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ORIGINALES

Depressive symptoms in pregnant women and intimate partner violence: a cross-sectional study

Sintomas depressivos em gestantes e violência por parceiro íntimo: um estudo transversal

Síntomas depresivos en gestantes y violencia de pareja: un estudio transversal

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ABSTRACT:

Objective: To evaluate the presence of depressive symptoms in pregnant women and their association with intimate partner violence.
Methods: This is a cross-sectional pilot study conducted with a sample of 65 pregnant women who performed prenatal care at the Basic Health Unit of the Federal University of Amapá in September and October 2018. For data collection, a socioeconomic, demographic and obstetric questionnaire was used, apart from the Edinburgh Postpartum Depression Scale, and the Multi-Country Study on Women's Health and Domestic Violence.
Results: 41.5% of the pregnant women had depressive symptoms; in the logistic regression analysis, these symptoms have a significant association in women who suffer some type of intimate partner violence (OR = 6.74; 95% CI: 2.0 - 21.7; p = 0.001). In addition, being employed, being single, having low schooling, low family income, and unwanted pregnancies were affected by depressive symptoms during pregnancy.
Conclusions: There was a high percentage of depressive symptoms during pregnancy and these were related to intimate partner violence.

Keywords: Depressive Symptoms; Intimate Partner Violence; Pregnancy; Mental Health.

RESUMO:

Objetivo: Avaliar a presença de sintomas depressivos em gestantes e sua associação com a violência sofrida pelo parceiro.
Métodos: Trata-se de um estudo piloto transversal a partir de uma amostra de 65 gestantes que realizaram acompanhamento de pré-natal na Unidade Básica de Saúde da Universidade Federal do Amapá nos meses de setembro e outubro de 2018. Para coleta foi usado um questionário

socioeconômico, demográfico e obstétrico; a Escala de Depressão Pós-Parto de Edimburgo; e o Estudo Multi-Países sobre Saúde da Mulher e Violência Doméstica.
Resultados: 41,5% das gestantes apresentaram sintomas depressivos, na análise de regressão logística esses sintomas mostraram ter associação significativa em mulheres que sofreram algum tipo de violência pelo parceiro íntimo (OR = 6,74; IC95% 2,0 - 21,7; p=0,001), além disso, estar empregada, ser solteira, ter baixa escolaridade, baixa renda familiar e gravidez indesejada foram significativamente influenciadores para os sintomas depressivos durante a gestação.
Conclusões: Houve alta porcentagem de sintomas depressivos durante a gestação e esses estiveram relacionados com a violência por parceiro íntimo.

Palavras-chave: Sintomas Depressivos; Violência por Parceiro Íntimo; Gestação; Saúde Mental.

RESUMEN:
Objetivo: Evaluar la presencia de síntomas depresivos en gestantes y su asociación con la violencia de pareja.
Métodos: Este es un estudio piloto transversal de una muestra de 65 gestantes que recibieron atención prenatal en la Unidad Básica de Salud de la Universidad Federal de Amapá entre septiembre y octubre de 2018. Para la recolección de datos se utilizó un cuestionario socioeconómico, demográfico y obstétrico; la Escala de Depresión Posparto de Edimburgo, y el Estudio Multipaís sobre la salud de la mujer y la violencia doméstica.
Resultados: El 41,5% de las gestantes tienen síntomas depresivos, en el análisis de regresión logística, estos síntomas tienen una asociación significativa con mujeres que sufren algún tipo de violencia de pareja (OR = 6,74; IC 95% 2,0 – 21,7; p = 0,001) Además, estar empleada, ser soltera, tener bajo nivel de escolaridad, bajos ingresos familiares y embarazo no deseado influyeron significativamente en los síntomas depresivos durante el embarazo.
Conclusiones: Hubo un alto porcentaje de síntomas depresivos durante el embarazo y estos se relacionan con la violencia de pareja.

Palabras clave: Síntomas depresivos; Violencia de pareja; Gestación; Salud mental.

