

# Physical and sexual violence during pregnancy in the northeastern backlands of Brazil: a cross-sectional study

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## Abstract

**Objective:** To identify the prevalence and characteristics related to violence during the gestational period. **Methods:** A cross-sectional study performed at a Maternity Hospital in the city of Juazeiro do Norte, Ceará, Brazil. The population was composed of 360 postpartum women who were questioned about the occurrence of physical or sexual violence during pregnancy. Cases of violence committed by an intimate partner or other aggressors were considered. The instrument used was the Portuguese version of the Abuse Assessment Screen, applied confidentially. We used the prevalence of 20% violence against women during pregnancy estimated by the World Health Organization, with absolute error of 5%, significance level of 5% and test power of 80%. The data were analyzed with the Epiinfo program, version 3.5.2. Pearson's chi-square test was used, with a p-value of <0.05 and a 95% confidence interval. The study was approved by the Research Ethics Committee, ABC Medial School, N. 391,622. **Results:** Sexual violence 19.2% (69) surpassed the prevalence of physical violence 7.8% (28) among pregnant women who were surveyed. The common variable that showed relevance among women who suffered physical and sexual violence was low income in 96.4% and 78.2%, respectively. **Conclusions:** While a variety of factors influence gestational violence, low income women had higher rates of exposure to the cycle of violence in this population.

**Keywords:** Violence against woman, Sex offenses, Physical abuse, Pregnant women, Intimate Partner Violence.

## INTRODUCTION

Violence against women is widely recognized as a serious public health problem. While manifest in various forms, overall it is any act of violence on the grounds of gender able to generate physical, sexual, psychological harm or suffering to women, including the threat of such acts, coercion or arbitrary deprivation of freedom that may occur in public or private life.<sup>1</sup>

Violence against women occurs at all life stages, including the pregnancy and puerperium period. The Pan American Health Organization (PAHO) defines violence during pregnancy as a threat or action of physical, sexual or psychological violence to the pregnant woman.<sup>2</sup> The most common form of abuse is committed by intimate partner violence (IPV). Recent research carried out in Vietnam and Japan have identified that the prevalence of IPV during pregnancy was 35.4% and 20.7%, respectively.<sup>3,4</sup>

Peterson et al. conceptualized the effects of IPV to pregnancy and indicated that physical violence may cause direct injury to the gravid uterus leading to adverse pregnancy outcomes<sup>5</sup> A study done among Vietnamese women has shown

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that IPV during pregnancy is associated with preterm delivery (below 37 weeks of gestation) and low birth weight (less than 2,500 g).<sup>3</sup> IPV during pregnancy have also been associated with pregnancy loss, miscarriage and stillbirth.<sup>6</sup>

Pregnancy can be an incentive for violence, situations of violence having their characteristics changed with pregnancy, with greater psychological and less physical and sexual violence.<sup>7, 8</sup>

Women who witnessed or experienced violence when they were young are more likely to suffer violence during pregnancy. Anyway, violence may be a common problem for pregnant women, and future research that more accurately measures physical violence during pregnancy would contribute to a more effective design and implementation of prevention and intervention strategies.<sup>9</sup>

In Brazil, minimal information is available about the prevalence of violence against women during pregnancy.<sup>10</sup> Certainly, underreporting exists, with recognition influenced by cultural issues and gender relations, as well as general tolerance to situations of violence against women.<sup>11</sup> Pregnant women rarely reveal the violence during prenatal care spontaneously, except when specifically questioned.<sup>12</sup>

The prevalence of this form of violence varies, depending on the social and cultural characteristics of each country, with few studies in Brazil, country with tremendous geographic inequities with women. According to the latest UN Women Annual Report 2017-2018, Brazil is the fifth most violent country with its women, including in cases of homicide.<sup>13</sup> Another study carried out in 2017 revealed that among the Brazilian capitals, those in the Northeast region stand out in cases of violence against women especially during the gestational period. Thus, the objective of the study is to identify the prevalence and characteristics related to violence during the gestational period in the North of Brazil.

## METHODS

### Study Design and site of care

A cross-sectional study occurred at Hospital and Maternity São Lucas, women's health care reference center in located in the Northern region of Cariri, Brazil. The municipal hospital is financed exclusively by the Unified Health System (UHS), with free access for the low- income population of the state.

