



BMJ Open Violence against women during pregnancy and postpartum period: a mixed methods study protocol

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ABSTRACT

Introduction Violence against women is a public health problem that poses serious consequences for victims and their environments. The healthcare system struggles to assess this phenomenon during prenatal and postpartum care because of pregnant and postpartum women's potential vulnerabilities. The research protocol presents the aims to evaluate the prevalence of violence, the period(s) in which it occurs, aggressors and forms it takes as well as to explore how violence against women is perceived among pregnant and postpartum women.

Methods and analysis This mixed methods study protocol uses an explanatory sequential design and is based on the establishment of meta-inferences that result from the combination of quantitative and qualitative approaches. Probabilistic sampling will be used to select the study participants: 584 women attending prenatal and/or postpartum care outpatient services at the University of Campinas Women's Hospital, Brazil. The quantitative approach will consist of four validated questionnaires, and the qualitative approach will use focus groups that serve to deepen the understanding of participants' views about the study topic. To create the focus groups, 72 study participants will be invited and divided into 6 groups (3 adolescents and 3 adults) based on age and pregnancy/postpartum condition. Descriptive analysis of sociodemographic characteristics and questionnaire results will be used to identify the prevalence and forms of violence experienced by women during the pregnancy-puerperal cycle, the relationships between women and their aggressors, and the existence of a history of violence. A bivariate and multivariate analysis will be performed to identify the association between sociodemographic factors and violence as an outcome. Qualitative data will be analysed through Grounded Theory to understand women's perceptions of the phenomenon studied.

Ethics and dissemination The research protocol was approved by the Research Ethics Committee of the University of Campinas, Brazil number CAAE: 13426819.1.0000.5404. The results will be disseminated to the health science community.

INTRODUCTION

Violence against women can take various forms: physical (any action that puts

Strengths and limitations of this study

- The proposed methodology combines quantitative and qualitative data to study violence against women; this favours a better understanding of this phenomenon.
- The research will provide information about different forms of violence against women during the pregnancy-puerperal cycle.
- It is possible some under-reporting, due to the study participants may struggle to identify when and if they experienced violence at the hands of their intimate partners or in family environments.
- The study may represent only women of a specific socioeconomic profile because its participants are women receiving a public health service.
- Some characteristics of perpetrators, such as alcohol and drug use, and mental illness, will not be investigated.

another's physical health or integrity at risk), psychological (eg, emotional harm, attacks on self-esteem, control of actions, stalking, threats, harassment and blackmail), sexual (eg, unwanted relationship/rape, impediment to contraceptive use, and forced pregnancy, abortion or prostitution), property (eg, retention, subtraction, or destruction of documents, objects and resources) and moral (eg, slander and defamation).¹ It is a public health problem that demands the worldwide implementation of policies that confront and prevent it. Brazil took this step in 2006 when it passed the Maria da Penha law, which established mechanisms to prevent and criminalise domestic and family violence against women. The Maria da Penha law also recognises the need for integrated prevention measures, such as the promotion of research, statistics and other relevant information that takes into perspective gender, race and/or ethnicity. This information should be connected with the causes, consequences

and frequency of domestic and family violence against women in order to systematise data, elaborate on public policies and periodically evaluate the results of adopted measures.¹

According to the WHO, 13%–61% of women aged 15–49 have already suffered physical violence from an intimate partner at least once in their lifetime; of these women, 1%–28% suffered that violent episode during pregnancy.² Other data show that violence against women may increase in frequency and severity during or after pregnancy.^{3–8} These data corroborate the view that violence against women is an important global health problem and violation of human rights.

In Brazil, recent studies provide statistics concerning violence against women.^{9–12} For instance, femicide was ‘observed in all age groups, but significantly higher among women of reproductive age: 28.2% of victims were between 20 and 29 years old, 29.8% were between 30 and 39 and 18.5% were between 40 and 49 when they were killed’.⁹ In the cases where the relationship between the victim and aggressor could be identified, 88.8% of victims were murdered by their partners or former partners; 65.6% of the women were killed in their homes.⁹

Campinas is a large city in Southeastern Brazil with a population of roughly 1.2 million inhabitants. Recent data from the Violence Notification System revealed 1086 cases of violence against women aged 18–59 in Campinas in 2018. Of these, 50.7% recognised that suffered physical violence, 13.8% were sexual and 8.6% psychological during 2018. The most frequent aggressors were intimate partners (42.6%). In 11% of the cases, the aggressors were known by their victims, and in 3.5% of the cases, the aggressors had some family relationship with the victim.¹²

