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Factors associated with intimate partner violence against Brazilian women

ABSTRACT

OBJECTIVE: To estimate the prevalence of physical and/or sexual violence by intimate partners and factors associated with this, in different sociocultural contexts.

METHODS: This cross-sectional study was part of the "WHO Multi-country Study on Women's Health and Domestic Violence against Women". It consisted of representative samples of women from the municipality of São Paulo (Southeastern Brazil) and from the Zona da Mata of Pernambuco (Northeastern Brazil), this latter is a region with more traditional gender norms. Interviews were conducted in the homes of 940 women in São Paulo and 1,188 in the Zona da Mata, in the years 2000-1. The women were aged 15 to 49 years and had all had at least one intimate partnership with a man during their lifetimes. Three sets of factors were constructed, corresponding to hierarchically organized categories: sociodemographic, family and female autonomy/submission characteristics. Hierarchical logistic regression was used to analyze factors associated with intimate partner violence at each location.

RESULTS: A prevalence of 28.9% was found in Sao Paulo (95% CI 26.0;31.8) and 36.9% (95% CI 34.1;39.6) in Zona da Mata. Up to eight years of schooling, conjugal physical violence between the women's parents, sexual abuse during childhood, five or more pregnancies and drinking problems were associated with intimate partner violence at both locations. Financial autonomy for the woman, informal partnership, age and consent to the first sexual intercourse were associated with higher rates only in Zona da Mata. The socioeconomic characteristics that presented associations in the first category were mediated by other factors in the final model.

CONCLUSIONS: The findings show the relativization of socioeconomic factors in relation to other factors, particularly those representing gender attributes. Sociocultural differences were found between the two locations, and these were reflected in the associated factors.

DESCRIPTORS: Women. Violence Against Women. Sexual Violence. Domestic Violence. Socioeconomic Factors. Cross-Sectional Studies.

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INTRODUCTION

Starting in the 1990s, investigations have indicated high prevalence of intimate partner violence (IPV), varying around the world from 15.4% to 70.9%, for occurrences of physical and/or sexual violence at least once in a lifetime.[8]

However, there is still no consensus regarding the definition of IPV, with variations in the instruments used, populations investigated and data gathering conditions.[10] The time when the violence occurs also varies between studies,

since some focus on the past year[1,17,19] while others report occurrences throughout life.[6,12] Different epidemiological models present variations regarding the determinants of IPV experienced by women.

Because this type of violence is deeply rooted in most cultures, there is a consensus in the literature that it has multicausal origins. The World Health Organization (WHO) and other authors[9,10] have suggested using an ecological model[9] that integrates sociocultural, community, family and individual factors, in concentric circles. However, implementation of such models in epidemiological analyses is not simple, nor is there any consensus about it.

Qualitative and quantitative studies show that IPV is linked to acceptance of violence and hierarchical gender rules, such as the male "right" to control female property and behavior. Conflicts revolving around this, in which the woman defies this control or the man cannot maintain it, may be associated with IPV.[2,10,13]

On the other hand, poor socioeconomic conditions are a risk factor for IPV, even if in a moderate or nonlinear form.[13,14] It is suggested that stress related to poor living conditions and the lack of guarantee of access to goods and services might constitute the basis of this association, which would culminate in gender-related dimensions.

With regard to sociodemographic factors, a variety of situations of associations with IPV have been documented.[21] Many studies have shown that age has little association with IPV over the lifetime,[7,12,14,19] but there are some studies showing that young women are at increased risk,[14,17] especially regarding occurrences over the past year. The characteristics of the home, number of people living in the home, family composition and a rural or urban context of life have not shown associations with IPV,[13] but poverty is frequently associated, even if extreme poverty may not represent an additional risk. The latter has been explained as extreme accommodation to traditional gender rules and their power relationships that reiterate male control over the couple's life.[10]

Educational level has presented an association with IPV in several studies,[5,10] in which higher levels were more protected and lower levels presented greater associated risk.[7,12] Studies in Nicaragua,[4] Mexico[19] and the United States[22] have, nevertheless, reported an inconsistent association or one that was only related to moderate violence.

