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Epidemiological analysis of sexual violence against pregnant women in the city of São Paulo over the last 10 years

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ABSTRACT

OBJECTIVE

To analyze the epidemiological profile of sexual violence against pregnant women in São Paulo.

METHODS

This epidemiological study was conducted using data from TabNet São Paulo, considering information on sexual violence against pregnant women in the municipality of São Paulo from 2015 to 2024, correlating the variables gestational trimester (GT), education level, age group, race, and regional administration.

RESULTS AND DISCUSSION

During the analyzed period, 3,523 pregnant women were victims of sexual violence. Most victims were white (41.81%), followed by mixed-race (37.25%) and black (16.30%) women, suggesting under reporting among ethnic-racial minorities. Approximately 61.22% of the victims were aged 20–34 years, followed by 35–49 years (14.95%), 15–19 years (14.54%), 10–14 years (9.16%), and 50–64 years (0.12%), aligning with the peak female fertility age group. Only 30.86% had completed high school, followed by those with higher education (11.25%), completed elementary education (5.39%), and illiterates (0.43%), highlighting a significant factor of social and interpersonal challenges in relationships. Additionally, 72.35% of cases occurred in the first GT, a period of greater maternal-fetal risk, followed by the second GT (16.95%) and, lastly, the third GT (6.995%). Limitations, such as the high rate of missing fields in TabNet, impaired the accuracy of location data analyses, with over 70% of blank data.

CONCLUSION

The results indicate a higher number of reported cases of sexual violence against pregnant women aged 20–34, predominantly white or mixed-race, with a prevalence among women with completed high school education, occurring in the first GT. The findings underscore the urgency of public policies aimed at protecting pregnant women, focusing on the identification of cases.

DESCRIPTORS

Pregnancy; Gestation; Sexual abuse; Violence.

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1 INTRODUCTION

Declared during the 49th World Health Assembly as one of the major global public health problems, violence entails a series of consequences for health, as well as psychological and social development, representing a risk at both individual and community levels.[1] Divided into various categories, violence against pregnant women becomes particularly relevant due to its numerous consequences on maternal and neonatal mortality, requiring greater attention.[2]

According to the World Health Organization (WHO), approximately 1 in 5 women experiences some form of violence during their lifetime, and the prevalence of intimate partner violence during pregnancy can range from 1% to 28% when compared across different countries.[2,3] However, in Brazil, only about 8% of pregnant women report such incidents.[4]

Furthermore, due to the increased vulnerability of women during pregnancy, experiencing violence during this period leads to consequences for both the mother and the baby. The study by Audi *et al*. demonstrated that pregnant women who are victims of violence tend to have greater difficulty attending prenatal care,[5,6] with 6.5% of them reporting having experienced physical or sexual violence.[5]

Similarly, pregnant women who have experienced abuse are 2.5 times more likely to develop depression compared to those who have not been abused, as well as a higher propensity for tobacco, alcohol, and illicit drug use.[5,6] Moreover, the experience of abuse is also associated with the occurrence of low birth weight, preterm birth, miscarriage, and neonatal death.[7]

In this context, it is important to analyze the sociodemographic factors related to the profile of pregnant women who suffer sexual violence in the city of São Paulo, once this can serve as a tool for the development of public policies aimed at this segment of population. Therefore, the objective of this study was to analyze the epidemiological profile of sexual violence against pregnant women in the city of São Paulo from 2015 to 2024.

2 MATERIALS AND METHODS

2.1 Study design

This is an epdemiological study with a quantitative approach, developed trhough exploratory documentary research.

2.2 Data Collection, variables and analysis of results

The information was collected regarding pregnant women who suffered sexual violence from July 2015 to June 2024 in the city of São Paulo. For this, data from the TabNet database of the Hospital Information System (SIH) was used, which provides access to information on interpersonal violence in the state and municipality of São Paulo. The study considered the variables of race/color, age group, education level, gestational trimester, and regional municipality.

