report aims to describe the conception and implementation of the "Zero Waste in School Meals" project within the scope of... from the network municipal education system of Sinop (MT), and its connection with the formulation of local public policies, specifically the Charter For Sustainability of Sinop. To the actions they searched act directly in promoting sustainability and in incidence in policies public places, put quite from the practical application of the EAN guidelines of the PNAE, in accordance with the search put patterns of consumption and responsible production, in accordance with SDG 12, and the promotion of healthy eating habits, aligned with the recommendations of the Food Guide and the Brazilian Society of Pediatrics (SBP).

## METHOD

This experience report is characterized as a qualitative descriptive study, whose objective was to describe the experience of the "Zero Waste in School Meals" project, and its connection with the formulation of local public policies, specifically the Charter for Sustainability of Sinop.

### Setting and Period of the Experience

The experience took place at the "Maria Aparecida Amaro de Souza" Municipal Elementary School, which comprises classes from the 1st to the 5th grade of Elementary School I. with students in The age group of 6 to 10 years old, located in the municipality of Sinop - MT, during the period between June and September 2025, in addition to its presentation at the event. Sinop Sustainable promoted by Embrapa, which took place on September 27th and 28th, 2025.

### Procedures

1. **"Zero Waste in School Meals" Project:** It happened in three stages. THE The first stage consisted of nutrition education activities with the students and dynamics about conscious consumption, inviting them to take on the challenge. The second stage consisted of diagnosing waste ( *food scraps* and clean leftovers) through the implementation of separate disposal methods for each class, and weighing the waste after the end of the snack. A table was created with the results, in which the class that wasted none was highlighted. or little food on the day would earn a "happy face", while the class what wasted A significant amount of food (over 500g) would earn a "sad face". Furthermore, to encourage participation and competitiveness, it was... established what to the end of challenge, The class that wasted the least food throughout the period would win a school trip. Then, in the third stage, actions were implemented on three fronts: 1) Training of the cafeteria staff to ensure proper portioning of the dishes served; 2) Training of the teachers to encourage students to try all the preparations. from the snack, and to help the control the discard, to what each class the did in its respective container; 3) Training of the cleaning team to individually weigh the waste from each group.
2. **Food and Nutrition Education Activities:** The field activities were structured to impact student behavior, a key factor in reducing *food waste*. The two main FNE practices include:
  - **Level of Food Processing - THE Example of Corn:** It was used A common food, corn, was used to demonstrate the concept of the Dietary Guidelines for the Brazilian Population. Corn was presented in four stages of processing: natural green corn ( *in natura* ), popcorn (minimally processed), canned corn (processed), and cheese-flavored corn chips (ultra-processed). Corn was chosen as the example because **Sinop-MT is a important pole of agribusiness standing out in Production, marketing and industrialization of corn, including ethanol. of corn, being the basis of its economy** , the what offers one context practical to the Learning. The activity allowed students to visualize and understand, in a practical way, the nutritional differences and the addition of harmful ingredients, encouraging the choice of healthier options offered in school lunches. Furthermore, this activity was used to teach and encourage the reading of nutritional labels, in order to understand what is behind each food.
  - **Happy Box and Sad Box - Playful Classification:** As a tool for assessment and engagement, students classified some discs representative Food options were implemented. Natural and

minimally processed foods were placed in the Happy Box (green), and ultra-processed foods in the Sad Box (red and dark). This dynamic reinforced the association between healthy eating and well-being, encouraging the acceptance of fresh and healthy school lunches and, consequently, reducing waste due to rejection.

## RESULTS

The implementation of the "Zero Waste in School Meals" Project at the Maria Aparecida Amaro de Souza Municipal Elementary School (EMEB) resulted in a significant improvement on the consumption and discard of the students. After one period of intervention of approximately 3 months, post-consumption disposal (food waste) assessments demonstrate a considerable reduction in the total waste of food offered in school meals.

This reduction was visually evidenced by the decrease in the volume of organic waste in the post-meal disposal of each class (Figure 1), as illustrated by the significant majority of "happy faces" in the results chart (Figure 2). This outcome not only impacted the unit's waste management but also reflected an improvement in the acceptability of the meals offered.

Figure 1 - Chart of the school lunch challenge at EMEB Maria Aparecida Amaro de Souza.



Source: Photo produced by the authors (2025).

Figure 2 - Chart with the school lunch challenge results at EMEB Maria Aparecida Amaro de Souza.



Source: Photo produced by the authors (2025).

Beyond the waste, a behavioral impact was observed. relevant. The playful and competitive aspect of the strategy motivated the students to experiment. one bigger variety of foods, including those considered to have lower initial acceptability. The search for not "compromising" the class's

results served as positive reinforcement for tasting new foods, resulting in an expansion of the students' food repertoire.

These activities allowed to the students associate directly the reduction of Waste is linked to the concept of sustainability. Reducing the amount of waste generated was understood as an act of environmental responsibility, reinforcing the understanding that excessive disposal contributes to pollution and the inefficient use of resources.

Furthermore, the EANs linked to the project, such as "The example of corn" and "Happy Box and Sad Box" (Figure 3), showed that the children have prior knowledge of what healthy and unhealthy foods are, which could be seen when they placed the food-representation discs in the correct boxes. However, most reported that despite knowing that they cannot consume ultra-processed foods every day, they have a habit of eating them frequently.

Figure 3 - Photo of the EAN activities presented at the III Sinop Sustentável: “The example of Corn (level of food processing)” and “Happy Box and Sad Box”.



Source: Photo produced by the authors (2025).

During the presentation of these activities at the III Sinop Sustainable event, some parents present recognized the importance of these activities in their children's school meals, as well as the positive impact reflected in their home diet, where they seek out and ask for healthy foods, such as fruits and vegetables, which were previously not accepted.

## DISCUSSION

The results presented demonstrate that success in reducing food waste in school meals is intrinsically linked to the effectiveness of the approaches to... EAN implemented (Brazil, 2009). Such strategies, like those promoted by the project, not only contributed to combating waste, but also stimulated the demand for fresh, *unprocessed*, and regional foods, reinforcing family farming and contributing to economic and social sustainability, as advocated by the PNAE (Brazil, 2009). Furthermore, this result aligns with the principles of the National Food and Nutrition Policy (PNAN), which recognizes food as essential to family farming. adequate and healthy as one right fundamental

and basis for sustainable development (Brazil, 2012).

The "Zero Waste in School Meals" project demonstrates one remarkable capacity of local political influence. The invitation to present it at the III Sinop Sustainable event confirmed the relevance of the topic for the community and the public authorities. In this way, the School Food sector in Sinop positions itself as a pillar of sustainability that goes beyond food security, also including responsibility. environmental. THE reduction of waste in school This is a direct result of the municipal effort to meet SDG 12.3, which aims to halve *per capita food waste* (UN, 2015). experience reinforces what school is a stage important to the implementation of Flat of Action to Production and Brazilian Sustainable Consumption (PPCS), which seeks to promote conscious consumption and the efficiency node resource use (Brazil, 2014).

The active participation of nutritionists in the drafting of the Sinop Sustainability Charter ensured that the document... included objectives strategic to the environment school, as the implementation of public policies aimed at raising awareness about food safety. and environmental, with focus on reduction of waste, reuse of waste and use conscious from the water. That action It reflects the principle of Social and Economic Justice of the Earth Charter, which advocates... the promotion of democratic and participatory societies, where citizens actively engage in definition of a sustainable future (Brazil, 2024). By including the theme of waste and responsible consumption in municipal strategic planning, the management of Sinop aligns itself with the efforts of the Federal Government, which recently instituted the National Policy to Combat Food Loss and Waste (PNCPPDA), reinforcing the importance of the educational role of schools in consolidating this policy at the national level (Brazil, 2023).

Regarding the EAN activities presented at the III Sinop Sustainable event: "THE example Regarding the activities "Corn (level of food processing)" and "Happy Box and Sad Box," the discrepancy between the children's knowledge and their eating habits was notable. The ability demonstrated in correctly identifying healthy and unhealthy foods, through activities such as the "Box happy and Box sad", certifies the effectiveness of actions of EAN in transmit The theoretical concept of adequate nutrition. However, the paradox is revealed when most people admit to frequently consuming ultra-processed foods, despite from the conscience of your inadequacy for routine use. This result signals a major challenge for public health. and the education, indicating that the environment to feed outside from the school exercises one influence powerful on the behavior, sometimes even greater than formal knowledge (SBP, 2021). The SBP guidelines, which recommend prioritizing *whole foods* and restricting ultra-processed foods in children's diets, are in direct conflict with the actual habits reported by children (SBP, 2021).

This result is directly related to the PNAE (National School Feeding Program). One of the pillars of the PNAE is... the promotion from the Food Suitable and Healthy, establishing, including, the seal from the acquisition of certain ultra-processed foods for school meals (Brazil, 2009). The persistence of consumption of these products, as reported, suggests what the effort of PNAE The failure to offer a nutritious and educational meal at school can be neutralized. for the strong presence and the commercial appeal of these items outside of environment regulated. Therefore, and crucial what to the actions of EAN, as planned in legislation of PNAE (Brazil, 2009), be intensified and coordinates with regulatory measures more comprehensive what incidem on the access and the advertising of ultra-processed in other spaces frequented by children, reinforcing the need for a policy intersectoral work that effectively transforms knowledge into practice.

This experience report demonstrates, therefore, that the effectiveness of actions and public policies aimed at raising food and environmental awareness lies in their translation into playful and

evidence-based food and nutrition education methodologies, such as the Dietary Guidelines for the Brazilian Population (Brazil, 2014). The practical intervention of nutritionists in schools proves that the sustainability policy... if consolidated quite from the education behavioral, transforming the school environment into an active agent of consumption and production responsible, an ethical and environmental imperative in the 21st century (UN, 2020).

## CONCLUSION

The "Zero Waste in School Meals" project represents one example. This study successfully demonstrated how the specialized technical expertise of a nutritionist can catalyze the transformation of major political commitments into concrete and measurable results in the school environment. The experience showed the ability to translate the strategic vision of the Sinop Charter for Sustainability and the global objectives of SDG 12 into everyday practices that positively impact local health, education, and the environment.

The results achieved, notably the reduction of food waste and the promotion of healthier eating habits, in line with the Dietary Guidelines for the Brazilian Population, reinforce the importance from the EAN as one guideline fundamental of PNAE, going beyond the provision of meals to become an instrument of citizenship and sustainability (Brazil, 2009).

The participation of nutritionists in the development of a strategic document. Municipal initiatives, such as the Sinop Sustainability Charter, highlight the need for integration. The Nutrition professionals are involved in the formulation and implementation of public policies. This ensures that technical knowledge about food security, waste, and responsible consumption, central themes of the PNCPPA (National Policy for the Prevention and Control of Food Waste), is applied in a systemic and intersectoral way. (Brazil, 2023).

This experience report reinforces the need to effectively integrate Food and Environmental Education into the school curriculum through active and practical methodologies. Such integration not only enhances the formation of a new generation of more conscious consumers, aligned with the principle of Consumption and Production Responsible of SDGs 12, but also guarantees one path more solid, effective and participatory to the sustainable development at the municipal level (UN, 2015).

## REFERENCES

Brasil. **Caderno de Investigações Científicas – Volume 3: Consumo Sustentável**. Brasília: Ministério da Justiça, Secretaria Nacional do Consumidor, 2013.

Brasil. Câmara dos Deputados. **Câmara aprova criação de política de combate à perda e ao desperdício de alimentos**. S.l., s.n., 2025.

Brasil. Fundo Nacional de Desenvolvimento da Educação (FNDE). Lei n° 11.947, de 16 de junho de 2009. Dispõe sobre o atendimento da alimentação escolar e do Programa Dinheiro Direto na Escola aos alunos da educação básica. *Diário Oficial da União*, Brasília, DF, 17 jun. 2009.

Brasil. Lei n° 13.666, de 16 de maio de 2018. Altera a Lei n° 11.394, de 20 de dezembro de 1996 (Lei de Diretrizes e Bases da Educação Nacional), para incluir o tema transversal da educação alimentar e nutricional no currículo escolar. *Diário Oficial da União*, Brasília, DF, 17 mai. 2018.

Brasil. Ministério da Agricultura e Pecuária. **Governo Federal institui Política Nacional de Combate à Perda e ao Desperdício de Alimentos**. Brasília: Ministério da Agricultura e Pecuária, 2023.

Brasil. Ministério da Saúde. **Guia alimentar para a população brasileira**. 2. ed. Brasília: Ministério da Saúde, 2014.

Brasil. Ministério da Saúde. **Política Nacional de Alimentação e Nutrição**. Brasília: Ministério da Saúde, 2012.

Brasil. Ministério do Meio Ambiente (MMA). **Carta da Terra**. S.l., s.n., 2024.

Brasil. Ministério do Meio Ambiente (MMA). **PLANO DE AÇÃO PARA PRODUÇÃO E CONSUMO SUSTENTÁVEIS - PPCS**. Brasília: MMA, 2014.

ONU. Organização das Nações Unidas. **'Perda e desperdício de alimentos é eticamente inaceitável'**. S.l., s.n., 2020.

ONU. Organização das Nações Unidas. **Transformando Nosso Mundo: A Agenda 2030 para o Desenvolvimento Sustentável**. S.l., s.n., 2015.

SBP. Sociedade Brasileira de Pediatria. **Alimentação da criança em idade escolar: cuidados e dicas práticas**. S.l., s.n., 2024.

SINOP. Prefeitura Municipal. **Conheça Sinop**. Sinop: Prefeitura Municipal, 2023. SINOP. Prefeitura Municipal. **III Sinop Sustentável**. Sinop: Prefeitura Municipal, 2025.

145. **BARRIERS AND FACILITATORS IN ACCESS TO HEALTH CARE AND SOCIAL PARTICIPATION ENCOUNTERED BY PATIENTS AT A TEACHING CLINIC IN VITÓRIA, ES**

***BARREIRAS E FACILITADORES NO ACESSO A TRATAMENTOS DE SAÚDE E PARTICIPAÇÃO SOCIAL ENCONTRADOS PELOS PACIENTES DE UMA CLÍNICA ESCOLA DE VITÓRIA - ES***

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**ABSTRACT**

**Introduction:** The Brazilian Inclusion Law **The International Classification of Functioning, Disability and Health (ICF)** guarantees rights and full participation for people with disabilities, while the ICF allows for the analysis of factors influencing functionality and participation. Although these frameworks offer a basis for inclusion, many families still face difficulties accessing essential information. **Objective:** To understand the barriers and facilitators encountered by patients at a teaching clinic in Vitória, ES, and their caregivers in accessing their health treatments and social participation, as well as their sociodemographic profile. **Method:** A quantitative, exploratory study was conducted through structured interviews using a self-developed form applied to family members or guardians of patients treated in the neuropediatrics sector of the EMESCAM teaching clinic. **Results:** There was a balanced distribution between genders and a predominance of mixed-race individuals (70%). Children aged 1 to 5 years, and residents of Vitória, were more frequent. The majority had an income between 1 and 3 minimum wages. Regular medication use was frequent (82%), with 46% obtained through the health center and 62% purchased. Most of the sample possessed necessary items, but reported financial difficulties and delays in delivery. Use of public transportation was predominant, followed by adapted transportation. 56% reported adequate accessibility in public schools. Family support, community participation, and leisure were verified in a large part of the sample. Only 42% felt supported by public policies and 36% were familiar with the Brazilian Inclusion Law. **Conclusion:** Significant vulnerabilities and barriers persist, indicating that eliminating these obstacles is essential to promote full inclusion and citizenship.

**Keywords:** Inclusion; International Classification of Functioning, Disability and Health; Disability; Rights.

## INTRODUCTION

Disability is understood as the result of the interaction between individual attributes and environmental and behavioral barriers that may limit full participation in society (UNA-SUS, 2017). According to the Brazilian Law for the Inclusion of Persons with Disabilities (LBI), also known as the Statute of Persons with Disabilities (EPD), a person with a disability is considered to be someone who has long-term physical, mental, intellectual, or sensory impairments which, in interaction with various barriers, may restrict their full and effective participation in society on an equal basis with others.

This law aims to ensure and promote, under conditions of equality, the exercise of the fundamental rights and freedoms of persons with disabilities, aiming at their full social inclusion and citizenship (Brazil, 2015). Ordinance No. 1,526, of October 11, 2023, established the National Policy for Comprehensive Health Care for Persons with Disabilities (PNAISPD), with the purpose of promoting and protecting the health of this population through the expansion of access to comprehensive care and coordination with other intersectoral policies (Brazil, 2023).

According to the Brazilian Institute of Geography and Statistics (IBGE, 2022), Brazil had 14.4 million people with disabilities in 2022, corresponding to 7.3% of the population aged two or older. In this context, the International Classification of Functioning, Disability and Health (ICF) proposes an approach that assesses the impact of health conditions on people's lives, incorporating performance in activities and social participation in the assessment of functionality, considering four fundamental components: body functions and structure, activity and participation, personal and environmental factors (WHO, 2004; UNA-SUS, 2017).

Within the ICF perspective, environmental factors are external to the individual and are understood as the set of social, attitudinal, and physical conditions that make up the environment where people live and carry out their daily activities. These factors directly influence functionality and can act as facilitators when they promote autonomy, inclusion, and participation, or as barriers when they hinder or prevent the performance of tasks and social interaction (WHO, 2004).

Obstacles can manifest in different ways, such as inaccessibility of public spaces and health services, scarcity of adapted resources, or the absence of effective policies. On the other hand, accessible environments, integrated public policies, social and family support, and inclusive attitudes constitute facilitators. Functionality, therefore, depends not only on health conditions but also on the integration between the individual and the environment. This perspective is essential to identify the challenges faced by families in realizing the rights of people with disabilities and to analyze how their knowledge of public policies can act as a facilitating factor in inclusion and access to citizenship (WHO, 2004).

Families of people with disabilities play a central role in the care, advocacy, and support of these individuals. Knowledge of current laws and guidelines is essential so that they can claim their rights, access public services, and promote effective inclusion in educational, social, and health contexts. Given this scenario, the present study aims to understand the barriers and facilitators encountered by patients at a teaching clinic in Vitória, ES, and their caregivers in accessing their health treatments and social participation, as well as their sociodemographic profile.

## METHODS

This is a quantitative, exploratory study conducted through interviews using a questionnaire developed by the participants. The study aimed to understand the barriers and facilitators faced by patients and their families in accessing their health treatments and participating in society.

The research was conducted in the Neuropediatrics sector of the teaching clinic of the Higher School of Sciences of the Santa Casa de Misericórdia de Vitória - EMESCAM, in Vitória-ES. This sector offers physiotherapy services for babies, children, and adolescents with different neurological conditions, allowing the observation of aspects related to functionality, access to health, and social inclusion. The sample consisted of 50 patients aged between 0 and 18 years who were regularly treated in the neuropediatrics sector, and their family members or legal guardians who consented to participate in the research. Patients whose guardians did not agree to participate or did not sign the consent form, and families not under active care during the data collection period, were excluded.

Data collection took place between July and October 2025 through face-to-face interviews conducted in a private setting. A self-developed structured questionnaire, composed of closed-ended questions, was used. The interview was conducted with the child's caregiver, and the responses related to the child's access to treatment, and the facilitators and barriers faced by the child or their family in accessing care services.

The form included variables such as date of birth, sex, chronological age, race (white, brown, black, indigenous, or Asian), family income (less than one minimum wage, one to three minimum wages, more than five minimum wages), and municipality of residence. Questions were also included about how medications were obtained (health center, public pharmacy, or private purchase), as well as the availability of personal care items (shower chair, catheters, hospital bed, gloves, diapers, aspirator, nebulizer, and orthotics) and the existence of barriers to acquiring these resources. The devices used for mobility (walker, crutches, wheelchair, lower limb orthotics, private, public, adapted transportation, or the "Mão na Roda – Porta a Porta" service) and possible barriers associated with their access were also investigated.

Additionally, the instrument considered variables related to the child's participation in rehabilitation and educational institutions, school accessibility, professional preparedness, receipt of government benefits, family and social support, interaction with friends, and monitoring by health professionals. Issues concerning the child's and their family's participation in community, leisure, and religious activities were also addressed, considering potential barriers in these contexts. Finally, questions related to family perceptions of the support received through public health policies and knowledge about the Statute of Persons with Disabilities (Brazilian Inclusion Law, LBI – Law No. 13.146/2015) were also addressed.

Data were tabulated and categorized on a Microsoft Excel spreadsheet. Categorical variables were analyzed using descriptive statistics, with results expressed as absolute and relative frequencies. Data were organized into tables, facilitating the visualization and interpretation of the information obtained. Research was conducted respecting the laws and regulations governing research involving human subjects, in accordance with Resolution No. 466/12 of the National Health Council. The study is part of an umbrella project approved by the research ethics committee of EMESCAM under opinion number 7461.356 and CAAE: 67843123600005065. All participants signed the informed consent form and, when applicable, patients signed the assent form, given freely and without coercion.

## **RESULTS**

The analysis of the sociodemographic profile (Table 1) showed a balanced distribution between the sexes, with 50% female and 50% male. Regarding self-reported race, there was a predominance of mixed-race individuals (70%), followed by white individuals (18%) and black individuals (12%), with no individuals who declared themselves indigenous or Asian. As for age range, the highest concentration of children was identified between 1 and 5 years old (32%), followed by the 11 to 18 year old group (28%) and those under one year old (20%). The majority of the population resided in the municipality of Vitória (40%), followed by Cariacica and Serra (20%).

When assessing the economic profile and access to resources, it was found that 78% of families had a monthly income between 1 and 3 minimum wages. The majority regularly used medication (82%), however only 46% obtained their medication through the health center, while 62% reported needing to purchase medication. Regarding personal items, 88% stated they possessed these materials, although 18% pointed to financial barriers and 14% reported delays in supply. In the analysis of mobility and transportation items, it was found that 70% used public transportation and 30% adapted transportation, while 40% used private transportation. It should be noted that people may use more than one type of transportation. Among mobility devices, 40% used wheelchairs and 30% used orthoses. The main barriers observed included difficulties related to adapted transportation (18%) and waiting time for obtaining a wheelchair (12%).

In the educational context, 64% of participants attended public educational institutions. Among these, 56% reported adequate accessibility and 14% indicated some type of barrier. Qualified teachers were identified in 46% of cases. Regarding social benefits, it was found that 44% received the Continuous Benefit Payment (BPC) and 10% received Bolsa Família. The presence of support proved relevant, since 72% of participants received support from family members and 62% reported having friends. Monitoring by health professionals was present in 96% of cases. In addition, it was observed that 80% participated in community activities and 92% had access to recreation and leisure.

Regarding religious practice, 48% identified as Evangelical, 18% as Catholic, and 22% stated they had no religion. The majority (88%) reported no significant barriers in their daily lives. However, only 42% stated they felt supported by health policies. Finally, only 36% reported knowing the Statute of Persons with Disabilities (EPD) or the Brazilian Inclusion Law (LBI).

Table 1 – Sociodemographic, clinical, and contextual characteristics of the studied population

<b>Sociodemographic Variables (n=50)</b>	<b>n (%)</b>
<b>Sex</b>	
Feminine	25 (50.0%)
Masculine	25 (50.0%)
<b>Color</b>	
Brown	35 (70.0%)
White	9 (18.0%)
Black	6 (12.0%)
<b>Chronological Age</b>	
Less than a year	10 (20.0%)
1 to 5 years	16 (32.0%)
6 to 10 years	10 (20.0%)
11 to 18 years old	14 (28.0%)
<b>Income Family</b>	
Less than 1 salary	7 (14.0%)
From 1 to 3 salaries	39 (78.0%)
From 3 to 5 salaries	2 (4.0%)
More than 5 salaries	2 (4.0%)
<b>Neighborhood/City</b>	

Vitoria	20 (40.0%)
Cariacica	10 (20.0%)
Mountain range	10 (20.0%)
Viana	6 (12.0%)
Vila Velha	3 (6.0%)
Domingos Martins	1 (2.0%)
<b>Do you use any medication?</b>	
Yes	41 (82.0%)
No	9 (18.0%)
<b>Medication Purchased</b>	
Yes	31 (62.0%)
No	19 (18.0%)
<b>Medication received at the health center</b>	
Yes	23 (46.0%)
No	27 (54.0%)
<b>Medication for the Popular Pharmacy</b>	
Yes	6 (12.0%)
No	44 (88.0%)
<b>Items for use guys</b>	
Yes	44 (88.0%)
No	6 (12.0%)
<b>Barrier to accessing personal items</b>	
Financial	9 (18.0%)
Report	3 (6.0%)
Delay	7 (14.0%)
There is no barrier.	30 (60.0%)
Lack of knowledge	1 (2.0%)
<b>Items of mobility</b>	
Private Transportation	20 (40.0%)
Public transport	35 (70.0%)
Adapted transport	15 (30.0%)
Wheelchair	20 (40.0%)
Lower limb orthosis	15 (30.0%)
Walker	1 (2.0%)
<b>Barrier to accessing mobility items</b>	
There is no barrier.	30 (60.0%)
Security/elevator broken (public transport)	2 (4.0%)
Schedule/difficulty in scheduling/availability of space/lack of transportation (adapted transport)	9 (18.0%)
It takes a long time to get a wheelchair.	6 (12.0%)
Delays/lack of knowledge in accessing orthotics.	3 (6.0%)
<b>Care institutions</b>	
Public	9 (18.0%)
Philanthropic	50 (100.0%)
Particular	2 (4.0%)
<b>Barrier to service</b>	
Transport	8 (16.0%)
Vacancy	1 (2.0%)
There is no barrier.	40 (80.0%)
Availability to take to the appointment	1 (2.0%)
<b>Do you attend an educational institution?</b>	
Yes	32 (64.0%)
No	3 (6.0%)
Not of school age.	12 (32.0%)
<b>Type of educational institution (n=32)</b>	
Public	32 (100%)
<b>Accessibility in school (n=32)</b>	
Yes	28 (56.0%)
No	4 (8.0%)
<b>Barrier at school</b>	
Yes	14 (28.0%)
No	19 (38.0%)
Not of school age.	16 (32.0%)

<b>Qualified teachers?</b>	
Yes	23 (46.0%)
No	8 (16.0%)
Not of school age.	16 (32.0%)
<b>Do you receive benefits?</b>	
BPC	21 (44.0%)
Family Allowance	4 (10.0%)
Does not receive survivor's pension	23 (46.0%)
Family Allowance and BPC	1 (2.0%)
<b>Do you receive support from family members?</b>	
Yes	36 (72.0%)
No	14 (28.0%)
<b>Do you have friends?</b>	
Yes	31 (62.0%)
No	19 (38.0%)
<b>Assistance from healthcare professionals?</b>	
Yes	48 (96.0%)
No	2 (4.0%)
<b>Do you participate in community life?</b>	
Yes	40 (80.0%)
No	10 (20.0%)
<b>Do you have access to recreation and leisure?</b>	
Yes	46 (92.0%)
No	4 (8.0%)
<b>Religion</b>	
Catholic	9 (18.0%)
Evangelical	24 (48.0%)
Crest	3 (6.0%)
He has no religion.	11 (22.0%)
Pentecostal	1 (2.0%)
Lutheran	1 (2.0%)
Baptist	1 (2.0%)
<b>Does it have a barrier?</b>	
Yes	6 (12.0%)
No	44 (88.0%)
<b>Do they feel supported by health policies?</b>	
Yes	21 (42%)
No	29 (58%)
<b>Are you familiar with EPD?</b>	
Yes	18 (36%)
No	32 (64%)

Source: prepared by the authors (2025).

## DISCUSSION

A profile marked by multiple vulnerabilities, where family income is concentrated in the lowest strata and there are obstacles in the school environment, in mobility and in access to social benefits, with barriers such as costs, delays in the release of medical reports and logistical difficulties in acquiring personal items and medications, coupled with a lack of knowledge of fundamental legislation, demonstrates important gaps in access to information and reveals the influence of social determinants that affect the care and social participation of people with disabilities.

National data indicate a higher prevalence of disability among women (IBGE, 2022). However, the findings of this study differ from this reality, since the sociodemographic analysis

revealed an equitable distribution between the sexes, with an equal proportion of male and female participants. This balance suggests that, in the context studied, access to the services of the teaching clinic occurs similarly between men and women.

Socioeconomic vulnerability is widely recognized in the literature as a social determinant of health and functionality, since limited financial resources impact access to services, assistive equipment, and the continuity of rehabilitation (WHO, 2004). This situation is reinforced by the findings of this study, where most families live on up to three minimum wages, highlighting economic vulnerability as a factor that can directly interfere on adherence to and continuity of health treatments.

The PAHO *Global report on health equity for persons with disabilities* shows that, despite advances in last decades, people with disabilities still face a higher risk of premature mortality, worse health conditions, and more functional limitations than those without disabilities. These results largely stem from unjust social conditions and barriers faced in various spheres of life, including within the health system itself, which still lacks effective actions to ensure equity in care (PAHO, 2025).

Sousa *et al.* (2014) identified problems in accessing personal care and health items, including excessive demand, delays in specialist consultations, and weaknesses in communication between levels of care. This finding is consistent with the difficulties reported in accessing these items, the most frequently cited being financial difficulties, delays in care, and the need for medical reports, indicating that although the Brazilian Unified Health System (SUS) has expanded access to rehabilitation, obstacles related to bureaucracy, lack of resources, and waiting times persist, which can compromise the continuity of care.

Amorim (2018) highlights that the lack of accessibility and adequate infrastructure in health services constitutes a recurring barrier to the effective implementation of comprehensive care. Difficulty with mobility, socioeconomic vulnerability, low availability of specialized services, and inefficient referrals also affect access to care, reinforcing that demographic and social factors influence inequalities in health services (Santos *et al.*, 2014). These elements directly relate to the findings of the present study, especially regarding financial and bureaucratic barriers.

França *et al.* (2016) highlights the insufficiency of accessible public transport as one of the social determinants that make access to health services even more complex for people with disabilities, and Sousa *et al.* (2014) points out that traveling to health services involves various challenges, including the need for a companion, travel time, and structural limitations of available transport. This study reinforces these statements, as the lack of accessible transport and difficulties in mobility were also mentioned by the participants.

Although there are legal frameworks that provide for equal access, such as the LBI (Brazil, 2015), its implementation still faces practical limitations. At the state level, Complementary Law No. 1,117/2025 stands out, expanding access to free metropolitan public transport for people with disabilities and ensuring a free companion for wheelchair users (Espírito Santo, 2025). Despite these normative advances, the low percentage of adapted transport use highlights a mismatch between what the legislation provides and what is actually guaranteed, reinforcing the need for oversight and expansion of the supply of truly accessible transport.

Most participants in this study have family support, participate in community activities, have religious affiliations, and engage in leisure activities, demonstrating the relevance of support networks and social relationships as factors that facilitate functionality. These findings align with the ICF's perspective, which recognizes the role of positive environmental factors, such as social and family support, in promoting autonomy, expanding participation, and configuring them as significant elements for mental health, community integration, and quality of life (WHO, 2004).

Physical and pedagogical accessibility is one of the pillars of educational inclusion foreseen by the LBI and reaffirmed by the National Policy for Special Education from the Perspective of Inclusive Education (Brazil, 2015; Brazil, 2025). In line with this legislation, both accessibility and teachers trained to serve students with disabilities were reported, indicating progress in implementing inclusive practices. However, some obstacles reported in schools highlight the importance of continuous investments in infrastructure, teacher training, and inclusion awareness promotion.

Ignorance of legal guarantees can limit access to public services and benefits, and the difficulty of accessing legal information is still a reality in the world where, even with the wide availability of the internet, it is still difficult to clearly access the regulations in force in many countries (Nishikawa-Pacher; Hamann, 2023). This limitation in access to legislation tends to disproportionately affect vulnerable groups, such as people with disabilities and low-income families, who end up occupying disadvantaged positions (Gloppen; Kanyogolo, 2020). This situation is reinforced by the findings of this research, since more than half of the respondents stated that they did not know the Brazilian Law on Inclusion of Persons with Disabilities (LBI).

The National Policy for Comprehensive Care for People with Disabilities (PNAISPD), established in 2023, aims to expand comprehensive care and promote intersectoral coordination; however, its implementation still faces challenges related to the structure of services, the training of professionals, and the integration between different levels of care (Brazil, 2023). The results of this study reinforce these challenges and underscore the urgency of strengthening the link between primary health care units, rehabilitation centers, and families, ensuring continuity of care and better guidance on rights and available resources.

## CONCLUSION

This study identified that people with disabilities face a set of vulnerabilities marked by economic limitations, structural barriers, and informational difficulties that directly influence their functionality, social participation, and access to rights guaranteed by law. Although national regulatory frameworks establish fundamental guidelines for inclusion, the results demonstrate that their implementation is still partial, with substantial challenges to ensuring full inclusion and the exercise of citizenship by people with disabilities. This is reflected in the limited perception of support from public policies, low legislative knowledge, and persistent obstacles related to transportation, obtaining supplies, and bureaucracy.

Addressing these gaps requires continuous investment in public policies, accessible infrastructure, and informational processes, as well as the provision of social support networks, with integrated actions that strengthen the coordination between services, guarantee effective accessibility, and expand access to information about rights and available resources. Thus, promoting inclusion and functionality implies recognizing that the elimination of all barriers — physical, informational, social, and attitudinal — is an indispensable condition for consolidating a more just and equitable society aligned with the principles of the Brazilian Law on Inclusion of Persons with Disabilities (LBI) and the International Classification of Functioning, Disability and Health (ICF).