### Participants

Participants were women who had delivered in the hospital and were 24-72 hours post-partum. Research assistants approached 848 women between November 2013 and May 2014, 448 refused to participate. Of these 448, 40 incomplete questionnaires were identified (10% missing), resulting in a final sample of 360 respondents.

### Data collection

In addition to demographic data (age, marital status, educational level, race, income and occupation), the Portuguese version of the *Abuse Assessment Screen* (AAS) was used to assess violence against women during pregnancy. The AAS was developed in 1989 by the *Nursing Research Consortium on Violence and Abuse* in the United States and its Portuguese semantic equivalence performed by Reichenheim et al. (2000).<sup>14</sup> Cases of violence committed by an intimate partner or other aggressors were considered.

The interviews were conducted by three research assistants trained to administer the research instrument. The interviews and data collection were conducted individually and confidentially. We adopted a reserved room, without the participation of the intimate partner or another companion. For the participants who declared to suffer violence, social and psychological care was guaranteed, if necessary.

### Sample Calculation and Statistical Analysis

Using the 20% prevalence of violence against women during pregnancy estimated by the World Health Organization (WHO)<sup>2</sup>, with an absolute error of 5%, significance level of 5% and power of test of 80%, resulted in a sample size of 350 women. Data was entered in the software version of Excel 2010 and analyzed with the program Epiinfo, version 3.5.2. Pearson's chi-square test was used, with a p-value of <0.05 and a 95% confidence interval.

### Ethical Aspects

The study was approved by the Research Ethics Committee of the ABC Medial School, N. 391,622. All Participants who agreed to participate in the study signed a Free and Informed Consent Form. All the all participants had the opportunity

to ask questions and ask for help. Participants received information on the number of government agencies that provide protection and treatment for physical and sexual violence.

## RESULTS

The mean age of women victims of violence was  $24.7 \pm 6.6$  years, with no significant difference between women who did not suffer violence,  $26.0 \pm 6.9$  years. Acts of violence committed by the intimate partner or other aggressors were reported by 28 participants (7.8%) for physical violence and by 69 (19.2%) for sexual violence. The sociodemographic data are in Tables 1-2.

**Table 1.** Sociodemographic characteristics of 360 women interviewed about the occurrence of physical violence during pregnancy in Juazeiro do Norte, Ceará, Brazil, 2014

	PHYSICAL VIOLENCE						P value	IC (95%)
	Yes (n=28)		No (n=332)		Total (n=360)			
	n	%	n	%	n	%		
<b>Age</b>								
teenagers	5	17.9	69	20.7	74	20.5	0.205	1.48 (0.77-2.84)
adults	23	82.1	263	79.3	286	79.4		
<b>Marital status</b>								
in a relationship	17	60.7	269	81.0	282	78.3	0.505	0.81 (0.42-1.57)
not in a relationship	11	39.3	63	19.0	78	21.7		
<b>Elementary school</b>								
yes	7	25.0	67	20.2	74	20.5	0.205	1.48 (0.77-2.84)
no	21	75.0	265	79.8	286	79.4		
<b>Race / ethnicity</b>								
white	1	3.6	114	34.3	115	31.9	0.990	1.00 (0.55-1.81)
non-white	27	96.4	218	65.7	245	68.1		
<b>Family income *</b>								
≤ 1	27	96.4	210	63.2	237	65.8	0.015	2.12 (1.10-4.15)
2 - 3	1	3.6	114	34.3	115	31.9	0.020	0.48 (0.24-0.94)
> 3	0	0	8	2.4	8	12.2	0.628	0.60 (0.03-4.94)
<b>Occupation</b>								
yes	20	71.4	195	58.7	144	40.0	0.208	0.70 (0.39-1.26)
no	8	28.6	137	41.3	216	60.0		

\*Minimum Wage (Brazilian minimum wage = US\$ 197.00)

There was no difference between women who suffered and those who did not suffer sexual violence in the variables age, schooling, color, occupation and marital status (Tables 1-2).