INTRODUCTION

Pregnancy is an event considered biologically natural; however, it is a period of important emotional vulnerability where ambivalent feelings are experienced. It is a transition stage that involves the need for restructuring and readjustment in several dimensions, mainly with regard to the change of identity and a new role definition[1].

A study conducted by the Oswaldo Cruz Foundation (FIOCRUZ) revealed that more than 25% of the mothers in Brazil are affected by postpartum depression (PPD), and it is understood that the presence of depression initiated from the pregnancy is one of the risk factors[2]. Based on an assumption, this investigation focuses on the identification of depressive symptoms during pregnancy, knowing the possible implication for the postpartum period and, in addition, on verifying whether intimate partner violence (IPV) may be associated in this context.

Violence may have various natures, such as physical, sexual, psychological, related to deprivation, and abandonment, among others[3] In our study, we exclusively analyzed the proportion of psychological, physical, and sexual violence suffered by pregnant women by their partners, associating it with the possible consequences in their mental health context, specifically the symptoms of depression. A study conducted by the World Health Organization (WHO) showed that the prevalence of intimate partner violence in pregnancy may vary from 1% to 28% depending on the country[4]. In this study, in Brazil, 8% of the women in the city of São Paulo and 11% of those from the rural area of Pernambuco reported having suffered some form

of violence during pregnancy.

It is important to emphasize that the improvement and maintenance of maternal-child health are some of the objectives defined by the Ministry of Health and, for this, prenatal and puerperal care is essential, responsibility of the Unified Health System (*Sistema Único de Saúde*, SUS)[5]. A good quality prenatal care is capable of decreasing maternal-child morbidity and mortality[6]; thus, the importance of Primary Health Care (PHC) is highlighted in the identification, monitoring, and resolution of problems that affect pregnancy, such as depression and violence caused by the partner. However, a study carried out in Brazil shows that 15% of the interviewees received adequate prenatal care, considering all the recommended actions[7].

The choice of the theme was based on the need to know the potential risks for a future PPD linked to the IPV that occurs during pregnancy, as well as to serve as evidence to alert health professionals to be more sensitive in detecting the problem even during pregnancy and to seek solutions in order to avoid possible consequences, as the damage can be highly harmful to the health of both the mother and the baby. In view of the important relevance of the theme with regard to public health, it is imperative to study the reality of the aforementioned problems, as it is relevant in the scientific and social contexts, and in the care provided by the team, mainly by Nursing.

When researching the scientific literature, it is perceived that several studies investigated depression and its implications in the postpartum period; however, there are still few studies that address depression in the gestational period and, in addition, make an association with the relationship of the pregnant women and their intimate partners. Then, our study hypothesis emerged: depressive symptoms may be associated with intimate partner violence in pregnant women monitored in the PHC. And so, the research question asked in this study was the following: *Is the presence of depressive symptoms associated with the violence caused by the intimate partner during pregnancy?*

In this sense, this research aimed to assess the presence of depressive symptoms in pregnant women and their association with the violence perpetrated by the partner.

MATERIAL AND METHOD

Study design

This is an observational, cross-sectional study with a quantitative approach, that is, in this study design, the factor (cause) and effect are observed in the same historical moment. The research was carried out by applying validated scales with the purpose of collecting information about the presence of depressive symptoms and violence in pregnant women monitored in the PHC context. This investigation took place at the Basic Health Unit (BHU) of the Federal University of Amapá (*Universidade Federal do Amapá*, UNIFAP), located in a peripheral area of the city of Macapá, in the Amazon region of Brazil.

Population and sample

Pregnant women of all age groups and gestational ages, whose pregnancy was

confirmed through beta HCG (Human Chorionic Gonadotrophin) or obstetric ultrasound exam, were eligible for the study, those undergoing prenatal care at the UNIFAP BHU in the months September and October 2018, and who agreed to take part in the research.