## REFERENCES

AMORIM, E. G.; LIBERALI, R.; MEDEIROS NETA, O. M. Avanços e desafios na atenção à saúde de pessoas com deficiência na Atenção Primária no Brasil: uma revisão integrativa. **Holos**. 2018; v. 1, p. 224-236. DOI: 10.15628/holos.2018.5775

BRASIL. Ministério da Saúde. **Portaria nº 1526, de 11 de outubro de 2023**. Altera as Portarias de Consolidação GM/MS nºs 2, 3 e 6, de 28 de setembro de 2017, para dispor sobre a Política Nacional de Atenção Integral à Saúde da Pessoa com Deficiência (PNAISPD) e Rede de Cuidados à Pessoa com Deficiência (RCPD) no âmbito do Sistema Único de Saúde (SUS). Brasília: Ministério da Saúde, 2023.

Brasil. Presidência da República. **Decreto nº 12.686, 20 de outubro de 2025**. Institui a Política Nacional de Educação Especial Inclusiva e a Rede Nacional de Educação Especial Inclusiva. Brasília, 2025.

BRASIL. Presidência da República. **Lei nº 13.146, de 6 de julho de 2015**. Institui a Lei Brasileira de Inclusão da Pessoa com Deficiência (Estatuto da Pessoa com Deficiência). Brasília, 2015.

ESPÍRITO SANTO. **Lei Complementar nº 1117, de 15 de julho de 2025**. Altera a Lei Complementar nº 213, de 3 de dezembro de 2001, que regulamenta a Emenda Constitucional nº 029/00, de 29 de novembro de 2000, que altera a redação do caput do art. 229 da Constituição Estadual do Espírito Santo. Vitória, 2025.

GLOPPEN, S; KANYONGOLO, F. E. 'Courts and the Poor in Malawi: Economic Marginalization, Vulnerability, and the Law' (2007). **5 International Journal of Constitutional Law 258**; Chimaraoke Izugbara and others, 'Regional Legal and Policy Instruments for Addressing LGBT Exclusion in Africa' (2020) 28 Sexual and Reproductive Health Matters 1698905.

IBGE. **Relatório do Censo Demográfico 2022**. Características Gerais da População – Resultado da Amostra. Instituto Brasileiro de Geografia e Estatística, 2022.

NISHIKAWA-PACHER, A.; HAMANN, H. Is Every Law for Everyone? Assessing Access to National Legislation Through Official Legal Databases around the World. **Oxf J Leg Stud**. Feb, 2018, v. 43, n. 2, p. 298 – 321. DOI: 10.1093/ojls/gqac032.

ORGANIZAÇÃO MUNDIAL DA SAÚDE. **Classificação Internacional de Funcionalidade**. Organização Mundial da Saúde. Lisboa, 2004.

SANTOS, D. B.; VÁZQUEZ-RAMOS, V.; OLIVEIRA, C. C. C.; LÓPEZ-ARELLANO, O. Accesibilidad en salud: revisión sobre niños y niñas con discapacidad en Brasil-Perú-Colombia. **Rev Latinoam Cienc Soc Niñez Juv**. 2019, v.17, n.2, p. 1-20. DOI:10.11600/1692715x.17206

SOUSA, F. O. S.; MEDEIROS, K. R.; GURGEL JÚNIOR, G. D.; ALBUQUERQUE, P.C. Do normativo à realidade do Sistema Único de Saúde: revelando barreiras de acesso na rede de cuidados assistenciais. **Cienc Saude Colet**. 2014, v. 19, n. 4, p. 1283-1293. DOI:10.1590/1413-81232014194.01702013

UNA-SUS/UFMA. **Redes de Atenção à Saúde: Rede de Cuidado à Pessoa com Deficiência/ Ana Emilia Figueiredo de Oliveira; Paola Trindade Garcia (Org.)**. - São Luís: EDUFMA, 2017. ISBN: 978-85-7862-704-1

WHO. **Global report on health equity for persons with disabilities**. Geneva: World Health Organization; 2022. ISBN 978-92-4-006360-0

**146. RIGHTS AND CHALLENGES OF PATIENTS WITH HEARING IMPAIRMENT IN ACCESS TO HEALTHCARE: AN ANALYSIS OF ACCESSIBILITY AND PUBLIC POLICIES IN BRAZIL**

***DIREITOS E DESAFIOS DO PACIENTE COM DEFICIÊNCIA AUDITIVA NO ACESSO À SAÚDE: UMA ANÁLISE DA ACESSIBILIDADE E DAS POLÍTICAS PÚBLICAS NO BRASIL***

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**ABSTRACT**

**Introduction:** Hearing impairment is defined as a long-term limitation of hearing, whether unilateral (total) or bilateral (partial or total), resulting from genetic causes or alterations in the auditory system, which, with one or more barriers, compromises communication, language development, and the individual's full and effective participation in society in an equal manner. **Objective:** To analyze the rights of patients with hearing impairment in the context of accessibility to health services. **Method:** This refers to an integrative review conducted in March 2025. For the selection of articles, a search was carried out in the PUBMED database, using the descriptors: “Communication Aids for Disabled” OR “Transitory Deafness” OR “Persons With Hearing Impairments” AND “Health” AND “Public Policy”. **Results:** The initial search comprised a total of 565 articles. After reading the titles, 40 articles were selected. After analysis and complete reading of the respective abstracts, only 20 articles were identified that comprised the review of this research. Literature shows that, despite legal advances, people with hearing impairments still face communication and structural barriers that limit equitable access to healthcare. The lack of interpreters, accessible materials, and adequate professional training leads to inadequate care and risks to patient safety. In Brazil, policies such as the National Policy for Hearing Health Care and the recognition of Libras (Brazilian Sign Language) represent progress, but still lack effective implementation. Thus, communication accessibility remains essential to guarantee autonomy, dignity, and the full right to health for this population. **Conclusion:** It was found that the effectiveness of public policies continues to be limited by the lack of infrastructure, insufficient professional training, and the lack of systematic monitoring of actions. In general, deaf and hard-of-hearing populations need accessible and priority care; however, there is a lack of assistance and a scarcity of research focused on inclusive health services. It is essential to ensure the right to full and understandable communication, encouraging the search for health information in deaf communities.

**Keywords:** Communication aids for people with disabilities. Hearing loss. People with hearing impairments. Health. Public policy.

## INTRODUCTION

Hearing impairment is defined as a long-term limitation of hearing, whether unilateral (total) or bilateral (partial or total), resulting from genetic causes or alterations in the auditory system. This impairment, along with one or more barriers, compromises communication, language development, and the individual's full and effective participation in society on an equal footing. Furthermore, studies also point to barriers related to access to health information and education, as well as imprecise communication between doctors and patients with hearing impairments (Pinilla *et al.* , 2019).

In the Americas, according to the World Health Organization (WHO), it is statistically found that 217 million people live with hearing loss, which can be classified as mild, moderate, moderately severe, severe, or profound. Although the consequences of hearing loss are not always evident, hearing impairment results in negative aspects of interpersonal communication, psychosocial well-being, and quality of life for the individual (Tsimpida; Kaitelidou; Galanis, 2018).

In patient care, communication is a fundamental and irreplaceable pillar for the interpretation of effective treatment. Therefore, if there is deficient communication, the entire health process is compromised, starting with the misinterpretation of treatment, lack of empowerment in care decisions, reduced user satisfaction, and even non-adherence to care practices (Reed *et al.*, 2021).

On the other hand, it is known that health practices can be implemented in some central areas that go beyond individual care, such as policy, programs, services, or even systems (Peixoto; Chaves, 2019). Thus, in 2004, the National Policy for Hearing Health Care - PNASA (Ordinance MS 2,073, of 2004) was implemented by the Ministry of Health, establishing minimum technical criteria for the operation of services, reorganization, and classification of procedures used in the Unified Health System (SUS) related to hearing health (Silva; Gonçalves; Soares, 2014).

Thus, the objective of this work is to analyze the rights of patients with hearing impairments in the context of accessibility to health services, considering existing public policies and the challenges faced by this population in order to guarantee equity.

## METHOD

This is an integrative review developed through a bibliographic survey conducted in March 2025. The methodology used consists of: formulating the hypothesis and objective of the review; applying inclusion and exclusion criteria; analyzing the articles; defining the information extracted from the selected articles; and compiling these steps to prepare the text.

Initially, the following guiding hypothesis was developed for the elaboration of this work: "What are the rights and challenges of patients with hearing impairments in accessibility and access to healthcare?"

For the selection of articles, a bibliographic survey was conducted in the PUBMED database, using the descriptors: "Communication Aids for Disabled" OR "Transitory Deafness" OR "Persons With Hearing Impairments" AND "Health" AND "Public Policy". As a search strategy, the descriptors were used in conjunction with the Boolean operators "AND" and "OR" in order to analyze a larger quantity of results, thus encompassing the research.

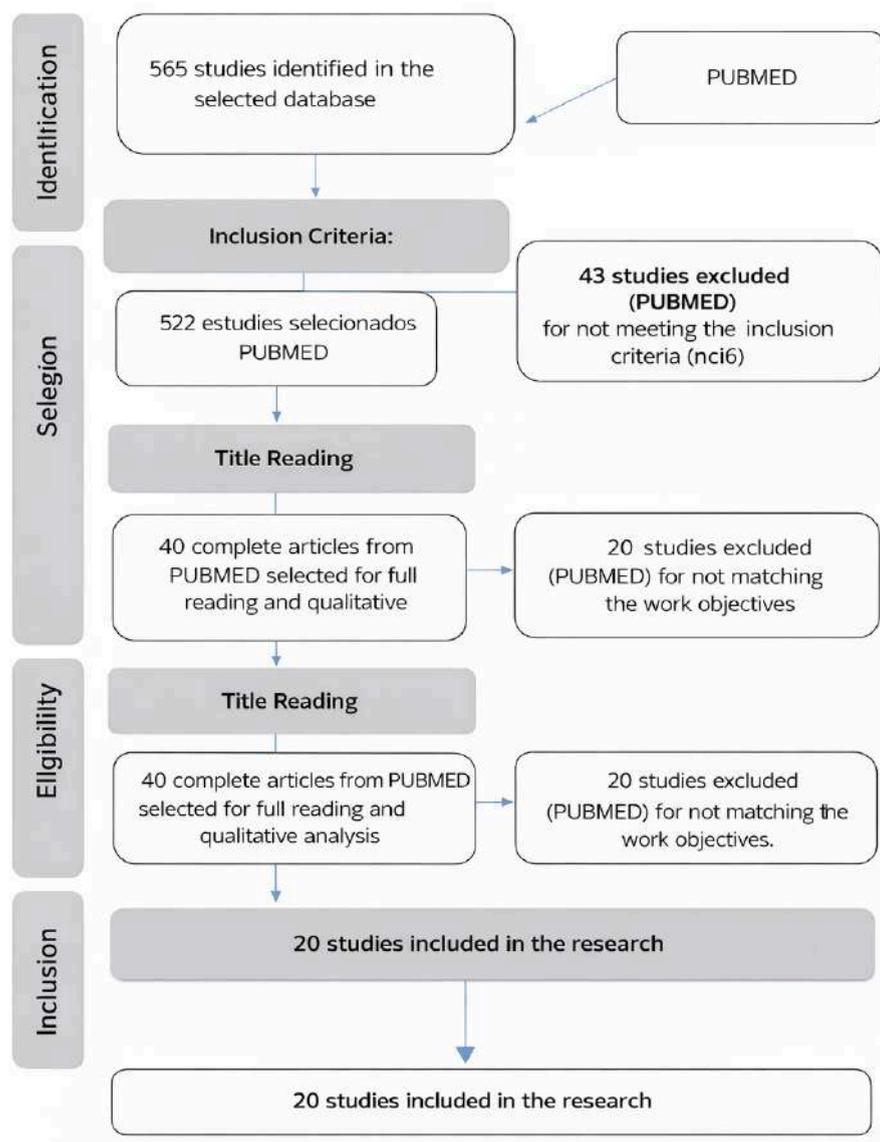
Finally, the following inclusion criteria were applied: full texts available in English and Portuguese. The identified studies were selected through title analysis and reading of the abstract, thus including those that were related to the theme of this research and met the same criteria, excluding those that did not have similarity to the theme. Lastly, the articles were read in full, and only those that

were in accordance with the objectives of the research developed here were included in the final sample of the integrative review.

## RESULTS AND DISCUSSION

The research comprised a total of 565 potentially relevant articles. After applying the inclusion and exclusion criteria, which consider full texts and languages in English and Portuguese, 522 articles remained. Among these, 40 articles were selected based on reading the titles, and after analyzing their respective abstracts, 20 articles were identified that align with the objectives of this research.

Figure 1 - Prisma Flowchart.



Source: Prepared by the author (2025).

Table 1 - Description of the main studies found with their respective years of publication and place of publication.

Author	Year	Title of the work	Type of study	Objective
Anthony <i>et al.</i>	2024 PubMed	Hearing loss, hearing aids, and satisfaction with health care in the national Health Interview Survey	Cross-sectional study	"Hearing loss can negatively impact satisfaction with healthcare through communication barriers between patient and healthcare professional, and may be amenable to hearing treatment."
Beaver <i>et al.</i>	2021 PubMed	Viewing the healthcare system through a deaf lens Viewing the healthcare system through a deaf lens	Not informed	To examine some common barriers to the effective participation of deaf people in the health system.
Chodosh <i>et al.</i> ;	2020 PubMed	Face masks can be devastating for people with hearing loss	Editorial	"How can we preserve communication with patients with hearing loss in this new world of masks?"
Engelman <i>et al.</i>	2013 PubMed	Responding to the deaf in disasters: establishing the need for systematic training for state-level emergency management agencies and community organizations	Not informed	"Training needs in emergency preparedness related to deaf and hard-of-hearing individuals for state emergency management agencies and community organizations (COs) that serve deaf people."
Gutenberg <i>et al.</i>	2018 PubMed	Big Data for sound policies: Toward evidence-informed hearing health policies.	Retrospective cohort study	To describe the use of Big Data, through the EVOTION project, to generate an evidence base that can guide the formulation of hearing health policies.
James <i>et al.</i>	2021 PubMed	Conceptual Model of Emergency Department Utilization among Deaf and Hard-of-Hearing Patients: A critical review.	Critical review	"Develop a conceptual model describing patient and non-patient factors (e.g., community, health system, provider) that influence the use of emergency medicines and emergency medicine delivery processes among people with heart disease."
James <i>et al.</i>	2022 PubMed	Communication access in mental health and substance use treatment facilities for deaf American Sign Language users.	Secondary Analysis	"To evaluate the provision of accessibility services, such as sign language services through a fluent interpreter or provider, in U.S. mental health and substance use treatment facilities covered by Section 1557 of the ACA."
Peixoto <i>et al.</i>	2019 PubMed	Analysis of the implementation of the national policy for hearing health care in a federative unit of Brazil.	Qualitative evaluation study	"To analyze the degree of implementation of the national health policy at the state level."
Pendergrass <i>et al.</i>	2017 PubMed	Nurse practitioner perceptions of barriers and facilitators in providing health care for disabled American Sign Language users: A qualitative socio-ecological approach.	Qualitative study using a socio-ecological model (SEM).	To examine the perceptions of healthcare professionals regarding barriers and facilitators in providing healthcare to deaf users of ASL (American Sign Language).
Pinilla <i>et al.</i>	2019 PubMed	Primary non-communicable disease prevention and communication barriers of deaf sign language users: a qualitative study	Qualitative study with a socio-constructivist approach.	"To explore the concepts of disease embodied in signs, the primary behavior of preventing chronic non-communicable diseases, and the communication barriers among members of a deaf community."
Poon <i>et al.</i>	2022 PubMed	Communication with face masks during the COVID-19 pandemic for adults with hearing loss	Cross-sectional study	"To investigate the extent to which face masks, as a health and safety protection measure against SARS-CoV-2, have affected speech comprehension in the daily

				lives of adults with deafness or hearing loss, and to identify possible strategies to improve communication accessibility."
Reed <i>et al.</i>	2021 PubMed	Association of self-reported trouble hearing and patient-provider communication with hospitalizations among Medicare beneficiaries	Not informed	To examine the role of patient-professional communication as the mechanism by which those with hearing loss are more likely to be hospitalized.
Reed <i>et al.</i>	2021 PubMed	Medicare beneficiaries with self-reported functional hearing difficulty have unmet health care needs: Study examines the level of access to a usual source of care for Medicare beneficiaries who reported hearing loss	Not informed	To assess the impact that hearing loss may be having on both health outcomes and quality of care.
Saeed <i>et al.</i>	2022 PubMed	Barriers to and facilitators of effective communication in perinatal care: a qualitative study of the experiences of birthing people with sensory, intellectual, and/or developmental disabilities	Qualitative study	"Understanding the communication experiences of women with intellectual disabilities and/or sensory impairments in perinatal care."
Silva <i>et al.</i>	2014 PubMed	National Policy on Health Care Hearing: an evaluative study from covering services and diagnostic procedures.	Evaluative study	To evaluate the National Policy for Hearing Health Care (PNASA) based on the coverage of specialized services and diagnostic procedures in hearing health in Brazil.
Soleman <i>et al.</i>	2021 PubMed	Health policies and definitions of deafness and hearing impairment in the Brazilian Unified Health System (SUS): a monologue?	Documentary review	To identify how the organic/biological and social/anthropological definitions have been expressed in health policies for people with hearing impairments/deafness within the Brazilian Unified Health System (SUS).
Tannenbaum <i>et al.</i>	2025 PubMed	Communication barriers to optimal access to emergency rooms according to deaf and hard-of-hearing patients and health care workers: A mixed-methods study.	Mixed methods study	"Identify communication barriers between healthcare professionals (HPs) and deaf and hard-of-hearing patients (HHPs)."
Tsimpida <i>et al.</i>	2018 PubMed	Determinants of health-related quality of life (HRQoL) among hard of hearing adults in Greece: a cross-sectional study.	Cross-sectional study	To assess the health-related quality of life in deaf and hard-of-hearing adults in Greece, and to investigate the determinants of this quality of life.
Vianna <i>et al.</i>	2022 PubMed	Deafness in Brazilian health policy: a genealogical analysis.	A qualitative, documentary study grounded in Foucault's theoretical assumptions.	"To conduct a genealogical analysis of deafness, that is, an analysis of the practices of knowledge and power in Brazilian health policy."
Xu <i>et al.</i>	2021 PubMed	External communication barriers among elderly deaf and hard of hearing people in China during the COVID-19 pandemic emergency isolation: A qualitative study.	Qualitative study	"To explore the needs and difficulties faced by the older human rights group in external communication during public health emergencies in Wuhan, China, in the context of the COVID-19 pandemic."

Source: Prepared by the author (2025).

An analysis of the rights and challenges faced by people with hearing impairments in accessing healthcare services reveals the persistence of a scenario of structural and communicational inequality, even in the face of the normative and technological advances observed in recent decades. The scientific literature indicates that hearing impairment, more than a sensory limitation, is also a social marker of vulnerability, since access to healthcare services depends heavily on communication and interpersonal interaction. The absence of inclusive strategies and effective policies for communicational accessibility places this population at a disadvantage, compromising fundamental principles of the Brazilian Unified Health System (SUS), such as universality and equity.

Internationally, various studies indicate that communication barriers remain the main obstacle to the effective realization of the right to health among deaf or hard-of-hearing individuals. Beaver and Carty (2021) describe that, even in health systems with high coverage, such as the Australian system, care remains centered on hearing practices and poorly adapted to the linguistic needs of the deaf community. Pendergrass *et al.* (2017) complement this perspective by identifying that the lack of qualified interpreters, the scarcity of accessible materials, and the lack of knowledge about deaf culture among healthcare professionals generate negative and avoidable experiences during care. This finding reinforces the structural nature of the barriers faced, which are not limited to the technical dimension of communication, but also involve ethical, cultural, and educational aspects.

During the COVID-19 pandemic, the health emergency exacerbated existing inequalities. The mandatory use of masks and other physical barriers directly interfered with lip reading and visual speech perception, fundamental resources for individuals with hearing impairments (Chodosh; Weinstein; Blustein, 2020; Poon; Jenstad, 2022). Furthermore, Xu *et al.* (2021) showed that, in contexts of social isolation, the absence of accessible channels for communication and health information amplified feelings of insecurity and the risk of misinformation among deaf elderly people. These findings demonstrate that, in crisis situations, communication accessibility should be understood as an essential component of emergency policies, and not as a secondary aspect.

In the Brazilian context, public policies for hearing health represent a significant advance, but still face challenges regarding their effectiveness and reach. The National Policy for Hearing Health Care (PNASA), implemented in 2004, sought to consolidate the prevention, early detection, and rehabilitation of hearing loss within the SUS (Brazilian Unified Health System). However, evaluative analyses indicate important gaps. Silva, Gonçalves, and Soares (2014) and Peixoto and Chaves (2019) point out that there are regional inequalities in service coverage, insufficient specialized human resources, and weaknesses in the articulation between levels of care, which compromises the comprehensiveness of care. Added to this is the absence of robust mechanisms for monitoring and evaluating actions, making it difficult to measure the real impact of the policy on the quality of life of users.

From a sociopolitical perspective, Soleman and Bousquat (2021) and Vianna *et al.* (2022) argue that the conception of deafness adopted by the Brazilian State remains strongly tied to the biomedical model and the rehabilitative logic, to the detriment of a sociocultural and rights-based approach. This view reduces hearing impairment to a clinical problem to be corrected, neglecting the linguistic, identity, and cultural dimensions of deafness. As a consequence, health policies and professional training programs rarely incorporate the perspective of the deaf community as a subject of rights and not just as a target audience. This scenario reveals a gap between the legal framework, which recognizes Brazilian Sign Language (Libras) as an official means of communication since Law No. 10.436/2002, and its implementation in health services, which are still largely lacking interpreters and bilingual materials.

International evidence corroborates the impact of this exclusion on health outcomes. Reed *et al.* (2021a, 2021b) identified that adults and elderly individuals with hearing impairments have a higher risk of hospitalizations, lower satisfaction with care, and poorer therapeutic adherence due to communication failures and restricted access to information sources. Tannenbaum-Baruchi *et al.* (2025) reinforce that, in emergency services, ineffective communication can result in incorrect diagnoses, increased waiting times,

and compromised patient safety. These findings have direct implications for the Brazilian Unified Health System (SUS), especially considering the high demand for emergency services and the need for accessible protocols for diverse populations.

The literature also points to possible paths for improving hearing health policies. Gutenberg *et al.* (2018) advocate the use of *big data* and epidemiological indicators to guide evidence-based decisions and promote integration between surveillance, prevention, and rehabilitation. Engelman *et al.* (2013) reinforce the importance of systematic training for health professionals and managers to care for deaf populations, especially in disaster and emergency contexts. These approaches align with the perspective of health equity, which requires structural and intersectoral actions capable of reducing historical inequalities.

In Brazil, the challenge lies in transforming legal advancements into effective care practices. To achieve this, it is essential that the training of healthcare professionals incorporates content on communication accessibility, the rights of people with disabilities, and deaf culture. The absence of these topics in the curriculum perpetuates ignorance and prejudice, as observed by Pendergrass *et al.* (2017) and Saeed *et al.* (2022). The integration of Libras (Brazilian Sign Language) as a mandatory subject, as determined by Decree No. 5,626/2005, is still limited, especially in health-related courses, which weakens communication between professionals and patients and contributes to exclusion.

Communicational accessibility, therefore, must be understood not only as a technical adaptation, but as an ethical and political principle that underpins the right to health. Ensuring effective communication means ensuring autonomy, safety, and dignity for the patient. In this sense, equity in health, a central concept in Brazilian public policies, is only achieved when access is universal and adapted to the specific needs of each population group. Hearing impairment, by requiring structural and symbolic adjustments, challenges the health system to reinvent its practices and recognize diversity as a constitutive element of care.

## CONCLUSION

Thus, the literature review demonstrates that, although Brazil possesses a robust regulatory framework aimed at the inclusion of people with hearing impairments, the effectiveness of public policies is still limited by the lack of infrastructure, insufficient training of professionals, and the lack of systematic monitoring of actions. International experience, in turn, reinforces that overcoming these barriers demands strategic planning, investment in training, and the involvement of the deaf community in all stages of the decision-making process.

In general, deaf and hard-of-hearing populations need accessible and prioritized care; however, there is a lack of assistance and a scarcity of research focused on inclusive health services. Thus, more than guaranteeing physical access to health services, it is necessary to ensure the right to full and understandable communication, an indispensable condition for the exercise of citizenship and for the promotion of health in its integral sense, encouraging the search for health information in deaf communities.

## REFERENCES

ANTHONY, Teresa *et al.*. Hearing loss, hearing aids, and satisfaction with health care in the national Health Interview Survey. **Otolaryngology--head and neck surgery: official journal of American Academy of Otolaryngology-Head and Neck Surgery**, v. 170, n. 2, p. 414–421, 2024.

BEAVER, Sherrie; Carty, Breda. Viewing the healthcare system through a deaf lens. **Public health research & practice**, v. 31, n. 5, 2021.

CHODOSH, Joshua; WEINSTEIN, BARBARA E.; Blustein, Jan. Face masks can be devastating for people with hearing loss. **BMJ (Clinical research ed.)**, v. 370, p. m2683, 2020.

Engelman, Alina *et al.*. Responding to the deaf in disasters: establishing the need for systematic training for state-level emergency management agencies and community organizations. **BMC health services research**, v. 13, n. 1, p. 84, 2013.

Gutenberg, Johanna *et al.*. Big Data for sound policies: Toward evidence-informed hearing health policies. **American journal of audiology**, v. 27, n. 3S, p. 493–502, 2018.

James, Tyler G. *et al.*. Conceptual Model of Emergency Department Utilization among Deaf and hard-of-Hearing Patients: A critical review. **International journal of environmental research and public health**, v. 18, n. 24, p. 12901, 2021.

James, Tyler G. *et al.*. Communication access in mental health and substance use treatment facilities for deaf American Sign Language users. **Health affairs (Project Hope)**, v. 41, n. 10, p. 1413–1422, 2022.

Peixoto, Marcus Valerius da Silva; CHAVES, Sônia Cristina Lima. Análise da implantação da política nacional de atenção à saúde auditiva em uma unidade federativa do Brasil. **CODAS**, v. 31, n. 3, p. e20180092, 2019.

Pendergrass, Kathy M. *et al.*. Nurse practitioner perceptions of barriers and facilitators in providing health care for deaf American Sign Language users: A qualitative socio-ecological approach: A qualitative socio-ecological approach. **Journal of the American Association of Nurse Practitioners**, v. 29, n. 6, p. 316–323, 2017.

Pinilla, Severin *et al.*. Primary non-communicable disease prevention and communication barriers of deaf sign language users: a qualitative study. **International journal for equity in health**, v. 18, n. 1, p. 71, 2019.

Poon, Brenda T.; JENSTAD, Lorraine M. Communication with face masks during the COVID-19 pandemic for adults with hearing loss. **Cognitive research: principles and implications**, v. 7, n. 1, p. 24, 2022.

Reed, Nicholas S. *et al.*. Association of self-reported trouble hearing and patient-provider communication with hospitalizations among Medicare beneficiaries. **Seminars in hearing**, v. 42, n. 1, p. 26–36, 2021.

Reed, Nicholas S. *et al.*. Medicare beneficiaries with self-reported functional hearing difficulty have unmet health care needs: Study examines the level of access to a usual source of care for Medicare beneficiaries who reported hearing loss. **Health affairs (Project Hope)**, v. 40, n. 5, p. 786–794, 2021b.

Saeed, Gul *et al.*. Barriers to and facilitators of effective communication in perinatal care: a qualitative study of the experiences of birthing people with sensory, intellectual, and/or developmental disabilities. **BMC pregnancy and childbirth**, v. 22, n. 1, p. 364, 2022.

Silva, Luciana Santos Gerosino Da; Gonçalves, Cláudia Giglio De Oliveira; Soares, Vânia Muniz Néquer. National Policy on Health Care Hearing: an evaluative study from covering services and diagnostic procedures. **CoDAS**, v. 26, n. 3, p. 241–247, 2014.

Soleman, Carla; Bousquat, Aylene. Políticas de saúde e concepções de surdez e de deficiência auditiva no SUS: um monólogo? **Cadernos de saúde pública**, v. 37, n. 8, 2021.

Tannenbaum-Baruchi, Carolina; Feder-Bubis, Paula; Aharonson-Daniel, Limor. Communication barriers to optimal access to emergency rooms according to deaf and hard-of-hearing patients and health care workers: A mixed-methods study. **Academic emergency medicine: official journal of the Society for Academic Emergency Medicine**, v. 32, n. 3, p. 246–259, 2025.

Tsimpida, Dialehti; Kaitelidou, Daphne; Galanis, Petros. Determinants of health-related quality of life (HRQoL) among deaf and hard of hearing adults in Greece: a cross-sectional study. **Archives belges de sante publique [Archives of public health]**, v. 76, n. 1, p. 55, 2018.

Vianna, Nubia Garcia *et al.*. A surdez na política de saúde brasileira: uma análise genealógica. **Ciencia & saude coletiva**, v. 27, n. 4, p. 1567–1580, 2022.

Xu, Di *et al.*. External communication barriers among elderly deaf and hard of hearing people in China during the COVID-19 pandemic emergency isolation: A qualitative study. **International journal of environmental research and public health**, v. 18, n. 21, 2021.

## 147. NEW WOMEN-FOCUSED HEALTH MODEL: A NARRATIVE REVIEW

### *NOVO MODELO DE SAÚDE VOLTADA PARA A MULHER: UMA REVISÃO NARRATIVA*

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#### ABSTRACT

**Introduction:** In Brazil, women's health was incorporated into national policies in the 20th century, being limited, during that period, to demands related to pregnancy and childbirth. In contrast, the health movement, together with the feminist movement, led to the implementation of the Comprehensive Women's Health Care Program (PAISM), the first broad and comprehensive public policy specifically aimed at women. Subsequently, new programs and policies were implemented, marking a new model of women's health. **Objective:** To contextualize and discuss the new model of women's health. **Method:** This is a Bibliographic Review Article in the Narrative Literature Review modality about the New Model of Women's Health. A descriptive analysis was used, collecting, evaluating, and synthesizing relevant information from existing literature sources. **Results:** PAISM enabled the development of the National Policy for Comprehensive Women's Health Care (PNAISM), which included educational, preventive, diagnostic, treatment, and recovery actions. The new policies and the PAISM (Comprehensive Women's Health Care Program) enabled the implementation of the Stork Network in 2011 and subsequently, in 2024, the Alyne Network, a care network that aims to ensure women, among other rights, humanized care during pregnancy, childbirth, and the postpartum period. **Conclusion:** The trajectory of national public policies concerning women's health is marked by the struggle for rights in all periods of life. Advances regarding the comprehensiveness of care and Brazilian public policies related to women's health and maternal and child health are evident.

**Keywords:** National Public Policy. Women's Health. Maternal and Child Health. Stork Network. Unified Health System.

## INTRODUCTION

In Brazil, women's health was incorporated into national health policies in the first decades of the 20th century, being limited, during that period, to demands related to pregnancy and childbirth (Carvalho, 2013; Forattini, 2000). The maternal and child health programs, developed in the 1930s, 1950s, and 1970s, reflected a restricted view of women, based on their biological specificity and their social role as mothers and homemakers, responsible for raising, educating, and caring for the health of their children and other family members (Brazil, 2004).

The first public policies on maternal and child health were focused only on children's health, and women were not seen as a target to be achieved (Secchi, 2020). Thanks to the feminist movement, it was possible to gain more space regarding women's rights, which began to be addressed in other periods of life, not only in the reproductive phase (Medeiros; Guareschi, 2009; Souto; Moreira, 2021). The care for women's health began to be better identified from 1975 onwards with the development of the National Maternal and Child Health Program (Dos Santos; Simoura; Sogame, 2018).

In 1983, the health movement that arose against the then-current Public Health System, together with the feminist movement, led to the implementation of the Comprehensive Women's Health Care Program (PAISM), developed by the Ministry of Health, becoming the first public policy specifically aimed at women (Silva; Silveira, 2020).

The Comprehensive Women's Health Care Program (PAISM), in its diagnostic summary, identified at the time, among other major health problems in the female population, the low coverage of prenatal care associated with low quality of care and the issue of childbirth assistance, with the wandering of pregnant women to various maternity hospitals in search of care for their delivery being a common occurrence in cities (Brazil, 1984). The Comprehensive Women's Health Care Program (PAISM), developed by the Ministry of Health in 1983, served as the basis for the development of the National Policy for Comprehensive Women's Health Care (PNAISM) (Brazil, 1984).

In 2007, the publication of Law No. 11,634, which provides for the pregnant woman's right to know and be linked to the maternity hospital where she will receive care within the SUS (Brazilian Unified Health System), added to other existing instruments with profound changes implemented in women's health, especially regarding their pregnancy period (Brazil, 2007). In this context, in 2011, the Stork Network was implemented in the SUS by Ministry of Health Ordinance No. 1,459, a program aimed at ensuring women's right to reproductive planning and humanized care during pregnancy, childbirth, and the postpartum period, including among its components the guarantee of sanitary transport, thus conferring all the necessary rights to ensure a safe pregnancy-postpartum cycle for pregnant women (Brazil, 2011). Recently, on September 12, 2024, Ordinance GM/MS No. 5,350 was published to provide for the Alyne Network (Brazil, 2024).

