

# Intimate partner violence and depressive symptoms in pregnant Mexican women: national survey results

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## ABSTRACT

**Objectives.** To analyze the link between intimate partner violence (IPV) reported in the past year and depressive symptoms in pregnant Mexican women. **Material and methods.** The data were obtained from the National Addictions Survey (ENA) 2008. For the purposes of this paper, we analyzed a sample of women over 18 who reported being pregnant at the time of the interview ( $n = 250$ ). When this number is weighted at the population level, it represents 881,575 women across the country. The  $\chi^2$  test was used to analyze demographic characteristics, prevalence of depressive symptoms and intimate partner violence. A multiple logistic regression was performed to estimate predictors of depressive symptoms during pregnancy. **Results.** The prevalence of any type of intimate partner violence (IPV) was 5.4% and of depressive symptoms was 16.2% ( $CES-D \geq 16$ ). A total of 53.4% of pregnant women who reported IPV during the past year had depressive symptoms whereas this occurred in 14.1% of those who had not been victimized. The variables that predicted depressive symptoms during pregnancy were having been a victim of IPV ( $OR = 6.23$ ) and having nine years or less of schooling ( $OR = 5.26$ ). Working outside the home and family income level did not increase the risk of depressive symptoms in this population. **Conclusions.** This population study, representative at the national level, provides an initial overview of the link between intimate partner violence and depressive symptoms in pregnant women in México. The results highlight the need to expand research on the topics covered, as well as to detect both phenomena in a timely manner during pregnancy in order to propose the necessary care.

**Key words.** Depressive symptoms. Intimate partner violence. Women. Pregnancy. Survey.

## Violencia de pareja y sintomatología depresiva en mujeres embarazadas mexicanas: resultados de una encuesta nacional

### RESUMEN

**Objetivos.** Analizar la asociación entre la violencia de pareja (VP) referida en el último año y la sintomatología depresiva, en mujeres mexicanas embarazadas. **Material y métodos.** Los datos se obtuvieron de la Encuesta Nacional de Adicciones (ENA) 2008. Para los objetivos de este trabajo se estudió una muestra de mujeres mayores de 18 años que expresaron estar embarazadas al momento de la entrevista ( $n = 250$ ), número, que al ser ponderado a nivel poblacional representa a 881,575 mujeres en todo el país. Se utilizó la prueba de  $\chi^2$  para analizar las características demográficas y las prevalencias de sintomatología depresiva y la violencia de pareja. Se realizó una regresión logística múltiple para estimar los predictores de la sintomatología depresiva durante el embarazo. **Resultados.** La prevalencia de cualquier tipo de violencia de pareja (VP) fue de 5.4% y la de sintomatología depresiva, de 16.2% ( $CES-D \geq 16$ ). El 53.4% de las embarazadas que reportó VP durante el último año tuvo sintomatología depresiva, mientras que ésta se presentó en 14.1% de quienes no fueron victimizadas. Las variables que predijeron la sintomatología depresiva durante el embarazo fueron ser víctima de VP ( $OR = 6.23$ ) y tener un nivel de estudios de nueve años o menos ( $OR = 5.26$ ). Trabajar fuera del hogar y el nivel de ingresos familiares no aumentaron el riesgo de presentar sintomatología depresiva en esta población. **Conclusiones.** Este estudio poblacional, representativo a nivel nacional, permite tener una primera imagen de la asociación entre la violencia de pareja y la sintomatología depresiva en mujeres embarazadas del país. Los resultados ponen de manifiesto la necesidad de ampliar la investigación sobre los temas abordados, así como de detectar ambos fenómenos de manera oportuna durante el embarazo, a fin de proponer la atención necesaria.