In this BHU, from the beginning of 2014 until the end of the first half of 2018, 2,125 pregnant women were registered, a mean of approximately 472 per year, that is, 39 per month. A two-month data collection period was stipulated, so the expected population based on the known monthly mean was 78 pregnant women. In order to obtain a reliable sample, the Simple Random Sampling formula[8] was used, where a sample size was calculated that would allow reaching a viable number with the reality of the collection site, for a 95% confidence level and an acceptable error margin of ±5 percentage points; thus, a sample of 65 pregnant women was estimated.

Data collection

When pregnant women attended the BHU for prenatal consultations, they were individually invited to a private room, then they were informed about the purpose of the research, the secrecy and confidentiality of the data obtained and, after signing the Free and Informed Consent Form (FICF), they would answer the instruments.

For data collection, three instruments were applied, namely: a socioeconomic, demographic, and obstetric questionnaire; the Edinburgh Postpartum Depression Scale (EPDS)[9]; the Multi-Country Study on Women's Health and Domestic Violence (WHO VAW) from the World Health Organization (WHO)[10], validated and adapted in Brazil by Schraiber[11].

EPDS is a simple 10-item instrument, developed to identify women who had postpartum depression. The scale items correspond to various symptoms of clinical depression. This scale has validation for use in pregnant women, being reliable and acceptable, considered a psychometrically solid tool[12].

The general evaluation is made by adding the points of each question. It is determined by adding the scores for each of the 10 items, which, in the sum of the points makes a score of 30 points, the presence of depressive symptoms being considered with a score equal to or greater than 12. EPDS can be used within eight weeks postpartum, but it can also be used to screen for depression during pregnancy. The result does not affirm the diagnosis of depression, but the need to take care of the family's own feelings and emotional situation. It is quick and simple to apply and can be used by health care professionals.

The WHO VAW is a study based on household surveys and aimed to estimate the prevalence of different forms of violence against women and factors associated with partner violence among the 10 initially participating countries[10]. In accordance with their gender perspective, physical, sexual, or psychological violence perpetrated by the intimate partners of them women was studied throughout their life or in the 12 months prior to the application of the questionnaire.

In the Brazilian validation of the WHO VAW, excellent internal consistency was evidenced: in two regions of its study, the alpha coefficients of Cronbach were

high (0.88 and 0.89)[11].

For this research, intimate partner was defined as the partner or ex-partner with whom women live or lived, regardless of formal union, including current boyfriends, as long as they had sex with them.

Statistical analysis

The statistical data analysis was performed using the Statistical Package for the Social Sciences (SPSS), version 22. “Intimate partner violence” was determined as independent variable and “depressive symptoms in pregnancy” as dependent variable. The variables under study were characterized by the minimum, maximum, median, mean, and standard deviation values (quantitative variables) or by absolute and relative frequencies (qualitative variables).

The reliability (or internal consistency) of the scales used in the research (EPDS and WHO VAW) was assessed by the Cronbach's alpha indicator. To decide on the levels of reliability, the recommendations proposed by Hair et al.[13] were followed: Cronbach's alpha must be greater than 0.70 (acceptable above 0.60).

To study the statistical differences and the association of the presence of depressive symptoms with the variables of violence against women (WHO VAW), with the demographic and socioeconomic variables, and with the variables related to pregnancy, the Mann-Whitney Test, the Chi-square test and Binary Logistic Regression were used. A 5% significance level was considered for the statistical tests, that is, the differences were considered statistically significant when the significance value was below 0.05 ($p < 0.05$) and the association was considered the Odds Ratio.

Ethical considerations

The study was approved by the Ethics Committee of research involving Human Beings of the Federal University of Amapá, under opinion No. 2,952,483/2018, and the participants were asked to sign the FICF. In addition, the 1975 Declaration of Helsinki was observed and the authors declare no conflict of interests.

RESULTS

Demographic and socioeconomic characterization

Taking into account the eligibility and sampling criteria, 65 pregnant women were included aged between 15 and 42 years old, with a mean of 23.88 years old, predominantly pregnant women from 20 to 24 years old (46.2%). Most live in a stable union (60.0%) and are not employed (90.8%). As for their partners, 69.2% are employed. Regarding schooling, those with complete high school (38.5%) predominate. As for residence, most pregnant women live in their own home (80.0%), mainly located in a backwash area (64.6%). On average, about five people live in the house. Regarding monthly family income, more than half have an income of up to one minimum wage (58.5%).