Thus, significant changes have been observed in Brazilian public policies directed at women's health over the years, prompting the promotion of better care. Given the above, this research aimed to contextualize and discuss the new model of healthcare focused on women.

## METHOD

This research is a Bibliographic Review Article in the Narrative Literature Review modality about the new health model focused on women.

Literature review studies are characterized by the use and analysis of documents in the scientific field, such as books, theses, dissertations, and scientific articles (Cavalcante; Oliveira, 2020). In this context, narrative reviews are a type of method that allows for a broad description of a topic, enabling a rapid update of studies without exhausting all sources of information, since their execution is not done through systematic data search and analysis (Cavalcante; Oliveira, 2020). This methodology provides

understanding and explanation of the topic, enabling relevant discussions, debate and reflection, as well as suggestions for advancements and possible improvements in certain emerging themes (Ogassavara *et al.*, 2023).

Thus, this study employed a descriptive analysis, collecting, evaluating, and synthesizing relevant information from existing literature sources to expose and interpret components, definitions, and concepts of the subject matter, expanding understanding (Ogassavara *et al.*, 2023). The analysis and discussion of publications in the literature aimed at a broad conception of the field of study (Knopf, 2006). A qualitative research methodological design was adopted, encompassing document analysis (Marconi; Lakatos, 2003).

## RESULTS AND DISCUSSION

The Comprehensive Women's Health Care Program (PAISM) had the following programmatic objectives: to increase the coverage and concentration of prenatal care, providing equal opportunities for the use of these services to the entire population, and to improve the quality of childbirth care, expanding the coverage of care provided by trained personnel in both the formal and informal systems (traditional midwives) and reducing the rates of unnecessary cesarean sections (Brazil, 1984).

The Comprehensive Women's Health Care Program (PAISM) enabled the development of the National Policy for Comprehensive Women's Health Care (PNAISM), a new program for women's health that included educational, preventive, diagnostic, treatment, and recovery actions, encompassing care for women in gynecological clinics, prenatal care, childbirth and postpartum, menopause, family planning, STIs, cervical and breast cancer, as well as other needs identified from the population profile of women (Brazil, 1984). These policies and PAISM enabled, through Ministry of Health Ordinance No. 1,459, the creation of the Stork Network (Brazil, 2011).

The Stork Network is a care network that aims to ensure women, among other rights, receive humane care during pregnancy, childbirth, and the postpartum period. One of its principles is compatibility with the activities of the maternal care network being developed in the state, and one of its guidelines is guaranteeing the pregnant woman's connection to a referral unit and safe transportation (Brazil, 2011). One of its organizational components is prenatal care, which should be carried out at the Basic Health Unit (UBS), with early identification of pregnant women and improved quality of care; performance of routine and high-risk prenatal exams and timely access to results; linking the pregnant woman from prenatal care to the place where the delivery will take place; and support for pregnant women in traveling to prenatal appointments and to the place where a safe delivery will take place (Brazil, 2017).

Among the guidelines of the Stork Network are: welcoming with risk and vulnerability assessment and classification, expanding access and improving the quality of prenatal care; linking pregnant women to the referral unit for childbirth and safe transportation; good practices and safety in childbirth and newborn care; quality and effective healthcare for children from 0 to 24 months; and access to reproductive planning actions (Brazil, 2017).

Among the objectives of the Stork Network are: to promote the implementation of a new model of care for women's and children's health, focusing on care during childbirth, birth, growth and child development; to organize the Maternal and Child Health Care Network to ensure access, welcoming and resolution; and to reduce maternal and infant mortality with emphasis on the neonatal component (Brazil, 2017; Brazil, 2013).

In 2022, the Ministry of Health published Ordinance MS-GM No. 715, of April 4, 2022, amending Consolidation Ordinance MS-GM No. 3, of September 28, 2017, to establish the Maternal and Child Network (RAMI) to replace the Stork Network (Brazil, 2022). This ordinance was met with reactions from the National Council of Health Secretaries (CONASS) and the National Council of

Municipal Health Secretaries (CONASEMS), which in a joint statement requested the revocation of Ordinance MS-GM No. 715, of April 4, 2022, questioning the unilateral publication by the Ministry of Health, without any discussion in the Tripartite Inter-managerial Commission (CIT), added to the emphasis given to the role of the obstetrician without contemplating actions and services aimed at children and the role of pediatricians and the exclusion of obstetric nurses (CONASS, 2022).

In 2024, the Stork Network was replaced by the Alyne Network through Ordinance GM/MS No. 5,350 (Brazil, 2024). The main objective of the Alyne Network is to reduce maternal mortality in Brazil by 25%, especially maternal mortality among Black women by 50% by 2027, increasing humanized and comprehensive care for pregnant women, women in labor, postpartum women, and children (Brazil, 2024). To achieve this objective, it seeks to restructure emergency and urgent care services (Dos Reis, 2018).

Thus, after the 1988 Federal Constitution, with the implementation of the Unified Health System (SUS), the Comprehensive Women's Health Care Program (PAISM) of 1984, which focused on women in their entirety, particularly regarding the pregnancy period, advanced in the year 2000 with the Humanization Program and the Technical Manual for Prenatal Care, both from the Ministry of Health, when, in 2004, the National Policy for Comprehensive Women's Health Care (PNAISM) was implemented (Brazil, 1984; Brazil, 1988; Brazil, 2000).

Subsequently, in 2011, the Stork Network was established within the SUS (Brazilian Unified Health System) aiming at humanized care during pregnancy and childbirth and guaranteeing sanitary transport, being replaced in 2022 by the Maternal and Child Network (RAMI) and resumed in 2023, where in 2024 it was reformulated and replaced by the Alyne Network (Brazil, 2023).

### **Stork Network in Espírito Santo: Introducing the pregnant woman's registration protocol**

In the local context, the State of Espírito Santo joined the Stork Network within the SUS (Unified Health System) in 2011, through CIB Resolution No. 162, of October 20, 2011, with the approval of the State Steering Group and the Northern Health Region as a priority (Espírito Santo, 2011a; Espírito Santo, 2011b).

Adherence to the Stork Network could occur in two ways: regionally and through a facilitated process, the former being the method used by municipalities in the state of Espírito Santo to join (MS, SD). Regional adherence is based on epidemiological and population criteria, and the actions and proposals are chosen by the State Steering Group of the Stork Network (GCE/RC) of the state (MS, SD). Following discussions, the adherence of the state of Espírito Santo to the Stork Network culminated in 2017 with the development of the Pregnant Woman Linkage Protocol (Espírito Santo, 2017).

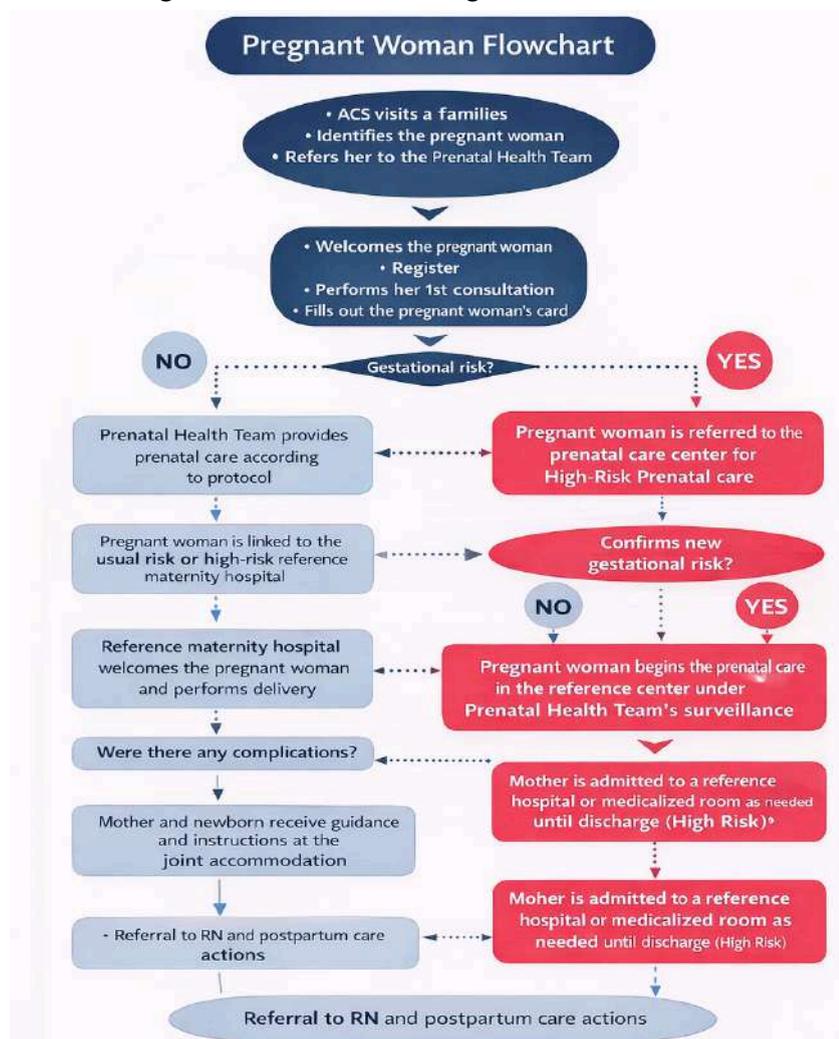
According to the document, the aforementioned protocol aimed at the implementation of the Maternal and Child Health Care Network in the municipalities of Espírito Santo, which are part of the four Health Regions of Espírito Santo, in order to support its organization and operation (Espírito Santo, 2017).

The Pregnant Woman Linkage Protocol (Espírito Santo, 2017) addresses prenatal care and early identification of pregnant women:

Prenatal care is the monitoring carried out by the medical team of a Health Unit, which aims to monitor the health conditions of the pregnant woman and the fetus. During pregnancy, laboratory tests are performed to identify and treat diseases that may harm the health of the mother or fetus. It is important that pregnant women begin their prenatal care as soon as their pregnancy is confirmed, or before completing three months of gestation, as recommended among the 10 steps for quality prenatal care in Primary Care, i.e., early detection (Espírito Santo, 2017, p.6).

The Pregnant Woman Linkage Protocol (Espírito Santo, 2017) includes the following Pregnant Woman Flowchart (Figure 1):

Figure 1 - Flowchart for Pregnant Women



Source: Pregnant Woman Linkage Protocol (Espírito Santo, 2017)\*. | (\*) *Freely translated.*

In addition to prenatal care and early identification of pregnant women, the Pregnant Woman Linkage Protocol (Espírito Santo, 2017) addresses the Risk Stratification of Pregnant Women:

Stratifying the perinatal population by risk levels is a central element in organizing the healthcare network for women and children, enabling differentiated care according to health needs; in other words, the right care, in the right place, at the right cost, and with the right quality.

The criteria typically used for gestational risk stratification refer to the pregnant woman's individual characteristics, such as age, height, and weight; socioeconomic conditions, such as education, occupation, and use of psychoactive substances; previous reproductive history, such as interpregnancy interval, prematurity, and abortion; and clinical and obstetric complications in the current pregnancy, such as multiple gestation, weight gain, controlled or uncontrolled pathologies, and fetal risk factors.

The stratification of pregnant women's risk into two levels – Usual Risk and High Risk – has, in recent years, allowed for adequate care in various situations. The implementation of the maternal and child health care network highlighted the need for a review of the criteria and risk strata in order to provide even greater safety for certain risk situations for the pregnant woman or the newborn (Espírito Santo, 2017, p.7).

It is observed that, after the pregnant woman is received by the Family Health Strategy (ESF) team, registered, and has her first consultation, the pregnant woman's card must be filled out with identification of the gestational risk followed by the necessary referrals. In both cases (whether or not

there is gestational risk), prenatal care must be initiated and the pregnant woman linked to the reference maternity hospital according to her risk, thus establishing the link between the pregnant woman and the outpatient referral service and the maternity hospital at the beginning of prenatal care, with organization of referral and counter-referral flows (Espírito Santo, 2017).

The Pregnant Woman Linkage Protocol emphasizes that, from the first consultation, the pregnant woman should be prepared for linkage to the maternity hospital and receive information about her rights and duties during prenatal care. Linkage occurs when the Basic Health Unit (UBS) forwards all the pregnant woman's information to the Municipal Linkage Agent, who will send it to the Reference Maternity Hospital according to the gestational risk, thus ensuring that the maternity hospital is aware of the new pregnant woman in order to better organize and manage the beds (Espírito Santo, 2017).

The Protocol for Linking Pregnant Women also states that during the first consultations, preferably in the first trimester of pregnancy, the pregnant woman should be formally informed about her right to visit the maternity ward after the 30th week of gestation. Regarding the reference maternity ward, it must maintain an Institutional Linking Agent to interact with the Municipal Linking Agent, among other needs, regarding the scheduling of the pregnant woman's visit (Espírito Santo, 2017). According to the protocol, municipalities must establish their own flow, including transfers when necessary to other municipalities, guaranteeing continued care for the pregnant woman and adequate transportation to assist her during labor and other emergencies (Espírito Santo, 2017).

According to the Protocol for Linking Pregnant Women, professionals at the Basic Health Unit (UBS) are responsible for, among other things, establishing referral and counter-referral tools; completing the Pregnant Woman Linkage Map; and establishing a link between the pregnant woman and the outpatient referral service and the maternity ward at the beginning of prenatal care, organizing the referral and counter-referral flows (Espírito Santo, 2017).

Furthermore, according to the Protocol for Linking Pregnant Women, professionals at the Basic Health Unit (UBS) are responsible for linking pregnant women to the reference maternity hospital at the beginning of prenatal care, instructing them to seek this service when experiencing clinical complications or when in labor, following the established and agreed-upon municipal flow. It is important to remember that some municipalities have defined the entry point for any complications during pregnancy as the Emergency Care Unit (Espírito Santo, 2017).

Thus, the adherence of municipalities in Espírito Santo to the Stork Network began in 2011, culminating in 2017 with the elaboration of the Pregnant Woman Linkage Protocol (Espírito Santo, 2017; Espírito Santo, 2011b), which, in addition to listing the reference maternity hospitals for both routine and high-risk pregnancies, addresses prenatal care and risk stratification of pregnant women.

## **CONCLUSION**

The trajectory of national and public policies concerning women's health is marked by the struggle for women's rights throughout all stages of life, not just during the reproductive phase. It was from the health movement and the implementation of the Comprehensive Women's Health Care Program (PAISM), developed by the Ministry of Health, that health problems in the female population, such as low coverage of prenatal care and poor quality of care, began to be analyzed more critically.

In this context, an important and current milestone was the implementation in 2011, through Ministry of Health Ordinance No. 1,459, of the Stork Network, a program that aims to ensure women's right to reproductive planning and humane care during pregnancy, childbirth, and the postpartum period, including among its components the guarantee of sanitary transport, thus conferring all the necessary rights to ensure a safe pregnancy and postpartum cycle for pregnant women.

In the state of Espírito Santo, the Stork Network, currently replaced by the Alyne Network, incorporates protocols and procedures aimed at implementing the Maternal and Child Health Care

Network in the municipalities of Espírito Santo, which are part of the four Health Regions of the state. As established by the Pregnant Woman Linkage Protocol of the state of Espírito Santo, follow-ups and care are provided that encompass the comprehensiveness of care, including the referral of pregnant women to reference maternity hospitals for both routine and high-risk pregnancies, prenatal care, and risk stratification of the pregnant woman. In this way, progress is observed in terms of the health model and Brazilian public policies.

## REFERENCES

BRASIL. [Constituição (1988)]. Constituição da República Federativa do Brasil de 1988. Brasília, DF: Presidência da República, **Diário Oficial da União**, 1988. Disponível em:. Access on: 01 ago. 2021.

\_\_\_\_\_. Conselho Nacional de Saúde. Rede Alyne: novo programa busca reduzir mortalidade materna no Brasil, **Ministério da Saúde**, 2024. Available at: <https://www.gov.br/conselho-nacional-de-saude/pt-br/assuntos/noticias/rede-alyne-novo-programa-busca-reduzir-mortalidade-materna-no-brasil>. Access on: 01.08.2024.

\_\_\_\_\_. Ministério da Saúde. Assistência Integral à Saúde da Mulher: Bases de Ação Programática. **Ministério da Saúde**, Brasília-DF, 1984. Available at: [https://bvsmms.saude.gov.br/bvs/publicacoes/assistencia\\_integral\\_saude\\_mulher.pdf](https://bvsmms.saude.gov.br/bvs/publicacoes/assistencia_integral_saude_mulher.pdf). Access on: 18.02.2023

\_\_\_\_\_. Ministério da Saúde. Conheça a Rede Cegonha. Folder institucional. Brasília, DF: **Ministério da Saúde**, [s.d.], Brasília, 2013. Available at: [https://bvsmms.saude.gov.br/bvs/folder/rede\\_cegonha.pdf](https://bvsmms.saude.gov.br/bvs/folder/rede_cegonha.pdf). Access on: 03 nov. 2024.

\_\_\_\_\_. Ministério da Saúde. Manual Técnico para a Assistência Pré-Natal. Brasília, DF: **Ministério da Saúde**, 2000. Available at: [https://bvsmms.saude.gov.br/bvs/publicacoes/cd04\\_11.pdf](https://bvsmms.saude.gov.br/bvs/publicacoes/cd04_11.pdf). Access on: 10 nov 2024.

\_\_\_\_\_. Ministério da Saúde. Portaria de Consolidação GM/MS n.º 3, de 28 de setembro de 2017. Consolidação das normas sobre as redes do Sistema Único de Saúde. **Diário Oficial da União**, Brasília, DF, Seção 1, 3 out. 2017. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2017/prc0003\\_03\\_10\\_2017ARQ\\_UIVO.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2017/prc0003_03_10_2017ARQ_UIVO.html). Access on: 03 nov. 2024.

\_\_\_\_\_. Ministério da Saúde. Portaria GM/MS n.º13, de 13 de janeiro de 2023. Revoga portarias que especificam e dá outras providências (retoma a Rede Cegonha). **Diário Oficial da União**, Brasília, DF, 16 jan. 2023. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2023/prt0013\\_16\\_01\\_2023.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2023/prt0013_16_01_2023.html). Access on: 03 nov. 2024.

\_\_\_\_\_. Ministério da Saúde. Portaria GM/MS n.º 1.459, de 24 de junho de 2011. Institui, no âmbito do Sistema Único de Saúde – SUS – a Rede Cegonha. **Diário Oficial da União**, Brasília, DF, Seção 1, 27 jul. 2011. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2011/prt1459\\_24\\_06\\_2011.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2011/prt1459_24_06_2011.html). Access on: 03 nov. 2024.

\_\_\_\_\_. Ministério da Saúde. Portaria GM/MS n.º 5.350, de 12 de setembro de 2024. Altera a Portaria de Consolidação GM/MS n.º 3, de 28 de setembro de 2017, para dispor sobre a Rede Alyne. **Diário Oficial da União**, Brasília, DF, 13 set. 2024. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2024/prt5350\\_13\\_09\\_2024.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2024/prt5350_13_09_2024.html). Access on: 03 nov. 2024.

\_\_\_\_\_. Ministério da Saúde. Portaria GM/MS n.º 715, de 4 de abril de 2022. Institui a Rede de Atenção Materna e Infantil (RAMI), revogando a Rede Cegonha. **Diário Oficial da União**, Brasília, DF, 6 abr.

2022. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2022/prt0715\\_06\\_04\\_2022.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2022/prt0715_06_04_2022.html). Access on: 03 nov. 2024.

\_\_\_\_\_. LEI Nº 11.634, DE 27 DE DEZEMBRO DE 2007. **Diário Oficial da União**, Brasília, DF, 27 dez. 2007. Available at: [https://www.planalto.gov.br/ccivil\\_03/\\_Ato2007-2010/2007/Lei/L11634.htm](https://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2007/Lei/L11634.htm).

\_\_\_\_\_. Política nacional de atenção integral à saúde da mulher. Princípios e diretrizes. **Ministério da Saúde**, Brasília, DF. 2004. Série C. Projetos, Programas e Relatórios. Available at: [https://bvsmms.saude.gov.br/bvs/publicacoes/politica\\_nac\\_atencao\\_mulher.pdf](https://bvsmms.saude.gov.br/bvs/publicacoes/politica_nac_atencao_mulher.pdf). Acesso em 01 nov 2024.

CARVALHEIRO, José da Rocha. A construção da saúde pública no Brasil no século XX e início do século XXI. Saúde pública: bases conceituais. São Paulo: **Atheneu**, 2013. Access on: 07 set. 2025.

CAVALCANTE, L. T. C.; OLIVEIRA, A. A. S. de. Métodos de revisão bibliográfica nos estudos científicos. **Psicol. rev.** (Belo Horizonte), Belo Horizonte, 2020.

CONASS – CONSELHO NACIONAL DE SECRETÁRIOS DE SAÚDE. Nota conjunta CONASS/CONASEMS: Rede de Atenção Materna e Infantil (RAMI). **CONASS**, Brasília, DF, 07 abr. 2022. Available at: <https://www.conass.org.br/conjunta-conass-conasems-rede-de-atencao-materna-e-infantil-rami/>. Access on: 19 fev. 2023.

DOS REIS, Nadja Alves. **Conheça Alyne Pimentel, que inspira programa do SUS para cuidado a gestantes e puérperas**. Ministério da Saúde, 20 Set. 2024. Available at: <https://agenciagov.ebc.com.br/noticias/202409/rede-alyne-conheca-a-historia-da-jovem-negra-que-deu-no-me-ao-novo-programa-de-cuidado-integral-a-gestante-e-bebe>. Acesso em 05 jul 2025.

DOS SANTOS, D. G.; SIMOURA, J. B.; SOGAME, L. C. M.. Política de atenção materno-infantil: contexto histórico. **Anais do Encontro Internacional e Nacional de Política Social**, v. 1, n. 1, 2018. Disponível em:. Access on: 31 jul 2021

ESPÍRITO SANTO. Plano diretor de regionalização saúde, **Secretaria de Estado da Saúde**, 2011a. Disponível em [https://saude.es.gov.br/Media/sesa/Descentraliza%C3%A7%C3%A3o/PDR\\_PlanosDiretordeRegionalizaca%20o\\_ES\\_2011.pdf](https://saude.es.gov.br/Media/sesa/Descentraliza%C3%A7%C3%A3o/PDR_PlanosDiretordeRegionalizaca%20o_ES_2011.pdf)Acesso em 26 ago 2025.

\_\_\_\_\_. Secretaria de Estado da Saúde. Resolução n. 162, de 20 de outubro de 2011. **Secretaria de Estado da Saúde**, Vitória, ES, 20 out. 2011b. Available at: <https://saude.es.gov.br/Media/sesa/CIB/RES%202011/Resolu%C3%A7%C3%A3o%20162-2011.pdf>. Acesso em 21 fev. 2023.

\_\_\_\_\_. Secretaria de Estado da Saúde. Subsecretaria de Assuntos de Regulação Organização da Atenção à Saúde Gerência de Regulação e Ordenação do Sistema de Saúde. Protocolo de vinculação da gestante. **Secretaria de Estado da Saúde**, Vitória, ES. 2017.

FORATTINI, Oswaldo Paulo. A saúde pública no século XX. **Revista de Saúde Pública**, v. 34, n. 3, p. 211–213, jun. 2000. Available at: <https://doi.org/10.1590/S0034-89102000000300001>. Acesso em 23 mar. 2025.

KNOPF, J. W. Doing a literature review. **PS: Political Science & Politics**, v. 39, n. 1, p. 127-132, 2006.

MARCONI, M. A.; LAKATOS, E. M. Fundamentos de metodologia científica. (5º ed). **Atlas**, 2003.

MEDEIROS, P. F. de; GUARESCHI, N. M. de F. Políticas públicas de saúde da mulher: a integralidade em questão. **Revista Estudos Feministas**, v. 17, n. 1, p. 31–48, jan. 2009.

SECCHI, L. Análise de políticas públicas: diagnóstico de problemas, recomendação de soluções. **Cengage Learning**, 2020.

SILVA, L. N.; SILVEIRA, S. F. R. Políticas públicas de saúde para a mulher no Brasil: uma análise das conquistas. **VII Encontro Brasileiro de Administração Pública**, 11 a 13 de novembro de 2020, Brasília, 2020. Available at: [file:///C:/Users/Ipoldi/Downloads/959-3626-1-PB%20\(1\).pdf](file:///C:/Users/Ipoldi/Downloads/959-3626-1-PB%20(1).pdf). Access on: 18 fev. 2023.

SOUTO, K.; MOREIRA, M. R. Política Nacional de Atenção Integral à Saúde da Mulher: protagonismo do movimento de mulheres. **Saúde em Debate**, v. 45, n. 130, p. 832–846, jul. 2021.

OGASSAVARA, D. *et al.* Concepções e interlocuções das revisões de literatura narrativa: contribuições e aplicabilidade. **Ensino & Pesquisa**, União da Vitória, v. 21, n. 3, p. 8-21, ago./dez., 2023. DOI: <https://doi.org/10.33871/23594381.2023.21.3.7646>.

**148. NATIONAL POLICY ON EMERGENCY CARE: DISCUSSING THE EMERGENCY AND URGENCY CARE NETWORK AND THE CARE PATHWAY FOR ACUTE MYOCARDIAL INFARCTION**

***POLÍTICA NACIONAL DE ATENÇÃO ÀS URGÊNCIAS: DISCUTINDO A REDE DE URGÊNCIA E EMERGÊNCIA E LINHA DE CUIDADO DO INFARTO AGUDO DO MIOCÁRDIO***

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**ABSTRACT**

**Introduction:** Emergency and urgent care has been the subject of investigation due to its significant impact on healthcare delivery and morbidity and mortality indicators. In this context, the National Policy for Emergency Care was established, incorporating the emergency care network, aiming to articulate and integrate health facilities, thus improving the quality of healthcare services. **Objective:** To contextualize and discuss the Emergency and Urgent Care Network and the care pathway for acute myocardial infarction. **Method:** This is a Bibliographic Review Article in the Narrative Literature Review modality. Relevant information was collected, evaluated, and synthesized from existing literature sources on the National Policy for Emergency Care, the Emergency and Urgent Care Network, and the SAMU192 Care Pathway. A descriptive analysis of the subject matter was used. **Results:** The National Policy for Emergency Care, established by Ministerial Decree GM/MS No. 1,863, marks the prioritization of the area of emergency care by the government. It incorporates new concepts, revises elements, and encompasses the Emergency Care Network, which aims to reorganize the provision of health care in urgent and emergency situations, and the Care Pathways that standardize protocols. **Conclusion:** The National Policy for Emergency Care incorporates principles and objectives, fundamental components, an Emergency Care Network, and care pathway protocols, which, when articulated, enable the provision of comprehensive, universal, and equitable care.

**Keywords:** National Emergency Care Policy ; Emergency Care Network ; Care Pathways; SAMU 192 (Emergency Medical Service).

## INTRODUCTION

Emergency and urgent care is fundamental to the Brazilian Unified Health System (SUS), since demographic and epidemiological changes, along with the increase in accidents and violence, lead to a greater demand for these services and the need to restructure health systems in Brazil and several other countries (Tofani *et al.*, 2022; Brazil, 1990a; Brazil, 1990b). This type of care has been the subject of investigation due to its significant impact on the provision of health care and morbidity and mortality indicators, highlighting the urgency of interventions to improve the supply and execution of services provided (Tofani *et al.*, 2022; Konder; O'Dwyer, 2015).

In this context, the National Policy for Emergency Care established the emergency care network, which is organized to articulate and integrate all health facilities to expand humanized and comprehensive access to users in urgent and emergency situations, in an agile and timely manner (Espírito Santo, 2019). This network aims to optimize the organization of care, establishing flows and referrals appropriate to the population, enabling, for example, acute conditions to be addressed in a decisive manner (Brazil, 2023; Brazil, 2013a). Therefore, the Ministry of Health (MS), with the aim of expanding the population's access to health care services, implemented care pathways (Brazil, 2024).

The Care Pathway is characterized by technical standards that detail information about the organization of health actions within the system (Brazil, 2024). This includes a description of the patient's itinerary routines, encompassing health promotion, prevention, treatment, and rehabilitation activities carried out by multidisciplinary teams in each health service (Brazil, 2023).

Thus, Care Pathways facilitate communication between teams, services, and users within a Healthcare Network, promoting the standardization of actions and organizing a continuum of care (Brazil, 2024). Given the above, this research aimed to contextualize and discuss the Emergency and Urgent Care Network and the care pathway for acute myocardial infarction.

## METHOD

This study is a Bibliographic Review Article in the Narrative Literature Review modality. Relevant information was collected, evaluated, and synthesized from existing literature sources on the Emergency and Urgent Care Network and the SAMU 192 care pathway.

A descriptive analysis was used to expose and interpret the components, definitions, and concepts of the subject matter, expanding understanding (Ogassavara *et al.*, 2023). Analysis and discussion of publications in the literature were conducted to achieve a broad understanding of the field of study (Knopf, 2006). The methodological design adopted was that of a qualitative research study encompassing document analysis (Marconi; Lakatos, 2003).

It is worth highlighting that the chosen methodology was based on the possibility that narrative review allows to portray scientific knowledge by describing theoretical and contextual perspectives in order to enable a critical and detailed analysis of the material through an intentional selection of the available literature (Ogassavara *et al.*, 2023). In this way, they provide an understanding and explanation of the theme, enabling relevant discussions, debate and reflection, as well as suggesting advances and possible improvements in certain emerging themes (Ogassavara *et al.*, 2023).

## RESULTS AND DISCUSSION

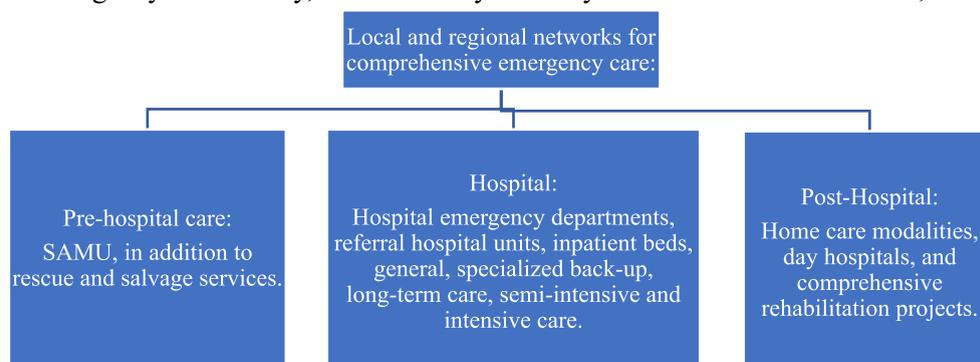
The National Policy for Emergency Care, established through Ministerial Decree GM/MS No. 1,863, marks the new government cycle that began in 2003, which prioritized emergency care. This policy incorporates new concepts and revises previously established elements, which were discussed and formulated (Brazil, 2003a). The principles and objectives are listed below:

- A. To guarantee universality, equity , and comprehensiveness in the care of clinical, surgical, gynecological-obstetric, psychiatric, and pediatric emergencies, as well as those related to external causes (unintentional injuries, violence, and suicides);
- B. To substantiate the guidelines for regionalizing emergency care, through the careful adjustment of the distribution of healthcare resources, giving concrete form to the sizing and implementation of state, regional, and municipal systems and their respective care networks;
- C. To develop promotional strategies for quality of life and health capable of preventing harm, protecting life, educating for health advocacy, and restoring health, protecting and developing the autonomy and equity of individuals and communities;
- D. To promote, coordinate, and execute strategic projects to address urgent and temporary collective health needs arising from situations of imminent danger, public calamities, and accidents with multiple victims, based on the construction of regional and local risk maps and the adoption of prevention, care, and mitigation protocols for these events;
- E. To contribute to the development of processes and methods for collecting, analyzing, and organizing the results of emergency actions and services, allowing for a dynamic view of the population's health status and the performance of the Unified Health System at its three levels of management, based on their performance;
- F. To integrate the regulatory complex of the Unified Health System, promote exchange with other sectoral information subsystems, implementing and continuously improving data production and democratizing information with the perspective of using it to feed promotional strategies;
- G. To improve care and promote the ongoing training of healthcare teams in the Unified Health System in Emergency Care, in accordance with the principles of comprehensiveness and humanization (Brazil, 2003a, n.p.).

Furthermore, it is determined that the National Policy for Emergency Care should be implemented based on the following components: a) Promotional strategies for quality of life, aiming to identify the determinants of emergencies through intersectoral actions of public responsibility, encompassing the whole of society; b) Organization of local and regional networks for comprehensive emergency care, acting as essential links to guarantee continuity of care and life, covering various essential components (Brazil, 2003a).

Figure 1, shown below, illustrates the Local and Regional Networks for Comprehensive Emergency Care, based on the National Emergency Care Policy, established by Ordinance GM/MS No. 1,863/2003.

Figure 1 - Local and Regional Networks for Comprehensive Emergency Care, based on the National Emergency Care Policy, established by Ministry of Health Ordinance No. 1,863



Source: Author's own work in accordance with policy (Brazil, 2024).

