HOSPITALIZATIONS FOR SEXUAL VIOLENCE AMONG CHILDREN IN SOUTHERN BRAZIL: A COMPARATIVE ANALYSIS OF PANDEMIC AND POST-PANDEMIC PERIODS

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ABSTRACT

Objective: To analyze hospitalizations related to sexual violence among children and adolescents in Southern Brazil during the COVID-19 pandemic (2020–2021) and post-pandemic (2022–2023) periods, identifying demographic and clinical patterns and assessing possible changes over time. Method: This was a cross-sectional, population-based study using secondary data from the Hospital Information System (SIH) of Brazil's Unified Health System (SUS), accessed via DATASUS. The analysis included hospitalizations of individuals aged 0-14 years from Paraná, Santa Catarina, and Rio Grande do Sul between January 2020 and December 2023. Hospitalizations were identified by specific ICD-10 codes related to sexual violence. Sociodemographic and clinical variables were compared between the two periods using Chi-square and Mann–Whitney U tests, with a significance level of $p<0.05$. Results: A total of 550 hospitalizations were recorded: 230 during the pandemic and 320 post-pandemic. Most victims were female (82%), with a mean age of 6.88 years. Children under 10 years old represented the majority of cases. The average age was significantly lower among boys (5.82 ± 3.25) than girls (7.08 ± 4.09; $p = 0.01$). No statistically significant differences were found in sex or race distribution across periods. Although the average hospital stay was shorter post-pandemic (2.24 vs. 2.56 days; $p = 0.03$), the absolute difference was small. No ICU admissions, surgical procedures, or in-hospital deaths were recorded. Conclusion: The findings highlight the persistence of sexual violence in pediatric populations, particularly among younger children and girls. Strengthening early detection strategies and intersectoral protective networks is essential to improve response and care.

KEYWORDS: Child Sexual Abuse; Covid-19; Hospitalization; Pandemic; Public Health

1 INTRODUCTION

Sexual violence against children and adolescents represents a critical public health concern, with profound repercussions on victims' physical, psychological, and social development. During the COVID-19 pandemic, various aspects of health care - including the identification and response to child abuse - were significantly disrupted. Social isolation, the closure of schools and support centers, and the weakening of protective networks, combined with widespread fear and uncertainty, created a complex environment in which sexual violence did not necessarily decline but became increasingly difficult to detect and report. This context underscores the importance of investigating how confinement influenced reporting dynamics, hospitalization patterns, and victim profiles, in order to guide more effective public health interventions (Ferreira, 2021; Baron et al., 2020).

Social distancing measures and the interruption of educational and welfare services substantially reduced opportunities for detection, reporting, and intervention. Many victims were confined with their perpetrators, a circumstance that may have exacerbated both the frequency and severity of abuse while simultaneously reducing its visibility. In addition, limited

access to health services during the pandemic may have contributed to a decrease in hospital admissions related to sexual violence, not due to a decline in incidence, but rather as a result of underreporting and underdiagnosis (McBenedict, 2024; Oliveira et al., 2014). Studies conducted in Brazil, including that by Ferreira et al. (2021), reported a significant drop in notifications of violence against children and adolescents during the peak of the pandemic, followed by a sharp increase after the relaxation of public health restrictions. These findings suggest that although medical consultations and hospitalizations decreased, the actual number of victims likely remained stable or even increased, revealing systemic shortcomings in mechanisms of identification and response (Gracia et al., 2018).

Younger children, particularly those aged 0 to 4 years, are disproportionately affected by sexual violence due to their complete dependence on family members and caregivers, rendering them especially vulnerable to intrafamilial abuse. Children aged 5 to 10 years also constitute a significant portion of victims; however, the school environment—although disrupted during the pandemic—typically serves as a key setting for the detection of abuse by educators and healthcare professionals (Lucânia et al., 2008; Pfeiffer; Salvagni, 2005). Understanding the age distribution of victims is essential for the development of targeted prevention strategies and responsive support services. Policies tailored to different developmental stages and specific vulnerabilities are critical to enhancing the identification of cases and the quality of care (Pinto Junior, 2005; Gracia et al., 2018).