As for the data related to pregnancy, approximately half of the pregnant women were

in the 3rd trimester of the gestational age (49.2%). As for the number of previous pregnancies, 30.8% never got pregnant, 30.8% had one pregnancy, 16.9% had two, and 21.5% had 3 or more. In relation to the number of births, 38.5% never had children, 26.2% had one child, 18.5% gave birth twice, and 16.9% three or more times. 20% have had at least one abortion: 15.4% aborted 1 time, and 4.6% aborted 2 times. Only 3 (4.6%) pregnant women reported they have had postpartum depression.

Of the 65 pregnant women, 43.1% said that the current pregnancy was desired by both parents, 9.2% that it was desired only by the father and one (1.5%) said that it was desired only by her. Almost half of the pregnant women reported that pregnancy was not desired by any of the parents (46.2%). However, the vast majority were happy with the child's arrival (95.4%). None of the pregnant women claimed to have a diagnosis of any other mental/psychiatric disorder. Regarding the use of alcohol, 30.8% reported never having used it, 66.2% used it before pregnancy, and 3.1% used alcohol at the time of the study.

Presence of depression symptoms

Table 1 shows the results of the characterization of the depression symptoms of the pregnant women in the sample, obtained from the EPDS. The results show that the mean score is 11.4 points, ranging from a minimum of 2 to a maximum of 23 points. These results allowed concluding that 41.5% of the pregnant women had depressive symptoms. The EPDS Cronbach's Alpha value was 0.70, indicating acceptable reliability (or internal consistency).

Table 1: Characterization regarding the EPDS score and the presence of depressive symptoms (N = 65), Macapá, AP, Brazil.

Statistics		Classification of the depressive symptoms	
		NO depressive symptoms	WITH depressive symptoms
Minimum	2	(EPDS < 12) n = 38 58.5%	(EPDS ≥ 12) n = 27 41.5%
Maximum	23		
Median	11		
Mean	11.4		
Standard Deviation	5.0		

Note: Cronbach's alpha = 0.898

Forms of violence against women

The results show that the acts of psychological violence were the ones that predominated, followed by physical violence and, finally, those of sexual violence. In fact, it was the items of psychological violence that had the most “yes” answers: 40.0% answered yes to question 1: “Did he insult you or make you feel bad about yourself?” As for the items of physical violence, the highest prevalence was found in item 5: “Did he slap you or throw something at you that could hurt you?”, with 18.5%. As for sexual violence, two (3.1%) pregnant women answered yes to item 11: “Did he

force you physically to have sex when you didn't want to?"

Cronbach's alpha was used to assess the reliability of the WHO VAW scale and of its three factors. The values obtained are indicators of at least acceptable levels of reliability, so it is appropriate to calculate representative scores for each factor: WHO VAW Total (Cronbach's alpha = 0.723), psychological violence factor (Cronbach's alpha = 0.833), physical violence factor (Cronbach's alpha = 0.713), and sexual violence factor (Cronbach's alpha = 0.899). Thus, violence scores were calculated by adding the scores of the respective items, considering 1 point if the answer was "yes" and zero points if the answer was "no", reaching 13 points, with 1 point already indicating the presence of partner violence and the higher the score, the greater the diversity of acts of violence against women.

With this in mind, Table 2 presents the results of the characterization of the scores of violence against women, showing that 40% of the pregnant women suffered at least one instance of psychological violence, 18.5% physical and 3.1% sexual.

Table 2: Characterization of the WHO VAW scores and proportion of the type of violence (N = 65), Macapá, AP, Brazil.