**Palabras clave.** Sintomatología depresiva. Violencia de pareja. Embarazo. Encuesta. Depresión prenatal.

## INTRODUCTION

It is commonly believed that pregnancy is a blissful state in women's lives. However, it is also recognized as a period of increased vulnerability to certain problems, including the presence of symptoms of depression and being a victim of intimate partner violence (IPV). Worldwide, between 2 and 21% of pregnant women suffer clinical depression and between 8 and 31% experience depressive symptoms.<sup>1</sup> In Mexico, the prevalence of major depression in pregnant women attending antenatal care services ranges from 12.3 to 14%<sup>2,3</sup> while that of depressive symptoms varies from 21.7 to 30.7%.<sup>4,5</sup>

At the same time, physical violence in pregnant women is observed in between 4 and 8%<sup>6</sup> while emotional violence, seen in between 8 and 78%<sup>7-9</sup> of all women, is extremely common in México. For example, Natera, *et al.*<sup>10</sup> report that in a sample of 544 female residents of the Mexico City, 7.5% had suffered IPV during pregnancy. The National Survey on Violence against Women found that 13% had experienced some form of violence (physical, psychological and/or sexual) during at least one of their pregnancies, in which in most cases, the perpetrator was the spouse.<sup>11</sup> IPV (psychological, physical and/or sexual) occurred among 31% to 35% of women attending antenatal care.<sup>12-14</sup>

IPV is associated with adverse effects in pregnancy, including depression.<sup>15-17</sup> In a meta-analysis based on 37 studies, Beyoun, *et al.*<sup>18</sup> observed that female victims of intimate partner violence have two to three times greater risk of developing a major depressive disorder than those not exposed to this type of violence. The authors conclude that a significant proportion (9-28%) of depressive symptoms and disorders during the perinatal period (pregnancy and postpartum) may be attributed to a life exposed to IPV. In a study of pregnant Hispanics in the United States, Rodríguez, *et al.*,<sup>19</sup> also point out that those exposed to IPV had more depressive symptoms and were more than twice as likely to have post-traumatic stress symptoms compared with those who were not exposed to it.

The presence of both problems, depression and IPV, is a matter of concern, as each increases the risks for the physical and mental health of both the mother and the fetus. For example, depression during pregnancy adversely affects eating habits, which is more problematic among women with a low-socioeconomic status. It is linked to poor prenatal care and may increase the risk of substance abuse. It is also associated with premature births

and babies with low birth weight<sup>20</sup> and an increased risk of postpartum depression.<sup>21</sup> Likewise, the consequences of IPV during the perinatal period can be fatal, compromising the health of both the mother and child, including: an increase in the number of homicides, suicides, the development of chronic somatic disorders, fetal death, low birth weight, premature birth, preeclampsia, and an increased likelihood of high-risk pregnancies and contracting sexually transmitted diseases.<sup>22,23</sup>

In short, this review shows that one of the many consequences of IPV is an increased risk of depression in pregnant women who suffer it, either before or during pregnancy. Depression during this period also has negative effects on the mother's health and the process of pregnancy. In Mexico, no published studies addressing this link were found. The goal of this study is therefore to analyze the association between Intimate Partner Violence reported in the past year and depressive symptoms in a sample of pregnant women drawn from a population survey. Control variables included age, marital status, educational attainment, occupation, employment status and income, known to be linked to depressive symptoms.<sup>1,24,25</sup>

## MATERIAL AND METHODS

Data are taken from the National Survey of Addictions (ENA),<sup>26</sup> a household survey with national and state representativeness undertaken with a random, probabilistic and multistage sample design. A total of 50,688 households throughout the country were visited. In each household selected, the number of household members was recorded. On the basis of this census, one adult aged 18 to 65 was chosen through the simple random sampling technique. Fieldwork was conducted from April to December 2008, simultaneously in all 32 states, with teams comprising a state coordinator, a supervisor and a group of interviewers.

For each dwelling selected, up to four visits were scheduled, even at special times (before 8 a.m. or after 8 p.m.) and at weekends. The response rate was 77% and the final sample size was 51,227 completed interviews, which, when weighted to represent the population level, represent 75,112,057 inhabitants. To achieve the objectives of this paper, researchers worked with a weighted sample of 881,575 women over the age of 18 across the country who reported being pregnant at the time of the interview and had a partner ( $n = 250$  women interviewed).

The ENA<sup>26</sup> was approved by the Ethics Committees of the Instituto Nacional de Psiquiatría and the

Instituto Nacional de Salud Pública. All those selected were given written a letter of informed consent and information was only obtained from those who agreed to participate and signed this consent form. Emphasis was placed on the voluntary nature of the participation, as well as the confidentiality of the information.

### Instrument

The questionnaire given by the interviewers was designed and programmed to be used on a computer. The instrument included two main sections:

- Information regarding housing and
- Information on the individual.