Domestic violence is frequently under-reported. In this context, qualitative data are powerful in understanding the magnitude and impact of violence on women and their surroundings. Additionally, qualitative data are important to recognise other forms of violence that are less visible and difficult to measure; this includes psychological violence and the difficulties around its ‘definition, conceptualisation and operability’.¹² The Brazilian Forum of Public Security recognises the importance of intersectorial collaboration and the use of methodologies that allow a better understanding of such a complex subject. It acknowledges that: ‘the information generated by public safety agencies acquires a more robust sense when cross-referenced with health information and with qualitative research from gender studies. The reason for producing this data is that it can be viewed across complex scenarios and the strategies for confronting it are based on robust evidence (...)’.⁹

When considering violence as result of a multidimensional factors interaction, WHO takes an ‘ecological approach’ to recognise that ‘personal, family and social factors might protect a woman from violence, or might put her at greater risk’.¹³ In general, review studies focus on individual and/or relationship factors, and their association with the prevalence of violence. Few analyses focus on the influences of the community and social context.

Several studies explore factors related to violence during pregnancy and the postpartum period. Some of them are: low income,^{14 15} use of legal/illegal substances by the woman and/or her partner,^{6 8 16} unplanned pregnancy,^{6 14} low-level education,^{6 8 14–16} had suffered or being a witness of family violence during childhood,^{8 16 17} be young,^{14 17} ethnic diversity⁶ and having mental health issues.^{16 17} During the postpartum period, some studies reveal that violence during pregnancy strongly predict violence after pregnancy.^{6 18}

A recent study in a southern Brazilian city reveals some divergences between their research findings and worldwide factors associated with violence against women. The association between violence against women and some sociodemographic variables, such as women’s employment status, level of education and cohabitation with partner, reveals conflicting findings with previous studies.¹⁹ Thus, we use these same variables, among others, to find associations with interpersonal violence in a Brazilian female population in a specific moment of their lifetime (pregnancy/postpartum period).

A meta-analysis conducted by Jamieson uses the term violence during pregnancy and the postpartum period to acknowledge interpersonal violence broadly, recognising different types of violence (physical, sexual and psychological) and perpetrators (family and non-household members, intimate partner or stranger), and also suggests analysing aspects of the relationship with the perpetrator.²⁰ Scientific literature identifies intimate partner violence as one of the most common forms of violence against women.¹³ Therefore, more evidence is needed to understand the mechanisms of interpersonal violence, lifetime, during pregnancy and the postpartum period, and their perpetrator’s.

The novelty of the study is the possibility to analyse the complex interaction of subjective aspects of violence and epidemiological data in a large sample of women in a specific condition. Considering the importance of prenatal and postpartum care for well-being of women and families, and positive perinatal and maternal outcomes, it is relevant to explore aspects of violence during the pregnancy-*puerperal* cycle in order to improve interpersonal violence approaches in the women’s health services.

Violence during pregnancy and the postpartum period

Women are vulnerable to violence during pregnancy and the postpartum period. Prenatal care is a strategic opportunity for healthcare workers to detect cases of violence against women, enabling appropriate counselling and intervention.²¹ Researches conducted in Brazil have addressed intrafamily, domestic or intimate partner violence during the pregnancy-*puerperal* cycle.^{8 16 22–25} However, the results were inconclusive overall as the studies found that pregnancy can be either a protective or a risk factor for violence. A cross-sectional multi-country study showed differences worldwide about prevalence of domestic violence during pregnancy.¹³ In order to contribute to this debate, in this study we aim to create

data to support a more comprehensive understanding about cultural norms and gender roles prescriptions, that may influence the prevalence ratios of violence.

