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# Common mental disorders and intimate partner violence in pregnancy

## Transtornos mentais comuns e violência por parceiro íntimo durante a gravidez

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### ABSTRACT

**OBJECTIVE:** To investigate the association between common mental disorders and intimate partner violence during pregnancy.

**METHODS:** A cross sectional study was carried out with 1,120 pregnant women aged 18-49 years old, who were registered in the Family Health Program in the city of Recife, Northeastern Brazil, between 2005 and 2006. Common mental disorders were assessed using the Self-Reporting Questionnaire (SRQ-20). Intimate partner violence was defined as psychologically, physically and sexually abusive acts committed against women by their partners. Crude and adjusted odds ratios were estimated for the association studied utilizing logistic regression analysis.

**RESULTS:** The most common form of partner violence was psychological. The prevalence of common mental disorders was 71.0% among women who reported all form of violence in pregnancy and 33.8% among those who did not report intimate partner violence. Common mental disorders were associated with psychological violence (OR 2.49, 95%CI 1.8;3.5), even without physical or sexual violence. When psychological violence was combined with physical or sexual violence, the risk of common mental disorders was even higher (OR 3.45; 95%CI 2.3;5.2).

**CONCLUSIONS:** Being assaulted by someone with whom you are emotionally involved can trigger feelings of helplessness, low self-esteem and depression. The pregnancy probably increased women's vulnerability to common mental disorders

**DESCRIPTORS:** Pregnant Women. Mental Disorders. Violence Against Women. Spouse Abuse. Cross-Sectional Studies.

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## RESUMO

**OBJETIVO:** Investigar associação entre transtornos mentais comuns e violência por parceiro íntimo durante a gravidez.

**MÉTODOS:** Estudo transversal realizado com 1.120 mulheres grávidas com idade entre 18 e 49 anos, cadastradas no Programa Saúde da Família da cidade do Recife, PE, entre 2005 e 2006. Os transtornos mentais comuns foram avaliados pelo *Self-Reporting Questionnaire* (SRQ-20). A violência por parceiro íntimo foi definida por atos concretos de violência psicológica, física e sexual infligidos à mulher pelo parceiro. Foram estimadas *odds ratios* simples e ajustadas para a associação estudada, utilizando-se análise de regressão logística.

**RESULTADOS:** A violência psicológica foi a forma mais frequente de violência por parceiro íntimo. A prevalência de transtornos mentais comuns foi 71,0% entre as mulheres que relataram todas as formas de violência e 33,8% entre as que não relataram violência por parceiro íntimo. Os transtornos mentais mantiveram-se associados à violência psicológica (OR = 2,49, IC95% 1,8;3,5), mesmo na ausência de violência física ou sexual. Quando a violência psicológica esteve combinada com violência física ou sexual, o risco dos transtornos mentais comuns foi ainda mais elevado (3,45; IC95% 2,3;5,2).

**CONCLUSÕES:** Ser agredido por alguém com quem você está emocionalmente envolvido pode desencadear sentimentos de impotência, baixa autoestima e depressão. A gravidez provavelmente aumenta a vulnerabilidade das mulheres aos transtornos mentais comuns.

**DESCRIPTORIOS:** Gestantes. Transtornos Mentais. Violência contra a Mulher. Maus-Tratos Conjugais. Estudos Transversais.

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## INTRODUCTION

Common mental disorders (CMD) during pregnancy, like depression and anxiety, constitute a public health problem due to their high prevalence,<sup>6,12,13</sup> the suffering caused to women and its potential impact on infant outcomes.<sup>11,19,27</sup>

There are few studies<sup>11</sup> on the occurrence of depression during pregnancy. Rates of depressive symptoms during pregnancy vary across the world from 6.0%<sup>11</sup> to 35.0%.<sup>27</sup> This variation depends upon the methods of assessment, study design and social, demographic and economic characteristics of the women studied. A few studies have analyzed mental disorders during pregnancy in Brazil<sup>6,8,12</sup> and found a prevalence of depression around 20.0%. They have been performed with women and adolescents<sup>8</sup> who attending hospital<sup>12</sup> or private health services.<sup>6</sup>

Intimate partner violence (IPV) against women is common during pregnancy and may have adverse effects on women's mental health during pregnancy and after delivery.<sup>1,4,23</sup> Rates of violence perpetrated by intimate

male partners during pregnancy vary worldwide from 3.0% in London<sup>1</sup> to 31.0% in Mexico City<sup>4</sup> though this variation also depends on the methods of assessment. In the United States, IPV affects between 4.0% and 8.0% of pregnant women.<sup>23</sup>

The objective of this article is to investigate the association between common mental disorders and psychological, physical and sexual violence against women by their intimate partners during pregnancy.