The Emergency Care Network aims to reorganize the provision of healthcare in urgent and emergency situations in a coordinated manner among the various points of care that comprise it. The objective is to optimize the organization of care, establishing flows and referrals appropriate to the population (Brazil, 2023). It is composed of Health Promotion, Prevention and Surveillance; Primary Care; Mobile Emergency Care Service 192 (SAMU192); Stabilization Room; National Force of the Unified Health System (SUS); 24-hour Emergency Care Unit (UPA); Hospital Units and Home Care (Brazil, 2023).

In order to provide qualified assistance to users, it is imperative that the components of the Network act in an integrated, articulated, and synergistic manner. This integration requires the implementation of professional qualification, efficient information flow, improvement of the reception process, and regulation of access to all elements that make up the Network (Brazil, 2024a). Furthermore, the emergency care network aims to coordinate, in an organized way, the different points of care, as well as seek to reorganize health care in urgent and emergency situations in order to improve assistance, define flows, and establish appropriate referrals (Brazil, 2024a).

Funding and regulation are essential for the functioning of the Networks. Therefore, NOAS/SUS 01/2002 introduced the concept of healthcare regulation, linking it to the supply of services and available financial resources (Brazil, 2002c). In addition to optimizing health resources, regulation seeks to guarantee the quality of care, solving clinical problems and satisfying users (Mendes, 2011). It is observed that to establish an effective Emergency and Urgent Care Network, it is crucial to consider the Brazilian epidemiological and demographic profile (Espírito Santo, 2019). Given this, a significant morbidity and mortality associated with external causes is observed among young people up to 40 years of age, while above this age group, diseases of the circulatory system prevail, such as acute myocardial infarction (AMI) and stroke (CVA) (Preis *et al.*, 2018; Pereira *et al.*, 2020).

Thus, it is fundamental that the network be able to deal with these acute health problems in a decisive manner, providing adequate and agile care to users (Brazil, 2013a). To this end, the Ministry of Health (MS), with the objective of expanding the population's access to health care services, implemented care pathways (Brazil, 2024a). The priority care pathways cover traumatology, cardiovascular and cerebrovascular conditions within the context of hospital care, while simultaneously promoting efficient coordination with other points of care (Brazil, 2024b). By facilitating communication between teams, services, and users within a health care network, care pathways standardize actions and organize a continuum of care (Brazil, 2024a).

We will highlight the care pathway for acute myocardial infarction and the acute coronary syndrome protocol that was implemented through Ministry of Health/General Management Ordinance No. 2,994, of December 23, 2011, which aims to:

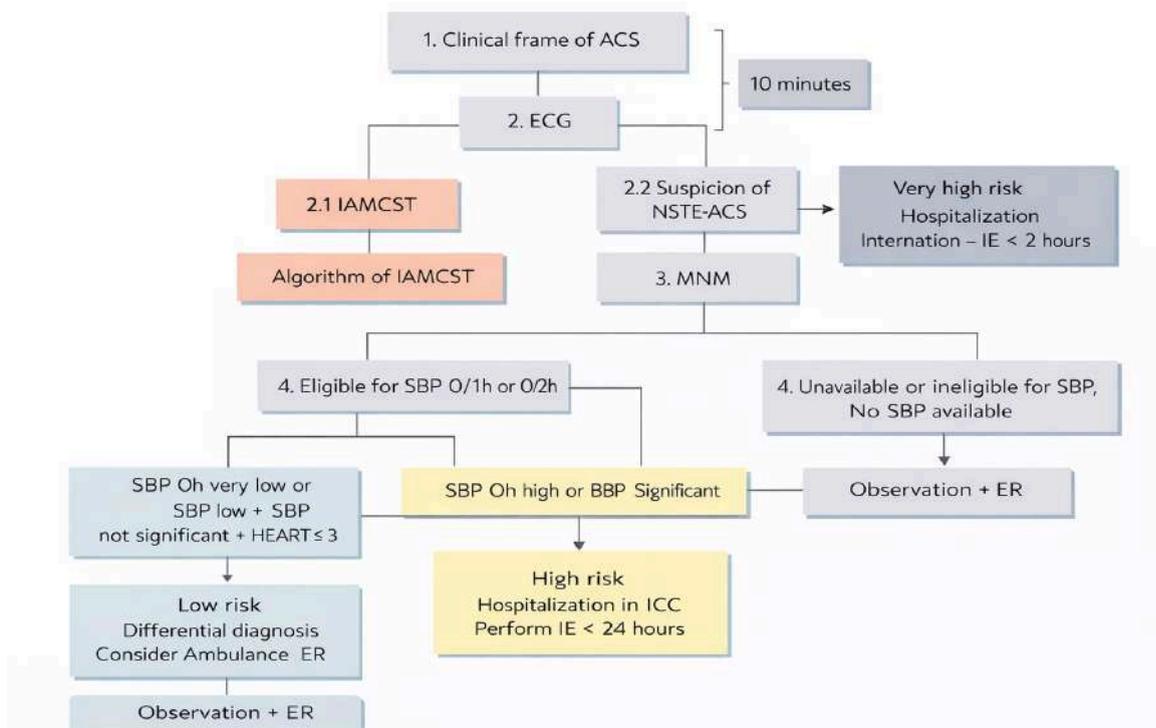
- A. To promote the accreditation of coronary care units (CCUs);
- B. Standardize thrombolytic therapy and expand access;
- C. Expand access to primary angiology;
- D. Implement transfer and transport protocols to expedite care – rapid initiation of immediate reperfusion treatment for patients;
- E. Expand telemedicine for early electrocardiographic diagnosis (expansion of Tele ECG in SAMU and UPA);
- F. To improve the quality of care for heart attacks in pre-hospital emergency settings (SAMU and UPA) and to implement integration between pre-hospital diagnosis and hospital management;
- G. To improve communication and coordination between the Emergency Medical Regulation Center and the Emergency Care Units (UCOs) for immediate care;
- H. To guarantee the supply of essential medications for the treatment of AMI (Brazil, 2013a, p. 53).

Even with all this organization, cardiovascular diseases (CVDs) still account for approximately one-third of deaths in Brazil, disproportionately impacting the most vulnerable groups in the population, who face difficulties in accessing quality health services (Oliveira, *et al.*, 2022; Nicolau, *et al.*, 2021).

Within the group of cardiovascular diseases in Brazil, diseases affecting the coronary arteries were the leading cause of death in the country, followed by stroke (Oliveira, *et al.*, 2022). Currently, acute coronary artery disease responds for over 300,000 deaths annually and, in Brazil, it is a condition that encompasses a set of diseases with common pathophysiology, including "acute coronary syndromes and acute myocardial infarction" (Dracoulakis; Nunes Filho, 2021, p. 220; Nicolau *et al.*, 2021).

For the diagnosis of acute coronary syndrome (ACS) in emergency services, several algorithms are employed, adapting them according to the diagnostic resources available (Dracoulakis; Nunes Filho, 2021). Figure 2 illustrates the recommendation of the Brazilian Society of Cardiology.

Figure 2 - Algorithmic approach to the management of acute coronary syndrome



Caption: ECG: electrocardiogram; IE: invasive stratification; ER: risk stratification; STEMI: ST-segment elevation myocardial infarction; NSTEMI: non-ST-segment elevation acute coronary syndrome; HS-Tn: high-sensitivity troponin; CCU: coronary care unit.

**Source:** Dracoulakis and Nunes Filho (2021, p. 224).

In Espírito Santo, diseases of the circulatory system are the leading cause of death, and they continue to be the main reason for hospital admissions, especially due to the prevalent risk factors of this epidemiological profile. This motivated the implementation of the Strategic Action Plan to Combat Chronic Non-Communicable Diseases (NCDs) in the state of Espírito Santo (ES), aiming to contain the spread of these diseases (Espírito Santo, 2019).

According to the 2019 Espírito Santo Health Plan, the hospital care points that make up this care network in the state are as it follows:

**The Metropolitan Region** includes the Dr. Arthur Gerhardt Maternity Hospital, Dr. Jayme Santos Neves Hospital, Antônio Bezerra de Faria Hospital, Vila Velha Evangelical Hospital, Nossa Senhora da Glória Children's Hospital, São Lucas Hospital, and Santa Casa de Misericórdia de Vitória Hospital.

**In the Northern Region** are the Dra. Rita de Cássia Hospital and the Dr. Roberto Arnizaut Silveiras Hospital.

**In the Central Region** are the São Camilo Maternity Hospital Foundation, the Silvio Avidos Maternity Hospital, the Linhares General Hospital, and the Dr. Fernando Serra Hospital.

**In the Southern Region**, the hospitals are the Santa Casa de Misericórdia Hospital of Cachoeiro de Itapemirim, the Evangelical Hospital of Cachoeiro de Itapemirim, the Santa Casa de Misericórdia Hospital of Guaçuí, and the Evangelical Hospital of Itapemirim (State Health Secretariat of Espírito Santo, 2019, pp. 59-60).

Currently, in the state of Espírito Santo, the reference hospitals for cardiovascular care include: the Evangelical Hospital of Vila Velha (HEVV), the Santa Casa de Misericórdia Hospital of Vitória (HSCMV), the Antônio Cassiano de Moraes University Hospital (HUCAM) and the Alzir Bernadino Alves Children's and Maternity Hospital (HIMABA) (Espírito Santo, 2019, pp. 59-60; Espírito Santo, 2020b; Espírito Santo, 2022).

Next, in Figure 3, we present the protocol of the Santa Casa da Misericórdia de Vitória Hospital (HSCMV) for chest pain, which aims to offer specific guidelines for assisting suspected and confirmed cases of acute coronary syndrome, in order to help healthcare professionals manage this condition (HSCMV, 2019).

Figure 3 - Chest pain protocol of the Santa Casa da Misericórdia Hospital in Vitória\*

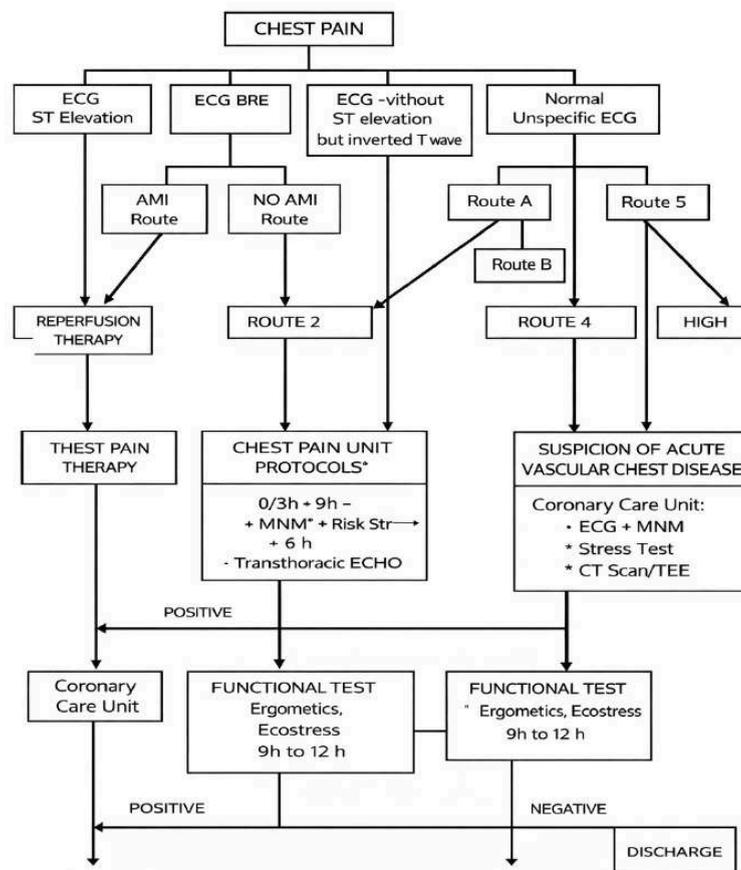
\*Notes:

MNM: myocardial necrosis markers; TEE: transesophageal echocardiography.

\* Time is related to time of patient arrival. The last dose of MNM must respect 9 to 12h from the beginning of the chest pain.

MNM: myocardial necrosis markers; TEE: transesophageal echocardiography.

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Source: HSCMV, 2019

The development of this protocol represents an advance in the care of patients with acute coronary syndrome (ACS), since early and accurate diagnosis, along with proper classification and risk stratification, allows for the implementation of specific therapeutic measures for each patient, reducing cardiovascular complications.

## CONCLUSION

The National Policy for Emergency Care incorporates principles and objectives, fundamental components, and an Emergency Care Network, which, when articulated, enable the provision of comprehensive, universal, and equitable care, as promoted by the Brazilian Unified Health System.

Among the various purposes of this policy, the most important is providing qualified assistance to users, which, combined with an efficient flow of information, improved reception processes, and regulated access to all elements that make up the Network, strengthens healthcare. Furthermore, it is noteworthy that the emergency care network enables the coordination of different points of care, the reorganization of healthcare in urgent and emergency situations, improving assistance, flows, and referrals within the system.

In this context, considering the Brazilian epidemiological and demographic profile, the network, encouraging the provision of services in a decisive and efficient manner, incorporated care pathways into its assistance, which were implemented enabling the standardization of techniques aimed at expanding the population's access to healthcare services. The care pathway for acute myocardial infarction and the protocol for acute coronary syndromes aim to strengthen and expand actions and strategies implemented in the territories to combat cardiovascular diseases (CVDs). Despite the existing organization, cardiovascular diseases (CVDs) persist as a significant cause of death in Brazil.

Thus, through care pathway protocols, professionals have detailed descriptions and standardized information on actions for promoting, preventing, treating, and rehabilitating, which eases communication between teams, services, and users within a Health Care Network, thus organizing a continuum of care.

## REFERENCES

BRASIL. Ministério da Saúde. Rede de Atenção às Urgências e Emergências. **Ministério da Saúde**, 2023. Available at: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/s/samu-192/rau>.

BRASIL. TPS nº 02 - Linhas de Cuidado prioritárias na saúde suplementar. **Ministério da Saúde**, 2023. Available at: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/s/samu-192/rau> — Agência Nacional de Saúde Suplementar [www.gov.br](http://www.gov.br).

BRASIL. Linhas de Cuidado Secretaria de Atenção Primária. **Ministério da Saúde**, 2024. Available at: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/s/samu-192/rau> Linhas de Cuidado Secretaria de Atenção Primária (saude.gov.br).

BRASIL. **Lei nº 8.080, de 19 de setembro de 1990**. Dispõe sobre as condições para a promoção, proteção e recuperação da saúde, a organização e o funcionamento dos serviços correspondentes e dá outras providências. 1990a. Available at: [https://www.planalto.gov.br/ccivil\\_03/leis/l8080.htm](https://www.planalto.gov.br/ccivil_03/leis/l8080.htm). Access on: 22 abr. 2024.

BRASIL. **Lei nº 8.142, de 28 de dezembro de 1990**. Dispõe sobre a participação da comunidade na gestão do Sistema Único de Saúde (SUS) e sobre as transferências intergovernamentais de recursos financeiros na área da saúde e dá outras providências. 1990b. Available at: [https://www.planalto.gov.br/ccivil\\_03/leis/l8142.htm](https://www.planalto.gov.br/ccivil_03/leis/l8142.htm). Access on: 22 abr. 2024

BRASIL. Ministério da Saúde. Portaria nº 2048, de 5 de novembro de 2002. Dispõe sobre a Regulação, Controle e Avaliação do Sistema Único de Saúde - SUS. **Ministério da Saúde**, 2002b. Available at: [https://bvsms.saude.gov.br/bvs/saudelegis/gm/2002/prt2048\\_05\\_11\\_2002.html](https://bvsms.saude.gov.br/bvs/saudelegis/gm/2002/prt2048_05_11_2002.html).

BRASIL. Portaria nº 373, de 27 de fevereiro de 2002. Aprova, na forma do Anexo desta Portaria, a Norma Operacional da Assistência à Saúde – NOAS-SUS 01/2002 que amplia as responsabilidades dos municípios na Atenção Básica; estabelece o processo de regionalização como estratégia de hierarquização dos serviços de saúde e de busca de maior equidade; cria mecanismos para o fortalecimento da capacidade de gestão do Sistema Único de Saúde e procede à atualização dos critérios de habilitação de estados e municípios. **Ministério da Saúde**, 2002c. Available at: [https://bvsms.saude.gov.br/bvs/saudelegis/gm/2002/prt0373\\_27\\_02\\_2002.html](https://bvsms.saude.gov.br/bvs/saudelegis/gm/2002/prt0373_27_02_2002.html).

BRASIL. Brasil. Ministério da Saúde. Política nacional de atenção às urgências / Ministério da Saúde. – Brasília: **Ministério da Saúde**, 2003a. Available at: [https://bvsms.saude.gov.br/bvs/publicacoes/politica\\_nac\\_urgencias.pdf](https://bvsms.saude.gov.br/bvs/publicacoes/politica_nac_urgencias.pdf).

BRASIL. Portaria MS/GM nº 2.994, de 23 de dezembro de 2011. Aprova a Linha de Cuidado do Infarto Agudo do Miocárdio e o Protocolo de Síndromes Coronarianas Agudas, cria e altera procedimentos na Tabela de Procedimentos, Medicamentos, Órteses, Próteses e Materiais Especiais do SUS. **Ministério da Saúde**, 2011b. Available at: [https://bvsms.saude.gov.br/bvs/saudelegis/gm/2011/prt2994\\_15\\_12\\_2011.html](https://bvsms.saude.gov.br/bvs/saudelegis/gm/2011/prt2994_15_12_2011.html)

BRASIL. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Especializada. Manual instrutivo da Rede de Atenção às Urgências e Emergências no Sistema Único de Saúde (SUS). Brasília: Editora do Ministério da Saúde, 2013. 84 p. 2013a.

BRASIL. Linhas de Cuidado. **Ministério da Saúde**, 2024b. Available at: <https://www.gov.br/saude/pt-br/composicao/saps/ecv/linhas-de-cuidado>.

DRACOUKAKIS, M. D. A.; NUNES FILHO, A. C. B. Doença coronariana aguda: diagnóstico, classificação e estratificação de risco. In: FRAGATA FILHO, A. A. *et al.* (organizadores). **Livro-texto da Sociedade Brasileira de Cardiologia**. Barueri, SP: 2021.

ESPÍRITO SANTO – SESA. Plano Estadual de Saúde – 2020-2023. Apresentação do Plano Estadual de Saúde – 2020/2023 aprovado pelo Conselho Estadual de Saúde do Espírito Santo – CES/ES, em 29 de novembro de 2019 - Resolução nº. 1.138. Vitória: **Governo do Estado do Espírito Santo**, 2019.

ESPÍRITO SANTO. Resolução nº 153/2020. Aprova os limites regionais instituindo no Território do Estado do Espírito Santo - ES 03(três) Regiões de Saúde: Região Central/Norte, Região Metropolitana e Região Sul. Conforme mapa no anexo I. **Secretaria de Estado da Saúde do Espírito Santo**, 2020b.

ESPÍRITO SANTO. Referências hospitalares na região metropolitana de saúde - Rede estadual de atenção hospitalar do estado do Espírito Santo. **Secretaria de Estado da Saúde do Espírito Santo**, 2022. Available at:  
[https://saude.es.gov.br/Media/sesa/perfilizacaohospitalar/regional/PERFILIZA%C3%87%C3%83O\\_HOSPITALAR\\_REGI%C3%83O\\_METROPOLITANA\\_junho\\_22\\_docx.pdf](https://saude.es.gov.br/Media/sesa/perfilizacaohospitalar/regional/PERFILIZA%C3%87%C3%83O_HOSPITALAR_REGI%C3%83O_METROPOLITANA_junho_22_docx.pdf)

HOSPITAL DA SANTA CASA DE MISERICÓRDIA DE VITÓRIA – HSCMV. Protocolo de dor torácica do serviço de cardiologia do HSCMV – Orientação aos casos suspeitos e confirmados de síndrome coronariana aguda – Implementação do protocolo de assistência à dor torácica aguda e à síndrome coronariana aguda, **HSCMV**, Vitória, 2019.

KONDER, M. T.; O'DWYER, G. The emergency care units in the National Policy for Emergency. **Physis: Revista de saúde coletiva**, v. 25, n. 2, p. 525–545, 2015. DOI:  
<https://doi.org/10.1590/S0103-73312015000200011>.

KNOFF, J. W. Doing a literature review. **PS: Political Science & Politics**, v. 39, n. 1, p. 127-132, 2006.

MARCONI, M. A.; LAKATOS, E. M. Fundamentos de metodologia científica. 5º ed., **Atlas**, 2003.

MENDES, E. V. As redes de atenção à saúde. Brasília: **Organização Pan-Americana da Saúde**, 2011.

NICOLAU, J. C. *et al.* Diretrizes da Sociedade Brasileira de Cardiologia sobre Angina Instável e Infarto Agudo do Miocárdio sem Supradesnível do Segmento ST – 2021. *Arq. Bras. Cardiol.*, v. 117, n. 1, p. 181-264, 2021. DOI: 10.36660/abc.20210180.

OLIVEIRA, G. M. M. de *et al.* **Estatística Cardiovascular** – Brasil 2021. *Arq. Bras. Cardiol.*, v. 118, n. 1, p. 115-373, 2022. DOI: 10.36660/abc.20211012.

OGASSAVARA, D. *et al.* Concepções e interlocuções das revisões de literatura narrativa: contribuições e aplicabilidade. **Ensino & Pesquisa**, União da Vitória, v. 21, n. 3, p. 8-21, ago./dez., 2023. DOI:  
<https://doi.org/10.33871/23594381.2023.21.3.7646>.

PEREIRA, H. N. S. *et al.* Efeito da Estratégia Saúde da Família na redução de internações por doenças crônicas não transmissíveis. **Revista enfermagem UERJ**, v. 28, n. 0, 49931.

PREIS, L. C. *et al.* Epidemiologia da mortalidade por causas externas no período DE 2004 A 2013. **Rev enferm UFPE on line.**, Recife, v. 12, n. 3, p. 716-28, mar., 2018. Available at:  
<https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/230886>.

TOFANI, L. F. N. *et al.* A Rede de Atenção às Urgências e Emergências em cena: contingências e produção de cuidado. **Saúde debate**, Rio de Janeiro, v. 46, n. 134, p. 761-776, jul.-set. 2022.

**149. PROFILE OF DELIVERY TYPES IN ESPÍRITO SANTO: ANALYSIS OF THE PROPORTION OF CESAREANS AND VAGINAL DELIVERIES**

*PERFIL DOS TIPOS DE PARTO NO ESPÍRITO SANTO: ANÁLISE DA PROPORÇÃO DE CESÁREAS E PARTOS VAGINAIS*

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**ABSTRACT**

**Introduction:** This study shows that in recent decades, the Brazilian obstetric scenario has been characterized by a significant increase in the rates of surgical interventions for childbirth, notably cesarean sections, positioning the country among those with the highest incidence of this procedure globally. **Objective:** To analyze the distribution of vaginal and cesarean delivery methods in the state of Espírito Santo. **Methods:** Secondary data from the Information System on Live Births (SINASC) were used. Using geographic maps constructed with the support of QGIS software, it was possible to identify marked regional inequalities in the proportion of cesarean and vaginal deliveries among the microregions of Espírito Santo. **Results:** The results showed that more urbanized areas, such as Vitória and Linhares, have a higher proportion of cesarean sections, while other microregions, such as Alegre and Nova Venécia, showed a predominance of vaginal deliveries. Evidence suggests the influence of structural, social, and institutional factors on obstetric choices, indicating the need for public policies that promote evidence-based practices, respect women's autonomy, and reduce regional inequalities in access to obstetric care. **Conclusion:** The study revealed regional inequalities in the choice of delivery method in Espírito Santo, influenced by socioeconomic and structural factors. More urbanized microregions presented a higher rate of cesarean sections, while others showed a prevalence of vaginal deliveries. The results reinforce the importance of public policies that promote equity, humanization, and autonomy in obstetric care.

**Keywords:** Childbirth vaginal. Cesarean section. Regional inequalities.

## INTRODUCTION

In recent decades, the Brazilian obstetric landscape has been characterized by a significant increase in the rates of surgical interventions for childbirth, particularly cesarean sections, placing the country among those with the highest incidence of this procedure in Brazil. global scale. In 2021, by for example, the proportion of Cesarean births reached 55.7%, substantially exceeding the estimated global average of 21% and significantly deviating from the recommendations of the World Health Organization (WHO), which advocates an ideal percentage between 10% and 15%, with a view to protecting maternal and child health (Betran *et al.* , 2021).

This situation therefore reflects an intensification of the phenomenon of medicalization. of childbirth, often dissociated from rigorous clinical justifications, the what raises concerns relevant as to the impacts deleterious of this practice on the health of postpartum women and newborns (Barros; Moraes, 2020).

Considering this panorama, it is observed that the state of Espírito Santo reproduces this national trend with regional particularities. Recent data reveal marked disparities in cesarean section rates among the various municipalities of Espírito Santo, indicating the presence of structural and care inequalities in the field of obstetric care. While certain territories maintain percentages aligned with international guidelines, others far exceed the Brazilian average, suggesting the influence of multiple factors. determinants, such as the availability of infrastructure hospital, the The technical qualification of health professionals and the effectiveness of local public policies (Ministry of Health, 2023; Prates *et al.*, 2024) are crucial factors. Therefore, it is imperative to conduct more in-depth analyses to elucidate the origins of these asymmetries and support strategies for promoting more equitable and rational obstetric care.

Furthermore, reflection on childbirth modalities goes beyond the mere technical dichotomy between vaginal delivery and cesarean section, incorporating complex dimensions involving sexual and reproductive rights, women's autonomy, and the quality of care provided. Empirical evidence indicates that the choice of delivery method is sometimes guided by non-clinical factors, such as logistical conveniences, internalized institutional norms, and subjective preferences of the professionals involved in care (Leal *et al.* , 2021; Vidal *et al.* , 2021). Such conditioning factors can substantially compromise the experience. of the woman in the birthing process, in addition to negatively impacting perinatal outcomes, especially when cesarean sections are performed in contexts lacking a concrete medical need.

In this context, the humanized childbirth model emerges as an alternative proposal that aims to restore the woman's protagonism in the birthing process, promoting obstetric practices based on scientific evidence and respectful of cultural and individual specificities. However, its effective implementation faces considerable challenges, such as the resistance of some health professionals, still guided by interventionist biomedical paradigms, and the lack of adequate physical structures in childbirth care units (Fernandes *et al.*, 2023).

Therefore, strengthening this approach requires structural and cultural transformations, involving both organizational changes in health services and the promotion of public policies that prioritize practices centered on women and the dignity of care (Cavalcante *et al.*, 2022).

In parallel, it is essential to recognize that inequalities in access to and quality of obstetric care also manifest themselves as a function of socioeconomic and territorial factors. Women in situations of social vulnerability, such as those with low levels of education, residing in rural areas or peripheral regions, and users of the public health system, frequently face additional obstacles, including excessive distances to referral centers, scarcity of resources, and low effectiveness of available services (Fonseca *et al.* , 2025). Such inequalities, therefore, contribute to the perpetuation of health inequities, highlighting the need for actions that promote greater equity in access to and quality of obstetric care.

From this perspective, the use of secondary databases, such as the Live Birth Information System (SINASC), provided by DATASUS, is a strategic resource for the situational diagnosis of childbirth care in Espírito Santo. This system allows for analytical analysis based on variables such as

municipality of residence, age of the pregnant woman, level of education, and type of health facility, thus enabling a detailed understanding of care patterns and existing regional inequalities (Ministry of Health, 2023).

In this way, the data extracted from SINASC can support the planning of more sensitive public policies. the particularities locals and more effective in promotion from the equity and from the quality from the attention to the childbirth. Given the above, the present study aims to analyze the distribution of vaginal and cesarean delivery methods in the state of Espírito Santo, based on SINASC records, in order to identify patterns of occurrence, territorial disparities and tendencies emerging. It is expected that the findings obtained contribute significantly to the understanding of obstetric practices in the context of Espírito Santo, highlighting the main obstacles and opportunities for the The goal is to improve childbirth care. Furthermore, it is hoped that the results will serve as input for managers, healthcare professionals, and public policy makers, in order to promote more humanized, equitable obstetric care based on robust scientific evidence.

Thus, the objective of this study is to analyze the distribution of vaginal and cesarean delivery methods in the state of Espírito Santo, based on data from the Information System on Live Births (SINASC) in the year 2025.

## METHOD

This study is characterized as an ecological and descriptive research, based on the analysis of secondary data regarding cesarean and vaginal delivery rates in the microregion of the State of Espírito Santo. The information was obtained through the database of the Information System on Live Births (SINASC), available on DATASUS ( <https://datasus.saude.gov.br/informacoes-de-health-tabnet/> ), with the objective of to analyze the proportion of childbirth cesarean sections and vaginal births in the state in the year 2025.

To access the data, it was necessary to follow several steps: first, access the DATASUS website; then, select the "Vital Statistics" tab and click on the "Live Births – since 2025" option. After that, the "Live Births" category was chosen and, within the geographic scope, the State of Espírito Santo was selected. Additionally, demographic data was used. provided by the Brazilian Institute of Geography and Statistics (IBGE) referring to the same year (IBGE, 2025).

The information used included data on the proportion of Cesarean and vaginal births. The birth rate was determined as a percentage of the population of the microregion of Espírito Santo. The information was organized into tables with data on the proportion by year and region.

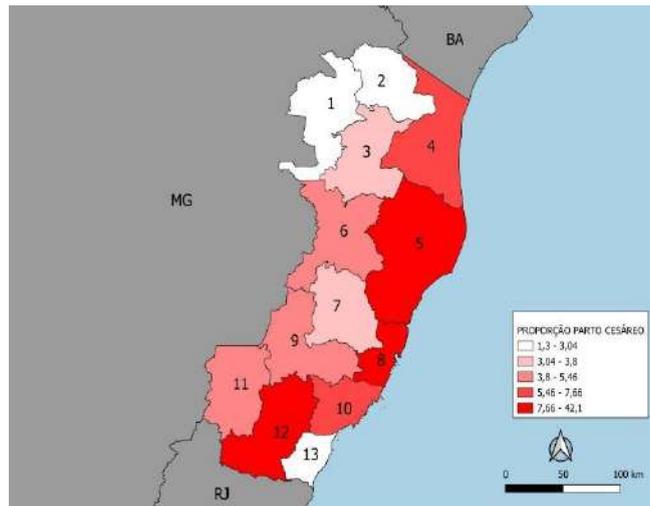
These information they were represented in maps geographical Using QGIS software, version 3.24. The maps were generated from shapefiles of Brazil and the state of Espírito Santo, which were divided into geographic microregions. THE consultation and download of the files they were made through of site IBGE in June 2025.

## RESULTS

The map representing the proportion of cesarean births in the microregions of Espírito Santo reveals significant regional inequalities. The observed rates vary between 1.3% and 42.1%, with most regions showing proportions considered low to moderate. The highlighted microregions in color white node map concentrate you younger percentages of Cesarean deliveries (between 1.3% and 3.04%), suggesting a possible prevalence of vaginal delivery in these locations.

On the other hand, the microregions of Linhares (5), Vitória (8) and Cachoeiro do Itapemirim (12) stand out with the highest proportions, ranging from 7.66% to 42.1%. The regions of Colatina (6) and Afonso Cláudio (9) have intermediate rates, ranging between 3.8% and 5.46%.

Figure 1 - Map for the percentage of Cesarean section

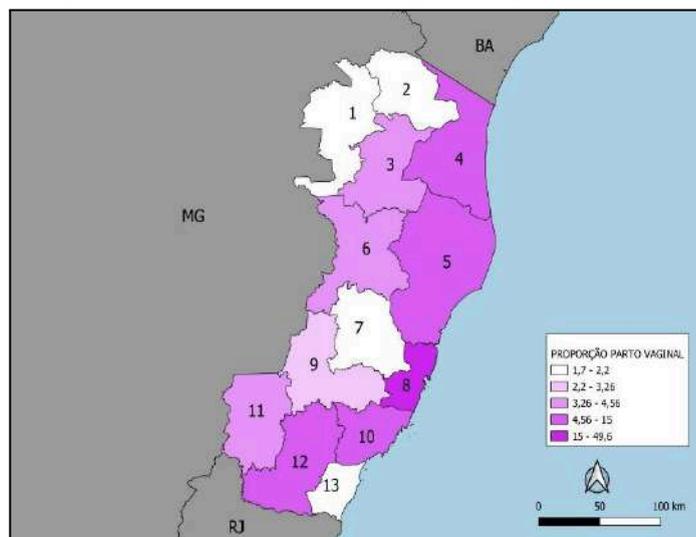


Caption: 1-Barra de São Francisco; 2-Montanha; 3-Nova Venécia; 4-São Mateus; 5-Linhares; 6-Colatina; 7- Santa Tereza; 8- Vitória; 9-Afonso Cláudio; 10-Guarapai; 11-Alegre; 12-Cachoeiro de Itapemirim; 13-Itapemirim.

The map showing the proportion of vaginal births in the microregions of Espírito Santo demonstrates significant regional inequalities. Rates were observed to vary between 1.7% and 49.6%, with most regions showing low to moderate proportions. The microregions classified as white stand out with the lowest percentages of vaginal births (1.7% to 2.2%), indicating a possible predominance of the cesarean section model.