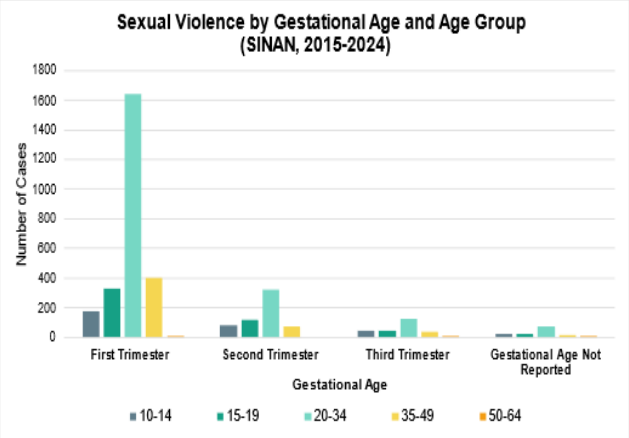
Data analysis was conducted using spreadsheet tools. The analysis steps included data preparation, which involved the removal of duplicate or incomplete records and the organization of data into tables and bar charts to visualize variations over the analyzed period.

3 RESULTS AND DISCUSSION

The total number of pregnant women who suffered sexual violence recorded in the TabNet São Paulo database from July 2015 to June 2024 was 3,529. However, 6 notifications related to pregnant women aged 65 and above were excluded, resulting in 3,523 notifications.

Regarding the age group of pregnant women, according to the classification of SINAN (*Sistema de Informações de Agravos de Notificação*), the age group with the highest number of recorded cases was between 20 and 34 years (2,157 ≈ 61.22%), followed by 35 and 49 years (527 ≈ 14.95%), 15 and 19 years (512 ≈ 14.54%), 10 and 14 years (323 ≈ 9.16%), and between 50 and 64 years (4 ≈ 0.12%) as the least recorded (Figure 1). The data found regarding this variable align with what was proposed by Shamu *et al*. (2011),[8] who state that younger women have a significantly higher risk of experiencing sexual violence during pregnancy. This finding can be explained by the fact that the two age groups with the highest number of notifications are directly related to the peak of female fertility.[9]

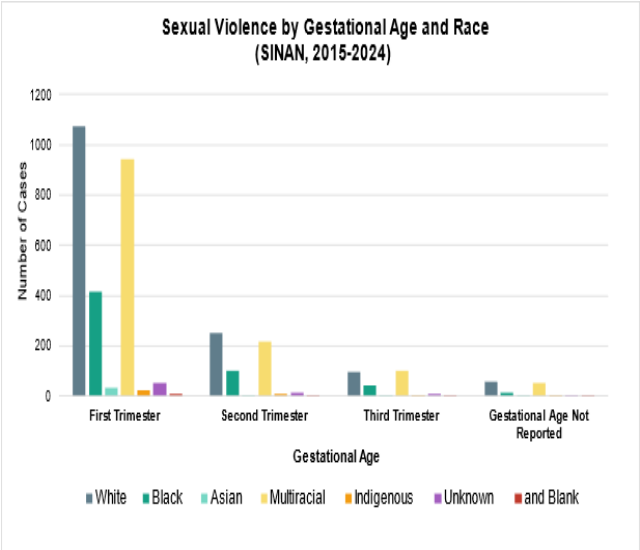
Figure 1 – Sexual Violence in Pregnant Women by Age Group and Gestational Age



Source: authors (2024)

According to the racial distribution of pregnant women who were victims of sexual violence in the city of São Paulo, the white ethnicity was the most prominent (1,473 ≈ 41.81%), followed by mixed race (1,312 ≈ 37.25%), black (574 ≈ 16.30%), yellow (39 ≈ 1.10%), and the least represented were indigenous women (38 ≈ 1.08%). Some records were ignored or left blank, accounting for (74 ≈ 2.10%) and (13 ≈ 0.37%), respectively (Figure 2).

Figure 2 – Sexual Violence in Pregnant Women by Race SINAN and Gestational Age



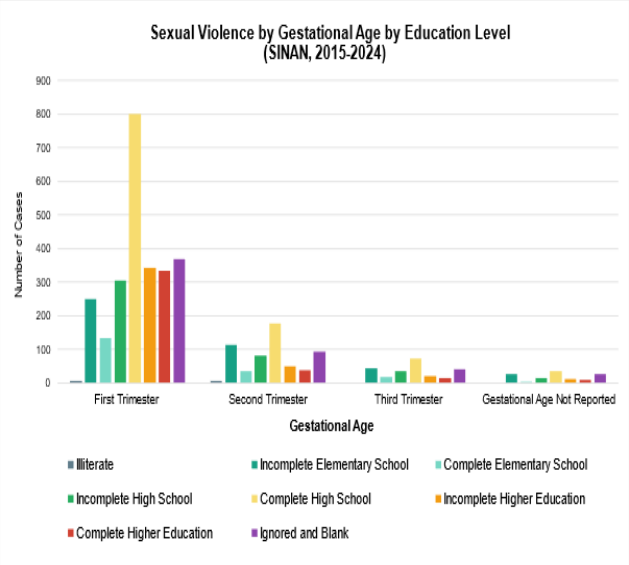
Source: authors (2024)