Gender disparities are also prominent in reported cases of sexual violence, with the majority involving female victims. Previous studies have shown that girls account for between 64.2% and 91.5% of all reported cases (Ferriani et al., 2004; Lucânia et al., 2008). While these figures likely reflect genuine differences in risk exposure, they are also influenced by sociocultural norms that more readily recognize and validate sexual violence against girls. In contrast, boys often face stigma, shame, and fear of disbelief, which hinder disclosure and contribute to the chronic underestimation of their victimization (Pfeiffer; Salvagni, 2005; Pinto Junior, 2005). As a result, sexual violence against boys tends to be less visible, thereby complicating the development and implementation of effective public policies aimed at this group (Baron et al., 2020).

In this context, analyzing hospital admission data during the COVID-19 pandemic and the subsequent post-pandemic period is essential for understanding how systemic disruptions affected the detection, reporting, and treatment of sexual violence against children. By comparing the periods of 2020–2021 (pandemic) and 2022–2023 (post-pandemic), this study seeks to identify shifts in hospitalization patterns, victim demographics, and diagnostic characteristics. Such comparisons are critical for assessing the long-term impact of public health emergencies on child protection and for informing the development of resilient, responsive strategies capable of safeguarding children in both crisis and recovery phases. Understanding these temporal dynamics supports evidence-based policymaking and helps ensure that structural vulnerabilities exposed by the pandemic are not perpetuated in the aftermath.

2 MATERIALS AND METHODS

This is a cross-sectional, population-based study using secondary data extracted from the Hospital Information System (Sistema de Informações Hospitalares - SIH) of Brazil's Unified Health System (Sistema Único de Saúde – SUS), publicly available through the Department of Informatics of the Brazilian Ministry of Health (DATASUS). The SIH/DATASUS database includes hospitalizations reimbursed by SUS, covering approximately 80% of the Brazilian population and serving as a reliable source for monitoring public health trends

(McBenedict, 2024). Data were accessed and processed using the microdatasus package in RStudio (version 4.2).

Hospitalizations recorded between January 2020 and December 2023 were analyzed. The study period was divided into two time frames: the pandemic period (January 2020 – December 2021) and the post-pandemic period (January 2022 – December 2023), based on the epidemiological context and public health restrictions implemented in Brazil. Only cases from the three southern states of Brazil—Paraná, Santa Catarina, and Rio Grande do Sul—were included.

The analysis was restricted to individuals aged 0 to 14 years, corresponding to the pediatric population. Hospitalizations were included if the primary or secondary diagnosis field contained one or more of the following ICD-10 codes related to sexual violence: T74.2 (sexual abuse), Z61.4 (problems related to alleged sexual abuse of a child by a person within the primary support group), Z61.5 (problems related to alleged sexual abuse of a child by a person outside the primary support group), and Y05 (sexual assault by bodily force), as defined in the 10th revision of the International Classification of Diseases (ICD-10).

The following variables were analyzed: (1) Demographic variables: age, sex, race/color, and nationality; (2) Hospitalization-related variables: length of stay (in days), type of hospitalization, ICU requirement, ICD-10 code, total hospitalization cost (in Brazilian reais), and mortality; and (3) Geographic variable: state of hospitalization.

Descriptive statistics were calculated for all variables. Continuous variables were tested for normality using the Shapiro–Wilk test. As none of the continuous variables exhibited a normal distribution, comparisons between the pandemic and post-pandemic periods were conducted using the Mann–Whitney U test. Categorical variables were analyzed using the Chi-square test or Fisher's exact test, as appropriate. Pairwise post hoc comparisons with Bonferroni correction were performed when applicable. A p-value < 0.05 was considered statistically significant. All statistical analyses were conducted using RStudio (version 4.2).

3 RESULTS AND DISCUSSION

A total of 550 hospitalizations related to sexual violence were recorded among the pediatric population throughout the study period, with 230 cases occurring in the pandemic period (2020–2021) and 320 in the post-pandemic period (2022–2023).

The overall mean age of hospitalized patients was 6.88 years (± 4.0; range: 0.17–14 years). The number of hospitalizations was substantially higher among females (n = 451; 82%) than males (n = 99; 18%), a statistically significant difference ($p<0.01$). However, no significant difference in sex distribution was observed between the two time periods analyzed (Table 1).