The first section recorded general data on the dwelling and the people who usually inhabited it. The information reported in it was also used as the basis for the random selection of the person to be interviewed. The second part consisted of 12 sections through which information on substance use was obtained, as well as other aspects of mental health. The sections considered for writing this article were:

- *Demographic aspects.* Age, marital status, educational level, occupation, employment status and monthly family income.
- *Questions about pregnancy.* The instrument includes a series of questions related to pregnancy and postpartum, but for the purposes of this paper, only the question of whether she was pregnant at the time (in the interview) was taken into account for inclusion in the sample.
- *Center for Epidemiological Studies-Depression Scale (CES-D).*<sup>27</sup> This is a widely used tool to assess depressive symptoms in the general population, comprising 20 items through which respondents were asked how many days during the past week they had experienced a variety of depressive symptoms. A cut-off point of  $\geq 16$  was used, indicating that a person is at risk for clinical depression. This instrument has been used satisfactorily in previous studies with pregnant women or those in the postpartum.<sup>28</sup>
- *Intimate Partner Violence Evaluation Scale.* This scale consists of ten items, including aspects associated with physical violence (beatings, sexual violence) and verbal abuse (yelling, humiliation, threats, jealousy, etc.) and whether the partner

**Table 1.** Sociodemographic characteristics of pregnant women (n = 818.575).

	$\bar{X}$	SD	IC95%
Age	26.6	5.7	25.4-27.7
	f	%	
Marital status			
Married	496,112	60.6	50.8 - 70.4
Living together	266,540	32.6	23.1 - 42.1
No current partner	55,923	6.8	2.6 - 11.1
Educational attainment			
Bachelors' degree or higher	69,064	9.7	3.4 - 16.0
Senior high school	224,870	31.5	20.3 - 42.7
Junior high school	259,465	36.3	26.2 - 46.5
Primary School	160,485	22.5	14.3 - 30.6
Had paid employment in the last month			
Yes	278,688	34.0	23.8 - 44.3
No	539,887	66.0	55.7 - 76.2
Monthly family income			
Over 4 minimum wages	170,153	22.3	13.0 - 31.7
2 to 4 minimum wages	185,925	24.4	16.4 - 32.4
2 minimum wages	204,090	26.8	16.7 - 36.9
1 minimum wage	202,013	26.5	17.3 - 35.7

Weighted data.

has engaged in threats of death or suicide. The scale explores episodes of violence during the past year. This instrument has been shown to have acceptable reliability and validity for the Mexican female population; the Cronbach alpha reliability of this scale is 0.83.<sup>29</sup>

### Data analysis

The  $\chi^2$  test was used to analyze demographic characteristics, the prevalence of depressive symptoms and IPV. A multiple logistic regression was performed to estimate predictors of depressive symp-

toms during pregnancy and Odds Ratios (OR) and confidence intervals (CI) of 95% were reported. In all cases, the data were weighted and the effect of the sampling design, both on estimating confidence intervals and statistical analyses, was considered. These analyses were performed with STATA statistical software version 11.<sup>30</sup>

### RESULTS

The mean age of the patients was 26.6 years and 90% had partners at the time of the interview (60.6% were married and 32.6% were living with a

**Table 2.** Depressive symptoms in pregnant women due to intimate partner violence in the past year.

	n (%)	Cut-off point CES-D $\geq$ 16*	IC <sub>95%</sub>
Any violence in the past year			
No	109,538 14.1		7.657-24.65
Yes	23,414 53.4		25.17-79.55

Weighted data. \*p < 0.05.

**Table 3.** CES-D (cut-off point  $\geq$  16) predictors in pregnant women (n = 250).

	B	OR	p	IC <sub>95%</sub>
Marital status				
Married		-		
Living together	-0.452	0.636	0.440	0.201-2.017
No current partner	-1.040	0.354	0.312	0.047-2.678
Age (years)	-0.011	0.989	0.891	0.848-1.154
Educational attainment				
$\geq$ 10 years		-		
$\leq$ 9 years	1.660	<b>5.257</b>	<b>0.007</b>	1.581-17.483
Had paid employment in the last month				
Yes		-		
No	-0.657	0.518	0.349	0.130-2.061
Monthly family income				
Over 4 minimum wages		-		
2 to 4 minimum wages	-1.183	0.306	0.158	0.059-1.588
2 minimum wages	-1.279	0.278	0.204	0.038-2.011
1 minimum wage	-0.696	0.498	0.473	0.074-3.363
Intimate partner violence in the past year				
No		-		
Yes	1.829	<b>6.225</b>	<b>0.012</b>	1.495-25.924