## METHODS

The study was conducted in Health District II of the city of Recife, the capital of the state of Pernambuco in Northeastern Brazil. The health district's population was 217,293 inhabitants,<sup>a</sup> which represented almost 15.0% of Recife's population and has a high proportion of low-income families.

The coverage of the Family Health Program (FHP) was about 78.0% of the population. It was estimated that

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<sup>a</sup> Prefeitura da Cidade do Recife. Plano Municipal de Saúde 2006-2009. Recife saudável: inclusão social e qualidade no SUS. Recife; 2006.

only 10.0% of the population in this area were not in need of the public primary health care services provided by the government as they had private insurance.<sup>a</sup>

Pregnant women were identified from antenatal care records from 42 primary care teams as well as from the records of community health workers in order to include those not receiving antenatal care at Health Family Program units. Confidentiality and privacy of the interviewees were guaranteed.<sup>14</sup>

A cross-sectional study was carried out with the baseline data of a cohort study designed to investigate intimate partner violence and adverse maternal and perinatal outcomes.<sup>14</sup> The study population consisted of all (1,133) pregnant women aged 18-49 years in the third trimester of pregnancy registered in the Family Health Strategy (Health Family Program – HFP and Community Health Workers Program). After informed consent was obtained, data were collected by trained female interviewers between July 2005 and March 2006. The interview was most often performed at a healthcare unit, but some interviews were conducted in the interviewee’s home at the woman’s request.

Common mental disorders (CMD) include depression and anxiety and were evaluated by using the 20-item Self-Reporting Questionnaire (SRQ-20). The SRQ-20 was developed in 1980 by Harding et al to screen for CMD in primary health care settings.<sup>10</sup> It is composed of 20 “yes” or “no” questions – four on physical symptoms and 16 on psycho-emotional disturbances. The psychometric qualities of the SRQ-20 have been assessed in Brazil.<sup>16</sup> In the analysis of the data, one point was awarded for each positive answer and zero for each negative answer. The cut-off point in the SRQ-20 for this study was set at 7/8<sup>16</sup> and the women were divided into two groups: non-cases of mental disorders (a score less than or equal to seven) and cases of mental disorders (a score equal to or greater than eight).

The questions relating to partner violence were developed by the international team of the WHO multi-country study on women’s health and domestic violence.<sup>9</sup> As in all other countries, the Brazilian/Portuguese questionnaire was independently back-translated and discussed during interviewer training and piloting. Intimate partners were defined as being the partner or ex-partner with whom the woman lived or used to live, regardless of a formal union, including current partners with whom they maintain sexual relations. Therefore women could report partner violence even if they were not with a partner at the time of the antenatal interview. To identify IPV, the questions characterized physical violence as physical aggression or use of objects or weapons to produce injuries; psychological violence as threatening behavior, humiliation and insults; and sexual violence as sexual intercourse imposed using physical force or threats and imposition of acts that were considered humiliating. IPV was considered positive, if the

woman answered “yes” to at least one of the questions that comprise each type of violence. A three level variable was used to describe the exposure to violence in pregnancy: none; psychological violence alone; physical or sexual with or without psychological violence.

Other variables described in the literature as being associated with CMD and IPV were investigated: age (18-24;  $\geq 25$ ), living with a partner at present (yes; no), years of schooling (0-4;  $\geq 5$ ), race/skin color (white and non-white) and employment status (unemployed *versus* others). The quality of the relationship with the current or most recent partner<sup>15</sup> was measured using two variables: communication with the current or most recent partner and the controlling behavior of the current or most recent partner. The “communication with the current or most recent partner” variable comprised four questions to evaluate how they talk about what has happened to them during the day: things that have happened to him in his day; things that have happened to her in her day; her worries or feelings and his worries or feelings. It was considered good when they talk about what has happened to them during the day and about worries or feelings (yes for all questions), and poor when conversation does not occur (no to one or more of the questions). For controlling behavior, a point was assigned to each of the following items: husband tries to keep her from seeing friends, tries to restrict contact with her family of birth, insists on knowing where she is at all times, ignores her and treats her indifferently, gets angry if she speaks to another man, is often suspicious that she is unfaithful, and expects her to ask permission before seeking health care for herself. The partners were considered to be not controlling (0), moderately controlling (one to three points) and very controlling (four to seven points). Self-reported personal history of common mental disorders was assessed (yes, no).