The low family income presented significance in those who suffered sexual violence. Most women who suffered physical violence (92.8%) knew the identity of the offender, who was their intimate partner in 73.1% of the cases. Among women who suffered sexual violence, the majority (88.4%) refused to inform the identity of the aggressor (Table 3).

**Table 2.** Sociodemographic characteristics of 360 women interviewed about the occurrence of sexual violence during pregnancy in Juazeiro do Norte, Ceará, Brazil, 2014

	SEXUAL VIOLENCE						P value	IC (95%)
	Yes (n=69)		No (n=291)		Total (n=360)			
	n	%	n	%	n	%		
<b>Age</b>								
teenagers	18	26.1	56	19.2	74	20.5	0.205	1.48 (0.77-2.84)
adults	51	73.9	235	80.7	286	79.4		
<b>Marital status</b>								
in a relationship	52	75.3	230	79.0	282	78.3	0.505	0.81 (0.42-1.57)
not in a relationship	17	24.6	61	21.0	78	21.7		
<b>Elementary school</b>								
yes	51	73.9	235	80.7	74	20.5	0.205	1.48 (0.77-2.84)
no	18	26.1	56	19.2	286	79.4		
<b>Race / ethnicity</b>								
white	22	31.8	93	31.9	115	31.9	0.990	1.00 (0.55-1.81)
non-white	47	68.2	198	68.1	245	68.1		
<b>Family income *</b>								
≤ 1	54	78.2	183	62.8	237	65.8	0.015	2.12 (1.10-4.15)
2 - 3	14	20.2	101	34.7	115	31.9	0.020	0.48 (0.24-0.94)
> 3	1	1.4	7	2.4	8	12.2	0.628	0.60 (0.03-4.94)
<b>Occupation</b>								
yes	23	33.3	121	41.6	144	40.0	0.208	0.70 (0.39-1.26)
no	46	66.7	170	58.4	216	60.0		

\*Minimum Wage (Brazilian minimum wage = US\$ 197.00)

**Table 3.** Characterization of the aggressor of physical or sexual violence during pregnancy declared by the woman, Juazeiro do Norte, Ceará, Brazil, 2014

Aggressor	Physical Violence (n=28)		Sexual Violence (n=69)	
	n	%	n	%
Intimate partner	26	92,8	7	10,1
Another acquaintance	2	7,2	1	1,5
Unknown	0	0	0	0
Not informed	0	0	61	88,4

## DISCUSSION

Violence against women is multifactorial and associated with cultural and historical social aspects, especially gender issues those denote power relations between the sexes. By gender, it is understood that is the set of relations, attributes, roles, beliefs and attitudes that define the meaning of being a man or woman in society.<sup>15</sup> In that sense, violence against women exposes the vulnerability in domestic relations in a common context of financial or emotional dependence.

Gender constructions and inequality can be seen to not only enable noxious relations between men and women, but also to create a context in which these unequal relations come to be understood as 'normal' and 'natural'.<sup>2</sup> In interviews with over 2,000 women living in Mumbai slums for intimate partner violence – physical (12%), emotional (8%) or sexual (2%) – was common during and after pregnancy.<sup>16</sup>

Studies about the worldwide prevalence of domestic violence during pregnancy vary greatly.<sup>16</sup> In Brazil, Durand and Schraiber (2007)<sup>17</sup> found a prevalence between 13.1% and 33.8%, with an overall of 20% for any type of violence.<sup>17</sup> Moraes and Reichenheim (2002)<sup>18</sup> found values of 61.7% for psychological violence, 18.2% for physical violence, and 7.8% for sexual coercion during pregnancy.<sup>18</sup> In the present study, the frequency observed for women from Juazeiro do Norte was significantly higher, reaching 19.2%. In contrast, the 7.8% prevalence of physical violence, lower than that observed by Moraes and Reichenheim (2000)<sup>18</sup> of 18.2%. However, this finding does not allow us to confirm that pregnancy acted as a protective factor against this type of violence for the women from Juazeiro do Norte. Underreporting is worth, because of lower perception or recognition of violence due to social and regional cultural values.

