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Factors associated with intimate partner physical violence among health service users

ABSTRACT

OBJECTIVE: To estimate the prevalence of intimate partner violence against women and identify factors associated.

METHODS: Cross-sectional study comprising 504 women aged 15 to 49 years users of five primary care clinics in a municipality in the state of São Paulo, Southeastern Brazil, in 2008. Face-to-face interviews were carried out using a questionnaire consisting of 119 questions on sociodemographic information, reproductive health, perceptions of gender roles in the marital relationship and experience of violence. Univariate and multiple regression analyses were performed.

RESULTS: More than a third of the women reported intimate partner violence. In the multiple regression analysis factors predisposing to violence included living in rental housing, sexual abuse during childhood, the partner's experience of physical violence during childhood, alcohol and drug use by the woman and her partner, and woman's perception of her partner's temperament.

CONCLUSIONS: The factors identified produced a predictive model that can be used to assess a woman's risk of experiencing intimate partner violence.

DESCRIPTORS: Violence Against Women. Battered Women. Spouse Abuse. Risk Factors. Socioeconomic Factors. Cross-Sectional Studies.

INTRODUCTION

Intimate partner violence (IPV) against women has been widely investigated, especially its health impact. Studies have showed a high varying prevalence of IPV (15% to 71%).^{7,9} In Brazil, the prevalence of physical and/or sexual IPV is 28.9% in São Paulo, southeastern Brazil, and 36.9% in Zona da Mata, Pernambuco, northeastern Brazil.¹³

The harmful health effects of violence on women are well documented.⁴ Women are frequent users of health services, possibly because it is where they seek help and these services must be prepared to address this issue due to high demand for assistance.

Women's disclosure of IPV to health providers is a complex issue involving social invisibility, impunity, fear of the perpetrator, untrained providers to deal with this issue, unawareness of the problem in health care settings and lack of intersectoral links for referral and cross-referral of cases.⁵

Studies of IPV prevalence and factors associated have provided information for planning and implementing local public policies as this phenomenon is affected by cultural factors and regional differences are expected. However, there is scant knowledge on these factors, especially in developing countries.²

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There is a need to more accurately assess IPV given its complexity and importance. The present study aimed to estimate the prevalence of IPV against women and identify factors associated.

METHODS

This is a cross-sectional study comprising 504 female users aged 15 to 49 years of five primary care clinics in the municipality of Ribeirão Preto, southeastern Brazil, conducted from August 11 to December 8, 2008.

Sample selection was based on the number of visits and activity at each primary care clinic in the previous two years (2006–2007). The sample size was calculated based on the estimation of proportions for finite population. These were proportionately distributed 4,064 visits, calculated by the average monthly visit at each clinic in 2006 excluding the atypical months of January and December. There were randomly selected 504 women for a 4.4% relative error and $\alpha = 0.05$, proportional to the monthly attendance at each clinic including all users and the productivity of each physician. Inclusion criteria were: female; age between 15 and 49 years; and have a scheduled visit with a general practitioner or gynecologist at the clinic. Nine women who reported never having had an intimate relationship were excluded from the analysis.

On-site face-to-face interviews were conducted individually by trained interviewers before or after the visit. A questionnaire consisting of 119 questions on sociodemographic characteristics, reproductive health, perceptions of gender roles in a marital relationship and experience of violence. There were used questions from the World Health Organization (WHO) multi-country study, especially those about violence, partner and gender.^a

The response variable was present when at least one response was “yes” to the six questions about physical IPV. These questions included: Has he slapped you or thrown something at you that could hurt you? Has he pushed or shoved you? Has he hit you with his fist or with something else that could hurt you? Has he kicked you, dragged you or beaten you up? Has he choked or burnt you on purpose? Has he threatened to use or actually used a gun, knife or other weapon against you?.

The independent variables included sociodemographic information: age (15–25; 26–35; 36–45; 46–49); marital status (married; living with a partner; single or widowed; separated or divorced); skin color (white; non-white); religion (Catholic; Evangelical; other); level of education (<8; 9–11; >12 years of schooling); head of household (her spouse/partner; the respondent;