Statistics	Type of violence (WHO VAW)			TOTAL
	Psychological	Physical	Sexual	
Minimum	0.00	0.00	0.00	0.00
Maximum	3.00	5.00	3.00	11.0
Median	1.00	0.00	0.00	1.00
Mean	0.86	0.54	0.06	1.46
Standard Deviation	0.97	0.99	0.39	1.87
Proportion who answered "yes" in at least one item n (%)	26 (40.0%)	12 (18.5%)	2 (3.1%)	

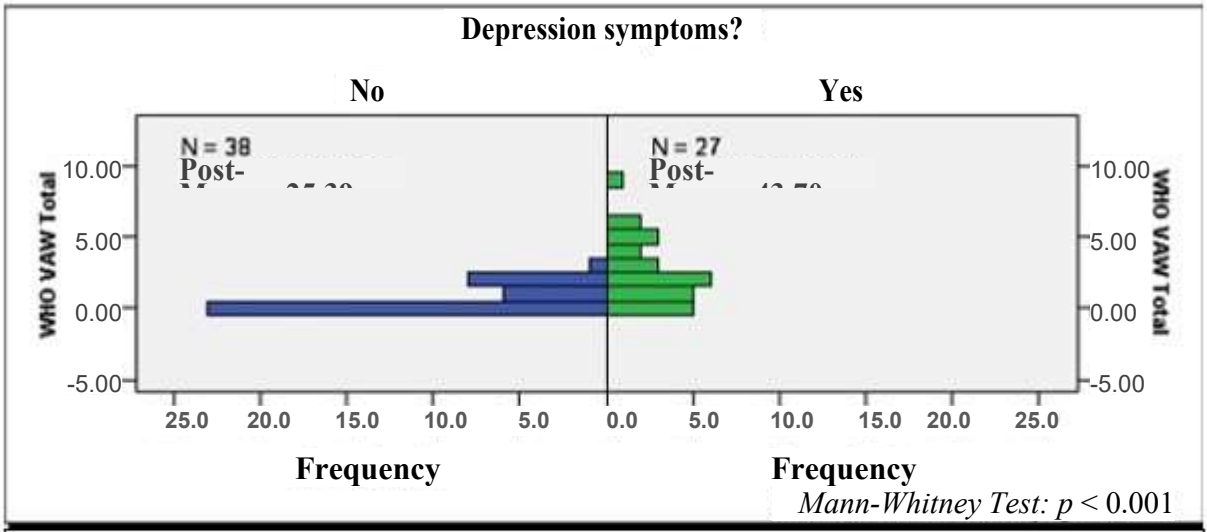
Note: Cronbach's alpha: psychological violence factor = 0.833; physical violence factor = 0.713; sexual violence factor = 0.899; and Total = 0.723

Depressive symptoms and the associated factors

Regarding the factors associated with the presence of depressive symptoms, the association was studied of the presence of depressive symptoms dichotomous variable (no/yes) with the variables of violence against women (WHO VAW), with the demographic and socioeconomic variables, and with the pregnancy related variables. As for the association with the forms of violence (Graph 1), the results show that pregnant women with depressive symptoms suffer a higher mean level of violence than those who did not present these symptoms; in summary, the different forms of violence perpetrated by a partner showed a difference between the presence of depressive symptoms in pregnant women (p<0.001), with higher WHO VAW scores in those with depressive symptoms. Through binary logistic regression it was possible to indicate that women who suffered from some IPV have a 6.74 times greater

chance of presenting depressive symptoms than those who did not suffer any IPV [$\chi^2(1) = 12.002$; $p = 0.001$, $R^2_{Nagelkerke} = 0.227$; OR = 6.74; 95% CI = 2.0 – 21.7].

Graph 1: Association of the presence of depressive symptoms with the forms of violence (N = 65), Macapá, AP, Brazil.