The association between sexual violence and domestic violence in this study is evidenced in the identification of the partners as the main aggressors among participants who declared the perpetrator of the violence. However, the omission in revealing the aggressor deserves to be highlighted, since the fear of reprisals when the perpetrator is known<sup>13</sup> contributes to a repetition and increasing severity of the aggressions. The evidence indicates that the author is often known by the victim, which we confirm in this study, corroborating other authors who reveal the partner as the main author of the aggressions.<sup>14</sup>

A multicenter study conducted in several countries and coordinated by the WHO indicates prevalence of physical violence practiced by the intimate partner at some point in a woman's life, ranging from 13% in Japan to 61% in Peru.<sup>2</sup> In the same study, the occurrence of sexual violence ranged from 6% in countries such as Serbia and Montenegro and Japan, to the point of 59% in Ethiopia.<sup>2</sup>

Although the findings of the WHO are not specific to violence during pregnancy, the prevalence of this phenomenon is shown to be linked to the degree of development of each country.<sup>2</sup> This reflects, to some extent, the situation of vulnerability of the woman due to their social and economic condition. The WHO estimates for Brazil a prevalence of sexual violence performed by the intimate partner between 10.1 and 14.3%, while the values for physical violence range between 27.2 and 33.7%.<sup>2, 17</sup> Although these percentages are intermediate compared with other countries, Brazil can be classified as a violent country against women.

In this study, it surprised the high refusal of the participants to reveal the identity of the aggressor when sexual violence occurred (88.4%). At the same time, most of these women (75.3%) reported having a relationship with an intimate partner during pregnancy. Thus, it is possible to assume that some of these women felt constrained in pointing out their intimate partner as an aggressor, or feared personal consequences by revelation. These situations have been pointed out by other authors.<sup>10</sup>

The low income and lack of occupation of participants in this study who experienced sexual violence in this study suggests at least some financial dependence to the intimate partner. However, it has not been possible to relate these two sociodemographic variables with sexual violence because most women omitted the identity of the attacker.

In cases of physical violence, although the same situation of low income has been observed, most women (71.4%) reported they had some occupation, which could be considered a reason to reduce dependence on the intimate partner, appointed as main aggressor. However, the lower socioeconomic status of Juazeiro do Norte may result in the need for these women to contribute to family income without necessarily resulting in financial independence.

In fact, the data diverges from a study performed by Santos et al. (2010),<sup>19</sup> who found 22.6% occupancy among women who have experienced physical violence during pregnancy practiced by the intimate partner in the city of Rio de Janeiro, suggesting the influence of regional factors. Reinforcing the above, the frequency of non-white women, often disadvantaged compared to white women, showed itself as similar both in Juazeiro do Norte (96.4%) and in the study performed at Rio de Janeiro (64.7%).<sup>19</sup>

Many of the risk factors for violence during pregnancy have also been identified in studies of intimate partner violence - IPV and domestic violence against women in general. However, global literature indicates that both unintended and unwanted pregnancies are each associated with experiencing violence during pregnancy.<sup>20</sup>

From global literature, other risk factors pertaining specifically to the antenatal period include: low socio-economic status, being young or adolescent, being unmarried, becoming separated or divorced during pregnancy, belonging to an ethnic minority, alcohol misuse by either the woman or her partner and low educational status.<sup>21, 22</sup>

The low level of education is also considered a factor and this has been observed in cases of physical violence among women in Juazeiro do Norte (75%). The frequency of low education; however, was very different among women who have experienced sexual violence, with 26.1%. In both situations, the results diverge from the official level of education for the city of Juazeiro do Norte, which estimates in 93.4% the population with completed elementary school.<sup>23</sup>

These differences were not found by Santos et al. (2010)<sup>19</sup>, who found no relationship between low education, unemployment and low income in women who have experienced violence during pregnancy in the city of Rio de Janeiro, which may suggest that there are regional elements in the dynamics of violence against women.<sup>19</sup> Indeed, other studies suggest that social adversity, poverty, less social support and unemployment are factors associated with domestic violence during pregnancy.<sup>8, 20, 24</sup>