Logistic Regression Model for Complex Samples: F (9, 183) = 2.66, p = 0.0064.

partner). In terms of educational attainment, 22.5% had completed primary school; 36.3% secondary education and 9.7% held university degrees. A total of 34% had had some paid employment in the month prior to the survey (Table 1).

Relationship between IPV and depressive symptoms. The prevalence of any type of IPV was 5.4% (95% CI = 2.84-9.9) and of depressive symptoms (CES-D  $\geq$  16) 16.2% (IC95% = 9.6-26.16 IC95% = 9.6-26.16). A total of 53.4% of pregnant women, who had been victims of violence in the past year, had depressive symptoms, as opposed to 14.1% of those who had not suffered IPV (Table 2).

Table 3 contains the multiple logistic regression model in which depressive symptoms were used as the dependent variable (CES-D  $\geq$  16). As can be seen, the variables with a significant association were: having been the victim of IPV in the past year, with an odds ratio (OR) of 6.23 (95% CI = 1.49-25.92) and 9 years' schooling or less (OR = 5.26, 95% CI = 1.58-17.48).

## DISCUSSION

The results of this representative population study of pregnant Mexican women showed a prevalence of depressive symptoms of 16.2 and 5.4% of IPV in the past year, similar to that reported (7.5%) for a section of the Mexico City with the same instrument.<sup>10</sup> In the absence of similar population parameters, these results are discussed in light of data from Mexico in the population attending either prenatal or primary health care services; the prevalence of depression and IPV in this study are lower. Regarding depressive symptoms, studies found prevalence ranging from 21.7 to 30.7%<sup>4,5</sup> and from 31 to 35% for IPV.<sup>12-14</sup>

These differences may be due to the characteristics of the context in which each study was conducted. Unlike the studies conducted on health services, the primary objective of this study was not IPV. Moreover, there is the hypothesis that the population attending primary health care centers is more vulnerable, which is why it seeks attention and, at the same time, is more open to reporting highly personal aspects such as IPV, which results in higher prevalence. Partner violence is still taboo for women, since it is an intimate, painful issue.<sup>12</sup> Only 28% of women who suffer violence during pregnancy agree to talk about the topic while many interviewees blame themselves for the violence suffered, in some cases, attributing it to their low self-esteem.<sup>12</sup> Although the odds of depressive symptoms and inti-

mate partner violence reported in this study are lower than those observed in others, they are still significant and therefore require attention. This is particularly true because it is evident that intimate partner violence, a preventable problem, significantly increases depression with all its possible consequences.<sup>1,20</sup> In this respect, our results show that those who were victims of IPV in the past year displayed nearly four times more depressive symptoms (53.4%) than those who were not abused (14.1%). Furthermore, IPV in pregnant women increased the risk of developing depressive symptoms more than sixfold. These data are similar to those found in other countries.<sup>15-18,31</sup>

It has been observed that women who are victims of IPV in pregnancy show symptoms of severe depression throughout the gestation period and even in the postpartum, compared with non victims.<sup>17,32</sup> Moreover, this relationship has been shown to vary according to the type of violence. For example, Martin, *et al.*<sup>16</sup> found that in women who had been victims of psychological aggression by an intimate partner a year before pregnancy, the risk of depression did not increase except when psychological aggression was extremely common. In contrast, women who had received some form of sexual violence (before and/or during pregnancy) showed high levels of depressive symptoms when they were pregnant. In this regard, IPV measurement in the current study included physical violence, verbal violence, death threats and/or suicidal ideation and suicide attempts. The low incidence of each type of violence meant that it was impossible to disaggregate each component.