her father or mother; other); socioeconomic status (assessed through purchasing power: class A, B, C, D, E); type of living arrangement (own housing or not); past history of family violence: abused mother (yes, no); abused mother-in-law (yes, no); spouse or partner abused during childhood (yes, no); past history of sexual abuse (yes, no), which was defined as sexual touching before age 15; reproductive health: age at sexual debut (<14; 15–16; 17–18; >19); number of pregnancies (none, 1, 2, 3 or more); and abortion (yes, no); alcohol use by the respondent: very frequent (almost every day or 1 to 2 times per week) or frequent (once every month) was considered alcohol use and occasional use or never was considered non-use. Current or past drug use by the respondent (yes, no); alcohol use by her partner or spouse (same categories); drug use by the partner (yes, no); problems in the past 12 months due to her partner’s alcohol use (yes, no); partner engaging in physical violence against other men (yes, no); perceptions on her partner’s temperament (calm, aggressive) and gender roles. For gender role, three variables from the WHO study were tested.^{13,a} The first one included six statements about female’s and male’s behavior in a relationship focusing on gender roles. Respondents were asked whether they agreed, disagreed with each statement or did not know. A score was added for each positive answer and the responses were rated 1 to 7. The second variable, gender violence, assessed to which extent they agree that violence was acceptable when they did not behave according to the female’s role; for example, refuse to have sex or being unfaithful. They were read six statements and asked whether they agreed with the justification of violence so it was called acceptance of violence (yes, no). The third variable was having a controlling partner. A controlling partner was defined when the respondents answered yes to any of seven statements about their partner’s behavior, such as keeping her from seeing family and friends, wanting to know where she is all the time and other controlling behaviors (yes, no).

The association between IPV and individual explanatory variables was assessed in the univariate analysis ($p \leq 0.05$). A multiple logistic regression model was proposed for the selected variables ($p \leq 0.20$) and those variables with $p < 0.05$ were kept in the model using automatic selection methods (stepwise, back and forward selection). All statistical analyses were performed in Stata 9.0.

The principles for research involving human subjects established by Resolution 196/96 of the Brazilian National Health Council were followed. The study was approved by the Research Ethics Committee of Hospital das Clínicas at School of Medicine of

^a Garcia-Moreno C, Jansen HAFM, Ellsberg M, Heise L, Watts CH. WHO Multi-country study on women’s health and domestic violence against women: initial results on prevalence, health outcomes and women’s response. Geneva: World Health Organization; 2005.

Table 1. Absolute frequencies and percentages of sociodemographic variables and p-value of the test of association with the variable intimate partner violence by univariate logistic regression. Ribeirão Preto, Southeastern Brazil, 2008.

Variable	F	%	p-value
Age (years)			
15–25	142	28.7	
26–35	131	26.5	
36–45	146	29.5	
46–49	76	15.3	0.936
Skin color/ethnicity			
White	275	55.6	
Mixed	152	30.7	
Black	64	12.9	
Native	4	0.8	0.93
Religion			
Catholic	275	55.6	
Evangelical	137	27.7	
Spiritist	36	7.3	
Presbyterian	12	2.4	
Other	35	7.0	0.119
Education			
Illiterate to 4 th grade	28	5.7	
5 th grade to incomplete middle school	113	22.8	
Complete middle school	131	26.5	
Complete high school	204	41.2	
Complete college education	19	3.8	0.002
Marital status			
Married	189	38.2	
Living with a partner	140	28.3	
Separate, single, without a partner	113	22.8	
Single with a boyfriend	53	10.7	<0.01
Housing			
Own	245	49.5	
Rented	172	34.7	
Borrowed	59	11.9	
Other	19	3.8	0.008
Head of household			
Spouse/partner	288	58.2	
Respondent	98	19.8	
Father	51	10.3	
Mother	35	7.1	
Other	23	4.6	0.26
Education (years of schooling)			
0–8	215	43.4	
9–11	239	48.3	
>12	41	8.3	0.033

Continua

Table 1 continuation

Variable	F	%	p-value
CCBE			
A	37	7.5	
B	116	23.4	
C	179	36.2	
D	121	24.4	
E	42	8.5	0.06

CCBE: Brazil's socioeconomic status classification

Ribeirão Preto-Universidade de São Paulo (USP) (no.1285/2007). All respondents signed an informed consent form. The interviewers and supervisors were instructed to advise women who disclosed a history of violence about their civil rights and social resources available in the city, and they were handed a brochure with a list of organizations and locations where they could obtain information and support to protect them against violence.

RESULTS

The prevalence of IPV at once during their lifetime was 34.5%. The respondents' mean age was 33.2 years (standard deviation [SD] 10 years). Most self-reported being white, and reported being Catholic, and married or living with a partner. About a fifth was single or separated but had an intimate partner. A smaller proportion was separated or divorced and did not have an intimate partner. Most (48.2%) had at least eight years of schooling, 43.4% 9–11, and only 8.2% had more than 12 years of schooling (corresponding to college education). Most women reported their spouse or partner was the head of household, and that they owned a home and belonged to socioeconomic class C or D (Table 1).