Table 1 - Sociodemographic and hospitalization characteristics of pediatric patients hospitalized for sexual violence in Southern Brazil, by period (2020–2021 vs. 2022–2023)

VARIABLE	2020/2021	2022/2023	p value
STATE			
PR	108	187	

SC	49	37	
RS	73	96	
SEX			0.36
Male	46	53	
Female	184	267	
AGE			0.92
0-4 years	86	119	
5-10 years	87	117	
11-14 years	57	84	
RACE/COLOR			0.63
Caucasian	132	213	
Asian	39	68	
Afro-descendant	10	13	
Mixed race	0	3	
Indigenous	0	2	
LENGTH OF HOSPITAL STAY	2.56	2.24	0.03
HOSPITALIZATION COST (USD)	38.46	44.64	0.87

Source: DATASUS

The mean age of patients remained consistent across periods, with an average of 6.77 years during the pandemic and 6.90 years in the post-pandemic period (p = 0.90). When

stratified by age group (0–4, 5–10, and 11–14 years), a statistically significant difference was found in the overall distribution of hospitalizations between 2020 and 2023 ($p < 0.01$), with children aged 11 years or older accounting for proportionally fewer admissions than younger children.

When age was analyzed by sex, male patients had a significantly lower mean age (5.82 ± 3.25 years) compared to females (7.08 ± 4.09 years), with this difference reaching statistical significance ($p=0.01$).

Although a statistically significant reduction in the average length of hospital stay was observed in the post-pandemic period (2.56 vs. 2.24 days; $p = 0.03$), the absolute difference was small and likely of limited clinical relevance. Likewise, no significant difference was found in total hospitalization cost (USD 38.46 vs. 44.64; $p = 0.87$).

No hospitalizations for sexual violence among children in Southern Brazil between 2020 and 2023 were recorded as requiring admission to an intensive care unit (ICU), according to data from the SIH-Datasus system. Similarly, no admissions to intermediate care units (UCI) were reported during the study period. Additionally, no surgical procedures were performed, and no in-hospital deaths were recorded in either the pandemic or post-pandemic period.

3 DISCUSSION

Studies conducted in Brazil, such as that by Ferreira (2021), indicate a substantial decrease in reports of violence against children and adolescents during the peak of the COVID-19 pandemic, followed by a significant increase after the relaxation of public health measures. This trend aligns with our findings: although hospitalizations declined during the pandemic, likely due to underreporting and limited access to services (Gracia et al., 2018), there was a notable increase in the post-pandemic period.

The majority of victims were female, which is consistent with previous studies reporting similar or higher proportions (Ferriani et al., 2004; Lucânia et al., 2008). Although underreporting among boys is a concern—linked to stigma, masculinity norms, and fear of disbelief (Baron et al., 2020)—the observed disparity appears to reflect a real difference in exposure risk. Girls may be more vulnerable due to sociocultural factors and greater exposure to abusive domestic settings. Additionally, they often benefit from more consistent contact with protection networks in schools and health services (Pfeiffer & Salvagni, 2005; Pinto Junior, 2005).

Although a statistically significant reduction in average hospital stay was observed in the post-pandemic period (2.56 vs. 2.24 days; $p = 0.03$), the absolute difference was minimal and probably lacks clinical relevance. No significant changes were found in racial distribution or hospitalization costs across periods.

The division of the analysis into pandemic and post-pandemic periods was essential for understanding how systemic disruptions influenced child protection. Although the total number of cases increased, the demographic profile of victims remained practically unchanged. The lower average age among boys (5.82 vs. 7.08 years) may reflect developmental factors, such as increasing awareness and autonomy with age, which could reduce risk or facilitate recognition of abuse (Hohendorff et al., 2012).

Finally, this study has limitations inherent to the use of secondary data, particularly regarding the completeness and granularity of clinical records. Nevertheless, it offers a robust population-based overview of hospitalizations due to sexual violence in children and adolescents in Southern Brazil and reinforces the urgency of strengthening integrated detection, reporting, and support systems—especially during times of public health crisis.

4 CONCLUSION

This population-based study revealed an increase in hospitalizations for sexual violence among children and adolescents in Southern Brazil during the post-pandemic period compared to the pandemic years, suggesting that systemic disruptions may have hindered detection and reporting during the health crisis. Younger children—especially those under 10 years of age—were disproportionately affected, and most victims were female, consistent with pre-existing literature. Although hospitalization rates increased, there were no significant differences in the length of stay, racial distribution, or hospital costs between periods. These findings underscore the need for robust, resilient public policies focused on prevention, early detection, and professional training. Intersectoral collaboration between health, education, and social protection services is essential to ensure timely identification and comprehensive care for affected children and adolescents, both during public health emergencies and in routine care settings.

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