In contrast, the microregion of Vitória (8) showed the highest proportion (15% to 49.6%). The regions of Nova Venécia (3), Colatina (6) and Alegre (11) exhibit proportions intermediate (3.26 to 4.56%).

Figure 2 - Map for the percentage of Vaginal Delivery



Caption: 1-Barra de São Francisco; 2-Montanha; 3-Nova Venécia; 4-São Mateus; 5-Linhares; 6-Colatina; 7- Santa Tereza; 8- Vitória; 9-Afonso Cláudio; 10-Guarapai; 11-Alegre; 12-Cachoeiro de Itapemirim; 13-Itapemirim.

Beyond the quantitative variation observed in the maps, it is possible to identify territorial patterns that suggest the influence of socioeconomic, structural, and cultural factors on the choice of delivery method. Microregions with a higher proportion of cesarean sections, such as Vitória and Linhares, generally concentrate a greater supply of... services private of health and infrastructure hospital more developed, the what This can favor the adoption of medicalized practices. On the other

hand, regions with a higher prevalence of vaginal births, such as Alegre and Nova Venécia, indicate a possible predominance of the public health system or less clinical intervention, which may also reflect a lower demand for elective cesarean sections.

These disparities suggest that the mode of delivery is strongly influenced by regional characteristics, which go beyond strictly clinical criteria. The observed heterogeneity reinforces the importance of regionalized public policies that are sensitive to the local context and capable of promoting evidence-based obstetric practices centered on women's needs.

## DISCUSSION

The results highlighted significant inequalities in the distribution of delivery methods among the microregions of Espírito Santo, revealing a heterogeneous panorama that reflects both the conditions structural of the services of health as well as the cultural and socioeconomic aspects that permeate obstetric care. The highest proportions of cesarean sections were observed in more urbanized microregions with a greater concentration of private services, such as Vitória and Linhares, which corroborates studies that point to an association between the performance of cesarean sections and the supplementary health sector (Leal *et al.*, 2021; Prates *et al.*, 2024).

The high incidence of cesarean sections in certain regions suggests persistence of practices medicalized, neither always justified put criteria clinical, but lots of times motivated put factors as convenience institutional, professional preference or limited availability of humanized childbirth (Leal *et al.*, 2021; Prates *et al.*, 2024). This reality ranges from In line with the recommendations of the World Health Organization (WHO), which establishes safe limits for the performance of cesarean sections with a view to protecting maternal and child health (Betran *et al.*, 2021).

In contrast, the microregion with bigger A higher proportion of vaginal births, as in Vitória, may indicate a more active role of the public health network or less interference from institutional interests. However, it is important to consider that a higher prevalence of vaginal births does not always mean quality of care, and it is necessary to assess whether these births occurred with adequate support and respect for the guidelines of humanization (Vidal *et al.*, 2021). The literature points out that the choice of delivery method is influenced by a complex network of factors, ranging from the woman's autonomy to organizational aspects of services and the social representations of health professionals (Vidal *et al.*, 2021). Thus, strengthening the model of humanized childbirth, advocated by policies public national, still faces challenges significant factors, such as cultural resistance, structural limitations, and territorial inequalities (Fernandes *et al.*, 2023; Cavalcante *et al.*, 2022).

Furthermore, inequalities in access to services and quality of care directly impact women's childbirth experience, especially among those in vulnerable situations. Recent studies highlight this. what women of low education, residents of areas rural and Users of the Brazilian public health system (SUS) face greater barriers to accessing qualified services, which deepens inequities in reproductive health (Fonseca *et al.*, 2025).

Thus, the data presented reinforce the need for public policies that address regional inequalities, expand access to evidence-based practices, and promote women's autonomy in making informed choices about their mode of delivery. The use of tools such as SINASC, combined with spatial analysis, proves fundamental to identifying critical areas and supporting more effective and equitable interventions.

## CONCLUSION

The analysis of the proportion of vaginal and cesarean births in Espírito Santo revealed a scenario marked by significant regional inequalities, reflecting both the structural conditions of health services and the socioeconomic and cultural determinants that influence obstetric practices. The more urbanized microregions with a greater presence of private services, such as Vitória and Linhares,

showed a higher incidence of cesarean sections, indicating the persistence of a more medicalized care model, often dissociated from clinical indications.

On the other hand, the Vitória region shows a higher proportion of vaginal births, possibly associated with the more predominant role of the SUS (Brazilian Public Health System) and less interference from interventional practices. However, this prevalence should not be interpreted as a definitive indicator. To be automatically interpreted as synonymous with quality, it being essential that the assistance respect you principles from the humanization and from the security maternal and child health.

The data point to the urgent need for regionalized public policies that prioritize equity in access, promote practices based on scientific evidence, and respect women's autonomy in their reproductive choices. The use of tools such as SINASC (National Information System on Live Births) and geospatial analysis supported by technologies such as QGIS proved essential for diagnosing these inequalities, offering relevant input for planning fairer and more effective actions.

Thus, this study reinforces that the choice of delivery method should not be guided by institutional conveniences or cultural pressures, but rather by well-founded clinical criteria and respect for the dignity of care. Strengthening the model of childbirth humanized, ally the resilience of barriers structural and social, This is an indispensable step towards building a more ethical, inclusive obstetric care system committed to women's rights and the quality of childbirth.

## REFERENCES

BARROS, M. N. C.; MORAES, T. L. de. Parto humanizado: uma perspectiva da Política Nacional de Humanização. **Revista Extensão**, v. 4, n. 1, p.84-92, 2020. Available at: <https://revista.unitins.br/index.php/extensao/article/view/2038>.

Acesso em: 13 maio 2025.

BETRAN, A. P. et al. Trends and projections of caesarean section rates: global and regional estimates. **BMJ Global Health**, v. 6, n. 6, e005671, 2021. Available at: <https://gh.bmj.com/content/6/6/e005671>.

Access on: 13 maio 2025.

CAVALCANTE, A. M. R. et al. A influência do parto humanizado na intensificação do vínculo mãe-filho e na redução de intervenções médicas. **Revista Eletrônica Acervo Saúde**, v. 15, n. 8, e10822, 2022. Available at: <https://acervomais.com.br/index.php/saude/article/view/10822>. Access on: 13 maio 2025.

FERNANDES, F. L. et al. Os desafios para a implantação do parto humanizado: Uma revisão integrativa. **Brazilian Journal of Implantology and Health Sciences**, v. 5,n.5, p. 2955-2965, 2023. Disponível em:

<https://bjih.emnuvens.com.br/bjih/article/view/839>. Access on: 13 maio 2025.

FONSECA, B. P. et al. Geographic accessibility to hospital childbirths in Brazil (2010–2011 and 2018–2019): a cross-sectional study. **The Lancet Regional Health Americas**,v.15,100234, 2025.Disponível em:

[https://www.thelancet.com/journals/lanam/article/PIIS2667-193X\(24\)00303-X/fulltext](https://www.thelancet.com/journals/lanam/article/PIIS2667-193X(24)00303-X/fulltext). Access on: 13 maio 2025.

INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA (IBGE). **Estimativas populacionais das microrregiões do Espírito Santo** – 2025. Rio de Janeiro: IBGE, 2024. Available at: [link do IBGE com estimativas regionais](#). Access on: 28 de junho 2025.

LEAL, M. C. et al. Desigualdades sociais e satisfação das mulheres com o atendimento ao parto no Brasil: estudo nacional de base hospitalar. **Cadernos de Saúde Pública**, v. 37, n. 12, e00230320, 2021. Available at: <https://cadernos.ensp.fiocruz.br/ojs/index.php/csp/article/view/5472>. Access on: 13 maio 2025.

LEAL, M. C. et al. Redução das iniquidades sociais no acesso às tecnologias apropriadas ao parto na Rede Cegonha. **Ciência & Saúde Coletiva**, v. 26, n. 3, p. 823-835, 2021. Disponível em: <https://www.scielo.br/j/csc/a/n8nR78PnmfFQssDDgTggTjz/>. Access on: 13 maio 2025.

MINISTÉRIO DA SAÚDE. Sistema de Informações sobre Nascidos Vivos (SINASC). **DATASUS**, 2023. Available at: <https://datasus.saude.gov.br/nascidos-vivos/>. Access on: 13 maio 2025.

PRATES, L. F. de L. et al. Tendência temporal e distribuição espacial das taxas das vias de parto, segundo características maternas no Brasil, entre 2011 e 2020. **Revista Contexto & Saúde**, v. 24, n. 48, e13873, 2024. Available at: <https://www.revistas.unijui.edu.br/index.php/contextoesaude/article/view/13873>. Acesso em: 13 maio 2025.

VIDAL, Á. T. et al. Barreiras à implementação das diretrizes nacionais de assistência ao parto normal: uma análise prototípica das representações sociais de atores estratégicos. **Revista de Saúde Coletiva**, v. 31, n. 1, 2021. Available at: <https://doi.org/10.1590/S0103-73312021310110>. Access on: 13 maio 2025.

## 150. MENTAL HEALTH IN VULNERABLE COMMUNITIES: ACCESS BARRIERS AND COPING STRATEGIES

### *SAÚDE MENTAL EM COMUNIDADES VULNERÁVEIS: BARREIRAS DE ACESSO E ESTRATÉGIAS DE ENFRENTAMENTO*

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#### **ABSTRACT**

**Introduction:** Mental illnesses, health conditions that influence an individual's way of thinking and acting, have become extremely prevalent in contemporary society, with a focus on the high rates of depression and anxiety, which, according to the World Health Organization (WHO), affect more than one billion people. More frequently found among adolescents and young adults, these disorders have impacted various social classes through political, social, and economic factors. **Objective:** To analyze the barriers to access and practices of mental health care in vulnerable communities. **Method:** As this is an integrative review, the PUBMED and LILACS databases were used to conduct this research, applying the following descriptors: Mental health AND Vulnerable populations AND Barriers to access to health care. The inclusion criteria were: full texts in English and Portuguese published in the last ten years. **Results:** Initially, the search yielded 4,118 articles. Subsequently, after applying the inclusion criteria, 1,335 articles remained. After reviewing the titles, 157 articles were selected, and 20 remained for the final sample. It is evident that structural, socioeconomic, and cultural barriers, as well as stigma, hinder access to mental health care for vulnerable communities, particularly affecting children and adolescents. The insufficiency of specialized services, misinformation, and a lack of qualified professionals reinforce inequalities and compromise well-being. Therefore, it is essential to strengthen care networks, qualify teams, especially nursing staff, and implement integrated public policies sensitive to individual needs in order to reduce inequities, combat stigma, and guarantee dignified and equitable access to psychosocial care. **Conclusion:** In summary, there are several factors that prevent the effective promotion of mental health care, which requires the integration of various social and individual aspects to enable adequate treatment for the patient.

**Keywords:** Mental health. Vulnerable populations. Barriers to accessing healthcare.

## INTRODUCTION

Mental illnesses, health conditions that influence an individual's way of thinking and acting, have become extremely prevalent in contemporary society, with a focus on the high rates of depression and anxiety, which, according to the World Health Organization (WHO), affect more than one billion people. More frequently found among adolescents and young people, these disorders have impacted various social classes through political, social, and economic factors. However, disadvantaged groups are the most affected by these illnesses due to the lack of effective public policies to reduce this health inequality, since the search for ways to improve the lives of these communities is a priority within various institutional organizations (Perrino *et al.*, 2015).

Individuals with mental health problems have a lower life expectancy compared to other people (17 to 20 years). Several factors contribute to this reality, including socioeconomic inequalities, homelessness, high illiteracy rates, various negative life experiences, complex social problems, and others. These conditions influence the breaking down of existing barriers and make it impossible to guarantee well-being for these socially disadvantaged groups (Armstrong *et al.*, 2018; Corscadden *et al.*, 2018).

In this context, national and international bodies have sought to prioritize this aspect politically in the development of actions, with the aim of reducing these disparities and improving health systems in terms of access to mental health care. However, even though there are systems available for this target audience, some conditions prevent these people from seeking self-care for their mental health, such as social limitations, prejudiced conceptions, marginalization, and demographic factors (age, race, gender, and educational level) (Perrino *et al.*, 2015; Dowrick *et al.*, 2016; Barnett *et al.*, 2018; Corscadden *et al.*, 2018).

Furthermore, the United Nations (UN) emphasizes the importance of equality in care, especially in mental health, through one of the Sustainable Development Goals (SDGs), referring to target 3, which is responsible for increasing life expectancy and promoting physical and mental well-being for the population (Corscadden *et al.*, 2018).

Unfortunately, mental health research areas face difficulties in scientific advancements due to a lack of interest and investment in the collection of clinical data. From this perspective, it is clear that the demand for ways to improve mental health care also presents obstacles, including the high vulnerability of... Affected groups, lack of knowledge about the subject, lack of resources, and absence from medical consultations all hinder the provision of adaptable and accessible intervention programs for this context. Furthermore, it is essential that these individuals not only be aware of the importance of these actions but also be fully engaged in the practice of self-care (Brown *et al.*., 2016; Kroll *et al.*, 2019; Barnett *et al.*, 2018; Simons *et al.*, 2025; Teixeira *et al.*, 2025).

However, increasing the effectiveness of health promotion services, along with developing actions that prioritize the well-being of these individuals, is essential to strengthen the importance of self-care and reduce the occurrence of these disorders. Therefore, this work proves relevant to changing social stigmas and encouraging future research that can progressively reduce this obstacle in the social body (Nguyen *et al.*., 2018; Albanese *et al.*, 2021; Teixeira *et al.*., 2025).

This study aims to analyze the obstacles in accessing public services and mental health care practices aimed at excluded groups, associating these results with the goals of SDGs 3 and 10.

## METHOD

For the production of this integrative review, the PUBMED and LILACS databases were used as support mechanisms to guide this research. The selection of articles was carried out through the following steps: application of the descriptors: “Mental Health” AND “Vulnerable Populations” AND “Barriers to Access to Healthcare” and definition of inclusion criteria: full texts in English and Portuguese published in the last ten years.

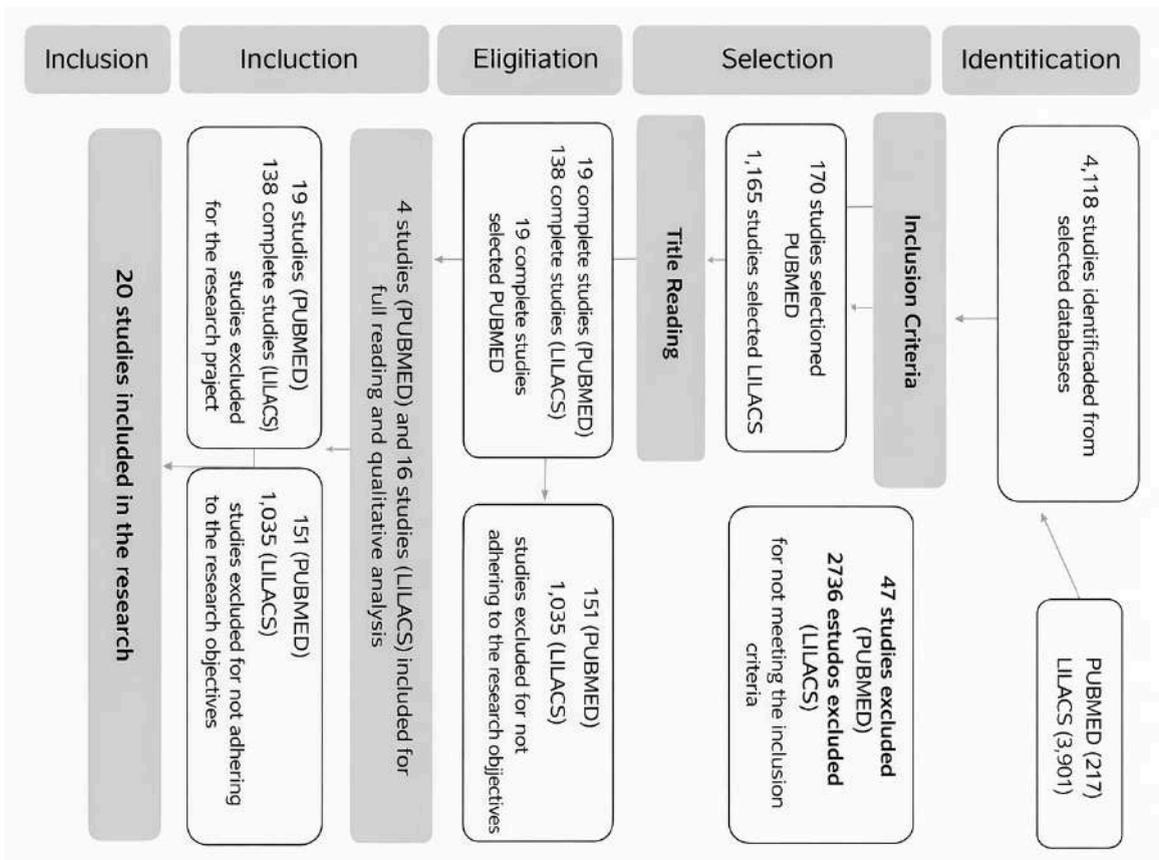
To guide the review, the following question was formulated: Are access to and practices of mental health care for extremely vulnerable populations effective?

The analysis of the revealed research was distinguished through observation of the titles, which allowed for the discarding of duplicate studies and those with themes inconsistent with the focus of this review. Subsequently, articles lacking relevant information to contribute to the research were excluded through reading each work, as the remaining abstracts were included in the final sample. Therefore, for better understanding, a prism flowchart was included to make the production process of this review article clearer and more objective.

## RESULTS

The initial search encompassed 4,118 articles. From this, the inclusion criteria of full texts in English and Portuguese with research conducted in the last ten years were applied, leaving 1,335 publications to be analyzed. Subsequently, after reading the titles, 20 articles were selected for the final composition of this review. Therefore, the flowchart below presents more specific information about this process (Figure 1).

Figure 1 - PRISMA Flowchart.



Source: prepared by the author (2025).

Table 1 - Description of the main studies found with their respective years of publication and place of publication.

<b>DOI</b>	<b>Author</b>	<b>Paper Title</b>	<b>Objective</b>	<b>Results</b>
10.1007/s11121-014-0518-7	Perrino, Tatiana; Beardo, William; Bernal, Guillermo; Brincks, Ana; Cardenas, Graciela; Chaves, Gerardo; Hower, George; Murray, Vemma; Pansini, Hilda; Quintero, Sandra; Inwin, Brown, C; Hendricks	"Towards Scientific Equity for the Prevention of Depression and Interpersonal Symptoms in Vulnerable Youth"	"To examine the potential of preventive interventions as part of a comprehensive strategy to reduce disparities in mental health and behavioral health, using the example of depression and depressive symptoms in youth to illustrate."	"Evidence suggests that interventions to prevent depression have the potential to reach more people than treatment, potentially averting personal and social costs when these problems develop and avoiding the challenges of stigma in seeking mental health treatment."
10.1089/acm.2015.0038	Burnett Zeigler, Inger; Schutte, Stephanie; Victoriano, David; Wismer, Katherine L.	"Mind-Body Approaches to Treating Mental Health Symptoms Among Underserved Populations: A Comprehensive Review"	"To examine evidence of the effectiveness of mind-body interventions for mental health symptoms among underserved populations."	"Substantial evidence suggests that these treatments may be a particularly important option for high-risk underserved individuals, including those who have difficulty accessing treatments."
10.1111/appy.12199	Brown, Adrienne; Rice, Simon M.; Rockwood, Debra J.; Parker, Alexandra G.	"Systematic Review of Barriers and Facilitators to Accessing and Engaging with Mental Health Care Among At-Risk Youth"	"To review the literature on barriers and facilitators to accessing and engaging with mental health care among youth from potentially disadvantaged groups."	"There are well-established barriers for all youth; however, some needs are related to mental health but also reflect individual circumstances."

10.1186 /s12913 -016-12 98-5	Dworkin, Christopher; Bower, Peter; Graham-Chew, Carolyn; Lovell, Karina; Edwards, Suzanne; Lamb, Jonathan; Britton, Katie; Gabay, Kariya	"Evaluation of a Complex Model Designed to Increase Access to High-Quality Mental Health Care for Underserved Groups: A Study"	"To evaluate the effectiveness of a combined model in increasing access and improving the quality of primary mental health care."	"The quality of primary mental health care was enhanced by the training of professionals capable of meeting mental health and well-being needs."
10.1016 /S2215- 0366(16 )30219- X	Giacco, Domenico; Amering, Michaela; Bird, Victoria; Craig, Thomas; Ducci, Giuseppe; Gallinat, Juergen; Gillard,	"Scenarios for the Future of Mental Health Care: A Social Perspective"	"To carry out a project to explore the potential future of the social approach to mental health care."	"Four possible scenarios were identified: patient-controlled service, modification of social contexts, virtual mental health care, and partner for the poor."
10.1016 /j.pop.2 016.09. 012	Devine, Mathieu; DeCapra-Ryan, Lauren; Lim, Magdalene; Berenyi, Juliana	"Psychological Problems in Medically Underserved Patients"	"To differentiate the ways in which patients are assessed and provided interventions in medically underserved settings."	"Underserved people have a significantly higher prevalence of mental health problems and face greater barriers to accessing care."
10.1111 /jphd.12 234	Nguyen, Vy H.; Lin, Sue C.; Cappelli, David P.; Nair, Surna	"Association Between Dental, General, and Mental Health Status Among Underserved and Vulnerable Populations Served in US Health Centers"	"To examine the occurrence of acute dental needs, investigate the association between acute dental needs and the assessment of general and mental health status among the adult dental population in health centers."	"The results highlighted the role of health centers in addressing mental health disparities and the importance of a multidisciplinary team-based approach to ensure the integration and coordination of oral health services within a comprehensive primary care delivery system."

10.1007 /s10488 -017-08 15-0	Barnett, Myla L.; Gonzalez, Araceli; Miranda, Jeanne; Chavira, Denise A.; Lau, Anna S.	"Mobilizing Community Health Workers to Address Mental Health Disparities in Underserved Populations: A Systematic Review"	"To evaluate government efforts to promote care for people with disabilities and improve the quality of life of people with disabilities."	"The mission of this organization is to promote care for people with disabilities and improve the quality of life of people with disabilities."
10.1007 /s10578 -018-07 90-z	Armstrong, Jenna M.; Owens, Caitlyn R.; Haskett, Mary E.	"Mental Health of Youth Experiencing Homelessness: An Integrative Review"	"To evaluate the utility of TRIS to address the needs of youth experiencing homelessness and contribute to the growth of public mental health policies."	"The association between homelessness and mental health was not moderated by prior teacher support. However, experiences of use served as a support resource for mental health professionals."
10.1002 /hpm.25 53	Corcadean, Luca; Callander, Emily J.; Toph, Stephanie M.	"International Comparisons of Disparities in Access to Care for People with Mental Health Problems"	"To compare barriers to accessing healthcare for people with CME and examine factors that may influence care coverage for CME in 11 countries."	"For all countries, having a CME was associated with greater odds of facing barriers to accessing medical care and the disadvantage of mental health conditions."
10.1016 /j.outlo ok.2018 .10.004	Delaney, Kathleen R.; Burke, Pamela; Desocio, Janine; Greenberg, Cindy Smith, Sharp, Day,	"Building Mental Health and Care for Vulnerable Children: A Case Study"	"To offer visible approaches to improve access to child mental health actions and implement prevention/early care with underserved youth."	"Despite efforts to improve access to effective children's services, most studies concluded that individuals with low incomes are more vulnerable to the risk of developing mental illnesses."
10.3122 /jabfm. 2019.04 .180357	Knoll, David S.; Latham, Carol; Mahalik, Janice; Schlaen, Megan; Meagher, Shea; Laura S.; Irwin, Lisa; Southworth, Benita; Gittin, David F.	"A Successful Psychiatric Walk-in Care Model for Integrated Care"	"To seek to determine if a homeless psychiatry model is a comprehensive care model that can be sustained over time and characterized by patients who accessed treatment through it."	"Providing walk-in psychiatric care is a comprehensive care model."

10.1016 /j.socsci med.20 20.1136 67	Moschon, Julie; Ours, Jan C.	"Do Transition In and Out of Homelessness Relate to Mental Health Measures and Quality of Life of People with Mental Disabilities"	"To study the association between homelessness and mental health measures, focusing on mental health issues, including assistance and access to mental health resources."	"The results indicate that mental health measures are associated with the quality of life of people with mental disabilities."
10.3399 /bjgp21 X71796 5	Albenese, Alessio; Blane, David N.; Williamson, Andrew E.	"Mental Health in Context: Structural Vulnerability and Support in Primary Care"	"To highlight the importance of coordinating a public mental health response to address social determinants such as poverty, unemployment, housing, social environments and relationships, and the symbiosis between physical and mental health."	"According to research, it is necessary for mental health services to be more effective, operative, responsive to patient needs, and well integrated with other health and social care services and community resources."
10.1186 /s40359 -025-02 476-8	Simons, Kyra; Mendrek, Adriana; Pittet, Dominique; Meng, Jiege; Goodes, Terri; Matthews, Julie	"Promoting Mental Health and Well-being of Vulnerable Youth Through Art: An Ethnographic Evaluation of an Art-Based Intervention for Rural Catechetical Youth."	"The objective of this project was to examine the experiences and impacts of working on an art-based intervention with students in rural communities."	"There was a positive impact on the participants' lives, making them feel comfortable and face their personal limits."
10.1186 /s12961 -025-01 349-1	Teleski, Raquel; Freitas, Cláudia; Sampaio, Lúcia; Viana, Leonora; Turrini, Giulia; Bizzarri, Amber S.; Gherman, Catalina; Kazlauskas, Evdalis; Dumarkaitė,	"Co-creation of Mental Health Promotion and Prevention Interventions with Groups in Vulnerable Situations in Europe: A Mixed Methods Study Protocol for the Implementation of Co-creation and Participatory Evaluation"	"To describe a study designed to implement, evaluate, and strengthen co-creation methodologies through a participatory and formative evaluation approach."	"The recommendation of practices to inform policies, reduce stigmas, and foster the co-creation of more inclusive, effective, sustainable, and scalable mental health promotion and prevention strategies across Europe."

10.1111 /dar.134 17	Kostenik, Brynn; Salvadore, Greta; Ginestra, Willa T.; Cameron, Gabriel; Lilien, Hyshka; Elaine	"Perception of Unmet Substance Use and Mental Health Care Needs of Intensive Care Patients Who Use Drugs: A Cross-Sectional Analysis Using the Behavioral Model for Vulnerable Populations"	"To apply the Behavioral Model for Vulnerable Populations to investigate correlates of unmet service needs in this subpopulation."	"Strategies are needed to help overcome structural barriers to care in order to meet the population's needs according to the research results."
10.3390 /ejihpe1 503003 0	Besion, Pascale; Gagne, Lisa; Bertules Esposito; Hastian, Hadrian; Alexandre	"Adapting Psychiatric Approaches to the Needs of Vulnerable Populations: A Qualitative Analysis"	"To explore how psychiatric care can be adapted to better meet the needs of vulnerable populations."	"According to the results, emphasizing the need for personalized and interdisciplinary care, recognizing better collaboration and effectiveness in psychiatric education to help better prepare professionals for the work."
10.1186 /s12939 -019-10 02-6	O'Carroll, Austin; Wainwright,	"Making sense of Street Chaos: An Ethnographic Exploration of Health Service Usage by People Experiencing Homelessness"	"To seek to understand why people experiencing homelessness use health services differently from the housed population."	"Several external barriers were classified (physical, administrative, and institutional) and related to their use of health services by vulnerable groups."
10.1007 /s10597 -019-00 525-2	Farrell, Susan J.; Dunn, Michael; Huff, James	"Examining Health Literacy Levels in Homeless Persons and Vulnerably Housed Persons with Mental Health Disorders"	"To determine health affiliation rates in an underserved population of homeless individuals and determine the factors associated with health affiliation."	"Health affiliation can be a significant potential barrier to accessing and utilizing quality health services in developed countries."

Source: Prepared by the author (2025).

Based on the studies analyzed, it is possible to conclude that, for the most part, the works focused on how there are still barriers and difficulties for vulnerable groups in obtaining equal access to health services. However, some of these studies, which focused only on a specific group of people (women, children, young people, among others), were not included because they were inconsistent with the main focus of this review.

## DISCUSSION

The results of this review highlight that obstacles to accessing mental health services for vulnerable communities are encompassed by various structural, socioeconomic, and cultural factors, as well as class and gender inequalities. This reinforces the need to implement targets 3 and 10 (Health and Well-being and Reduced Inequalities) of the Sustainable Development Goals (SDGs), which encourage organizations to create public policies that promote overall well-being and equity in mental health care.

Barriers not only affect socially excluded groups, but also the promotion of programs to address this inequity. For disadvantaged individuals, the lack of knowledge about mental health, the stigma surrounding the search for professional help, concerns about confidentiality, the lack of support for treatment adherence, and the fear of not meeting expectations regarding care are conditions that limit improvements for the target audience. From this perspective, these obstacles affect all age groups, including children and adolescents who are the most disadvantaged in accessing a quality of life equivalent to their needs (Brown et al., 2015; Delaney et al., 2018).

Furthermore, poverty also contributes to a lack of resources to adhere to medications or treatment recommended for the patient. In this sense, the lack of facilities and consultations to serve this population fosters misinformation about seeking medical help, since consultations aimed at general clinical care are being used to accommodate individuals with mental illnesses, who should be directed to services exclusively dedicated to this specialty (Perrino et al., 2015; Dowrick et al., 2016; Devine et al., 2017).

Neglecting emotional well-being contributes to the deterioration of other areas of the human body, such as general health and, especially, oral health. Patients diagnosed with mental disorders tend to have many cavities and other dental problems, since unhealthy habits lead to the introduction of other pathogens, increasing the comorbidities acquired by the individual. This context is frequently seen in homeless people, who are exposed to higher risks of infections, chronic, cardiac, and respiratory diseases, which consequently considerably increases the difficulties in accessing the integrated care that is guaranteed to them (Nguyen et al., 2018; O'Carroll et al., 2019).

In Brazil, the Psychosocial Care Network (RAPS), a public health service of the Unified Health System (SUS), was created to provide assistance and support for individuals with mental instability or recovering from alcohol and drug use. However, this network... Together with other mental health care programs (CAPS - Psychosocial Care Center - and PVC - Back Home Program), these are still insufficient in the effective practice of emotional care, as vulnerable communities either do not know about these services or have not been successful in their treatments (40% to 75% of patients are dissatisfied with the use of antidepressants and with the difficulty in obtaining qualified care to treat such morbidity) (Burnett-Zeigler et al., 2016; Teixeira et al., 2025).

Furthermore, it is essential to highlight the relationship of this barrier with the SDGs, which seek to emphasize the promotion of mental health and equal access for all social classes. In view of this, goals number three and ten underpin the relevance of well-being, focusing on mental health care and the reduction of social inequalities, respectively, since achieving these goals will increase life expectancy for the Brazilian and global population, overcome structural vulnerabilities rooted in the civil body (interrelation between social and personal problems), and reduce health inequalities in socially excluded groups (Corcadden et al., 2018; Albanese et al., 2021).

In order to reduce such obstacles, planning strategies that integrate social, economic, technological, political, and cultural aspects promotes equity in access to mental health services and contributes to health education for the population. According to Kroll *et al.*, psychiatric care and clinical consultations should be offered without prior appointment, since there would be no penalty if the patient missed an appointment due to some interference, contributing to the practice of integrated care and the achievement of efficient health outcomes for vulnerable communities (Perrino *et al.*, 2015; Giacco *et al.*, 2017; Kroll *et al.*, 2019).

It is important that the implementation of mental well-being programs be adaptable and accessible in order to consider the personal variables of disadvantaged groups; that is, that each patient receives specific treatment to address their needs, considering traumas, interpersonal relationships, community support in cases of families or young people in vulnerable situations, and other factors that will contribute to the restoration of the individual's mental health. Based on these plans, effective care and active monitoring by healthcare professionals enable some people to gain self-knowledge and achieve positive responses to their realities (Armstrong *et al.*, 2018; Albanese *et al.*, 2021; Simons *et al.*, 2025).

Furthermore, for mental health care strategies to be effective, it is crucial to have specialized professionals actively working in the field, since the absence of physicians actively involved in mental health care in primary care hinders their implementation. For the well-being of underserved communities. In this context, partnerships with Community Health Workers can assist in addressing health literacy and education to avoid communication breakdowns between health professionals and vulnerable individuals (Devine *et al.*, 2017; Barnett *et al.*, 2019; Farrell *et al.*, 2020).

However, the nurse's role in this area is fundamental for the application of interventions based on the social and individual conditions of each person in the community. Nursing teams are efficient in expanding and leading mental health services, strengthening support networks, and directing patients to specialized care, especially when the professional is trained and certified to work in the coordination of behavioral health systems. Therefore, the nurse's efficiency in preventing stigma and neglect against marginalized populations seeking emotional help is also noteworthy, since a lack of understanding of the individual's needs in some inadequate care settings often goes unidentified and discourages the pursuit of self-care (Delaney *et al.*, 2018; Moschion *et al.*, 2021; Kosteniuk *et al.*, 2022).