While there is no consensus in the literature regarding how prevalent violence is during pregnancy and the postpartum period, there is no doubt that, when it does occur, it negatively impacts maternal and foetal health.²¹ The repercussions may manifest during pregnancy and after childbirth. They typically include poor adherence to prenatal care, maternal anaemia, vaginal bleeding, infections, hypertension, placental abruption, impaired mental health, foetal growth restriction and miscarriage. For children, the repercussions include malnutrition, developmental alteration and child abuse.²⁶

Qualified professionals should provide prenatal and postpartum care in order to promote optimal health conditions for women and their children. Prenatal and postpartum care include health education, risk identification, prevention of pregnancy complications, management of previous diseases and health promotion.²¹

For women to have a positive pregnancy experience, the WHO recommends that an assessment of the possibility of intimate partner violence be conducted in addition to all necessary clinical and laboratory prenatal care routines. This becomes even more important when assessing conditions that could be triggered or aggravated by intimate partner violence. In all instances, it is important for health professionals to provide a supportive response and adhere to the minimum requirements set by the WHO. These requirements include: 'a protocol/standard operating procedure; training on how to ask about intimate partner violence, and on how to provide the minimum response or beyond; private setting; confidentiality ensured; system for referral in place; and time to allow for appropriate disclosure'.²⁷

Specific conditions that warrant screening for violence include traumatic injury (particularly repeated injury accompanied by vague explanations), an intrusive partner during consultations, repetitive genitourinary symptoms, alcohol use and substance abuse, symptoms of depression and anxiety, and self-mutilation.²⁷ The presence of these conditions together with a trusting relationship between the pregnant woman and the health professional may lead to the recognition of violence and the provision of the necessary support.

Understanding the predictive factors and improving strategies for screening violence during pregnancy should be the focus of healthcare workers as about 70% of these women who experience violence during pregnancy become victims of postpartum violence. Prenatal care is an opportunity for women and their healthcare providers to form solid bonds, which could later make it easier for women to report some forms of violence.²⁸ A major challenge is that women living in violent situations may delay, and consequently not receive adequate, prenatal care. As such, interventions must occur at various strategic levels to reach all impacted pregnant women. Some specific strategies to use are high-lighting campaigns that raise awareness of the civil rights of

women in violent situations, strengthening legislation and providing early intervention services and routine prenatal screenings in risky regions.²⁶

Health professionals face difficulties in obtaining an in-depth understanding of victims, their experiences (type of violence and prevalence), and their aggressors because of a lack of data. While there are many studies related to intimate partner violence, these do not fully apply to women whose aggressors are other known individuals or family members. Additionally, screenings are not equally conducted across varying socioeconomic conditions; this means that a significant number of women are not included in the screenings and may still be victims of violence.²⁰ It also means that these women's experiences and perceptions are not known. Better understanding the meanings and symbols these women attribute to violence, as well as their attitudes towards their direct or indirect experiences with it, is an important direction for research to take.

Considering the importance of prenatal and/or postpartum care services and the role of health professionals for a women's positive experiences during and after pregnancy, this study aims to evaluate the prevalence of violence against women during this period as a situation that may affect negatively the women's well-being. Also, we will screen different forms of violence and the relationships between victims and aggressors, even to identify women whose aggressors are individuals other than intimate partners. Additionally, we will explore women's perceptions of violence to understand in-depth the ideas and meanings attribute to violence.

AIM AND OBJECTIVES

The aim of this study is to assess the prevalence of violence against women during the pregnancy-puerperal cycle, including the relationships between victims and aggressors, and to explore women's perceptions of violence. The following items are the objectives of the study.

- ▶ Identify the prevalence of interpersonal violence among pregnant and postpartum women.
- ▶ Identify the types of violence suffered by these women.
- ▶ Identify the relationships between the women and their aggressors.
- ▶ Identify factors associated with violence against pregnant and postpartum women.
- ▶ Identify women's perceptions of violence, aggressors, causes and ways to prevent violence against women.

METHODS AND ANALYSIS

Study design

This is a mixed methods research that will use an explanatory sequential design.²⁹ The use of the mixed approach within the health science field is increasingly preferred because of the advantages it offers in understanding a complex reality that cannot be deeply investigated using a single method.

The study will start with the collection of quantitative data to identify prevalence, types, aggressors and the most frequent periods of violence against the study participants.

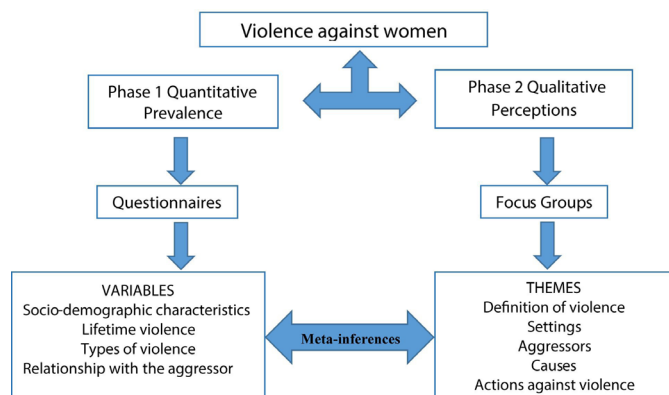


Figure 1 Flowchart study overview. Phases, instruments, variables and themes.