Analysis was performed with Stata for Windows (version 10.1). Logistic regression was used to estimate odds ratios (OR) and 95% confidence intervals of the association between CMD, forms of IPV during pregnancy, and with sociodemographic and other characteristics of participants. This analysis was carried out with 1,120 women. Potential confounding factors were chosen on the basis of published reports and the results of analysis of sociodemographic and other characteristics of the sample.

The research was approved by the Ethics Committee of the *Universidade Federal de Pernambuco* (Protocol 303/2004).

## RESULTS

The study achieved a high response rate (98.8%) and 1,120 of the 1,133 eligible pregnant women completed

**Table 1.** Sociodemographic and other characteristics of the sample and their association with common mental disorders, odds ratio (OR) and confidence intervals (95%CI). Municipality of Recife, Northeastern Brazil, 2005-2006.

Variable	Women with common mental disorders						
	n	%	n	%	OR	95%CI	p
Age (years)							0.085
18-24	227	20.3	110	48.5	1		
≥ 25	893	79.7	376	42.1	0.77	0.6;1.0	
Race/skin color							0.124
White	224	20.0	87	38.8	1		
Non-white	896	80.0	399	44.5	1.26	0.9;1.7	
Living with partner							0.022
Yes	968	86.4	407	42.0	1		
No	152	13.6	79	52.0	1.49	1.0;2.1	
Years of schooling							0.001
0-4	268	23.9	140	52.2	1		
≥ 5	852	76.1	346	40.6	1.60	1.2;2.1	0.014
Employment status							
Unemployed	195	17.4	100	51.3	1.47	1.1;2.0	
Others	925	85.6	386	41.7	1		
Communication with partner							0.002
Good	786	7.20	318	40.5	1		
Poor	334	29.8	168	50.3	1.49	1.1;1.9	
Controlling behavior of the partner							
None	329	29.4	91	27.7	1		< 0.0001
Moderate	575	51.3	262	45.6	2.19	1.6;2.9	
Very	216	19.3	133	61.6	4.19	2.9;6.0	
History of mental illness							< 0.0001
No	985	87.9	393	39.9	1		
Yes	1,351	12.1	93	68.9	3.33	2.3;4.9	

the interview. A total of 347 (31.0%; 95%CI 28.3;33.8) reported some type of IPV during pregnancy. The most frequent form of partner violence was psychological (16.5%; 95%CI 14.4;18.8).

Sociodemographic variables were strongly associated with CMD, with the exception of age and race/skin color (Table 1). CMD were more likely in women not living with a partner at the interview, with lower education and who were unemployed. Poor communication with the current or most recent partner, very controlling behavior by the partner and history of mental illness before pregnancy showed statistically significant associations with CMD.

All forms of violence were more frequent in unemployed women, who were not living with a partner, had four or fewer years of schooling, had a very controlling partner, had poor communication with a partner, and history of mental illness before pregnancy (data not shown).

The prevalence of CMD for the sample was 43.1% (95%CI 40.2;46.1) and 71.0% of women who reported

physical or sexual with or without psychological violence in pregnancy had CMD (Table 2).

Odds ratio were first adjusted for marital status, years of schooling, employment status, communication with current or most recent partner, controlling behavior of current or most recent partner and for history of mental illness. The association of marital status, years of schooling, employment status, communication with current or most recent partner showed in the univariate analysis ceased to be statistically significant in the multivariate analysis. The final model (controlling behavior of current or most recent partner, IPV and for history of mental illness) was highly statistically significant ( $LRSc^2 = 151.75$ ;  $p < 0.0001$ ) and the association between CMD and IPV during pregnancy remained after adjustment for controlling behavior of current or most recent partner. Women who reported physical or sexual, with or without psychological, violence showed the highest association ( $OR = 3.45$ , 95%CI 2.3;5;  $LRSc^2 = 53.21$ ) with CMD (Table 2).

**Table 2.** Association of common mental disorders with controlling behavior of the partner, forms of partner violence during pregnancy and history of mental health. Municipality of Recife, Northeastern Brazil, 2005-2006.

Variable	Women with common mental disorders							
	n	%	n	%	Unadjusted OR	95%CI	Adjusted OR	95%CI <sup>a</sup>
Controlling behavior of the partner								
None	329	29.4	91	27.7	1		1	
Moderate	575	51.3	262	45.6	2.19	1.6;2.9	1.73	1.3;2.3
Very	216	19.3	133	61.6	4.19	2.9;6.0	2.29	1.5;3.5
p					< 0.0001		0.0001	
Forms of violence								
None	773	69.0	261	33.8	1		1	
Psychological alone	185	16.5	110	59.5	2.88	2.1;4.0	2.49	1.8;3.5
Physical or sexual with and without psychological	162	14.5	115	71.0	4.80	3.3;6.9	3.45	2.3;5.2
p					< 0.0001		< 0.0001	
History of mental illness								
No	985	87.9	393	39.9	1		1	
Yes	135	12.1	93	68.9	3.33	2.3;4.9	3.04	2.0;4.6
p					< 0.0001		< 0.0001	

<sup>a</sup> Adjusted for the other variables in the Table.