Managing positive perspectives on mental health interventions allows for a more flexible and diverse approach in creating programs that increase the emotional stability of vulnerable populations. When these health supports focus on the individuality of the patient, it is evident that socioeconomic barriers are reduced and mental health care is actively promoted. Therefore, it is essential to develop public policies and strengthen existing ones that encourage the application of equivalent practices in light of the living conditions of these communities and, consequently, reduce stigma and inequalities in access to psychosocial support services (Gama *et al.*, 2014; Besson *et al.*, 2025).

## **CONCLUSION**

In summary, there are several factors that hinder the effective promotion of mental health care, which requires the integration of various social and individual aspects to enable adequate treatment for the patient. However, even with the expansion of mental health services, inequality in access to well-being must be included in the search for public policy strategies, since without equal accessibility, any planning developed for these disadvantaged groups is insufficient.

Qualified training and education for professionals, especially nurses, contributes to the effective delivery of integrated care to this population, which improves the quality of life for these patients and encourages healthcare teams to strengthen health policies in favor of socially excluded individuals.

## **REFERENCES**

ALBANESE, Alessio; BLANE, David N.; WILLIAMSON, Andrea E. Mental health in context: structural vulnerability and support in primary care. **The British Journal of General Practice**, v. 71, n. 713, p. 565, 2021.

ARMSTRONG, Jenna M.; OWENS, Caitlyn R.; HASKETT, Mary E. Mental health of homeless youth: Moderation by peer victimization and teacher support. **Child Psychiatry & Human Development**, v. 49, n. 5, p. 681-687, 2018.

BARNETT, Miya L. *et al.* Mobilizing community health workers to address mental health disparities for underserved populations: a systematic review. **Administration and Policy in Mental Health and Mental Health Services Research**, v. 45, n. 2, p. 195-211, 2018.

BESSON, Pascale *et al.* Adapting Psychiatric Approaches to the Needs of Vulnerable Populations: A Qualitative Analysis. **European Journal of Investigation in Health, Psychology and Education**, v. 15, n. 3, p. 30, 2025.

BRASIL. Ministério da Saúde. Saúde mental. Saúde do A a Z. Available at: <https://www.gov.br/saude/pt-br/assuntos/saude-de-a-a-z/s/saude-mental>. Access on: 17 nov. 2025.

BROWN, Adrienne *et al.* Systematic review of barriers and facilitators to accessing and engaging with mental health care among at-risk young people. **Asia-Pacific Psychiatry**, v. 8, n. 1, p. 3-22, 2016.

BURNETT-ZEIGLER, Inger *et al.* Mind–body approaches to treating mental health symptoms among disadvantaged populations: A comprehensive review. **The Journal of Alternative and Complementary Medicine**, v. 22, n. 2, p. 115-124, 2016.

CORSCADDEN, Lisa; CALLANDER, Emily J.; TOPP, Stephanie M. International comparisons of disparities in access to care for people with mental health conditions. **The International journal of health planning and management**, v. 33, n. 4, p. 967-995, 2018.

DELANEY, Kathleen R. *et al.* Building mental health and caring for vulnerable children: Increasing prevention, access, and equity. **Nursing Outlook**, v. 66, n. 6, p. 590-593, 2018.

DEVINE, Mathew *et al.* Psychological issues in medically underserved patients. **Physician Assistant Clinics**, v. 4, n. 1, p. 127-140, 2019.

DOWRICK, Christopher *et al.* Evaluating a complex model designed to increase access to high quality primary mental health care for under-served groups: a multi-method study. **BMC health services research**, v. 16, n. 1, p. 58, 2016.

FARRELL, Susan J. *et al.* Examining health literacy levels in homeless persons and vulnerably housed persons with mental health disorders. **Community mental health journal**, v. 56, n. 4, p. 645-651, 2020.

GAMA, Carlos Alberto Pegolo da; CAMPOS, Rosana Teresa Onocko; FERRER, Ana Luiza. Saúde mental e vulnerabilidade social: a direção do tratamento. **Revista Latinoamericana de Psicopatologia Fundamental**, v. 17, p. 69-84, 2014.

GIACCO, Domenico *et al.* Scenarios for the future of mental health care: a social perspective. **The Lancet Psychiatry**, v. 4, n. 3, p. 257-260, 2017.

KOSTENIUK, Brynn *et al.* Perceived unmet substance use and mental health care needs of acute care patients who use drugs: A cross-sectional analysis using the Behavioral Model for Vulnerable Populations. **Drug and Alcohol Review**, v. 41, n. 4, p. 830-840, 2022.

KROLL, David S. *et al.* A successful walk-in psychiatric model for integrated care. **The Journal of the American Board of Family Medicine**, v. 32, n. 4, p. 481-489, 2019.

MOSCHION, Julie; VAN OURS, Jan C. Do transitions in and out of homelessness relate to mental health episodes? A longitudinal analysis in an extremely disadvantaged population. **Social Science & Medicine**, v. 279, p. 113667, 2021.

NGUYEN, Vy H. *et al.* The association between dental, general, and mental health status among underserved and vulnerable populations served at health centers in the US. **Journal of Public Health Dentistry**, v. 78, n. 1, p. 41-48, 2018.

O'CARROLL, Austin; WAINWRIGHT, David. Making sense of street chaos: an ethnographic exploration of homeless people's health service utilization. **International journal for equity in Health**, v. 18, n. 1, p. 113, 2019.

PERRINO, T.; BEARDSLEE, W.; BERNAL, G. Towards Scientific Equity for the Prevention of Depression and Internalizing Symptoms in Vulnerable Youth. **Prev Sci**, v. 16, n. 5, p. 642- 651, 2014.

SIMONS, Kyra *et al.* Promoting the mental health and well-being of vulnerable youth through art: an ethnographic evaluation of an art-based intervention for rural Canadian youth. **BMC psychology**, v. 13, n. 1, p. 182, 2025.

TEIXEIRA, Raquel *et al.* Co-creating mental health promotion and prevention interventions with groups in vulnerable situations in Europe: a mixed-methods study protocol for co-creation implementation and participatory evaluation. **Health Research Policy and Systems**, v. 23, n. 1, p. 87, 2025.

VENTURA, C. A. A. (2018). Saúde mental e vulnerabilidade: desafios e potencialidades na utilização do referencial dos direitos humanos. **SMAD, Revista Eletrônica Saúde Mental Álcool E Drogas (Edição Em Português)**, 13(4), 174-175.

**151. SOCIAL INEQUALITIES AND THE RIGHT TO HEALTH IN PROSTATE CANCER:  
PERSPECTIVES ON THE EFFECTIVENESS OF PUBLIC POLICIES**

***DESIGUALDADES SOCIAIS E DIREITOS À SAÚDE NO CÂNCER DE PRÓSTATA:  
PERSPECTIVAS PARA A EFETIVIDADE DAS POLÍTICAS PÚBLICAS***

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**ABSTRACT**

**Introduction:** Prostate cancer represents a significant public health challenge in Brazil, requiring attention not only to clinical aspects but also to social inequalities and the constructions of masculinity that influence access to and care in healthcare. Although public policies seek to promote early detection and awareness, their effectiveness is still limited by social barriers and the difficulty many men face in seeking assistance, making it essential to adopt more equitable strategies that are sensitive to the different realities of the male population. **Objective:** To analyze how social inequalities impact access, diagnosis, and care in prostate cancer, evaluating the effectiveness of public policies in guaranteeing the right to health. **Method:** This is a narrative review with a qualitative approach, which allowed for a theoretical-reflective analysis of studies published in PubMed. The selection of material was exploratory, prioritizing relevant academic texts on men's health, prostate cancer, and public policies related to comprehensive men's healthcare. As it is a narrative review, there was no structured search protocol or rigid inclusion criteria, favoring a critical synthesis on the topic. **Results:** The findings show that Black men have a higher incidence and mortality rate from prostate cancer due to profound social, racial, and structural inequalities that hinder access to early diagnosis and treatment, aggravated by low levels of education, precarious economic conditions, geographical barriers, and episodes of discrimination in health services. Even with policies such as the National Policy for Comprehensive Men's Health Care (PNAISH), the National Policy for Comprehensive Health of the Black Population (PNSIPN), and the National Policy for Cancer Prevention and Control (PNPCC), which aim to expand access, promote equity, and guarantee comprehensive care, challenges in implementation, lack of resources, and difficulties in reaching men in vulnerable situations persist. **Conclusion:** Despite the PNAISH seeking to guarantee comprehensive access to men's health, barriers such as stigma, prejudice, and low adherence to prostate cancer care persist. The lack of training for multidisciplinary teams and the insufficiency of educational actions hinder the fight against the disease, especially among men in vulnerable situations. Expanding preventive campaigns, combating stigmas surrounding screening tests, and strengthening strategies such as telehealth are essential measures to improve early diagnosis and reduce mortality.

**Keywords:** Prostate cancer. Men's health. Public policies.

## INTRODUCTION

Prostate cancer poses a significant public health challenge in Brazil, being the second most frequent type of tumor among men, second only to non-melanoma skin cancer. The incidence of the disease is influenced by factors such as life expectancy, race/color, quality of diagnostic methods, and effectiveness of health services (Barbosa *et al.*, 2016). For the period 2023-2025, the National Cancer Institute (INCA) estimates more than 70,000 new cases, reaffirming the epidemiological relevance of this disease in the country (INCA, 2023).

The main tests used to diagnose prostate cancer are the prostate-specific antigen (PSA) test and the digital rectal exam. PSA is a protein produced by the prostate, and its measurement is performed through a blood test, allowing the identification of changes that may indicate prostate problems. The digital rectal exam aims to assess the size, volume, texture, and shape of the prostate. It is important to note that both tests are generally only requested when there is suspicion of neoplasia (Brazil, 2023).

The Ministry of Health recommends that tests be performed only on patients with a clinical indication or suspicion of neoplasia. On the other hand, the systematic performance of PSA and/or digital rectal examination in asymptomatic men can generate a high number of diagnoses, bringing significant impacts to quality of life. These adverse effects are associated with false-positive results, which may lead to the need for biopsies to rule out cancer, procedures that frequently cause pain, bleeding, and risk of infection (Santos *et al.*, 2022).

Public policies related to prostate cancer aim to promote early detection of the disease, encouraging individuals to observe their bodies and identify signs or symptoms that may indicate significant changes. Upon recognizing such signs, patients are encouraged to seek a referral center, where they can undergo a detailed and accurate investigation. This preventive approach contributes to the reduction of complications, improves prognosis, and reinforces the importance of awareness about one's own health (INCA, 2022).

From the 1990s onwards, a deeper theoretical focus on the male experience and its relationship with health practices, from the perspective of gender studies and masculinities, boosted academic production in Brazil and abroad. Since then, new studies have emerged on the interface between men, gender and health, in addition to thematic issues of public health journals such as the supplement presented here and scientific journals dedicated to this topic (Brandão *et al.*, 2025).

According to Article 196 of the 1988 Brazilian Federal Constitution, health is a universal right of all individuals, regardless of social class, economic condition, or any other circumstance. This right is guaranteed by the State, ensuring broad and equal access to health services and actions through public policies and the organization of the Unified Health System (SUS). However, in practice, this right is not guaranteed in various sectors of society due to the emergence of various social inequalities, which act as barriers to equitable access to health (Brazil, 1988).

Given the above, prostate cancer presents itself as a significant public health challenge in Brazil, requiring attention not only to clinical and diagnostic aspects, but also to the social and gender dimensions that influence the perception and care of the male population. Public policies play a fundamental role in early detection and in encouraging awareness about one's own health, but their effectiveness is still limited by social inequalities and barriers to access to health services. In this context, understanding the intersection between masculinities, health practices, and universal rights guaranteed by the Brazilian Unified Health System (SUS) is essential to developing more inclusive, equitable, and effective strategies to combat this disease.

## METHOD

This is a narrative literature review, with a qualitative approach, focused on the analysis of public policies related to men's health and prostate cancer, as well as their implications for the physical, social, and emotional well-being of individuals affected by inequalities and illness processes. This

review allows for a theoretical-reflective approach to available scientific texts, without the need for a detailed methodological protocol with defined criteria to guide the selection and analysis of data (Martins, 2015).

This method is relevant for understanding the challenges and gaps in the implementation of these public policies focused on this topic. Therefore, the selection of theoretical material was exploratory, based on its relevance to this study. The collected studies were consulted in the PubMed database.

## **RESULTS AND DISCUSSION**

### **Socioeconomic profile and inequalities in access to cancer treatment**

Studies show the social and cultural disparity in Black men's access to prostate cancer treatment. One in seven African American men is diagnosed with prostate cancer, compared to only one in nine European men who are diagnosed with the disease. Black men are two to three times more likely to die from prostate cancer than white men. (Miranda et al., 2021).

It is important to highlight that socioeconomic inequality is an extremely intrinsic bias in the reality of the Black population, since Black boys have less access to education. This leads to reduced occupation of high-level positions in society, resulting in lower salaries and difficulties for these individuals in accessing medical consultations, screening exams such as digital rectal exams, and delayed diagnosis, hindering the implementation of appropriate treatments. (Gardner et al., 2025).

The limited distribution of blood tests used for early detection of prostate cancer in asymptomatic cases, such as the prostate-specific antigen (PSA) test, in regions with restricted access to healthcare services, like the North and Northeast of Brazil and rural areas, prevents men from ethnic groups, such as indigenous, riverside, and quilombola communities, from having high adherence to prostate cancer treatment (Matti et al., 2020).

Furthermore, Ordinance No. 992 of 2009, from the Ministry of Health, establishes the National Policy for Comprehensive Health of the Black Population, highlighting the promotion of equity and racial equality in health services. This regulation seeks to stimulate the production of knowledge, reduce mortality among the black population, and strengthen their social participation in the Unified Health System (Brazil, 2009).

Given this scenario, it is worth discussing racial discrimination against prostate cancer patients in the hospital setting, since the prejudiced behavior of healthcare professionals when treating Black men, especially during treatments such as radiotherapy and chemotherapy, where the cancer is in the metastatic phase, leads to reduced adherence to treatment (Matti et al., 2020).

Other factors can trigger this problem, such as stigmas and taboos related to sexual dysfunction among black men, the absence of clearer and more objective language from the multidisciplinary team regarding therapeutic measures, the choice of certain treatments, and, similarly, the lack of explanation of when and how to use medications for the accuracy of prostate cancer (Miranda et al., 2021).

Among other persistent factors affecting adherence to prostate cancer treatment by Black men, there is an increase in extra costs indirectly linked to the treatment of the disease, such as excessive spending on public transportation to travel to referral hospital centers that perform radiotherapy, hormone therapy, and chemotherapy, and time away from work, which reduces the profitability of these individuals, causing salary reductions and consequently abandonment of treatment (Gardner et al., 2025).

It is noted that prostate cancer affects not only the physiological aspects of Black men, but also influences their human, social, cultural, professional, and family dignity, allowing them to create negative beliefs and construct stigmatized thoughts that distance them from the goal of treatment, in order to mitigate the growing number of diagnoses in Black, mixed-race, and Indigenous individuals.

### **Social Determinants of Health and Vulnerability of Cancer Patients**

Despite advances in early detection, prevention, and treatments that contribute to good outcomes, prostate cancer predominantly affects Black men, being the second leading cause of death in this subgroup, and twice as likely to result in death compared to white men. Racial disparities mark the entire care process, including screening, diagnostic procedures, and treatment modalities. These inequalities have biological factors, structural determinants of equity through public policies, structural racism, and economic policies. They also include social determinants of health such as income, education, health insurance coverage, physical environment, and community, social, and geographic context (Burnett; Nyame; Mitchell, 2023).

Cultural barriers, along with factors such as low levels of education, contribute to disparities in cancer treatment, hindering access to oncological care for patients from diverse cultural backgrounds. This results in a population less informed about their rights, the services offered, and treatment options. This can lead to stigma and poor communication between patients and doctors. In rural populations, limited access to prevention, diagnosis, and treatment services leads to related limitations, including a lack of adequate public transportation and resources to cover transportation costs to cancer centers. This contributes to low screening rates, longer time to diagnosis, and worse outcomes in patients living in rural communities ( Keruakous et al., 2024) .

**Social rights and public policies in the context of cancer.**

Addressing cancer in Brazil requires not only scientific and technological advancements, but also the strengthening of legal frameworks and public policies that guarantee equitable access to prevention, diagnosis, treatment, and comprehensive care. In recent years, the country has expanded and updated its legislation focused on cancer care within the Unified Health System (SUS), reinforcing the need for organizing care networks, epidemiological monitoring, and guaranteeing social rights for people with cancer. Recent regulations, such as ordinances and federal laws, structure everything from prevention and early detection to treatment, rehabilitation, and social support, ensuring greater effectiveness and comprehensiveness in care. In this context, it becomes essential to understand the main legal instruments that guide this policy, summarized in the table below.

Table 1 - Norms and Policies and their Interconnections with Social Rights

<b>Standard / Policy</b>	<b>Core Content</b>	<b>Related Social Rights</b>
<b>Ministry of Health Ordinance No. 6,590/2025</b> – <b>Updates the National Policy for the Prevention and Combat of Torture</b>	It regulates prevention, promotion, early detection, diagnosis, treatment, rehabilitation, and palliative care. It considers social determinants and reduces inequalities.	<i>Comprehensive care ; Universality ; Equity ; Right to continuous care ; Health promotion .</i>
<b>Ministry of Health Ordinance No. 6,591/2025</b> – <b>Establishes the RPCC</b>	It organizes the Cancer Prevention and Control Network with a focus on comprehensive care and coordination. It involves primary health care, specialized care, hospital care, emergency care, rehabilitation, diagnosis, and pharmaceutical assistance.	<i>Timely access ; Continuity of care ; Social participation ; Regulation and networking ; Right to coordination of care .</i>
<b>Law No. 13.685/2018</b> – <b>Mandatory Notification</b>	It makes the notification and registration of cancer-related illnesses mandatory in both the public and private healthcare systems.	<i>Right to health information ; Transparency ; Evidence-based planning ; Epidemiological surveillance .</i>
<b>SAES/MS Ordinance No.</b>	Regulates the provision of transportation, lodging, and meals for patients who need	<i>Equity ; Access to treatment ; Social protection ; Reduction of</i>

<b>1/2022</b> <b>Out-of-Home</b> <b>Treatment (TFD)</b>	– treatment outside their municipality/state. Includes an accompanying person when necessary.	<i>geographical and financial barriers</i> .
<b>Law</b> <b>13.896/2019</b> <b>Deadline</b> <b>for</b> <b>examinations</b> <b>and</b> <b>commencement</b> <b>of</b> <b>treatment</b>	– It establishes a timeframe of up to 30 days for diagnostic tests and maintains a 60-day period for the start of treatment after confirmation of neoplasia.	<i>Speed and efficiency of care ; Patient safety ; Right to appropriate and timely treatment ; Dignity of the human person .</i>

Source: Prepared by the Author

Thus, it is observed that the set of these norms and public policies strengthens the social protection of people with cancer by ensuring fundamental principles such as comprehensiveness, equity, timely access, social participation, and dignity in care. These provisions reaffirm the State's commitment to reducing inequalities, guaranteeing continuity of care, and promoting fair conditions so that each individual undergoes their treatment in a safe and humane manner. In this way, the legal framework presented consolidates a more organized, efficient, and sensitive care network for those facing cancer in Brazil.

**The Effectiveness of Public Policies for Cancer Care: Advances and Gaps**

In Brazil, since the promulgation of the Federal Constitution in 1988, public health policies have been guided by the principles of universality and equity in access to services. Based on the guidelines of decentralized management, comprehensive care, and community participation, these policies structure a unified health system throughout the national territory. They are realized through the actions of social actors and the institutions responsible for their implementation in each context, directly influencing the results. Therefore, it is essential to continuously monitor the implementation processes and evaluate their impacts on the current reality (Lucchese, 2004).

In the context of public policies, it is possible to identify some directed towards oncological care, with a special focus on men's health and the fight against prostate cancer, such as the National Policy for Comprehensive Men's Health Care (PNAISH) and the National Policy for Cancer Prevention and Control (PNPCC). However, the effectiveness of these policies still faces several challenges and barriers in the current scenario, including structural limitations, inequalities in access to health services, and difficulties in implementing prevention and early detection actions, which compromises the full functioning of these initiatives.

Created and presented in 2009, the National Policy for Comprehensive Men's Health (PNAISH) aims to promote the improvement of the health conditions of the Brazilian male population, effectively contributing to the reduction of morbidity and mortality in this group. To this end, it seeks to address risk factors and vulnerabilities, as well as guarantee access to comprehensive health care actions and services, respecting the different expressions of masculinity. Primary Health Care (PHC) is considered the backbone of PNAISH, as it acts as a privileged entry point to the Brazilian Unified Health System (SUS), establishing continuous links with the male population and promoting facilitated and welcoming access, capable of overcoming important cultural and social barriers (Brandão et al., 2025).

Established by Law No. 14,758 of December 19, 2023, the National Policy for the Prevention and Control of Cancer within the Unified Health System aims to reduce the incidence of various types of cancer, ensure adequate access to comprehensive care, contribute to improving the quality of life of users diagnosed with the disease, and reduce mortality and disability caused by cancer (Brazil, 2023).

However, gaps still exist that hinder the effective implementation of these public policies. Among them are the naturalization of stereotypes of masculinity, which leads to the denial of vulnerabilities and resistance from men in seeking care; inequalities in access to health, evidenced by the low spontaneous demand for services, especially in primary health care; the weak institutionalization

of the National Policy for Comprehensive Men's Health Care (PNAISH), marked by a lack of human and financial resources to put its actions into practice, mainly in states and municipalities; and the difficulty in reaching the male population in situations of social and economic vulnerability (Brandão et al., 2025).

In order to fulfill its objectives of promoting health and reducing morbidity and mortality, it is essential to strengthen Primary Care, overcome gender stereotypes, reduce inequalities in access, and guarantee adequate resources, ensuring comprehensive and equitable care for the male population.

## CONCLUSION

Therefore, it is worth highlighting that although the National Policy for Comprehensive Men's Health Care (PNAISH) aims for comprehensive, equitable, and universal access for the male population to health services, especially in the treatment of prostate cancer, there are still ingrained prejudices regarding men's health care (National Policy for Comprehensive Men's Health Care, 2021).

Thus, it is noted that intersectoral health barriers are constant biases towards non-adherence to therapeutic measures for prostate cancer. Based on this problem, it is important to highlight the lack of training for the multidisciplinary team to deal with the specificities of men's health, including a more humane and empathetic approach and the use of active listening in the face of the suffering of the male population upon receiving a diagnosis of this pathology.

From this, one can conclude that the Ministry of Health has failed in integrating health education about prostate cancer as a goal linked to public policies that address not only the disease itself, but also the social, cultural, and ethnic aspects surrounding it, through advertising and prevention campaigns for this type of cancer.

Furthermore, this initiative aims to break down stigmas associated with screening tests, such as the digital rectal exam, in order to expand health initiatives focused on disease prevention, especially among men who have less access to health services and live in marginalized areas. Therefore, enabling access to these health services through teleconsultations, especially in areas with limited access to basic health units, aims to achieve early diagnosis in these men and reduce cancer mortality rates.

## REFERENCES

BRANDÃO CC, SALERNO AAP, MEDRADO B, BARROS EAS, ALBUQUERQUE FP, FERNANDES FILHO HP, LYRA J, MAGALHÃES RS, PINTO TR, FIGUEIREDO WS. Política Nacional de Atenção Integral à Saúde do Homem: 15 anos de importantes avanços e persistentes desafios. **Interface** (Botucatu). 2025; 29 (Supl. 1): e250258 DOI: <https://doi.org/10.1590/interface.250258>.

BRASIL. **Constituição (1988). Constituição da República Federativa do Brasil**. Available at: <https://www.gov.br/conselho-nacional-de-saude/pt-br/aceso-a-informacao/legislacao/outras-normativas/constituicaoafederal.pdf>. Access on: 11 nov. 2025.

BRASIL. Lei nº 13.685, de 25 de junho de 2018. Altera a Lei nº 12.732, de 22 de novembro de 2012, para estabelecer a notificação compulsória de agravos e eventos em saúde relacionados às neoplasias, e a Lei nº 12.662, de 5 de junho de 2012, para estabelecer a notificação compulsória de malformações congênitas. **Diário Oficial da União**, Brasília, DF, 26 jun. 2018. Seção 1, p. 1. Available at: <https://www2.camara.leg.br/legin/fed/lei/2018/lei-13685-25-junho-2018-786890-publicacaooriginal-155900-pl.html>. Access on: 13 nov. 2025.

BRASIL. Lei nº 13.896, de 30 de outubro de 2019. Altera a Lei nº 12.732, de 22 de novembro de 2012, para que os exames relacionados ao diagnóstico de neoplasia maligna sejam realizados no prazo de 30 (trinta) dias, no caso em que especifica. **Diário Oficial da União**, Brasília, DF, 31 out. 2019. Available at: [www.planalto.gov.br/ccivil\\_03/\\_Ato2019-2022/2019/Lei/L13896.htm](http://www.planalto.gov.br/ccivil_03/_Ato2019-2022/2019/Lei/L13896.htm). Access on: 13 nov. 2025.

BRASIL. Lei nº 14.758, de 19 de dezembro de 2023. Institui a Política Nacional de Prevenção e Controle do Câncer no âmbito do Sistema Único de Saúde (SUS) e o Programa Nacional de Navegação da Pessoa com Diagnóstico de Câncer; e altera a Lei nº 8.080/1990. *Diário Oficial da União*, Brasília, 20 dez. 2023. Available at: [https://www.planalto.gov.br/ccivil\\_03/\\_ato2023-2026/2023/lei/114758.htm](https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2023/lei/114758.htm). Access on: 11 nov. 2025

BRASIL. Ministério da Saúde. Portaria GM/MS n. 6.590, de 3 de fevereiro de 2025. **Diário Oficial da União**, Brasília, DF, 3 fev. 2025a. Available at: <https://www.in.gov.br/en/web/dou/-/portaria-gm/ms-n-6.590-de-3-de-fevereiro-de-2025-611094415>. Access on: 11 nov. 2025.

BRASIL. Ministério da Saúde. Portaria GM/MS n. 6.591, de 4 de fevereiro de 2025. **Diário Oficial da União**, Brasília, DF, 4 fev. 2025b. Available at: <https://www.in.gov.br/en/web/dou/-/portaria-gm/ms-n-6.591-de-4-de-fevereiro-de-2025-611336496>. Access on: 13 nov. 2025.

BRASIL. Ministério da Saúde. Secretaria de Atenção Especializada à Saúde. **Portaria de Consolidação SAES/MS nº 1, de 22 de fevereiro de 2022**. Consolidação das normas sobre atenção especializada à saúde. Brasília, DF: Ministério da Saúde, 2022. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/saes/2022/prc0001\\_31\\_03\\_2022.html](https://bvsmms.saude.gov.br/bvs/saudelegis/saes/2022/prc0001_31_03_2022.html). Access on: 13 nov. 2025.

BURNETT, A. L.; NYAME, Y. A.; MITCHELL, E. **Journal of the National Medical Association**. *Disparities in prostate cancer*. v. 115, n. 2 Suppl., p. S38-S45, maio 2023. DOI: 10.1016/j.jnma.2023.02.003.

GARDNER, U *et al.* Health disparities and inequities in prostate cancer along the continuum of care. *Seminars in radiation oncology*, v. 35, n. 3, p. 304–316, 2025. <https://doi.org/10.1016/j.semradonc.2025.04.008>.

INSTITUTO NACIONAL DE CÂNCER (INCA). Novembro Azul 2023. Publicado em 01 nov. 2023; atualizado em 08 nov. 2023. Available at: <https://www.gov.br/inca/pt-br/assuntos/campanhas/2023/novembro-azul>. Access on: 11 nov. 2025.

Keruakous, A. R.; Akpan, I.; Chahin, M.; Kirolos, A.; Keruakous, M. **Frontiers in Public Health**. *Equity in oncology care: addressing disparities in cancer treatment in Georgia*. v. 12, p. Article 1381075, 2024. DOI: 10.3389/fpubh.2024.1381075.

MATTI, Bashar; LYNDON, Mataroria; ZARGAR-SHOSHTARI, Kamran. Ethnic and socio-economic disparities in prostate cancer screening: lessons from New Zealand: Disparities in prostate cancer screening. **BJU international**, v. 128 Suppl 3, n. S3, p. 11–17, 2021. <https://doi.org/10.1111/bju.15155> Ministério da Saúde. Available at: [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2009/prt0992\\_13\\_05\\_2009.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2009/prt0992_13_05_2009.html). Access on: 13 nov. 2025. [https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2009/prt0992\\_13\\_05\\_2009.html](https://bvsmms.saude.gov.br/bvs/saudelegis/gm/2009/prt0992_13_05_2009.html)

Ministério da Saúde. Instituto Nacional do Câncer (INCA). Estimativa de 2023: Incidência de Câncer no Brasil. Rio de Janeiro: INCA, 2022. Disponível em: <https://www.inca.gov.br/sites/ufu.sti.inca.local/files//media/document//estimativa-2023.pdf>

SANTOS ROM, ABREU MM, MIGOWSKI A, ENGSTROM EM. Ferramenta de apoio à decisão sobre o rastreamento do câncer de próstata no Brasil. **Revista Saúde Pública**. 2022;56:19. <https://doi.org/10.11606/s1518-8787.2022056003467>

TOURINHO-BARBOSA RR, POMPEO AC, GLINA S. Prostate cancer in Brazil and Latin America: epidemiology and screening. **International Brazilian Journal of Urology** 2016 Nov-Dec;42(6):1081-1090. doi: 10.1590/S1677-5538.IBJU.2015.0690.

**152. ASSESSMENT OF THE EPIDEMIOLOGICAL EFFICIENCY OF MICRO-REGIONS IN THE STATE OF ESPÍRITO SANTO IN DENGUE SURVEILLANCE: AN ENVELOPING DATA ANALYSIS (2022-2024)**

***AVALIAÇÃO DA EFICIÊNCIA EPIDEMIOLÓGICA DAS MICRORREGIÕES DO ESTADO DO ESPÍRITO SANTO NA VIGILÂNCIA DA DENGUE: UMA ANÁLISE ENVOLTÓRIA DE DADOS (2022-2024)***

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**ABSTRACT**

**Introduction:** Dengue fever remains a major public health challenge in Brazil, demanding integrated and regionalized epidemiological surveillance. In Espírito Santo, territorial and climatic differences hinder disease control, making it necessary to evaluate the efficiency of health microregions to support planning and the equitable use of resources. **Objective:** To evaluate the epidemiological efficiency of the microregions of Espírito Santo in controlling dengue fever from 2022 to the end of 2024, using the Data Envelopment Analysis (DEA) model. **Method:** A longitudinal ecological study was conducted using epidemiological data from 10 microregions, extracted from the InfoDengue database and aggregated annually. Output-oriented DEA with variable returns to scale was applied. Robustness was verified using *bootstrap*, Jackknife, Friedman test, Spearman correlation, and Tobit regression. **Results:** 12,168 weekly observations aggregated into 30 year-region units were analyzed. The Metropolitan microregion showed the best performance (average score = 1.000), followed by the Southwest Serrana (average score = 0.977) and Caparaó (average score = 0.942). The Northeast microregion showed the lowest efficiency (0.725). Robustness analyses demonstrated high temporal consistency (Friedman,  $p = 0.674$ ), strong agreement between models ( $\rho = 0.977$ ), and adequate precision of estimates (95% CI: 0.816–0.919). **Conclusion:** Heterogeneity was observed among the microregions, with opportunities for improvement, especially in the less efficient ones. Statistical robustness reinforces the reliability of the findings and their relevance for regionalized surveillance planning. The adoption of evidence-based strategies is recommended, including the replication of good practices from the most efficient regions, the development of plans targeted at areas of greater vulnerability, and the institutionalization of efficiency monitoring as a public health management tool.

**Keywords:** *Aedes aegypti*. Epidemiology. Public Health. Environmental Health Surveillance. Performance Evaluation.

## INTRODUCTION

Dengue fever is one of the major contemporary public health challenges, with increasing impacts on the economy and society, both globally and nationally. It is the fastest-growing mosquito-borne viral disease in the world, with estimates of 100 to 400 million infections annually and a risk to about half the world's population (Marczell *et al.*, 2024; Paz-Bailey *et al.*, 2024; Zhang *et al.*, 2025). In the last three decades, the number of cases, deaths, and disability -adjusted life years ( *DALYs* ) has doubled, especially in tropical regions of Asia, Latin America, and Brazil (Tian *et al.*, 2022; Yang *et al.*, 2021; Zhang *et al.*, 2025).

The global economic cost exceeds US\$8.7 billion per year, considering direct medical expenses, lost productivity, and social impacts (Marczell *et al.*, 2024; Paz-Bailey *et al.*, 2024). In Brazil, recent epidemics have generated estimated annual losses of up to US\$1.2 billion, reflecting both absenteeism from work and increased healthcare spending (Marczell *et al.*, 2024). Furthermore, dengue fever exacerbates social inequalities, more intensely affecting low-income populations with less access to diagnosis, treatment, and preventive measures (Marczell *et al.*, 2024; Thisyakorn *et al.*, 2022).