Age and skin color were not associated with physical violence. Physical violence was more prevalent among Evangelicals or women of other religions, but it was not statistically significant. IPV was almost four times more likely among separated or divorced women. The less educated the woman the more likely she was of experiencing IPV. Although IPV was high among those in classes A and E (40.5% and 45.2%, respectively), no significant association was found. Not owning a home was a risk factor for IPV. Women who lived in rental housing or other similar types of living arrangements were more likely to experience IPV than those who reported living in their own home. Although most women reported their spouse/partner was the head of household, those who identified themselves as heads of household were more likely to experience IPV. The likelihood of IPV increased by 96% among those who identified themselves as head of household, by 5% among those reported their spouse/partner was head

Table 2. Univariate analysis of intimate partner violence and factors associated. Ribeirao Preto, Southeastern Brazil, 2008.

Variable	OR	95%CI	p-value
Marital status			
Married	1	-	
Living with a partner	2.7	1.7;4.3	<0.001
Single	1.5	0.9;2.5	0.142
Separated, divorced	4.0	2.1;7.5	<0.001
Education (years of schooling)			
9–11	1	-	
<8	1.9	1.3;2.8	0.001
≥12	1.2	0.6;2.4	0.631
Head of household			
Parent	1	-	
Spouse/partner	1.0	0.6;1.8	0.858
Respondent	2.0	1.1;3.6	0.030
Other	1.8	0.7;4.6	0.234
Housing arrangement			
Own	1	-	
Rented	1.9	1.3;2.6	0.001
Abused mother			
No	1	-	
Yes	1.9	1.3;2.8	0.001
Abused mother-in-law			
No	1	-	
Yes	2.0	1.3;3.0	0.002
Abused partner during childhood			
No	1	-	
Yes	3.3	2.1;5.1	<0.001
Sexual abuse			
No	1	-	
Yes	2.6	1.7;3.9	<0.001
Age at sexual initiation (years)			
> 19	1	-	
<14	2.9	1.6;5.2	<0.001
15–16	1.9	1.1;3.2	0.018
17–18	1.8	1.0;3.0	0.037
Number of pregnancies			
0	1	-	
1	2.1	1.1;3.7	0.017
2	4.1	2.2;7.7	0.000
3 or more	4.0	1.7;9.1	0.001
Abortion			
No	1	-	
Yes	2.0	1.3;3.1	0.002
Acceptance of violence			
No	1	-	
Yes	1.9	1.1;3.3	0.018

To be continued

Table 2 continuation

Variable	OR	95%CI	p-value
Controlling partner			
No	1	-	
Yes	3.8	2.4;6.0	<0.001
Alcohol use by the respondent			
Rarely	1	-	
Occasionally	0.3	0.1;0.9	0.03
Frequently	2.2	1.3;3.5	0.002
Drug use by the respondent			
No	1	-	
Yes	3.4	1.7;6.8	0.001
Alcohol use by the partner			
Rarely	1	-	
Occasionally	1.1	0.5;2.2	0.859
Frequently	1.6	1.1;2.4	0.018
Drug use by the partner			
No	1	-	
Yes	5.8	3.6;9.5	<0.01
Partner with problems due to alcohol abuse in the last 12 months			
No	1	-	
Yes	3.5	2.3;5.2	<0.01
Partner engaging in physical violence against other men			
No	1	-	
Yes	9.6	5.3;17.4	<0.01
Perception of partner's temperament			
Calm	1	-	
Aggressive	31.8	15.6;64.9	<0.01
Easily lose control	11.5	6.7;19.5	<0.01

of household and by 77.5% when others (siblings, grandparents, uncles etc.) were the head of household (Table 2).

Having an abused mother was associated with IPV. Of all respondents, 33.4% reported witnessing their mother being abused. When they were asked about their mother-in-law being abused, 22.4% of women said yes. The likelihood of experiencing IPV increased by 92% among women of abused mothers and by 96% among those with abused mothers-in-law.

When they were asked if their partners have been abused during childhood, 20.6% answered yes. The same was seen for sexual abuse, which was reported by 22.5% of the women studied. IPV was two and a half times as likely among women with a history of sexual abuse and three times as likely among those whose partner was abuse during childhood.