Furthermore, it is evident that ethnic-racial minorities, particularly black women, have a social vulnerability profile compared to other ethnicities, as described in the study by Garcia and Silva (2018).[10] The study indicates that black women account for 70% of the victims of violence in Brazil. However, in the present study, the percentage of pregnant women who suffered sexual violence was higher among white women compared to the other ethnicities analyzed. This data may be related to underreporting due to inequality in access to and the quality of prenatal care.[11] It is important to highlight that public prenatal care services contribute to the identification of women experiencing violence during pregnancy.[7]

In the analysis of the education level of these pregnant women, the majority had completed high school, corresponding to (1,089 ≈ 30.86%), followed by women with incomplete high

school (438 ≈ 12.42%), incomplete higher education (428 ≈ 12.13%), completed higher education (397 ≈ 11.25%), incomplete 5th to 8th grade (313 ≈ 8.87%), elementary school (190 ≈ 5.39%), completed 4th grade (63 ≈ 1.79%), incomplete 1st to 4th grade (59 ≈ 1.68%), and illiterate women (15 ≈ 0.43%). Finally, 431 ≈ 12.22% of the records had missing education data, and 106 ≈ 3% were left blank (Figure 3).

Figure 3 - Sexual Violence in Pregnant Women by Education Level and Gestational Age

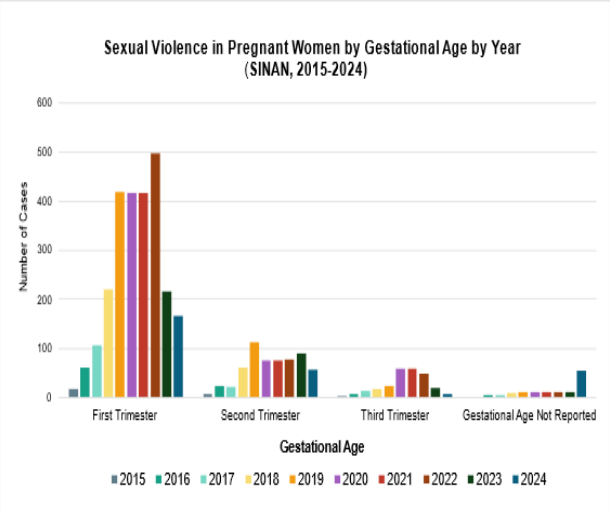


Source: authors (2024)

Regarding education level, the majority of pregnant women who suffered sexual abuse had low education levels. According to Viellas *et al.* (2013),[12] The main explanations for the association between violence and the formal education of pregnant women highlight that lower levels of education may create difficulties in interpersonal relationships between partners, due to the interference in resolving daily adversities, leading to violent episodes such as sexual assault.

Regarding the gestational age variable, cases of violence were identified, with the majority occurring in the first trimester (2,552 ≈ 72.35%), followed by the second trimester (598 ≈ 16.95%), and lastly, the third trimester (247 ≈ 6.99%). The percentage of cases with unknown gestational age was 132, corresponding to 3.74%. This information aligns with the study by Sanchez *et al.* (2023),[13] in which the majority of violence against pregnant women occurred in the first trimester (Figure 4).

Figure 4 - Sexual Violence in Pregnant Women by Gestational Age by Year



Source: authors (2024)

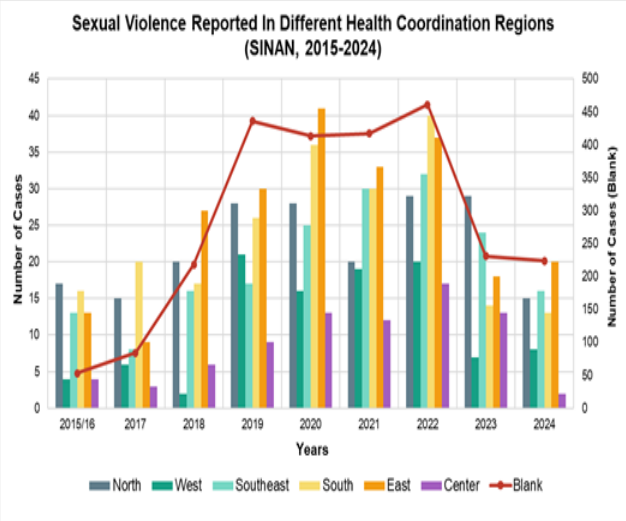
To delimit the areas in the city of São Paulo with the highest notifications of sexual violence against pregnant women, the variable "Regional Municipality of Occurrence" from the Tabnet São Paulo database was used. However, the available data proved inconclusive for any critical analysis, as more than 70% of the notifications from July 2015 to June 2024 had the location fields marked as "Blank" (Table 1). Therefore, the variable "Health Coordination of Occurrence," also present in Tabnet São Paulo, was used. The data did not differ from the previous collection, with the vast majority of notifications having the location field left blank (Figure 5).