The conjugal situation depends on the context of whether the gender rules are more or less conservative. In countries in which premarital sex is the rule and separation a right, being separated or divorced is associated with IPV over the lifetime, thus suggesting that many women were able to get out of situations of IPV through separation. In cultures in which premarital sex is considered to be a transgression and separation is not a right, a stable partnership and steady dating with sexual activity may represent greater risk,[13] thus suggesting greater difficulty in getting out of violent relationships and greater discrimination associated with sex outside of marriage.

Although the association between IPV and race/ethnicity has been less investigated, American studies have shown higher prevalence among Afro-American women. However, when controlled for other sociodemographic variables, this association usually disappears, thus suggesting that race/ethnicity is a proxy for social conditions.[24]

Experiences in the birth family have shown consistent associations with IPV. To witness IPV against one's mother and suffer physical violence at the hands of one's parents increase the risk of suffering IPV in adulthood.[12,18]

Factors relating to women's life experiences have been identified. Sexual/reproductive characteristics seem to have great relevance: age at the time of the first sexual intercourse and whether it was consensual;[9,19] sexual abuse during childhood;[5] and greater numbers of children.[4,13,14]

Financial autonomy among women can protect them from IPV in some contexts, but not in others.[13,15,17] This autonomy can strengthen them and make them less exposed to violence, but it may also make male behavior aimed at regaining the traditional male domination more common, which may lead to IPV.[1] There are indications that this is mediated by the quality of the couple's relationship.[7] Opinions among women that show acceptance of violence[7,26] or personal subservience[12] have also shown associations with IPV. Alcohol abuse among women has been shown to be associated with IPV and could indicate a way for them to deal with the violence.[10]

The objective of the present study was to estimate the prevalence of and factors associated with intimate partner violence within different Brazilian sociocultural contexts.

METHODS

This cross-sectional study was part of the Brazilian research within the WHO Multi-country Study on Women's Health and Domestic Violence against Women.[8] It was carried out by means of a household survey between 2000 and 2001, in two different contexts: the municipality of São Paulo (SP), which is the largest city in Brazil, and 15 municipalities in the *Zona da Mata* ("Forest Region") of the state of Pernambuco (ZMP). The sampling strategy consisted of multiple-stage cluster sampling, as detailed in other papers.[8,16,20]

Interviews were held with 2,128 women aged 15 to 49 years who were living in the selected household. These women needed to have the physical and mental capacity to answer a questionnaire in a face-to-face interview. The sample losses are detailed in another paper.[20]

The questionnaire was constructed by the international research team, with collaboration from the researchers in the countries participating in the study.[8,20] The questions on IPV are presented in another paper.[20] Physical violence (PV) and/or sexual violence (SV) caused by an intimate partner was considered present when the woman answered yes to at least one of the items in either of these two sets of questions (six items for PV and three for SV). Internal consistency analysis showed Cronbach values for physical and/or sexual violence were respectively 0.8465 for SP and 0.8531 for ZMP.

Intimate partners were defined as the companions or former companions with whom the women were living or had lived, regardless of whether it was a formal partnership, including current boyfriends provided that the relationship was sexual.

The independent variables analyzed were grouped into three levels, as shown in the Figure. These levels were organized and tested in a distal-proximal manner in relation to IPV. They consisted of groupings of sociodemographic variables, variables of the birth family and variables relating to personal experiences and opinions.

The variables used were composed as follows:

Level 1: Sociodemographic characteristics

- age in full years: 15 to 19, 20 to 29, 30 to 39 or 40 to 49;

- number of completed years of education: ≥12, 9 to 11 or 0 to 8;

- conjugal situation: married, informal partnership, dating with sexual activity, separated, widowed or without a partner;

- number of people in the household per room: <2 or ≥2;

- socio-communitarian support, constructed based on five questions: proximity among the members of the community in which the woman lived; whether the neighbors would do anything to stop a physical fight in the street; whether people were prepared to contribute with time, labouur or money towards community projects; whether people trusted each other regarding lending and borrowing money; and whether the neighbors would be willing to help if there was an accident or illness in the woman's family. One point was attributed to each of these

items and the situations were classified as: little help (0 to 1), some help (from 2 to 4 points) or a lot of help (5 points);

- self-reported skin color: white, black, mixed, oriental or indigenous.