The average age of sexual debut was 16.7 years, and almost half were sexually active before age 17. Sexual initiation before age 14 increased by almost three times the risk of IPV. Of all, 18.5% were never pregnant and 48.8% had one to two pregnancies. Greater number of pregnancies was associated with IPV. Those who had more than three pregnancies were more likely to experience IPV than those who had never been pregnant.

Of all respondents, 21.4% said having an abortion related to physical violence. The risk of IPV increased by 97% among those who had an abortion (Table 2).

Issues of gender roles in the couple's relationship were not associated with the outcome. Most women disagreed with any justification for violence. About one third women did not classify their partner as a controlling person. The risk of IPV increased by 93% among those who agreed with any justification for violence; and having a controlling partner increased this risk by about four times (Table 2).

As for alcohol use, 16.5% reported frequent use, 7.1% reported once a month and 76.3% occasional use. As for drug use, 7.2% reported current or previous use. The risk of IPV was higher among frequent users of alcohol or drugs. Alcohol use increased twice and drug use increased at least three times the likelihood of experiencing IPV (Table 2).

IPV was more likely among women with a partner who very frequently used alcohol or had a past or current history of drug use. The risk of IPV increased by 59% with frequent alcohol use and by nearly six times with drug use by their partner. About 30.0% of the women had financial, family or other problems due to their partner's alcohol use, increasing at least three times the risk of IPV (Table 2).

Among the partners, 14.7% had engaged in physical violence against other men. Most women perceived their partner as a calm and balanced person. The risk of IPV increased more than 30 times when they were considered to be aggressive.

The selected variables for the multivariate analysis were: level of education, marital status, type of living arrangement, sexual abuse, abused mother by their father, abused partner during childhood, alcohol use by the women and their partner, drug use by the partner, partner's problems due to alcohol abuse in the last 12 months, partner engaging in physical violence against other men and perceptions of the partner's temperament (Table 3).

Women living with a partner, separated or divorced were twice more likely to experience IPV than married women, a difference that was statistically significant. Having less than eight years of schooling increased

Table 3. Multivariate analysis of intimate partner violence and factors associated. Ribeirao Preto, Southeastern Brazil, 2008.

Variable	OR	95%CI	p-value
Education (years of schooling)			
>9	1	-	
<8	1.5	0.9;2.5	0.143
Marital status			
Married	1	-	
Living with a partner	1.9	0.98;3.5	0.060
Single and widowed	1.0	0.5;2.1	0.925
Separated and divorced	2.3	1.0;5.1	0.049
Type of housing arrangement			
Own	1	-	
Rented	1.7	1.0;2.9	0.039
Sexual abuse			
No	1	-	
Yes	1.9	1.0;3.4	0.041
Abused mother			
No	1	-	
Yes	1.5	0.9;2.6	0.115
Abused partner during childhood			
No	1	-	
Yes	1.9	1.1;3.6	0.035
Alcohol use by the respondent			
No	1	-	
Yes	2.5	1.2;5.1	0.010
Alcohol use by the partner			
No	1	-	
Yes	2.0	1.1;3.8	0.029
Drug use by the partner			
No	1	-	
Yes	3.3	1.7;6.3	<0.01
Partner with problems due to alcohol abuse in the last 12 months			
No	1	-	
Yes	1.6	0.8;2.9	0.170
Partner engaging in physical violence against other men			
No	1	-	
Yes	2.7	1.2;5.7	0.012
Perception of the partner's temperament			
Calm	1	-	
Aggressive	9.3	5.4;16.1	<0.01

the risk of IPV by 47%, but it was not significant. Women who were living in rental housing or similar living arrangements, who experienced sexual abuse, and whose partner was abused during childhood were twice as likely to experience IPV. Having an abused mother increased the risk of IPV by about 50% though it was not significant. Alcohol use by the woman or her

partner was found a significant factor, but it was more relevant among women as they were two and a half times more likely to experience IPV compared with those not reporting alcohol use. Drug use by the partner and partner engaging in physical violence against other men increased more than three times and more than twice the risk of IPV, respectively. IPV was nine times more likely among those who perceived their partner as aggressive (Table 3).

In the multivariate analysis, family history of violence, including sexual abuse, alcohol and drug use, physical violence against other men and the perception of the partner as being aggressive remained in the model (Table 3). However, only two sociodemographic variables were significant: being separated or divorced and living in rental housing.