The state of Espírito Santo presents climatic and environmental characteristics that favor the maintenance of dengue transmission. The tropical climate, with hot and humid summers, especially in coastal regions, creates conditions conducive to the proliferation of *Aedes aegypti* throughout the year (Almeida; Lana; Codeço, 2022; Rosa *et al.*, 2024). Factors such as high isothermal temperatures, high maximum temperatures, and intense rainfall during the rainy months sustain the persistence of the vector. Climate projections indicate an increase in temperature and a reduction in rainfall in some areas, but suggest that urban and coastal regions will continue to be endemic foci of transmission (Rosa *et al.*, 2024).

The epidemiological vulnerability of Espírito Santo is also associated with rapid urbanization, population density, and precarious urban infrastructure. More populous and urbanized municipalities, such as those on the Espírito Santo coast, show higher transmission rates due to the abundance of breeding grounds and intense circulation of people (Almeida; Lana; Codeço, 2022). Unfavorable socioeconomic conditions, such as precarious housing, deficient sanitation, and irregular water supply, increase exposure to the vector (Magalhães *et al.*, 2023). Thus, the combination of climatic, environmental, and social factors makes Espírito Santo a territory especially susceptible to the persistence of dengue fever, which requires intersectoral policies in health, urban planning, and social inclusion.

Despite advances in epidemiological surveillance and vector control, significant inequalities persist between regions regarding the responsiveness of health services and the efficiency of monitoring actions. In this context, evaluating regional performance becomes fundamental to identifying operational gaps, optimizing resource allocation, and guiding evidence-based public policies. Furthermore, the application of robust analytical methods, such as those employed in this study, broadens the understanding of territorial dynamics and strengthens decision-making in public health. This approach also reveals the methodology's potential to support management and auditing processes within the Brazilian Unified Health System (SUS), as pointed out by [reference needed] Santos, Silva Júnior e Caldas (2023), who highlight its usefulness in evaluating efficiency and promoting greater transparency and institutional *accountability*.

Given this context, the objective of this study was to evaluate the epidemiological efficiency of the macro-regions of health in the State of Espírito Santo in dengue surveillance, from 2022 to 2024, using the Data Envelopment Analysis ( *DEA* ) *model*. This model has already been widely consolidated in the scientific literature (Banker; Charnes; Cooper, 1984; Charnes; Cooper; Rhodes, 1978; Cook; Seiford, 2009; Lotfi *et al.*, 2020; Santos; Silva Júnior; Caldas, 2023). The identification of performance levels allowed us to estimate the potential for operational improvement and to recognize benchmark micro-regions *in* disease control. Thus, the study seeks to support the planning and regionalized

management of health surveillance, contributing to the development of more efficient, equitable, and locally-specific dengue control strategies.

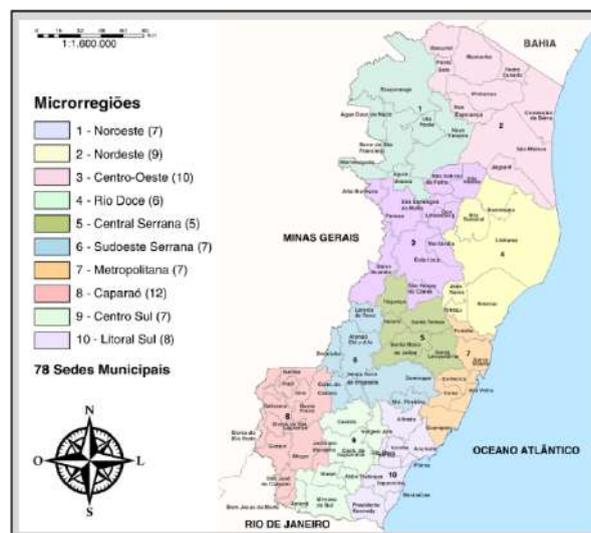
## METHOD

This is an analytical observational study, with a longitudinal ecological design, that evaluated the epidemiological efficiency of the health microregions of the State of Espírito Santo in controlling dengue fever between January 2022 and December 2024. The decision- *making unit* ( *DMU* ) was the health microregion, in accordance with efficiency approaches in health systems that use territorial groupings as a productive unit (Banker; Charnes; Cooper, 1984; Cook; Seiford, 2009).

Ten microregions of Espírito Santo were analyzed, totaling 12,168 weekly observations from the InfoDengue platform (available at: <https://info.dengue.mat.br/>) (Codeco *et al.*, 2018), aggregated annually into 30 analysis units (10 microregions  $\times$  3 years). Epidemiological and climatic data were obtained from this platform, including: number of reported cases, effective reproduction rate ( *Rt* ), climatic indicators, and environmental receptivity index. The variables originally on a weekly scale were aggregated by annual average, a procedure recommended for health efficiency analyses when the outputs reflect accumulated results.

DEA was used to estimate the *relative* efficiency among the microregions of the state of Espírito Santo (Figure 1). This non-parametric method, based on linear programming, is used to identify an efficient frontier composed of the units with the best combination of results (Charnes; Cooper; Rhodes, 1978). The present study used a model that was: (i) output-oriented, focusing on achieving better epidemiological performance given a risk context; and (ii) with Variable Returns to Scale (VRS), recognizing that performance does not grow proportionally to resources or risks (Banker; Charnes; Cooper, 1984).

Figure 1 - Microregions of Espírito Santo, Brazil.



The models tested considered risk factors ( *inputs* ) and epidemiological performance ( *output* ). In the case of *output* , the inverse of the standardized incidence was used, so that higher values represented better performance (Eq. 1). This construction is recommended when the desired outcome is the inverse of a morbidity indicator (Hollingsworth, 2008).

$$Y_1 = \frac{1}{\text{incidência}/100.000 \text{ hab.}} \quad (\text{Eq.1})$$

Ten microregions, each *DMU*  $j$  presents *inputs*  $x_{ij}$  and *outputs*  $y_{rj}$ . In the  $y_{rj}$  *output* -oriented model - *VRS*, the efficiency ( $\theta_k$ ) for the *DMU*  $k$  is obtained by proportionally maximizing the *output* (Eq. 2):

$$\max_{\theta_k, \lambda} \theta_k \quad (\text{Eq.2})$$

Subject to (Eq.3):

$$\begin{aligned} \sum_{j=1}^n \lambda_j y_{rj} &\geq \theta_k y_{rk} \quad \forall r \\ \sum_{j=1}^n \lambda_j x_{ij} &\leq x_{ik} \quad \forall i \\ \sum_{j=1}^n \lambda_j &= 1 \quad \rightarrow \text{VRS restriction} \quad \lambda_j \geq 0 \quad \forall j \end{aligned} \quad (\text{Eq.3})$$

A *DMU* is considered efficient when it presents  $\theta_k = 1$ , that is, it is on the frontier of best relative performance within the analyzed set. On the other hand, when the estimated score is lower than the unit value ( $\theta_k < 1$ ), the *DMU* is classified as inefficient, indicating that it could achieve superior epidemiological performance without a proportional increase in inputs, if it operated similarly to the reference units.

Since *DEA* is deterministic and sensitive to marginal variations (Simar; Wilson, 1998), complementary analyses were applied to ensure the robustness of the scores, as established in the methodological protocol. The strategies adopted included: (i) non-parametric *bootstrap* with 1,000 replications to estimate 95% confidence intervals for the scores; (ii) Jackknife bias analysis, aiming to evaluate the sensitivity of the results to the sequential exclusion of *DMUs*; (iii) Friedman test to verify the temporal consistency of the scores throughout the series; (iv) Spearman correlation to assess the agreement between different specifications of *DEA models*; and (v) censored Tobit regression, due to the limited nature of the scores (0–1) and the asymmetrical character of the distribution. These procedures follow consolidated recommendations for *DEA applications* in public health and epidemiological surveillance (Simar; Wilson, 2007).

All analyses were conducted in the R statistical environment (R Core Team, version 4.5.2). Efficiency analysis routines were implemented using the *deaR* package (Lotfi *et al.*, 2020), which allows for the resolution of *DEA models* with multiple inputs and outputs, under different orientations and returns to scale, as well as the *boot*, *censReg*, and *tidyverse* packages. Scripts and data spreadsheets for reproducibility are available upon request.

Regarding ethical aspects, since the study used only aggregated, secondary, and public data (InfoDengue), without identifying individuals, and therefore did not involve human subjects in the sense of direct contact, the research was exempt from submission to an ethics committee.

## RESULTS AND DISCUSSION

The analysis of epidemiological efficiency revealed substantial heterogeneity among the microregions of Espírito Santo in dengue control (Table 1). The overall average efficiency was 0.870 ( $SD = 0.149$ ), ranging from 0.501 to 1.000, indicating significant differences in the capacity to transform epidemiological risk factors into favorable surveillance outcomes. Among the ten microregions evaluated, MT, SR, and CP presented the highest average scores, standing out as the best-performing units, while NE registered the lowest average score, signaling significant operational weakness in the face of transmission risk.

Table 1 - Ranking of epidemiological efficiency of microregions in Espírito Santo (2022–2024).

Position	Microregion	Average score	Average position	Consistency
1	Metropolitan (MT)	1,000	1.67	0%
2	Southwest Mountain Range (SR)	0.977	5.00	33.3%
3	Caparaó (CP)	0.942	3.67	0%
4	Central South (CS)	0.892	5.33	0%
5	Central Serrana (CR)	0.879	5.67	0%
6	South Coast (LS)	0.855	6.67	0%
7	Rio Doce (RD)	0.832	5.67	0%
8	Central-West (CO)	0.829	6.67	0%
9	Northwest (NW)	0.765	6.67	0%
10	Northeast (NE)	0.725	7.67	0%

In addition to the observed differences, the results demonstrated high statistical robustness (Table 2). The low *bootstrap bias* (adjustment  $< 0.03$  for all *DMUs*), the strong correlation between alternative models ( $\rho = 0.9769$ ), and the temporal stability of the scores, assessed by the Friedman test ( $p = 0.6744$ ), reinforce the idea that the variability found represents real performance differences, and not spurious effects resulting from annual fluctuations or specific conjunctural factors. These results are similar to other *DEA studies* in Brazilian public health, in which the technique provides a reliable diagnosis to support resource allocation and strategic management policies (Santos; Silva Júnior; Caldas, 2023).

Table 2 - Statistical robustness metrics of *DEA results*.

Metric	Result	Interpretation
Temporal Consistency (Friedman)	$p = 0.6744$	Consistent
Correlation between Models (Spearman)	$\rho = 0.9769$	High
95% Confidence Interval ( <i>bootstrap</i> )	[0.816–0.919]	Necessary
Normality Test (Shapiro-Wilk)	$p = 0.0003$	Not normal
Coefficient of Variation	0.171	Suitable
Jackknife Bias	0.000000	Negligible

The analysis of the relationships between explanatory variables and efficiency scores was conducted in two stages: initially, the association between epidemiological performance and risk factors was estimated; then, the consistency of these results was evaluated using inferential techniques.

Tobit regression analysis revealed that higher transmissibility and greater climatic receptivity are associated with lower efficiency levels, suggesting that regions with environmental conditions more favorable to viral circulation require greater response capacity to achieve equivalent performance. The observed effects for mean *Rt* ( $\beta = -0.6631$ ;  $p = 0.018$ ) and mean receptivity ( $\beta = -0.7535$ ;  $p = 0.006$ ) were statistically significant, while mean transmission showed only a trend towards an effect ( $\beta = -0.8680$ ;  $p = 0.332$ ). This finding is consistent with epidemiological evidence: in contexts of high environmental receptivity, vector control and surveillance should be intensified to prevent epidemics (Brasil, 2009). The population variable did not show a significant influence ( $\beta = 0.000003$ ;  $p = 0.139$ ), indicating that performance is not determined by population size, but by the effectiveness of surveillance and control actions.

Convergently, Spearman correlations showed moderate relationships between efficiency and the same inputs, reinforcing the idea that *DEA* captured real differences in operational capacity, and not just demographic or environmental variations. The negative associations between efficiency and *Rt* ( $\rho = -0.337$ ) and between efficiency and receptivity ( $\rho = -0.175$ ) corroborate the need for more responsive

strategies in areas with a high probability of transmission, while the absence of correlation with population ( $\rho = 0.030$ ) reinforces that performance depends more on management and planning than on territorial scale. These results indicate that microregions with environmental conditions more favorable to *Aedes aegypti* require more sophisticated and adapted approaches to achieve greater efficiency. This echoes studies on the spatiotemporal dynamics of dengue in Brazil, which show that climate, mobility, and ecological factors shape epidemic patterns (Churakov *et al.*, 2019).

Additionally, the application of DEA in this context highlights the value of the methodology as a management tool. By revealing operational inequalities, DEA provides objective support for prioritizing resources, replicating best practices, and territorial planning. This application in the public health sector has already been highlighted in SUS audits, demonstrating the usefulness of this technique for identifying inefficient units and guiding interventions (Santos; Silva Júnior; Caldas, 2023).

Finally, the significant disparity between microregions also suggests the need to strengthen local governance, train surveillance managers, and promote integration between epidemiological surveillance, environmental surveillance, and vector control, as recommended by the National Guidelines for Dengue Prevention and Control (Brasil, 2009). These strategies are particularly crucial in more vulnerable regions, such as the NE microregion of Espírito Santo, where efficiency is low and epidemiological risk may be high.

## CONCLUSION

This study demonstrated the usefulness of *DEA*, complemented by statistical robustness analyses, for evaluating epidemiological efficiency in dengue control. The results revealed significant heterogeneity among the microregions of Espírito Santo, with clear opportunities for performance improvement. The findings indicate that the three most efficient microregions are MT, SR, and CP, with the first being the most efficient, while NE was the least efficient. Furthermore, there are significant opportunities for improvement (>20%) in half of the evaluated regions. The evidence of robustness (including temporal consistency, agreement between models, precision of estimates, and low sensitivity to *outliers*) confers statistical validity to the findings and supports their usefulness for public health decision-making. The implementation of results-based strategies is recommended, including the identification and replication of good practices from the most efficient regions, the development of specific plans for the areas with lower performance, and the institutionalization of continuous efficiency monitoring as a management tool. Finally, future studies suggest incorporating additional variables related to local resources and capabilities, as well as extending the analysis to other arboviruses, allowing for an integrated assessment of health surveillance performance.

## REFERENCES

ALMEIDA, I. F.; LANA, R. M.; CODEÇO, C. T. How heterogeneous is the dengue transmission profile in Brazil? A study in six Brazilian states. **PLOS Neglected Tropical Diseases**, v. 16, n. 9, p. e0010746, 12 set. 2022. Available at: <<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0010746>>. Access on: 15 nov. 2025.

BANKER, R. D.; CHARNES, A.; COOPER, W. W. Some models for estimating technical and scale inefficiencies in data envelopment analysis. **Management Science**, v. 30, n. 9, p. 1078–1092, set. 1984. Available at: <<https://pubsonline.informs.org/doi/10.1287/mnsc.30.9.1078>>.

BRASIL. **Diretrizes nacionais para a prevenção e controle de epidemias de dengue**. 1. ed. Brasília: Ministério da Saúde, 2009. Available at: <[https://bvsms.saude.gov.br/bvs/publicacoes/diretrizes\\_nacionais\\_prevencao\\_controle\\_dengue.pdf](https://bvsms.saude.gov.br/bvs/publicacoes/diretrizes_nacionais_prevencao_controle_dengue.pdf)>. Access on: 19 nov. 2025.

CHARNES, A.; COOPER, W. W.; RHODES, E. Measuring the efficiency of decision making units. **European Journal of Operational Research**, v. 2, n. 6, p. 429–444, nov. 1978. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/0377221778901388>>.

CHURAKOV, M. *et al.* Spatio-temporal dynamics of dengue in Brazil: seasonal travelling waves and determinants of regional synchrony. **PLOS Neglected Tropical Diseases**, v. 13, n. 4, p. e0007012, 22 abr. 2019. Available at: <<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0007012>>. Access on: 19 nov. 2025.

CODECO, C. *et al.* Infodengue: a nowcasting system for the surveillance of arboviruses in Brazil. **Revue d'Épidémiologie et de Santé Publique**, v. 66, p. S386, jul. 2018. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S0398762018311088>>.

COOK, W. D.; SEIFORD, L. M. Data envelopment analysis (DEA) – Thirty years on. **European Journal of Operational Research**, v. 192, n. 1, p. 1–17, jan. 2009. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S0377221708001586>>.

HOLLINGSWORTH, B. The measurement of efficiency and productivity of health care delivery. **Health Economics**, v. 17, n. 10, p. 1107–1128, 13 out. 2008. Available at: <<https://onlinelibrary.wiley.com/doi/10.1002/hec.1391>>.

LOTFI, F. H. *et al.* **Data envelopment analysis with R**. Cham: Springer International Publishing, 2020. v. 386. Available at: <<https://link.springer.com/10.1007/978-3-030-24277-0>>. Access on: 15 nov. 2025. (Studies in Fuzziness and Soft Computing).

MAGALHÃES, A. R. *et al.* Neglected tropical diseases risk correlates with poverty and early ecosystem destruction. **Infectious Diseases of Poverty**, v. 12, n. 1, p. 32, 10 abr. 2023. Available at: <<https://idjournal.biomedcentral.com/articles/10.1186/s40249-023-01084-1>>.

MARCZELL, K. *et al.* The macroeconomic impact of a dengue outbreak: case studies from Thailand and Brazil. **PLOS Neglected Tropical Diseases**, v. 18, n. 6, p. e0012201, 3 jun. 2024. Available at: <<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0012201>>. Access on: 15 nov. 2025.

PAZ-BAILEY, G. *et al.* Dengue. **The Lancet**, v. 403, n. 10427, p. 667–682, fev. 2024. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S014067362302576X>>.

ROSA, Y. B. M. *et al.* Climate change impacts on dengue transmission areas in Espírito Santo state, Brazil. **Oxford Open Immunology**, v. 5, n. 1, 14 mar. 2024. Available at: <<https://academic.oup.com/ooim/article/doi/10.1093/oxfimm/iaqae011/7750365>>.

SANTOS, J. P.; SILVA JÚNIOR, A. F. A.; CALDAS, A. V. S. Data envelopment analysis as a management tool in the SUS audit. **Revista Gestão & Tecnologia**, v. 23, n. 3, p. 230–256, 28 out. 2023. Available at: <<https://revistagt.fpl.emnuvens.com.br/get/article/view/2389>>.

SIMAR, L.; WILSON, P. W. Estimation and inference in two-stage, semi-parametric models of production processes. **Journal of Econometrics**, v. 136, n. 1, p. 31–64, jan. 2007. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S0304407605001594>>.

\_\_\_\_\_. Sensitivity analysis of efficiency scores: how to bootstrap in nonparametric frontier models. **Management Science**, v. 44, n. 1, p. 49–61, jan. 1998. Available at: <<https://pubsonline.informs.org/doi/10.1287/mnsc.44.1.49>>.

THISYAKORN, U. *et al.* Epidemiology and costs of dengue in Thailand: a systematic literature review. **PLOS Neglected Tropical Diseases**, v. 16, n. 12, p. e0010966, 19 dez. 2022. Available at: <<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0010966>>. Access on: 15 nov. 2025.

TIAN, N. et al. Dengue incidence trends and Its burden in major endemic regions from 1990 to 2019. **Tropical Medicine and Infectious Disease**, v. 7, n. 8, p. 180, 12 ago. 2022. Available at: <<https://www.mdpi.com/2414-6366/7/8/180>>.

YANG, X. *et al.* Global burden for dengue and the evolving pattern in the past 30 years. **Journal of Travel Medicine**, v. 28, n. 8, 29 dez. 2021. Available at: <<https://academic.oup.com/jtm/article/doi/10.1093/jtm/taab146/6368502>>.

ZHANG, W.-X. *et al.* Assessing the global dengue burden: incidence, mortality, and disability trends over three decades. **PLOS Neglected Tropical Diseases**, v. 19, n. 3, p. e0012932, 12 mar. 2025. Available at: <<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0012932>>. Access on: 15 nov. 2025.

**153. WELL-BEING IN PUBLIC SERVICE AS A TOOL FOR SUSTAINABLE DEVELOPMENT: EVIDENCE FROM AN INSTITUTION IN THE FEDERAL NETWORK OF PROFESSIONAL, SCIENTIFIC, AND TECHNOLOGICAL EDUCATION**

***BEM-ESTAR NO SERVIÇO PÚBLICO COMO INSTRUMENTO DE DESENVOLVIMENTO SUSTENTÁVEL: EVIDÊNCIAS DE UMA INSTITUIÇÃO DA REDE FEDERAL DE EDUCAÇÃO PROFISSIONAL, CIENTÍFICA E TECNOLÓGICA***

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**ABSTRACT**

**Introduction:** Well-being at work is a central element for occupational health and institutional sustainability, especially in the Brazilian federal public sector, where bureaucracy, intensified demands, and structural limitations shape the work experience. Within the Federal Network of Professional, Scientific and Technological Education (RFEPCT), understanding well-being is strategic for strengthening healthy, inclusive work environments aligned with the Sustainable Development Goals (SDGs). **Objective:** To analyze the levels of well-being at work among administrative technicians in education (TAE) and outsourced workers (TE) of an RFEPCT institution, using the Inventory of Well-being at Work (IBET-13). **Method:** A quantitative, cross-sectional, and descriptive study was conducted with 99 workers. Well-being at work was measured using the IBET-13, composed of the dimensions of commitment/satisfaction and involvement with work. Descriptive statistics, Pearson correlation, comparative tests, and multiple linear regression were applied. **Results:** Overall well-being was moderate ( $3.35 \pm 0.65$ ). The commitment/satisfaction dimension had the highest mean score ( $3.59 \pm 0.66$ ), while work engagement had the lowest mean score ( $2.82 \pm 0.84$ ). Technical employees (TEs) showed higher levels of well-being compared to administrative and technical staff (TAEs). In the regression model, belonging to the TAE category ( $\beta = -0.365$ ;  $p < 0.001$ ) and having a partner ( $\beta = -0.251$ ;  $p = 0.017$ ) reduced the IBET-13 score. Low affective involvement (especially among workers with longer service time) indicated weaknesses related to bureaucracy, limited opportunities for career advancement, and insufficient institutional recognition. **Conclusion:** The study revealed moderate well-being, with lower affective involvement and relevant differences between TAEs and TEs. Institutional weaknesses, such as bureaucracy and limited recognition, negatively affect the work experience. The findings reinforce the need for institutional strategies that promote professional development and more engaging environments.

**Keywords:** Occupational Health. Work Engagement. Organizational Psychology. Job Satisfaction. Public Management.

## INTRODUCTION

In recent decades, economic, social, and technological transformations have intensified significant changes in the world of work, directly impacting how individuals experience their professional activities. Work remains a central element of human life, both for the social function it performs and for the role it plays in the construction of individual and collective identity (Borges; Tamayo, 2001; Ferreira *et al.*, 2022; Sant'Anna; Lemos, 2018). In this scenario, contemporary organizations, including public educational institutions, have faced challenges related to the reorganization of processes, occupational reconfiguration, and increased demands, which has intensified scientific interest in the impacts of work on workers' well-being (Araújo; Sachuk, 2007). These challenges directly relate to global agendas, such as the United Nations (UN) 2030 Agenda, which established the Sustainable Development Goals (SDGs) (UN, 2015), emphasizing healthier, more inclusive, and responsible work environments, recognizing well-being as a strategic component for the sustainable development of institutions.

Literature shows that, even with technological modernization and the emergence of new forms of professional activity, work continues to occupy a privileged position in social life, demanding high levels of involvement, performance, adaptability, and integration into increasingly complex organizational structures from individuals (Araújo; Sachuk, 2007; Djankov *et al.*, 2019; Kolade; Owoseni, 2022; Lim, 2023). Furthermore, recent studies on new work practices indicate that the expansion of flexible, digital, and self-managed models has broadened the formal autonomy of workers, but paradoxically, has also favored processes of intensification and precarization of work, especially when autonomy is converted into individualized responsibility for results, goals, and continuous self-management (Aroles; Mitev; Vaujany, 2019). In this context, understanding how workers give meaning to their activities has become fundamental, since such perceptions reflect experiences that can favor or compromise their health, engagement, and quality of work life (Corrêa *et al.*, 2017).

Positive psychology and organizational studies have highlighted the importance of investigating feelings and emotions associated with the work environment, considering that certain internal and external factors influence self-realization and human development in this work context (Corrêa *et al.*, 2017). Recent international research points to relevant correlations between well-being (Hu *et al.*, 2021), engagement (Burawat, 2023), and psychological capital (Aprilia *et al.*, 2025; Azizah; Xiang; Hui, 2025), suggesting that workers who experience positive emotions tend to exhibit higher levels of involvement and performance. In this sense, the assessment of well-being at work emerges as a way to understand phenomena such as satisfaction (Wang *et al.*, 2025), commitment, involvement, and occupational health.

Well-being at work, as widely discussed in the field of organizational psychology, is a multidimensional construct encompassing affective and cognitive components related to worker experiences. The widely adopted definition in Brazil understands well-being as a psychological state associated with positive affective bonds to the tasks performed (satisfaction and engagement) and to the organization (affective commitment) (Cezar-Vaz *et al.*, 2022). In parallel, studies on workplace flourishing (a concept derived from positive psychology) emphasize dimensions related to sociopsychological functioning, purpose, optimism, competence, and the quality of professional relationships (Diener; Scollon; Lucas, 2003). Thus, in the national context, there is an emphasis on the integration of satisfaction, engagement, and affective commitment as central factors of occupational well-being (Bento; Tontini, 2024).

Within the institutions that comprise the Federal Network of Professional, Scientific and Technological Education (RFEPCT), especially the Federal Institutes, workers face challenges related to the multi-campus structure, administrative demands, and the growing demand for efficiency, transparency, and quality in the provision of public services. Considering the relevance of these professionals to institutional functioning, it becomes essential to investigate how technical-administrative staff in education (TAE) and outsourced workers (TE) perceive their well-being

at work and what factors contribute to higher or lower levels of this indicator. Given this context, the objective of this study was to analyze the levels of well-being at work, based on the Inventory of Well-being at Work (IBET-13), among TAE and TE who perform their work activities in an institution that is part of the RFEPECT.

## METHOD

This is a quantitative, cross-sectional, and descriptive study, developed with the objective of analyzing the levels of well-being at work among TAEs (Technical-Administrative Employees) and TEs (Technical-Educational Technicians) of an institution that is part of the RFEPECT (Brazilian Network of Professional, Technological, and Scientific Initiation). This design allows for the characterization of the studied phenomenon at a specific moment and without manipulating variables, being widely used in organizational behavior research. This institution is located in the southern region of the state of Goiás, with a multi-campus structure, its own administrative regime, and a staff composed of teaching staff, TAEs, and TEs.

The study population consisted of workers performing administrative or operational support functions at the institution. A non-probabilistic convenience sampling method was adopted, including all individuals who met the following criteria: being a TAE (Technical-Administrative Employee) or TE (Technical-Employee) working on campus, being 18 years of age or older, and agreeing to participate voluntarily in the research. The total number of participants was 99 workers, encompassing both employment types.

The IBET-13, standardized and widely validated in the Brazilian context (Cezar-Vaz *et al.*, 2022), was used. It consists of 13 items distributed across two dimensions: (i) commitment/satisfaction (nine items) and (ii) engagement with work (four items). Responses are recorded on a five-point Likert scale, ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). This instrument was presented in a self-administered format, preserving anonymity and confidentiality.

Data collection took place between September 2023 and January 2024, after ethical approval and the signing of the Informed Consent Form by all participants. Questionnaires were made available in person or digitally, according to the workers' preference, and answered individually, without interference from the researchers. The project was submitted to and approved by the Research Ethics Committee with Human Beings, in accordance with the provisions of CNS Resolution No. 510, of April 7, 2016, of the National Health Council (CAAE Protocol No. 69181723.8.0000.0164, with Opinion No. 6.139.251).

*Statistical Package for the Social Sciences* (IBM™ software. SPSS™ Statistics), version 26 for Microsoft Windows™ (IBM Corp., Armonk, NY, USA). Initially, the normality of the quantitative variables was verified using the Kolmogorov–Smirnov test (Justel; Peña; Zamar, 1997), with Lilliefors correction (Lilliefors, 1967), which indicated an adequate distribution for the use of parametric tests ( $p > 0.05$ ).

## RESULTS AND DISCUSSION

The analysis of well-being at work among the 99 participants (TAE and TE) revealed an intermediate level, as measured by the IBET-13. Table 1 presents the descriptive measures of the instrument's dimensions, in which superior performance is observed in the commitment and satisfaction dimension ( $3.59 \pm 0.66$ ) compared to work involvement ( $2.82 \pm 0.84$ ). The average overall score ( $3.35 \pm 0.65$ ) indicates a moderate perception of well-being, consistent with previous results observed in public environments marked by high bureaucracy and asymmetrical demands. These findings are aligned with international guidelines that emphasize the importance of decent, healthy, and equitable working conditions; principles aligned with the goals of SDG 3.4, which emphasizes the promotion of mental health and well-being, and SDG 8.8, which highlights the need for safe and secure work environments (UN, 2015).

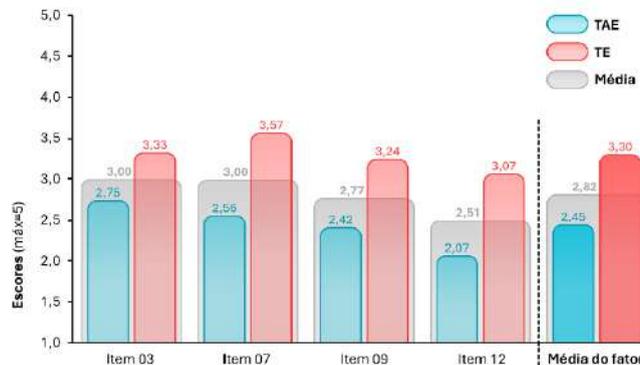
Table 1 - Distribution of quantitative variables of the instruments, 2024 ( $n = 99$ ).

Variable	$M \pm DP$	CI (95%)	Minimum	Maximum
Commitment/Satisfaction	3.59 ± 0.66	3.46–3.72	1.56	4.89
Involvement/Work	2.82 ± 0.84	2.65–2.99	1.00	4.50
Overall Score – IBET-13	3.35 ± 0.65	3.22–3.48	1.38	4.69

Note: IBET-13 refers to the Workplace Well-being Inventory. *M*: Mean; *SD*: Standard Deviation; *CI*: Confidence Interval.

Figure 1 highlights significant differences between professional categories: outsourced workers (TEs) presented higher levels of well-being compared to administrative and technical staff (TAEs), suggesting more favorable evaluations of the work environment. A possible explanation is that outsourced workers tend to accumulate prior experience in more unstable and less structured work contexts, which intensifies the appreciation of federal public environments, generally more predictable and secure. Furthermore, TEs perform predominantly operational functions, with less exposure to the normative, administrative, and bureaucratic demands that fall on TAEs, which reduces institutional wear and tear and contributes to greater relative satisfaction. As discussed by [reference needed] Araújo e Sachuk (2007), perceptions of the work environment are modulated by accumulated experiences and expectations built throughout one's professional trajectory. This contrast between functional categories also points to the need, highlighted in international agendas, to reduce occupational inequalities and strengthen more balanced and inclusive working conditions.

**Figure 1.** Difference between the dimensions related to work engagement in the two categories (TAE – administrative technicians; TE – outsourced workers), 2024.



The inferential results reinforce these differences (Table 2). Belonging to the TAE category reduces the overall IBET-13 score by -0.365 points ( $p < 0.001$ ), while having a partner reduces the score by -0.251 points ( $p = 0.017$ ). These findings indicate that well-being is influenced not only by working conditions but also by sociodemographic characteristics, confirming that contextual and personal factors shape the subjective perception of well-being. In this context, guidelines for sustainable institutions converge on the importance of integrating management policies that consider diversity, equity, and sociopsychological support as pillars for more resilient work environments, promoting equal opportunities, and guiding the strengthening of effective and transparent institutions (UN, 2015).

Table 2 - Analysis of independent factors in predicting well-being, 2024 ( $n = 99$ ).

	$\beta$	<i>p</i> -value	LI (95%)	LS (95%)
(Constant)	2,115	<0.001	1,322	2,908
Job category	-0.365	<0.001	-0.567	-0.164
Marital status	-0.251	0.017	-0.456	-0.046

Multiple linear regression.  $\beta$  represents the standardized coefficient of variation;  $LI$  and  $LS$  are, respectively, the lower and upper limits of the 95% confidence interval for the coefficient  $\beta$ . Significance level  $\alpha = 0.05$ .

The item-by-item analysis (Table 3) reveals relevant nuances. The relationship with management was the best-rated aspect (Item 10:  $4.12 \pm 0.88$ ), suggesting functional and positive interactions between leaders and workers. In contrast, Item 12 ( $2.51 \pm 1.15$ ) presented the lowest score, indicating low affective involvement with the work. Although Items 3 and 7 have averages of 3.00, they are still at the lower limit of involvement, pointing to weak emotional and symbolic identification with the activities performed. These results reinforce that well-being depends not only on the presence of adequate material conditions, but also on the promotion of affective bonds, purpose, recognition, and a sense of belonging—dimensions associated with building more sustainable and humanized organizational environments.

Table 3 - Measures of central tendency, dispersion, and variability of items from IBET-13, 2024 ( $n = 97$ ).