Variables		Depressive Symptoms		OR (95% CI)	p
		Yes n (%)	No n (%)		
IPV	Yes	22 (81.5%)	15 (39.5%)	6.74 (2.0 – 21.7)	0.001
	No	5 (18.5%)	23 (60.5%)		

Note: OR = Odds Ratio; CI: Confidence Interval

The results presented in Table 3 show that the situation in relation to employment (p = 0.029), marital status (p = 0.002), and schooling level (p = 0.009) had statistically significant differences in the depressive state. The percentage of pregnant women with depressive symptoms is higher in those who are employed (83.3%) than in those who are not employed (37.3%). As for marital status, the percentage of pregnant women with depressive symptoms is higher in single women (75%) and lower in married women (10%). Regarding schooling, the percentage of pregnant women with depressive symptoms is lower in those with higher schooling: complete high school or higher education (20.7%).

Table 3: Association of the presence of depressive symptoms with the demographic data and with schooling (N = 65), Macapá, AP, Brazil.

Variables	EPDS		*p*
	NO depressive symptoms	WITH depressive symptoms	
Age	M = 23.74; SD = 5.05	M = 23.96; SD = 6.34	0.852 (1)
Are you employed?			**0.029** (2)
No (n = 59)	n = 37 (62.7%)	n = 22 (37.3%)	
Yes (n = 6)	n = 1 (16.7%)	n = 5 (83.3%)	
Is your partner employed?			0.476 (2)
No (n = 20)	n = 13 (65.0%)	n = 7 (35.0%)	
Yes (n = 45)	n = 25 (55.6%)	n = 20 (44.4%)	
Marital Status			**0.002** (2)
Single (n = 16)	n = 4 (25.0%)	n = 12 (75.0%)	
Married (n = 10)	n = 9 (90.0%)	n = 1 (10.0%)	
Stable Union (n = 39)	n = 25 (64.1%)	n = 14 (35.9%)	
Schooling			
Not att./ Elem. School Incomplete (n = 18)	n = 8 (44.4%)	n = 10 (55.6%)	**0.009** (2)
Completed Elem. School (n = 18)	n = 7 (38.9%)	n = 11 (61.1%)	
Completed High School or Higher Ed. (n = 29)	n = 23 (79.3%)	n = 6 (20.7%)	
Number of people in the house	M = 5.16; SD = 2.51	M = 4.56; SD = 2.12	0.326 (1)
Ownership of the house where you live			0.314 (2)
Rented/Assigned (n = 13)	n = 6 (46.2%)	n = 7 (53.8%)	
Own (n = 52)	n = 32 (61.5%)	n = 20 (38.5%)	
Location of the house where you live			0.179 (2)
Backwash Area (n = 42)	n = 22 (52.4%)	n = 20 (47.6%)	
Firm Ground (n = 23)	n = 16 (69.6%)	n = 7 (30.4%)	
Monthly family income			**0.042** (2)
Up to 1 minimum wage (n = 38)	n = 21 (55.3%)	n = 17 (44.7%)	
2 minimum wages (n = 16)	n = 7 (43.8%)	n = 9 (56.3%)	
3 or more minimum wages (n = 11)	n = 10 (90.9%)	n = 1 (9.1%)	

(1) *p* from Mann-Whitney Test; (2) *p* from Chi-Square Test.

In addition, there was also a significant association between the presence of depressive symptoms and the monthly family income (p = 0.042): pregnant women with higher incomes (three or more minimum wages) are less likely to have depressive symptoms (9.1%) than those who have incomes up to one minimum wage (44.7%) and than those who have an income of two minimum wages (56.3%).

As for the variables related to pregnancy (Table 4), there is only a significant difference with desired pregnancy (*p* = 0.022). The analysis of the frequencies leads to the conclusion that the percentage of pregnant women with depressive symptoms is double in the cases in which the pregnancy was not desired by any of the parents (56.7%), compared to the cases where the pregnancy was desired by at least one of the parents (28.6%). An important point to note is that there was no significant difference between the trimesters of pregnancy, showing that depressive symptoms may arise from the beginning to the end of pregnancy.

Table 4: Association of the presence of depressive symptoms with the data related to pregnancy (N = 65), Macapá, AP, Brazil.