## DISCUSSION

We found that CMD were associated with psychological violence during pregnancy (OR = 2.49, 95%CI 1.8;3.5), even when it occurred without physical or sexual violence. Women who reported all forms of IPV showed the highest association (OR = 3.45; 95%CI 2.3;5.2) with CMD.

As far as we are aware this is the first population-based study designed specifically to investigate the association between CMD and psychological, physical or sexual violence against women by their intimate partners during pregnancy. As in previous studies,<sup>18</sup> psychological IPV was much more common than physical or sexual violence. IPV is commoner in women with limited schooling and living in poverty<sup>18</sup> so the high frequency of partner violence found could reflect the characteristics of the community we studied.

Several strengths of this study need to be highlighted. Our large sample was recruited from Health Family and Community Health Workers' Programs with an excellent response rate. It provided a representative community sample of poor people in this setting. We used an internationally recognized questionnaire that takes a non-judgmental and more acceptable approach to this sensitive subject.<sup>9,15</sup> Also, we were able to adjust for a large number of possible confounding factors, including the woman's report of pre-pregnancy mental illness.

Some limitations are also important to consider. The prevalence of CMD might seem high but it is similar to previous studies in lower-middle-income countries,<sup>7</sup>

and in Brazil.<sup>21</sup> The threshold we used was established in previous validation studies.<sup>16</sup>

The cross-sectional design limits the establishment of a possible causal relationship between IPV and CMD. It is possible that women with CMD at pregnancy had exaggerated the level of violence as a result of their mental status, and this could have led to an overestimate of the observed association. On the other hand, it is possible that violence was under-reported because of the associated stigma and shame.<sup>5</sup> Furthermore, mental illness before pregnancy could have been a result of earlier partner violence, so our adjustment could have led to an underestimate of the strength of association. Episodes of IPV tend to be severe and repeated, with a pattern of continuity.<sup>3,24,26</sup>

Lastly, the interpretation that controlling behavior by the partner is a violent act is controversial.<sup>22</sup> We have made a theoretical distinction between violence and unequal gender power relations, and so we have adjusted for controlling behavior by the partner. Focus groups in Brazil have suggested that Brazilian women with low or high educational levels welcome some controlling behavior as a form of attention or even affection by the partner.<sup>22</sup> However, we recognize the potential for overlap between some aspects of psychological violence and this measure of relationship quality. If so, our adjustment would have led to an underestimate in our reported association between experience of psychological violence in pregnancy and common mental disorders in pregnancy, so we believe that this finding is robust.<sup>14</sup>

The mental suffering of women in the antenatal period is important in its own right. During pregnancy women experience physical and emotional changes and the effect of psychological violence could be exacerbated. Castro et al<sup>3</sup> (2003), in México, and Silva et al<sup>24</sup> (2011), in Brazil, showed a decrease in physical violence followed by an increase in psychological violence during pregnancy. Even though psychological violence does not leave visible marks, it can interfere with the woman's relationship with motherhood and may lead to poor mental health for the child.<sup>19</sup>

Violence during pregnancy is found to be strongly associated with stress.<sup>2</sup> A study in North Carolina, United States, found that women who were victims of sexual or physical violence before or during pregnancy had higher levels of depression than those who were not.<sup>17</sup>

In our study, most cases of IPV were inflicted by the fathers of their offspring. This probably increased women's vulnerability since many of them were economically dependent of their partners. Negative feelings

are very common among aggressed women, such as fear that a physical aggression reaches the belly and also of early losses consequent to the aggression and premature labor. Moreover, to be assaulted by someone with whom you are emotionally involved can trigger feelings of helplessness, low self-esteem and depression.<sup>14</sup>

Our results have both clinical and public health implications. Antenatal care could provide an opportunity to detect CMD and IPV.<sup>3,4</sup> Beside the identification of abused women, it is necessary that a social network such as referral to shelters, transitional housing, legal advice, psychological support<sup>25</sup> and women's empowerment protocols be available.<sup>20,25</sup> Also, health care services should have closer relationships with governmental and non-governmental women's organizations working on violence.<sup>20,25</sup>

Interventions that might prevent maternal mental health problems or help to treat its consequences should reduce the considerable burden of CMD experienced by the woman and the health services.

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