Item	Factor 2 – commitment and satisfaction	$M \pm DP$	$CV$ (%)
01	I am happy with the company where I work.	$3.89 \pm 0.9115$	23.5
02	I am excited about the company where I work.	$3.52 \pm 0.9695$	27.6
04	I am interested in the company where I work.	$3.88 \pm 0.8367$	21.6
05	I am satisfied with my salary compared to my work performance.	$3.15 \pm 1.1667$	37.0
06	I'm excited about the company where I work.	$3.57 \pm 0.9344$	26.2
08	I am satisfied with the level of interest that my tasks generate in me.	$3.55 \pm 0.9792$	27.6
10	I am satisfied with the understanding between myself and my boss.	$4.12 \pm 0.8810$	21.4
11	I am proud of the company where I work.	$3.78 \pm 0.9919$	26.2
13	I am pleased with the opportunities for promotion at this company.	$2.82 \pm 1.1815$	41.8
Item	Factor 1 – engagement with the work	$M \pm DP$	$CV$ (%)
03	The hours I spend working are the best hours of my day.	$3.00 \pm 1.0000$	33.3
07	The greatest satisfactions in my life come from my work.	$3.00 \pm 1.0897$	36.3
09	The most important things that happen in my life involve my work.	$2.77 \pm 1.0558$	38.1
12	I eat, live, and breathe my work.	$2.51 \pm 1.1558$	46.1

**Note:** IBET-13 refers to the Workplace Well-being Inventory.  $M$ : Mean;  $SD$ : Standard Deviation;  $CV$ : Coefficient of Variation.

This pattern is consistent with the “contemporary contradiction of work” described by [author's name] Araújo e Sachuk (2007), whereby while certain work dimensions favor symbolic satisfaction (such as interpersonal relationships and stability), others can produce burnout, especially when there is functional stagnation, rigid bureaucracy, or a lack of professional incentives. The limitation of growth prospects, a recurring trait in the public service, tends to reduce the sense of purpose and negatively affect subjective engagement. In this sense, international recommendations emphasize that sustainable work environments should prioritize opportunities for development, recognition, and active participation of workers in organizational life (UN, 2015).

Table 4 highlights two significant correlations: (i) work engagement is negatively correlated with length of service ( $r = -0.224$ ;  $p < 0.05$ ); and (ii) commitment/satisfaction shows a strong correlation with the overall IBET-13 score ( $r = 0.953$ ;  $p < 0.01$ ). Multiple linear regression indicates that the final model explains 51.1% of the variation in well-being ( $R^2 = 0.511$ ). These findings suggest that, over time, the affective bond tends to decrease. The meaning of work reinforces that, in the face of persistent institutional obstacles, low autonomy, and insufficient symbolic recognition, there is a progressive erosion in the construction of meaning and in the identity integration between the individual and work (Aprilia *et al.*, 2025; Araújo; Sachuk, 2007). This trend is directly related to the goals of SDGs 3.4 and 8.8, which emphasize the need to strengthen protective factors for mental health and decent working conditions (UN, 2015).

Table 4 - Correlation between variables related to well-being, 2024 ( $n = 99$ ).

Variables	Time work	Age	Commitment/ Satisfaction	Involvement/ Work	Score IBET-13
Working time	1				
Age	0.348 **	1			
Commitment/ Satisfaction	-0.099	0.145	1		
Involvement/ Work	-0.224 *	0.239 *	0.637 **	1	
Score IBET-13	-0.151	0.189	0.953 **	0.841 **	1

Note: IBET-13 refers to the Workplace Well-being Inventory. \* =  $p < 0.05$ ; \*\* =  $p < 0.01$ .

This movement finds support in [references] Aprilia *et al.* (2025), which demonstrate that the meaning of work is significantly influenced by psychological capital, but is also sensitive to institutional conditions. While psychological capital strengthens well-being and engagement, the deterioration of organizational conditions tends to reduce involvement, enthusiasm, and satisfaction. The strong correlation between commitment/satisfaction and the overall IBET-13 score confirms that these factors constitute the structuring core of well-being in the institution studied. Psychological well-being at work results from the articulation between satisfaction, commitment, and involvement, functioning as an indicator of organizational health and disposition towards proactive behaviors (Bento; Tontini, 2024).

International literature reinforces that psychological capital (comprising hope, self-efficacy, resilience, and optimism) exerts a positive influence on both the meaning of work and psychological well-being (Aprilia *et al.*, 2025). However, the same study identifies a relevant finding: the meaning of work exerts a direct negative influence on psychological well-being, possibly due to the high centrality of work in the lives of Brazilians and the discrepancy between symbolic expectations and real institutional conditions. This phenomenon is consistent with [reference needed] Borges e Tamayo (2001), who highlight that Brazilian workers attribute high centrality to work, articulating economic and expressive values. When the institutional environment does not meet expectations of development and recognition, this centrality can become a source of frustration and emotional exhaustion. Similarly, Araújo e Sachuk (2007) they emphasize that, although work can be a space for creativity and self-realization, it can also generate objectification and burnout when marked by excessive demands or a lack of appreciation.

Finally, contemporary studies indicate that well-being is a critical determinant of productivity and innovation capacity, especially in public institutions that demand complex cognitive and socio-emotional skills. Therefore, interventions should integrate the development of individual capacities (such as strengthening psychological capital) with the creation of healthy institutional environments characterized by supportive leadership, role clarity, and symbolic recognition (Azizah; Xiang; Hui, 2025). The difference identified between TAEs (Technical-Administrative Employees) and TEs (Technical-Employed Employees) reinforces the need to review public management practices, particularly regarding the distribution of demands, autonomy, opportunities for advancement, and systems of symbolic valuation. These actions are aligned with international guidelines that emphasize the promotion of effective, inclusive, and sustainable institutions.

In summary, the findings show that organizational strategies focused on well-being should prioritize policies that value, recognize, promote professional development, and strengthen socio-emotional skills, aligning with both national and international literature, as well as the SDGs in relation to global recommendations for healthier, more innovative, and socially committed institutions (UN, 2015).

## CONCLUSION

The analysis revealed an intermediate level of well-being at work, with significant differences between TAE (Technical Assistant in Employment) and TE (Technical Assistant in Employment), influenced by professional expectations, workloads, and institutional conditions. Although commitment and satisfaction showed positive scores, the low affective involvement (especially among workers with longer service time) highlights weaknesses associated with bureaucracy, recognition, and development opportunities. The results indicate that personal and organizational factors directly impact the work experience, reinforcing the need for management practices that broaden role clarity, strengthen professional appreciation, and promote more engaging and balanced environments. The use of the IBET-13 proved effective in identifying critical points and guiding actions aimed at improving working conditions and promoting occupational health in the public context. Thus, continuous investment in initiatives that improve the work environment, strengthen professional ties, and promote fairer labor relations contributes not only to the well-being of workers, but also to the consolidation of more responsible and inclusive institutions, better prepared to respond to social demands in a sustainable way, ensuring quality, equity, and institutional continuity over time.

## REFERENCES

- APRILIA, E. D. et al. The role of psychological capital and meaningful work in enhancing well-being. **SA Journal of Human Resource Management**, v. 23, 27 maio 2025. Available at: <<https://sajhrm.co.za/index.php/sajhrm/article/view/2984>>.
- ARAÚJO, R. R.; SACHUK, M. I. Meanings attributed to labor and their implications in contemporary organizations. **REGE - Revista de Gestão**, v. 14, n. 1, p. 53–66, 2007. Available at: <<https://www.spell.org.br/documentos/ver/27572/os-sentidos-do-trabalho-e-suas-implicacoes-na-formacao-dos-individuos-inseridos-nas-organizacoes-contemporaneas>>. Access on: 14 nov. 2025.
- AROLAS, J.; MITEV, N.; VAUJANY, F. Mapping themes in the study of new work practices. **New Technology, Work and Employment**, v. 34, n. 3, p. 285–299, 14 nov. 2019. Available at: <<https://onlinelibrary.wiley.com/doi/10.1111/ntwe.12146>>.
- AZIZAH, S. N.; XIANG, Y.; HUI, Z. Employee wellbeing and work productivity: the role of psychological capital. **Journal Markcount Finance**, v. 3, n. 1, p. 62–73, 13 abr. 2025. Available at: <<https://journal.ypidathu.or.id/index.php/jmf/article/view/2132>>.
- BENTO, G. S.; TONTINI, G. The effect of lean manufacturing practices on employees' well-being mediated by job characteristics. **International Journal of Lean Six Sigma**, v. 15, n. 7, p. 1513–1529, 25 out. 2024. Available at: <<http://www.emerald.com/ijlss/article/15/7/1513-1529/1216481>>.
- BORGES, L. O.; TAMAYO, Á. The cognitive structure of the meaning of work. **Revista Psicologia Organizações e Trabalho**, v. 1, n. 2, 2001. Available at: <<https://pepsic.bvsalud.org/pdf/rpot/v1n2/v1n2a02.pdf>>. Access on: 14 nov. 2025.
- BURAWAT, P. Examining generational differences in the workplace: narcissism, work centrality, and the impact on employee engagement and discretionary effort. **Industrial and Commercial Training**, v. 55, n. 4, p. 509–543, 13 nov. 2023. Available at: <<http://www.emerald.com/ict/article/55/4/509-543/115174>>.
- CEZAR-VAZ, M. R. et al. Occupational well-being of multidisciplinary PHC teams: barriers/facilitators and negotiations to improve working conditions. **International Journal of Environmental Research and Public Health**, v. 19, n. 23, p. 15943, 29 nov. 2022. Available at: <<https://www.mdpi.com/1660-4601/19/23/15943>>.

CORRÊA, J. S. et al. Overview of publications on welfare at work in the last decade (2006–2015): a bibliometric study. **Revista Gestão Organizacional**, v. 9, n. 3, 17 nov. 2017. Available at: <<http://bell.unochapeco.edu.br/revistas/index.php/rgo/article/view/3590>>.

DIENER, E.; SCOLLON, C. N.; LUCAS, R. E. The evolving concept of subjective well-being: the multifaceted nature of happiness. [S.l.]: *Advances in Cell Aging and Gerontology*, 2003. v. 15. p. 187–219. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S1566312403150079>>.

DJANKOV, S. et al. **World Development Report 2019: the changing nature of work**. Washington: World Bank, 2019. Available at: <<https://hdl.handle.net/10986/30435>>.

FERREIRA, D. N. et al. Implications of compulsory retirement by age: reflections and perspectives. **Revista de Terapia Ocupacional da Universidade de São Paulo**, v. 32, n. 1–3, p. e204821, 29 dez. 2022. Available at: <<https://www.revistas.usp.br/rto/article/view/204821>>.

HU, S. et al. The relationship between qualitative job insecurity and subjective well-being in Chinese employees: the role of work–family conflict and work centrality. **Economic and Industrial Democracy**, v. 42, n. 2, p. 203–225, 13 maio 2021. Available at: <<https://journals.sagepub.com/doi/10.1177/0143831X18759793>>.

JUSTEL, A.; PEÑA, D.; ZAMAR, R. A multivariate Kolmogorov-Smirnov test of goodness of fit. **Statistics & Probability Letters**, v. 35, n. 3, p. 251–259, out. 1997. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S0167715297000205>>.

KOLADE, O.; OWOSENI, A. Employment 5.0: the work of the future and the future of work. **Technology in Society**, v. 71, p. 102086, nov. 2022. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S0160791X22002275>>.

LILLIEFORS, H. W. On the Kolmogorov-Smirnov test for normality with mean and variance unknown. **Journal of the American Statistical Association**, v. 62, n. 318, p. 399, jun. 1967. Available at: <<https://www.jstor.org/stable/2283970?origin=crossref>>.

LIM, W. M. The workforce revolution: reimagining work, workers, and workplaces for the future. **Global Business and Organizational Excellence**, v. 42, n. 4, p. 5–10, 30 maio 2023. Available at: <<https://onlinelibrary.wiley.com/doi/10.1002/joe.22218>>.

SANT'ANNA, W. P.; LEMOS, G. C. The affirmation of the centrality of work in the society: a reflection from the work of Ricardo Antunes. **Educação Profissional e Tecnológica em Revista**, v. 2, n. 1, p. 67–83, 15 jun. 2018. Available at: <<https://ojs.ifes.edu.br/index.php/ept/article/view/370>>.

UN. **Transforming our world: the 2030 Agenda for Sustainable Development**. Available at: <<https://sdgs.un.org/2030agenda>>. Access on: 5 jul. 2025.

WANG, L. et al. Migrating between rice and wheat cultures: cultural fit moderates the effect of work centrality on newcomers' job satisfaction in the post-pandemic era. **International Journal of Intercultural Relations**, v. 104, p. 102097, jan. 2025. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S0147176724001664>>.

154. EVOLUTION OF DENGUE IN THE MACRO-REGIONS OF THE STATE OF ESPÍRITO SANTO: A TEMPORAL ANALYSIS OF CLIMATIC CORRELATIONS

*EVOLUÇÃO DA DENGUE NAS MACRORREGIÕES DO ESTADO DO ESPÍRITO SANTO: UMA ANÁLISE TEMPORAL DAS CORRELAÇÕES CLIMÁTICAS*

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**ABSTRACT**

**Introduction:** Dengue fever is a significant public health problem in tropical regions, exhibiting seasonality and territorial variations influenced by climatic factors. In Espírito Santo, environmental differences between macro-regions can result in distinct transmission dynamics. **Objective:** To analyze the temporal evolution of dengue fever and evaluate the association between average temperature, average relative humidity, and disease incidence in the four health macro-regions of Espírito Santo, between 2022 and 2024. **Method:** Temporal ecological study, using epidemiological data from InfoDengue and climatic variables, aggregated by epidemiological week and macro-region. The association between climatic variables and cases was evaluated using Pearson's correlation coefficient, calculated separately for each year and macro-region. Data were treated for outliers, and statistical significance was tested ( $p < 0.05$ ). **Results:** A consistent pattern of strengthening of climatic correlations was identified throughout the study period. Temperature showed a stronger association with cases in the North ( $\rho = 0.28$ ) and South ( $\rho = 0.28$ ) regions, while humidity showed a greater influence in the South region ( $\rho = 0.28$ ). All regions showed a transition from negative or near-zero correlations in 2022 to positive and statistically significant correlations in 2024. **Conclusion:** The results demonstrate spatial heterogeneity in the climatic influence on dengue in the state, with a consistent temporal pattern of strengthening correlations. The South region stood out for the balanced influence of both climatic variables, reinforcing the need for surveillance strategies adapted to regional particularities.

**Keywords:** *Aedes aegypti*. Epidemiology. Public health. Environmental health surveillance. Climate change.

## INTRODUCTION

Dengue fever remains one of the major arboviral diseases of global public health importance, present in more than 100 countries and putting approximately half of the world's population at risk. Characterized by recurrent epidemic cycles, high morbidity, and significant pressure on health services, the disease represents a persistent challenge in tropical and subtropical regions (Messina *et al.*, 2019). Recent estimates point to the continued territorial expansion of the virus and the progressive increase in the number of susceptible individuals, a process closely associated with disordered urban growth, population mobility, and the widespread dissemination of the vector mosquito *Aedes aegypti*, which is highly adapted to the domestic and peri-urban environment.

The epidemiological scenario of dengue fever has undergone significant transformations, with an increase of over 30 times in the number of cases registered in the last 50 years. Current projections indicate that more than 6 billion people could be at risk by 2080, reinforcing the magnitude of the challenge (Paz-Bailey *et al.*, 2024). Dengue fever belongs to the group of arboviruses, consisting of taxonomically diverse viruses transmitted between arthropods and vertebrate hosts (Harapan *et al.*, 2020), standing out for its ability to overburden health systems, cause recurrent epidemics, and generate high economic costs, especially in developing countries (Yadav *et al.*, 2025).

The disease presents a broad clinical spectrum, ranging from asymptomatic infections to severe forms such as hemorrhagic fever and shock syndrome, with case fatality rates that can reach 50% in the absence of adequate treatment (Sah *et al.*, 2023). The significant increase in cases and deaths in recent decades has led the World Health Organization to classify dengue fever among the ten main threats to global health (Ilic; Ilic, 2024; Salehi *et al.*, 2025).

Despite advances in vaccine research and innovative vector control strategies, prevention still fundamentally depends on community engagement, robust epidemiological surveillance, and international cooperation. Climate change and socioeconomic factors complicate effective control, which demands intersectoral and sustainable public policies (Almeida *et al.*, 2025; Lessa *et al.*, 2023; Paz-Bailey *et al.*, 2024). Additionally, rapid urbanization, population growth, increased international travel, and insecticide resistance have favored the expansion of the disease to previously non-endemic regions, including areas of Europe, North America, and Africa (Almeida *et al.*, 2025; Yang *et al.*, 2021).

In the Latin American context, dengue fever exhibits marked seasonality and cyclical fluctuations, determined by an intricate interaction between socio-environmental and climatic factors, which demands continuous monitoring and an organized response capacity from health systems. Climatic variables play a central role in transmission dynamics, directly influencing the vector's life cycle and viral replication. The interaction between temperature, humidity, and precipitation exerts a non-linear and potentiating effect on the risk of transmission, especially under conditions of heat combined with high humidity or precipitation (Xu; Xu; Wang, 2024). These factors modulate larval development time, adult mosquito survival, and hematophagous feeding frequency, with time lags of several weeks commonly observed between climatic changes and the increase in disease incidence, consistent with the duration of the vector's life cycle and the intrinsic and extrinsic incubation periods of the virus.

In Brazil, dengue fever exhibits a heterogeneous spatial distribution, influenced by environmental, sociodemographic, and organizational characteristics of the territories. Incidence tends to be higher in the Southeast and Central-West regions, with transmission peaks during the warmer and more humid periods (Andrioli; Busato; Lee *et al.*, 2021). In Espírito Santo, a persistent transmission pattern predominates, related to the humid tropical climate, high population density, and rapid urbanization (Almeida; Lana; Codeço, 2022). Furthermore, the state has recorded overlapping dengue epidemics with other arboviruses, such as *chikungunya*, *Zika*, and, more recently, *Oropouche*, which reinforces the crucial importance of integrated surveillance (Delatorre *et al.*, 2025; Nodari *et al.*, 2025).

The territory of Espírito Santo is subdivided into macro-regions of health that present distinct environmental conditions, levels of urbanization, and climatic dynamics, constituting a relevant scenario

for comparative analyses. A detailed understanding of these spatial variations is fundamental for planning targeted surveillance and control strategies.

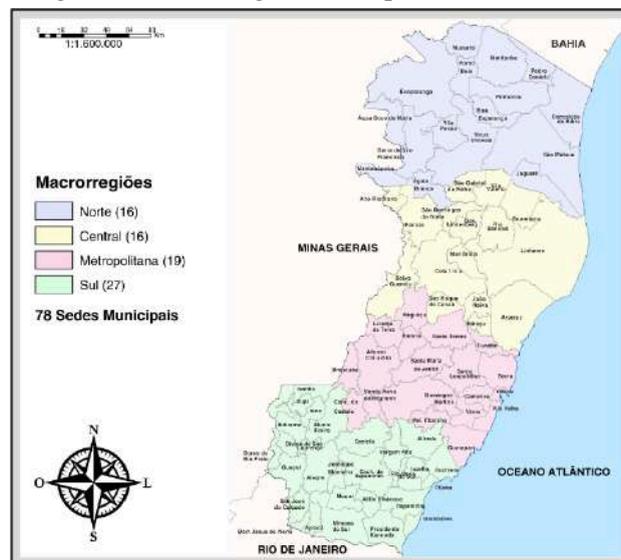
Although monitoring systems like InfoDengue (Codeco *et al.*, 2018) have significantly expanded the capacity for forecasting and tracking transmission, studies comparing the spatiotemporal behavior of dengue fever across macro-regions within the same state, considering both climatic variables and epidemiological indicators, are still scarce. This approach is strategic for supporting differentiated surveillance actions that are sensitive to local environmental and sociodemographic specificities.

Given this context, the objective of this study was to analyze the temporal evolution of dengue fever and evaluate the association between climatic variables (average temperature and average relative humidity) and the incidence of the disease in the four macro-regions of health in the state of Espírito Santo, from 2022 to 2024. By identifying seasonal patterns and regional heterogeneities, the aim is to contribute to the improvement of epidemiological surveillance and vector control strategies adapted to the specific environmental conditions of the Espírito Santo territory.

## METHOD

This is a temporal ecological study conducted in the four health macro-regions of the state of Espírito Santo (Central, Metropolitan, North and South), from 2022 to the end of 2024. Epidemiological data from the InfoDengue platform (available at: <https://info.dengue.mat.br/>) were used, considering the number of reported dengue cases per epidemiological week, subsequently aggregated by year and by health macro-region of the state of Espírito Santo (Central, Metropolitan, North and South) (Figure 1).

Figure 1 - Macroregions of Espírito Santo, Brazil.



Climatic data relating to average temperature (°C) and average relative humidity (%) were obtained for the same spatial and temporal periods. Thus, for each macro-region, three time series were analyzed:

- (i) reported cases of dengue fever;
- (ii) average temperature;
- (iii) average relative humidity.

The time series were organized in the format  $X_t$ , where  $t$  represents each epidemiological week in the study period. To reduce very short-term fluctuations, annual aggregation was used, based on the average of the weeks. The series were inspected for stationarity using the Augmented Dickey–Fuller (ADF) test (Trapletti; Hornik, 1999). Classical additive decomposition was applied to identify temporal structure expressed as in Eq. 1:

$$X_t = T_t + S_t + e_t \quad (\text{Eq.1})$$

Where  $T_t$  represents the trend,  $S_t$  the annual seasonality, and  $e_t$  the stochastic term (noise).

The relationship between climatic variables and dengue incidence was examined using cross-correlation, employing the Cross -*Correlation Function* ( *CCF* ) with lags of up to four weeks (Box *et al.*, 2016). For two series  $X_t$  (climatic variable) and  $Y_t$  (dengue cases), the cross-correlation coefficient for a lag  $k$  was defined, as shown in Eq. 2:

$$r_{XY}(k) = \frac{\sum_t (x_t - \bar{x})(y_{t+k} - \bar{y})}{\sqrt{\sum_t (x_t - \bar{x})^2 \sum_t (y_{t+k} - \bar{y})^2}} \quad (\text{Eq.2})$$

Where  $\bar{x}$  and  $\bar{y}$  represent the averages of the series. Positive values indicate that increases in the climate variable precede increases in dengue cases after  $k$  weeks.

The analyses were conducted in the R statistical environment (R Core Team, version 4.5.2). The main libraries used included: readxl for data import, dplyr and tidyr for data organization and manipulation, lubridate for temporal standardization, forecast and tseries for time series modeling, and ggplot2 for graphical visualizations.

The data used is publicly available and aggregated, preventing the identification of individuals and exempting the research from submission to an ethics committee.

## RESULTS AND DISCUSSION

This study analyzed the association between climatic variables and the incidence of dengue fever at a macro-regional level in Espírito Santo, revealing a consistent seasonal pattern, but with distinct environmental determinants among the regions. The analysis using the Cross - *Correlation Function* ( *CCF* ) demonstrated that the relationship between climate and dengue is not only significant but also geographically heterogeneous, with an increase in incidence mainly in the warmer and more humid months, a pattern widely recognized in the epidemiological dynamics of dengue in tropical regions (Messina *et al.*, 2019), with lag patterns and strength of association that vary according to the macro-region (Table 1).

**Table 1** - Maximum cross- correlation (  $\rho$  ) between climatic variables and dengue cases, with the respective time lag ( *in* weeks), by health macro-region, Espírito Santo, 2022-2024.

Macroregion	Correlation (Temperature x Cases)	Correlation (Humidity x Cases)
Note	$\rho = 0.28$ ( lag 4)	$\rho = 0.23$ ( lag 0)
South	$\rho = 0.28$ ( lag 0)	$\rho = 0.28$ ( lag 3)
Central	$\rho = 0.25$ ( lag 0)	$\rho = 0.23$ ( lag 3)
Metropolitan	$\rho = 0.23$ ( lag 1)	$\rho = 0.16$ ( lag 1)

Note:  $\rho$  indicates the maximum correlation coefficient estimated in the cross-correlation analysis. *lag* corresponds to the time lag, in weeks, between the climatic variation and the incidence of dengue. Epidemiological and climatic data obtained from the InfoDengue platform (<https://info.dengue.mat.br/>), aggregated by macro-region of the state of Espírito Santo. Positive correlations indicate an increase in incidence associated with an increase in the climatic variable.

The Northern macroregion presented the most classic association described in the literature, with temperature exerting a greater influence on the incidence of dengue after a four-week lag. This *lag* is biologically plausible, as it corresponds to the time required for an increase in temperature to

accelerate the larval development of *Aedes aegypti*, reduce the extrinsic incubation period of the virus, and culminate in an increase in the population of infective mosquitoes, leading to an increase in human cases. This finding is aligned with those of Xu *et al.* (2024), who highlight the non-linear and potentiating effect of heat on transmission.

In contrast, the Southern and Central macro-regions exhibited correlations of similar magnitude between temperature and humidity, but with distinct temporal patterns. In the Southern region, humidity showed a correlation with a three-week lag, while in the Central region, temperature showed an immediate correlation (*lag* 0). This subtle difference may reflect particularities in urban structure, vegetation cover, or even the response capacity of surveillance services, which can dampen or accelerate the spread of an outbreak after a climatic stimulus. Almeida *et al.* (2022) had already pointed to the persistence of transmission in the state related to specific territorial factors, and our data corroborate that this heterogeneity extends to climatic drivers.

The most unique pattern was observed in the Metropolitan macro-region, which presented the lowest correlations and the shortest lags (*lag* 1 for both variables). This is a crucial finding, as it suggests that in environments of intense urbanization, high population density, and possibly higher baseline vector infestation (characteristics of the metropolitan region), the dynamics of dengue transmission become less dependent on punctual climatic fluctuations and more sustained by sociodemographic factors and human connectivity. Lessa *et al.* (2023) discuss how population mobility in dense urban areas can maintain transmission chains independently of ideal climatic oscillations, creating a more constant transmission pattern.

The average lag of three to four weeks observed in the North, South, and Central regions is consistent with findings from national studies, such as those reported by Stolerman, Maia, and Kutz (2019), reinforcing the existence of a window of opportunity for the implementation of early warning systems based on climate data. However, the immediate (*lag* 0) and short-term (*lag* 1) association found in some regions indicates that, in certain contexts, the surveillance system should be prepared for an even more agile response.

Our results have direct implications for public health planning. Uniform control strategies across the state may be less efficient than regionalized actions. For example: (i) in the North macro-region, temperature increase alerts can trigger vector control actions 3–4 weeks in advance, as already evidenced by Stolerman, Maia and Kutz (2019); (ii) in the South and Central macro-regions, monitoring should be equally attentive to temperature and humidity; and (iii) in the Metropolitan macro-region, control actions cannot be reactive to the climate, but must be continuous and focused on urban environmental management and the control of perennial breeding sites.

It is important to acknowledge the limitations of this analysis. The use of secondary data aggregated by macro-region may mask important internal variations. Furthermore, other variables, such as precipitation, building infestation index (BII), and population mobility data, were not included in this initial model and could improve the predictive power of future analyses.

## CONCLUSION

The study showed that the influence of climatic variables on dengue fever in Espírito Santo was significant, heterogeneous across macro-regions, and showed a strengthening trend between 2022 and 2024. Temperature had a greater impact in the North and South regions, while relative humidity played a more relevant role in the South and Central regions. The Metropolitan region, however, showed smaller and shorter-term correlations, suggesting that its transmission tends to be less dependent on climatic fluctuations. These findings confirm that the relationship between climate and dengue fever in the state is dynamic and specific to each macro-region, reinforcing the importance of differentiated surveillance strategies according to the epidemiological profile of each area.

## REFERENCES

- ALMEIDA, I. F.; LANA, R. M.; CODEÇO, C. T. How heterogeneous is the dengue transmission profile in Brazil? A study in six Brazilian states. **PLOS Neglected Tropical Diseases**, v. 16, n. 9, p. e0010746, 12 set. 2022. Available at: <<https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0010746>>. Access on: 15 nov. 2025.
- ALMEIDA, M. T. et al. Latin America's dengue outbreak poses a global health threat. **Viruses**, v. 17, n. 1, p. 57, 1 jan. 2025. Available at: <<https://www.mdpi.com/1999-4915/17/1/57>>.
- ANDRIOLI, D. C.; BUSATO, M. A.; LUTINSKI, J. A. Spatial and temporal distribution of dengue in Brazil, 1990–2017. **PLOS ONE**, v. 15, n. 2, p. e0228346, 13 fev. 2020. Available at: <<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0228346>>. Access on: 15 nov. 2025.
- BOX, G. E. P. et al. **Time series analysis: forecasting and control**. Hoboken: John Wiley & Sons, 2016.
- CODECO, C. et al. Infodengue: a nowcasting system for the surveillance of arboviruses in Brazil. **Revue d'Épidémiologie et de Santé Publique**, v. 66, p. S386, jul. 2018. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S0398762018311088>>.
- DELATORRE, E. et al. Emergence of oropouche virus in Espírito Santo state, Brazil, 2024. **Emerging Infectious Diseases**, v. 31, n. 6, p. 1178–1188, jun. 2025. Available at: <[https://wwwnc.cdc.gov/eid/article/31/6/24-1946\\_article](https://wwwnc.cdc.gov/eid/article/31/6/24-1946_article)>.
- HARAPAN, H. et al. Dengue: a minireview. **Viruses**, v. 12, n. 8, p. 829, 30 jul. 2020. Available at: <<https://www.mdpi.com/1999-4915/12/8/829>>.
- ILIC, I.; ILIC, M. Global patterns of trends in incidence and mortality of dengue, 1990–2019: an analysis based on the global burden of disease study. **Medicina**, v. 60, n. 3, p. 425, 1 mar. 2024. Available at: <<https://www.mdpi.com/1648-9144/60/3/425>>.
- LEE, S. A. et al. Effect of climate change, connectivity, and socioeconomic factors on the expansion of the dengue virus transmission zone in 21st century Brazil: an ecological modelling study. **The Lancet Planetary Health**, v. 5, p. S14, abr. 2021. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S254251962100098X>>.
- LESSA, C. L. S. et al. Dengue as a disease threatening global health: a narrative review focusing on Latin America and Brazil. **Tropical Medicine and Infectious Disease**, v. 8, n. 5, p. 241, 23 abr. 2023. Available at: <<https://www.mdpi.com/2414-6366/8/5/241>>.
- MESSINA, J. P. et al. The current and future global distribution and population at risk of dengue. **Nature Microbiology**, v. 4, n. 9, p. 1508–1515, 10 jun. 2019. Available at: <<https://www.nature.com/articles/s41564-019-0476-8>>.
- NODARI, J. Z. et al. Genomic and epidemiologic investigation of arboviral coinfections, Espírito Santo, Brazil. **American Journal of Infection Control**, v. 53, n. 11, p. 1177–1182, nov. 2025. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S019665325005206>>.
- PAZ-BAILEY, G. et al. Dengue. **The Lancet**, v. 403, n. 10427, p. 667–682, fev. 2024. Available at: <<https://linkinghub.elsevier.com/retrieve/pii/S014067362302576X>>.
- SAH, R. et al. Dengue virus and its recent outbreaks: current scenario and counteracting strategies. **International Journal of Surgery**, v. 109, n. 9, p. 2841–2845, set. 2023. Available at: <<https://journals.lww.com/10.1097/JS9.000000000000045>>.

SALEHI, M. et al. Global dengue fever management in health systems: identifying strategies, challenges and solutions – a scoping review protocol. **BMJ Open**, v. 15, n. 4, p. e097085, 25 abr. 2025. Available at: <<https://bmjopen.bmj.com/lookup/doi/10.1136/bmjopen-2024-097085>>.

STOLERMAN, L. M.; MAIA, P. D.; KUTZ, J. N. Forecasting dengue fever in Brazil: an assessment of climate conditions. **PLOS ONE**, v. 14, n. 8, p. e0220106, 8 ago. 2019. Available at: <<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0220106>>. Access on: 19 nov. 2025.

TRAPLETTI, A.; HORNIK, K. tseries: time series analysis and computational finance. **CRAN: Contributed Packages**. [S.l: s.n.]. Available at: <<https://CRAN.R-project.org/package=tseries>>. , 9 jul. 1999

XU, C.; XU, J.; WANG, L. Long-term effects of climate factors on dengue fever over a 40-year period. **BMC Public Health**, v. 24, n. 1, p. 1451, 30 maio 2024. Available at: <<https://bmcpublikealth.biomedcentral.com/articles/10.1186/s12889-024-18869-0>>.

YADAV, S. et al. Acute kidney injury In dengue fever, one year hospital based cross sectional study. **Journal of Infectious Diseases**, v. 10, n. 1, p. 1–14, 14 abr. 2025. Available at: <<https://directivepublications.org/joid/articles/Acute-kidney-injury-in-Dengue-Fever-one-year-Hospital-based-cross-sectional-study.pdf>>.

YANG, X. et al. Global burden for dengue and the evolving pattern in the past 30 years. **Journal of Travel Medicine**, v. 28, n. 8, 29 dez. 2021. Available at: <<https://academic.oup.com/jtm/article/doi/10.1093/jtm/taab146/6368502>>.