A confusion matrix including the sample and resulting scores was used to assess model performance. The cut-off probability was 0.34. Women with scores greater than 0.34 were categorized as experiencing IPV. The model's sensitivity was 80.7% and specificity was 82.8%, with correct classification in 83.5%.

DISCUSSION

The prevalence of IPV among users of health services in the city of Ribeirão Preto is similar that described in other Brazilian studies. A study conducted in a primary care unit in the city of Porto Alegre, southern Brazil, found a 38% prevalence of IPV.¹² Schraiber et al¹⁵ investigated users of 19 primary care services in the metropolitan area of São Paulo, and found a 40.4% prevalence of IPV, ranging from 38.6% to 42.1%. Marinheiro et al,¹³ in a study limited to one health district in Ribeirão Preto, estimated an IPV prevalence of 26.4%.

In the present study, IPV was not associated with age, skin color and religion. Age has not often been associated with IPV, although some studies have showed higher prevalence among young people⁶ while others have found an association of older partner's age with lower risk.¹ One in every six female college students in Spain has ever experienced violence by an intimate partner or other male person.¹⁷ In eastern India, older age was significantly associated with IPV.²

Although no association was found between socioeconomic status and IPV, not owning a home remained associated with IPV even in the multivariate analysis. This may reflect not only by their socioeconomic condition but also their unstable housing arrangement. Ribeirão Preto receives seasonal migrant workers to work on sugar cane harvests who move through this area. Higher levels of education and wages have been identified as protective predictors of the risk and perpetration of domestic violence.^{1,2,10} A study conducted in the city of São Paulo and Zona da Mata of Pernambuco

found that eight years of schooling or less was associated with IPV, but it lost significance when mediated by other factors.^{6,13}

Sociodemographic variables associated with IPV in the univariate analysis in this study, such as level of education, marital status and head of household, seem to point to gender conflicts that cause violence in relationships. More educated women would have more resources to achieve greater autonomy and could be more equipped to identify and break away from abusive relationships. However, women earning more than their partners can be a reason for conflict.^{1,2,6} Violence against women occurs as a strategy for the maintenance of male power.

This may explain why IPV occurs among Brazilian women with medium level of education:¹⁴ women with lower education would not face gender issues and those with higher education would have a more even balance of power with their partners. In China and India, having a higher level of education is a protective factor against violence.^{2,18} In developing countries like Turkey, IPV is associated with poverty, unemployment, low education, large number of children and female submission to family authority.¹⁵ Being the head of household opposes social norms of gender roles and can promote IPV. In emerging economy countries, women who become more socially powerful may face an increased risk of IPV. A study in India have showed that women running small businesses or productive activities were found more likely to experience violence.²

The category "separated" was also associated with IPV in a study in São Paulo,⁶ which suggests that many women can free themselves from a situation of violence, challenging the stereotype that IPV is irrevocably a chronic situation.

Family history of violence are seen as a major risk factor for violence.^{6,10} Intergenerational transmission of violence has been used to theoretically explain the relationship between witnessing family violence and IPV. A study with college students in South Carolina, US, showed a correlation between witnessing IPV between parents and physical and psychological violence in one's own relationships.³ Witnessing one's mother being abused by her partner is an important risk factor, and is significantly associated with an increased risk of about five times in IPV.^{1,6,10,16,17}

Having witnessed violence against the respondent's or her partner's mother greatly increases the risk of IPV. The social reproduction of family violence can be trivialized and naturalized as part of relationships during the process of children socialization,³ as well as being abused during childhood, which was found as a significant factor for the risk of being the perpetrator.

Alcohol use by the respondent and her partner was associated with IPV in the multivariate analysis, and

the risk of IPV increased with alcohol consumption by the woman. Alcohol abuse by the partner is predictor of IPV against women.^{1,2,6} Violence episodes are likely to occur when a couple argues whether one or both are under the influence of alcohol.⁶

The woman's perception of her partner's temperament increases the risk of violence. This finding can be used to help health providers assess the risk of violence.

Although there is no consensus on the use of screening protocols for the care of women who suffer IPV,⁸ the use of a confusion matrix in the present study showed the power of the model and the importance of the associated factors in the multivariate analysis. This model could be used in screening protocols with error likelihood lower than 20%.

One of the limitations of this study is that the results can not be generalized to the population as the prevalence of IPV was estimated in a sample from users of health services, which is often higher than the population prevalence.

In conclusion, although IPV is a complex phenomenon, the study was able to identify the variables involved in a predictive model to assess the risk of violence, which can be used in the formulation of public policies against IPV.

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