After that, the qualitative data will be collected with the aim to understand the participants' perceptions. Finally, meta-inferences will be established through the integration of both approaches (figure 1). We followed the Good Reporting of a Mixed Methods Study to conduct this protocol.

Study participants

Study participants will be women attending prenatal and postpartum care services at the University of Campinas Women's Hospital, Brazil. For the quantitative phase, the calculated sample will be probabilistic so as to be representative of the pregnant and postpartum women attending the hospital's outpatient clinics.

The sample size was calculated based on the prevalence of psychological (19.1%) and physical/sexual (6.5%) violence observed in a previous study.¹⁶ Table 1 shows the sample size for each factor, considering a significance level of 5%. Of the sample sizes calculated, the largest should be assumed: n=584 women.

About 200 women attend weekly in the outpatient prenatal care and 40 women on postpartum consultation. However, many of them are in return visits and will be invited only once. In this study, our priority will not be to stratify trimesters of pregnancy or postpartum period.

All women in the outpatient clinic will be eligible, so theoretically, all should be invited. Nevertheless, as all efforts will be taken to do not expose women during the

Table 1 Sample size calculation

	Prevalence (%)	Sampling error (%)	Sample size
Psychological	19.1	5	237
Physical/sexual	6.5	2	584

$\alpha=0.05$ (5%).

P=prevalence.

ϵ^2 =sampling error.

$Z_{1-\alpha/2}$ =standard normal distribution with probability $1-\alpha/2$.

$$n = \frac{Z_{1-\alpha/2}^2 P(1-P)}{\epsilon^2}$$

Table 2 Inclusion and exclusion criteria

Inclusion criteria	Pregnant and postpartum women attending prenatal and postpartum outpatient clinics and who have visited the hospital at least twice
Exclusion criteria	Diagnosis of impaired mental health that prevents participation in group discussion or compromises questionnaire answers

invitation. We expect to reach the necessary number of cases calculated for the planned analyses.

In the qualitative phase, the sample population will be intentional: 6 groups of 8–12 participants each. Focus group will use a homogeneity criteria based on age and pregnancy/postpartum condition. Thus, will create three groups by adolescents (two pregnant and one postpartum women's group), and three groups by adults (two pregnant and one postpartum women's group). The inclusion and exclusion criteria are shown in table 2.

Variables

The outcome variable will be interpersonal violence against women during pregnancy and postpartum period. The exposure or independent variables will be women's employment status, level of education, age, skin colour, gestational age (for pregnant women), days after birth (for postpartum women), marital status, religion, cohabitation with partner and lifetime violence will be considered as potential confounding factors.

Study procedures

The research will start with quantitative data collection in which participants will be invited to fill out four questionnaires: Abuse Assessment Screen (AAS); Hurt, Insulted, Threatened with Harm and Screamed (HITS); Partner Violence Screen (PVS); and Woman Abuse Screening Tool (WAST). Each of these serves to evaluate violence against women. Participants will complete the questionnaires either before or after their consultation at the outpatient clinic. The questionnaires will be administered by a trained researcher in a private location and should take approximately 20 min to complete.

After this stage, some of the participants will be invited to participate in a focus group. Each focus group will range around 90 min and will focus on the participants' perceptions of violence against women as well as the ways it has impacted and the tools, they have for confronting it. The research staff will be alert for some attention reduction or uncomfortable situations that would affect the participants. Focus groups will be planned after recruitment stage. These groups will happen at the same date of the regular obstetric appointments. Women will be contacted personally, at least 24 hours before the group, in the consultation prior to the proposed date for them.

The focus group will be held in a private room designed for groups meetings on the outpatient clinic. It is a room regularly used for group patients meetings with adequate conditions such as privacy. The focus group

will not be recorded or filmed to guarantee privacy and a comfortable setting. The moderator and two observers will take notes about it and then produce a consensus report. The questions in the focus group will be designed based on the findings of the first phase of the study.