Data that revealed statistical significance in physical and sexual violence have one characteristic in common: low income. In this study, most women also did not formally contribute to household income by demonstrating the financial dependence of their partners. Also, among those who reported occupation were classified with minimum income. A study conducted by Cervantes et al (2016)<sup>24</sup> showed similar characteristics regarding the occupation of pregnant women who suffered violence; however, the prevalence unlike this study was of women with occupation. In the study, 78.95% they worked as workers, shopkeepers or autonomous professionals.<sup>24</sup>

The occurrence of physical and sexual violence in gestation, especially in developing countries, is still incipient; however, the strong association with income has been shown to be a significant factor. Hoang et al. (2016)<sup>25</sup> demonstrated that only 32% of their sample of pregnant women who experienced violence in Vietnam were female workers.<sup>25</sup>

Regarding color, there was a significant difference between women who experienced physical violence during pregnancy, with a prevalence of non-white women, which corroborates the study by Koch et al (2016)<sup>26</sup> which investigated the homicide rate of pregnant women and (N = 43 [52.4%]); in addition, black and Hispanic non-Hispanic women experienced higher rates of homicide than white women non-Hispanic, regardless of pregnancy or age.<sup>26</sup>

The State, as the defining instance of public policies, including those related to community health, must articulate professional practices in health with social superstructure and quality of life. In the context of health care, it is necessary to train the professionals in gender issues, which requires institutional and intersectoral accountability of services, as well as theoretical knowledge to support health professionals involved in health care for victims of violence.<sup>27</sup>

It needs to broaden the debate about violence against women within the health services so that professionals can understand the phenomenon and to deal with the consequences of the violence suffered. So, will promote, promoting the visibility of injuries and dialogue on gender emancipation and women's empowerment.<sup>28</sup>

Confirming findings in the territory and areas of Brazil with low human development rates benefit in the identification of perpetuation factors and consequences of violence. Evaluate Brazilian or Northeast providers about their knowledge, attitudes, and practices about violence during pregnancy. It is known to be a public health problem that represents a circle of violence, poverty and neglect.

The limitations of the study are associated with the non-recognition of violence by pregnant women, and the adopted instrument did not allow greater inference about the concepts of violence typology, especially psychological, masking the real numbers of violence during pregnancy. However, despite this limitation, the identification of the high level of sexual violence in the gestational period highlights an invisible phenomenon in the comprehensive care of women during pregnancy, identifying a prevalence considerably higher than the data found in similar studies.

Evidence also indicates that pregnant women exposed to violence have high psychological morbidity, which requires identification, intervention and support in prenatal services.<sup>29</sup> Sexual disorders during pregnancy, less, are also more frequent when there is sexual violence practiced by the intimate partner.<sup>30</sup> In this sense, counselling seems to be an efficient measure to reduce levels of aggression and improve the quality of life of women in situations of domestic violence, especially when practiced in the domestic sphere.<sup>31, 32</sup>

The limitations of the study are associated with the non-recognition of violence by pregnant women, and the instrument adopted did not allow further inference about the concepts of typology of violence, especially psychological, masking the real numbers of violence during pregnancy. In addition, it is worth noting the high refusal of the participants to reveal the identity of the aggressor in cases of sexual violence. This may indicate limitation or insufficiency in care about security and confidentiality, and may have generated fear and embarrassment. Despite this limitation, the identification of the high level of sexual violence in the gestational period highlights an invisible phenomenon in the integral care of women during pregnancy, identifying a considerably higher prevalence than the data found in similar studies.

## CONCLUSION

The prevalence of sexual violence during pregnancy in women from Juazeiro do Norte was higher than that seen in other Brazilian populations, but with a high omission of the identity of the attacker. The frequency of physical violence was lower than in other studies and the intimate partner was the main aggressor. In both types of violence the results point to young women and intimate partners, vulnerable by poverty and low education. The history of abortion and prematurity among these women showed significantly higher frequency than that estimated for the Brazilian population.

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#### Authors contribution

M.M.M.B, and L.C.A., developed the research question. M.M.M.B. conducted research. F.A. and J.D. analyzed data and performed statistical analysis. J.D. and I.M.P.B. provided the tables. M.M.M.B. and J.D. drafted the manuscript. L.C.A., F.A. and I.M.P.B. have reviewed the manuscript. All authors read and approved the final manuscript.