Gestational age			0.242 (2)
1st Trimester (n = 13)	n = 5 (38.5%)	n = 8 (61.5%)	
2nd Trimester (n = 20)	n = 12 (60.0%)	n = 8 (40.0%)	
3rd Trimester (n = 32)	n = 21 (65.6%)	n = 11 (34.4%)	
Number of past pregnancies	M = 1.47; SD = 1.80	M = 1.96; SD = 2.41	0.433 (1)
Number of deliveries	M = 1.24; SD = 1.51	M = 1.74; SD = 2.31	0.546 (1)
Number of abortions	M = 0.26; SD = 0.55	M = 0.22; SD = 0.51	0.789 (1)
Have you already had postpartum depression?			0.768 (2)
No (n = 62)	n = 36 (58.1%)	n = 26 (41.9%)	
Yes (n = 3)	n = 2 (66.7%)	n = 1 (33.3%)	
Complications in current pregnancy			0.571 (2)
No (n = 34)	n = 21 (61.8%)	n = 13 (38.2%)	
Yes (n = 31)	n = 17 (54.8%)	n = 14 (45.2%)	
Complications in previous pregnancy			0.697 (2)
No (n = 44)	n = 25 (56.8%)	n = 19 (43.2%)	
Yes (n = 21)	n = 13 (61.9%)	n = 8 (38.1%)	
Desired pregnancy			**0.022** (2)
By none (n = 30)	n = 13 (43.3%)	n = 17 (56.7%)	
By father, mother or both (n = 35)	n = 25 (71.4%)	n = 10 (28.6%)	
Happy with the arrival of the child			0.366 (2)
No (n = 3)	n = 1 (33.3%)	n = 2 (66.7%)	
Yes (n = 62)	n = 37 (59.7%)	n = 25 (40.3%)	
Complications in previous pregnancy		0.697 (2)	
No (n = 44)	n = 25 (56.8%)	n = 19 (43.2%)	
Yes (n = 21)	n = 13 (61.9%)	n = 8 (38.1%)	
Desired pregnancy			**0.022** (2)
By none (n = 30)	n = 13 (43.3%)	n = 17 (56.7%)	
By father, mother or both (n = 35)	n = 25 (71.4%)	n = 10 (28.6%)	
Happy with the arrival of the child			0.366 (2)
No (n = 3)	n = 1 (33.3%)	n = 2 (66.7%)	
Yes (n = 62)	n = 37 (59.7%)	n = 25 (40.3%)	
Complications in previous pregnancy			0.697 (2)
No (n = 44)	n = 25 (56.8%)	n = 19 (43.2%)	
Yes (n = 21)	n = 13 (61.9%)	n = 8 (38.1%)	
Desired pregnancy			
By none (n = 30)	n = 13 (43.3%)	n = 17 (56.7%)	
By father, mother or both (n = 35)	n = 25 (71.4%)	n = 10 (28.6%)	
Happy with the arrival of the child			
No (n = 3)	n = 1 (33.3%)	n = 2 (66.7%)	
Yes (n = 62)	n = 37 (59.7%)	n = 25 (40.3%)	

DISCUSSION

The present study aimed to evaluate the presence of depressive symptoms in pregnant women and its association with the violence perpetrated by the partner, employing validated, consistent, and widely used instruments in the scientific literature. EPDS was used for the purpose of verifying the presence of depressive symptoms in pregnant women for the last seven days prior to its application, adopting a cut-off point ≥12. It was possible to identify that 41.5% of the pregnant women in the study

had depressive symptoms. Also using the WHO VAW, it was evidenced that the symptoms of depression obtained a significant association in women who suffered IPV, that is, pregnant women who suffered some type of violence presented more symptoms of depression.

As an additional analysis, it was shown that being employed, being single, having low schooling, low family income, and unwanted pregnancies were significantly influencing depressive symptoms during pregnancy.

When observing that, within the sample of the present study, 41.5% of the pregnant women have symptoms of depression, it indicates that this value is above that estimated by the WHO[14], which states that approximately 10% of the pregnant women worldwide suffer from some mental disorder, mainly depression; moreover, this figure is even greater in developing countries, that is, 15.6% during pregnancy.
One of the purposes of the research was to determine the symptoms of depression before delivery, highlighting the possibility that PPD may have started during the pregnancy period. A study by Hartmann et al.[15] shows that pre-partum depression is a risk factor for post-partum depression, which is often a continuation of depression initiated during pregnancy.