The research team consists of only women, all of whom are members of the group Reproductive Health and Healthy Habits (SARHAS). Six team members are undergraduate students, all of whom are members of the League of Gynaecology and Obstetrics (League-Ob&Gyn). All members are from the University of Campinas. The questionnaires were translated by the researchers into Brazilian Portuguese language, using the translation-back translation method and adapted to cultural requirements. Each team member will complete a training process for administering the questionnaires and conducting the focus groups. The questionnaires and focus groups will be analysed to further understanding of the data obtained.

Instruments

Abuse Assessment Screen

Developed in the USA in 1989 by the Nursing Research Consortium on Violence and Abuse, the AAS is a 5-item questionnaire that identifies the frequency and severity of violent events, the sites of injury in a specific period, and the perpetrator's profile. We will use the version translated and adapted to the Brazilian context.^{8 30}

Hurt, Insulted, Threatened with Harm and Screamed

The HITS is a 4-item questionnaire that explores how often a woman suffered aggressions. The items relate to both physical and psychological violence. Each item is scored from 1 to 5, and the final score can range from 4 to 20 points. A score of more than 10 points indicates that the participant is at risk of domestic violence.³¹

Partner violence screen

The PVS is an open-ended 3-item questionnaire that focuses on whether the respondent has experienced physical violence in the past year as well as her current security perceptions. A positive response to any one of the three questions constitutes a positive screen for intimate partner violence. A 'yes' response to the physical violence question was considered positive for partner violence if the perpetrator was a current or former spouse or other intimate partner. For the safety questions, women who reported feeling unsafe because of a current or past partner and those who were unsure about their safety were considered positive for partner violence.³¹

Woman Abuse Screen Tool

The WAST is an 8-item questionnaire that focuses on physical, sexual and emotional violence. These items must be answered using a three-point intensity or frequency scale. Finally, the final score of each item indicates the degree of abuse suffered by women.³¹

Semistructured, study-specific questionnaire

The instrument was created by the research team to investigate sociodemographic data relevant to the study. Some of the data it collects includes: date and place of birth, current residence, education, profession, skin colour, gestation time (for pregnant women), time after birth (for postpartum women), marital status, religion, number of people living in household as well as their relationship to the participant, family income and paid work (means work for financial gain or reward, whether as an employee, a self-employed person or otherwise). It will be used as a face-to-face interview. It was considered a full range of sociodemographic identified by research team and discussed in research literature. It was consulted some IBGE (Brazilian Institute for Geography and Statistics) indicators such as colour/race, level of education, occupation and type of family configurations.

Focus groups

Focus groups serve to evaluate 'perceptions, opinions and feelings regarding a given theme in an environment of interaction'.³² In other words, they provide differing points of view on a subject and, in this case, make it possible to analyse the participants' unique perceptions of violence against women. These insights can then be combined with findings from previously collected quantitative data to further understanding of the subject.

Data analysis

Quantitative data will be processed using the SPSS Statistics for Windows, V.18.0. A descriptive analysis will be performed on the sociodemographic characteristics of the sample by calculating the frequency of each of the categorical variables; the frequency will be used to analyse the prevalence of violence against women, the relationships between women and aggressors, and history of violence prior to pregnancy. The mean, median and SD will be calculated for the continuous variables.

Univariate and multivariate analysis using logistic regression model will be used to assess the effect of the exposure variables to outcome variable. The strength of the association between the independent and dependent variables will be expressed as crude and adjusted estimated ORs, and their respective 95% CIs. The level of significance adopted is 5%. We will include in the model independent variables that remained associated with the outcome after adjustment for all variables included (Wald test $p < 0.05$). The contribution of each variable for the model will be tested using the likelihood ratio test and adjusting the model will be tested using the Hosmer-Lemeshow test.

The strategy to handle the missing data, is recover data before participants complete the questionnaires. This is possible because researchers will be administered the questionnaires and they can do additional check for missing values before the participant leaves.

Qualitative data will be analysed using a three-step procedures. First, a preanalysis that involves organising the material in order to establish a flexible plan. Next,

data will be explored using data coding. This step will use the NVivo qualitative data analysis software (QSR International, V.11). The software measure words frequency and validates author's analyses by data coding and categorisation. Two reviewers will independently define categories and subcategories to ensure the validity of results. Discrepancies will be solved by a discussion with our research group. In order to minimise the risk of perception bias, we will use peer reviewers, all of them members of the SARHAS's group that do not have a direct involvement in this study. Grounded Theory axial coding³³ will be used to develop a constant comparison analysis between data, codes and categories.