Educational attainment also proved to be a variable that increased the risk of depressive symptoms, even more so than income level or whether or not the respondent worked outside the home. The significance of educational attainment has been reported in other studies.<sup>7,25,33</sup> It is known that lack of access to education leads to greater vulnerability and constitutes a distinct social disadvantage for women.<sup>34</sup>

Although this was not the main subject of the study, the question arises as to why a man attacks his partner during pregnancy, if motherhood is highly valued by Mexicans.<sup>35</sup> Few studies explore these issues and none in Mexico. Some of the reasons found why men batter women during pregnancy include the following: jealousy and anger toward the unborn child and anger against it,<sup>36</sup> women's refusal to have sex; fear of infidelity by both, which triggers arguments and family transition, which produces stress and tension in relations.<sup>37</sup>

All this is compounded by financial problems and the attendant stress.<sup>38</sup> Jasinski mentions that pregnant women who are abused have a number of features in common: history of victimization, unplanned pregnancies, greater number of stressors in daily life that may be exacerbated by pregnancy, uncertain start of parental role and obviously machismo. This issue undoubtedly needs to be researched in order to propose actions that prevent this type of violence.

## CONCLUSION

The main finding of this study was to show that pregnant women who suffer violence from their partners have a 6.2 times higher risk of displaying depressive symptoms and that one of the most important conditions in this link is having fewer than nine years of schooling. As mentioned earlier, depressive symptoms in pregnant women have serious consequences for their overall health and fetal development.<sup>1,20</sup>

The relevance of these results is that it is a population-based study, representative of Mexican women, providing an overview of the scope of the problem in Mexico. In addition to the above, it is one of the few studies to have addressed the link between intimate partner violence and depressive symptoms in such a specific group, namely pregnant women.

Constraints include the fact that IPV was defined as intimate partner violence that had occurred in the past year, meaning that it is possible that some of the participants may not have been pregnant when they were victimized. However, it has been documented that women who experience violence before pregnancy are 11.6 times more likely to experience violence during pregnancy.<sup>40</sup> In this respect, Cuevas, *et al.*<sup>11</sup> have noted that IPV in pregnancy is part of a *continuum* of violence. In other words: IPV experienced by women during this period does not usually begin with pregnancy. Instead, the phenomenon is likely to persist throughout her coexistence with her partner and may even occur with greater intensity during pregnancy. This continuum may begin in childhood and continue in pregnancy<sup>13</sup> and sometimes in the postpartum.<sup>7</sup>

Moreover, the fact that this study was part of a broader<sup>26</sup> survey meant that it was impossible to give more space to the subject of IPV, so that other variables in the international literature that have shown to be related to the phenomenon of intimate partner violence and depressive symptoms during pregnancy could be evaluated. These include whether

or not one lives with a partner, whether violence is accompanied by substance use on his or her part, and whether or not the pregnancy was wanted.<sup>7</sup>

A constraint mentioned earlier was the failure to evaluate the different types of violence separately, or the link between IPV and other mental disorders, such as anxiety and post-traumatic stress, which would have shed more light on the phenomenon.

These results highlight the importance of broadening research on IPV and its impact on the mental health of women during pregnancy, an already vulnerable period. They also prove the need to detect both phenomena in a timely manner during pregnancy and provide the necessary support and care. In this respect, the Mexican Official Standard “For the care of women during pregnancy, childbirth and postpartum, and of the newborn” (PROJ-NOM007-SSA2 2010)<sup>41</sup> provides for the development and implementation of actions to reduce risks to maternal and perinatal health including violence (Section 5.10.1.3). The Mexican Official Standard for the “Provision of health services. Criteria for the medical care of family violence, sexual violence and violence against women” (NOM-046-SSA2 2005)<sup>42</sup> envisages conducting a thorough assessment based on laboratory and office exams in the event of the abuse of pregnant women (6.2 fraction 1.6). However, NOM007<sup>41</sup> fails to mention mental health for mothers during this period. Based on these results and those of other studies on the prevalence and consequences of depression in pregnancy including depression, it is suggested that depression screening and routine referral to treatment be included in this official standard. Other countries have clinical guidelines for the care of various mental disorders that could serve as a starting point for ours.<sup>43,44</sup> This will prevent mental health problems in the next generation, since these events may have significant effects on the fetus.<sup>1,20,22,23</sup> In particular, care for depression during pregnancy would tend to improve eating habits, improve the search for prenatal care and reduce the likelihood of postpartum depression, among other risky behaviors for health.

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