When analyzing the results regarding the existence of violence against pregnant women perpetrated by the partner, it can be noted that there was the presence of the three types of violence under study, with psychological violence prevailing, followed by physical and, finally, sexual violence, as well as in the study by Durand and Schraiber[16]. Considering these types of violence, the presence of IPV is evident in the research, reaching 40% in the case of psychological violence; and its presence is alarming if compared to other studies[17],[18],[19], where the IPV prevalence found during pregnancy ranged from 0.9% to 34.6% depending on the country, the methods, and the research tools used.

In this perspective, according to the research results, it was verified that the various forms of violence lead to the existence of depressive symptoms, with a strong significant association in the WHO VAW score. This data corroborates with a Japanese survey[20] which pointed out that both physical and verbal violence are causal determinants for the development of depressive symptoms in the mothers during pregnancy.

The potentiality of depressive symptoms in the pregnancy to persist even in the postpartum period is emphasized, as shown in a study conducted in Tanzania[21], which pointed out that having been exposed to domestic violence at least once increased the risk for postpartum depression more than three times, similarly to a study obtained in Bangladesh[22], where more than half of the women who suffered violence during pregnancy developed postpartum depression.

The present study revealed that employed pregnant women have more depressive symptoms than unemployed women, differently from what other studies show[23],[24], possibly because working during pregnancy causes greater stress and mental exhaustion; thus, in view of the accumulation of tasks, the women are then susceptible to a series of internal crises, which can evolve to depressive conditions.

Another statistically significant factor for depressive symptoms was marital status, where it was verified that single women or those who live alone had more symptoms, in line with the research study by Thiengo and collaborators[25]. It is worth mentioning that several pregnant women reported having a lot of contact with their ex-partner, even though they were single and living alone.

Regarding schooling, it was found that pregnant women who had fewer years of schooling had more depressive symptoms, that is, the greater the number of years of completed studies, the greater the protection against depression, as seen in other studies[15],[26]. It is understood that education significantly reduces the risk for adult depression, as women with lower schooling and lower financial income are at high risk of depression[27]. In addition, women with lower family incomes were associated with a greater presence of depressive symptoms, which is also in accordance with studies in the scientific literature[27],[28],[29].

Our research found a statistical difference between symptoms of depression and unwanted pregnancies, in which the percentage of pregnant women with depressive symptoms is almost double in cases where the pregnancy was not desired by either parent. A study conducted with 1,121 women followed-up in prenatal care in Recife-PE suggests that high values on the Edinburgh scale may result from unintended pregnancies[30].

In this study, the importance is investigated of the assistance provided by the multidisciplinary team with regard to the identification, monitoring, and prognosis of harmful situations for the mother-baby binomial, such as violence and mental changes, since prenatal care. A fact also emphasized in other studies about the importance of this care even before delivery[29]. Finally, the herein conducted research shows the need for comprehensive prenatal care, focusing not only on the physical aspect and fetal development, but also on public health problems such as depression and violence, which may have future repercussions.

CONCLUSIONS

Despite being a study with a sample that needs to be expanded in future studies, it was found that it is a relevant theme that, however, needs greater attention and case identification, in view of the high prevalence found in the research.

This study managed to achieve the desired objectives, in addition to confirming the applicability of the collection instruments. In this sense, of the 65 pregnant women under the study, 27 (41.5%) presented depressive symptoms and, from the statistical analysis, there was an association with IPV, where pregnant women who suffered violence perpetrated by their partner were approximately seven times more likely to have depressive symptoms. Gestational age was not a determining factor for the onset of the depressive symptoms, but some demographic factors and not accepting the pregnancy were statistically significant.

Therefore, it is a study in the context of health care in the Brazilian Amazon, highlighting the researched problem, with the limitation of the short time for data collection, making a larger sample impossible.

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