Level 2: Birth family

- mother experienced physical aggression from partner: yes, no, parents separated or not known;

- family support: ability to count on or not count on relatives to be supportive in case of problems.

Level 3: Experiences of autonomy/submission relating to gender issues

- sexual violence caused by people other than the partner, from the age of 15 years onwards: yes or no;

- sexual abuse before the age of 15 years: Before the age of 15 years, do you remember whether anyone in your family touched you sexually or made you perform sexual activity that you did not want? (yes or no);

- number of pregnancies: none; 1 to 2; 3 to 4, or ≥ 5;

- the woman's problems with drinking: a problem was considered to exist when there was a positive answer to at least one of the following problems relating to alcohol consumption: problems with money, health, conflicts with the family or friends, or problems with authority over the last 12 months;

- financial autonomy, consisting of the following questions: possession of own income (yes and no); and possession of assets such as houses, land or jewelry (her own and shared assets, or assets belonging exclusively to the partner). The woman was considered financially autonomous when she had assets of her own and/or her own income;

- age at the time of first sexual intercourse and whether it was consensual: forced or unwanted and aged ≤ 15 years; forced or unwanted and ≥ 16 years; consensual and ≤ 15 years; or consensual and ≥ 16 years;

- acceptance of violence: violence was deemed to be accepted when the answer was "yes" or "don't know" to at least one of the six options in the following question: the man has good reason to hit his wife if: she does not perform the housework satisfactorily; she disobeys him; she refuses to have sex with him; she asks if he has other girlfriends; he is suspicious that she is unfaithful; or he finds out she is unfaithful.

In the data analysis, the dependent variable was physical and/or sexual violence committed by the intimate partner at least once over the lifetime. The analysis was carried out using Stata, version 9.0. Unconditional logistic regression was used to analyze the associations between IPV and the explanatory variables, including adjustments for the effect of the sampling design. The magnitude of the association between IPV and the explanatory variables was estimated by means of simple and adjusted odds ratios (OR) and 95% confidence intervals.

Hierarchical analysis was used.[23] Following a distal-proximal orientation, the starting point was the women's sociodemographic characteristics (levelpoderia ser domain, ao inv[es de block? 1). Next, the variables relating to the birth family were added (level 2), and then the experiences and opinions of autonomy/submission, which are most directly linked to gender (level 3).

Separate models were constructed for SP and ZMP to enable identification of regional variations. The variables that had a p-value less than or equal to 0.20 in the univariate analysis were included in the respective levels for modeling. From there, the levels were conjugated and a further two models were constructed for each location (levels 1+2 and levels 1+2+3).

Variables were kept in the model for their respective levels when they presented p-values less than or equal to 0.05 or significant confounding effects on the variables previously included in the model (changes to the adjusted OR that were greater than 10%). The variables from levels that had already been tested and lost significance when included in a new level remained in the model. This situation was interpreted as an association with IPV that was mediated by the level that was now added.

Special attention was given to ethical matters, as recommended by WHO.[25] In addition to obtaining each woman's consent and emphasizing that she could halt the interview, special care was taken in selecting and training the field researchers[11] and in offering psychoemotional support and technical supervision. Furthermore, measures to protect confidentiality, privacy and safety were adopted, along with guarantees of backup care for the cases. Additional details can be found in another paper.[20]

The study was approved by the Research Ethics Committee of the University of São Paulo (USP) School of Medicine and Hospital das Clínicas (CAPPesq-609/98) on November 11, 1998, and by CONEP (Report 002/99) on November 1, 1999.

RESULTS

A total of 940 women in SP and 1188 in ZMP were interviewed and completed the questionnaire (response rates of 89.9% and 95.7%, respectively). All of these women had had at least one intimate partner over their lifetimes.