Grounded Theory axial coding as strategy to data analysis might provide in-depth identification, description and explanation of the prevalence of violence against women during pregnancy and the postpartum period, and their relation with women's perceptions about it. Finally, the results will be inferred and interpreted to use it for practical purposes. Qualitative and quantitative data will be integrated into the discussion topic final.

Our interpretation will be reflexive and multilingual. We will use two languages: English for academics purpose and Portuguese to participants' interactions. Thus, text transcriptions will be on Portuguese language, but all the qualitative data that we will use on scientific publication will be translated to English.

Data management

The questionnaires and focus group transcription will be anonymous, and the text will use pseudonyms when referring to participants. Only the principal researcher will know participants' registered names and/or nicknames. One researcher will retain and archive the research data for 5 years after completion of the study. Data will be entered from a data paper forms into an electronic database. We will use a Microsoft Excel database to store the data collected. Data will be stored on one password-protected computer.

Patient and public involvement

Neither the public nor the participants were involved in research design. During qualitative data collection, statistics on violence against women as well as information on types of violence, the cycle of violence and resources for victims of violence will be shared with focus group participants. Women who are identified as victims of violence will be referred to support and follow-up services such as hospital social services, non-governmental support centres and the women's assistance police station.

Ethics and dissemination

This study will be conducted in accordance with the Declaration of Helsinki and will comply with Brazilian standards like the Resolution of the National Health Council No. 466/2012 on health research with humans. All participants will be made aware of the Informed Consent Form (ICF), which states their freedom to participate, withdraw

and maintain their anonymity as well as describes the purpose of study.

It is common practice for there to be two copies of the written consent form: one for the researcher and one for the participant. To avoid endangering any of the participants, the local Research Ethics Committee suggested both copies be filed with the researchers but be available for participants to request at any time. One researcher will retain and archive the research data for 5 years after completion of the study.

To ensure participants' privacy, the women will be asked to enter study sites without company. If a woman is near others for any reason, the invitation to complete the questionnaires and/or participate in the focus group will be postponed until she is alone.

Women will be invited to participate in the focus group while they complete the ICF. There is a section on ICF to invite them to a focus group as a second stage of this study. Therefore, each woman who participates in qualitative data collection will already have completed the anonymous questionnaires from the first stage of the research; this sequencing was chosen so as to acclimate women to the topic and make it easier for them to participate in focus group discussions.

We will be provided some time necessary for guaranteed participant's comprehension about the data management. We will be available to answer any question about ICF. For women who have suffered violence, it will be offered social and psychological support from the regular hospital staff, as well as information about support in the community will be delivered.

This research protocol was approved by the Research Ethics Committee of the University of Campinas, Brazil under number CAAE: 13426819.1.0000.5404. Results will be disseminated to the health science community through peer-reviewed publications and presentations at scientific congresses.

FUTURE IMPLICATIONS

This study offers the opportunity to explore data on the prevalence of violence against women who use prenatal and postpartum referral services as women may be vulnerable to violence at both stages.

Largely, research on the subject has focused on intimate partner violence due to its high prevalence. The proposed study adds to understanding of the subject because, in addition to looking at intimate partner violence, it also identifies others who may exert some kind of violence against women during and after pregnancy.

The proposed study is also important because it not only focuses on the prevalence of violence against women, but also uses qualitative analysis to study women's perceptions of violence against them in order to attempt to identify the meanings women attribute to it.

In short, the proposed study not only studies the nature of violence against women who receive prenatal and postpartum services but also reflects on how women perceive

violence against them. This fosters participants' awareness of the issue and can become a tool for positive change in their lives. Using findings from this study, the research team will be able to suggest both recommendations for innovative future research and educational programmes to implement in the hospital to complement the care currently offered. In this sense, it helps make violence against women more visible while also highlighting the role of health professionals in addressing this phenomenon.

Contributors OdRS, FGS, MKB, IG, AGLB, DANV, BCBC and CGGPP conceived the idea. OdRS, FGS, MKB, IG, AGLB, DANV, BCBC and CGGPP wrote the draft version. FGS, and OdRS revised the manuscript. All authors approved the final version.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

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