Table 1 - Cases of Sexual Violence Against Pregnant Women by Regional Municipality of Occurrence, (SINAN, 2015-2024)

Regional Prefecture of Occurrence	Notifications (2015-2024) and (%) Relative Frequency of Notifications with Location (28.4% of Total Notifications)
ARICANDUVA/FORMOSA/CARRÃO	13 (1.3%)
BUTANTÃ	53 (5.29%)
CAMPO LIMPO	49 (4.9%)
CAPELA DO SOCORRO	47 (4.7%)
CASA VERDE/CACHOEIRINHA	34 (3.4%)
CIDADE ADEMAR	24 (2.4%)
CIDADE TIRADENTES	40 (4%)
ERMELINO MATARAZZO	14 (1.4%)
FREGUESIA/BRASILÂNDIA	29 (2.9%)
GUAIANASES	17 (1.7%)
IPIRANGA	41 (4.1%)
ITAIM PAULISTA	43 (4.3%)
ITAQUERA	52 (5.19%)
JACANA/TREMEMBÉ	10 (1%)
JABAQUARA	27 (2.7%)
LAPA	58 (5.79%)
M'BOI MIRIM	37 (3.7%)
MOOCA	58 (5.79%)
PARELHEIROS	23 (2.3%)
PENHA	25 (2.5%)
PERUS	16 (1.6%)
PINHEIROS	41 (4.1%)
PIRITUBA/JARAGUÁ	13 (1.3%)
SANTANA/TUCURUVI	23 (2.3%)
SANTO AMARO	10 (1%)
SÃO MATEUS	23 (2.3%)
SÃO MIGUEL PAULISTA	39 (3.9%)
SAPOPEMBA	21 (2.1%)
SÉ	79 (7.89%)
VILA MARIA/VILA GUILHERME	30 (3%)
VILA MARIANA	10 (1%)
VILA PRUDENTE	2 (0.2%)
Unclassified + Blank	28 + 2494 (71.6% of Total Notifications)
Total Notifications	3523

Source: authors (2024)

Figure 5 - Sexual Violence Reported in Different Health Coordination Regions



Source: authors (2024)

This study has some limitations that need to be highlighted. Firstly, the high rate of ignored or blank fields in the TabNet records, especially regarding geographic location and some sociodemographic data such as education and race/ethnicity, negatively impacts the accuracy of the analyses. This underreporting, combined with inequality in access to healthcare services, particularly in more vulnerable areas, may have hindered the ability to accurately define the epidemiological profile of pregnant women who suffered sexual violence. Additionally, the retrospective and documentary nature of the study limits the collection of additional data that could enrich the analysis, such as contextual factors of violence or maternal and neonatal outcomes. Finally, the lack of qualitative data prevents a deeper understanding of the victims' experiences, their interactions with healthcare services, and the reasons that may have contributed to underreporting.

5 CONCLUSION

Based on the results presented, it can be concluded that the cases of sexual violence against pregnant women in São Paulo were most prevalent in the age group of 20 to 34 years, with 2,157 cases (61.22%). The majority of victims were white (41.81%), followed by mixed-race (37.25%) and black (16.30%), indicating a possible underreporting among ethnic minorities. Regarding education, 30.86% of the pregnant women had completed high school, while 15.22% of the records were incomplete or ignored. Concerning gestational age, the majority of occurrences (72.35%) took place in the first trimester of pregnancy, highlighting a critical period for maternal and fetal health, which may negatively impact prenatal care and gestational outcomes.

These results emphasize the need for public policies focused on protecting pregnant women, with an emphasis on improving the identification of cases and ensuring equal access to healthcare services for all women, regardless of sociodemographic factors. The study also highlights the need for greater rigor in data collection and completion of notifications, which is essential for the formulation of more effective strategies to address violence against pregnant women.

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