The prevalence of physical and/or sexual violence over the lifetime was 28.9% in SP (95% CI: 26.0; 31.8) and 36.9% in ZMP (95% CI: 34.1; 39.6). Table 1 presents the distributions of the characteristics studied in the two locations. In SP, compared with ZMP, there were significantly more women aged 30 years or over, with high school or university-level educational, dating with sexual activity, reporting white skin color, with financial autonomy, and who experienced sexual violence after the age of 15 years caused by a non-partner aggressor. On the other hand, in ZMP, more women had a lot of support from the community, reported that their mothers had suffered aggression caused by their partners, were in informal partnerships, had had their first sexual intercourse before the age of 15 years, had had more than two children, and agreed that a man might be justified in hitting his partner. The number of people per room, the ability to count on the family, sexual abuse during childhood and drinking problems did not differ between the two locations.

Most of the variables studied presented p ≤ 0.20 in the univariate analysis, with the exception of age, skin color and socio-communitarian support, in both the locations,
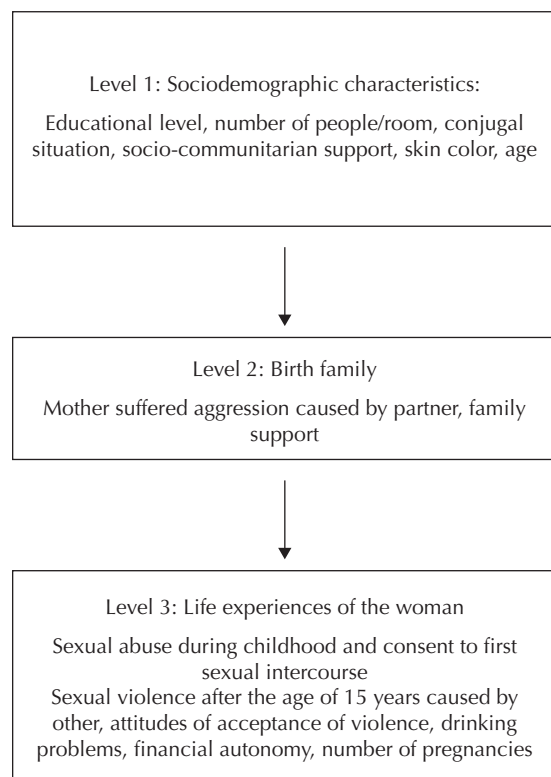

Figure. Hierarchical analysis levels.

and financial autonomy, in SP. These variables were tested in the models as confounding variables, but did not reach statistical significance or produce significant adjustment in relation to the other variables of interest, except for age, which adjusted the number of pregnancies, educational level and conjugal situation, especially in ZMP. Thus, age was kept in both models, for control purposes.

Table 1. Characteristics of the women interviewed in São Paulo and Zona da Mata of Pernambuco. Southeast and Northeast Brazil, 2000-1. (n = 2128)

Variable	SP N = 940		ZMP N = 1188		
	n (%)	All the women	IPV n (%)	All the women	pᵃ
Sociodemographic characteristics					
Ageᵇ (years)					0.014
15-19	14 (24.1)	58	24 (27.0)	89	
20-29	80 (26.4)	303	153 (35.2)	434	
30-39	95 (29.7)	320	162 (40.3)	402	
40-49	83 (32.0)	259	99 (37.8)	262	
Educational level (years)					<0.001
12 or more	35 (18.3)	191	11 (20.4)	54	
9 to 11	73 (25.7)	284	65 (26.9)	242	
0 to 8	164 (35.3)	465	362 (40.6)	892	
Conjugal situationᶜ					
Married	105 (21.4)	490	120 (24.3)	494	<0.001
Living together	67 (35.1)	191	212 (44.2)	479	
Dating with sexual activity	35 (22.7)	154	40 (43.0)	93	
Separated, widowed or without a partner	65 (61.9)	105	66 (54.1)	122	
Number of people per room					<0.110
Up to 2	135 (23.9)	564	256 (34.0)	753	
More than 2	137 (36.4)	376	182 (41.8)	435	
Socio-communitarian supportᵈ					<0.001
A lot	110 (26.6)	414	282 (36.1)	780	
Some	121 (30.0)	403	125 (36.3)	344	
Little	41 (33.3)	123	30 (48.4)	62	
Socioeconomic status					<0.001
High	42 (19.2)	219	37 (31.4)	118	
Medium	100 (27.0)	370	253 (34.5)	734	
Low	130 (37.9)	343	147 (44.5)	330	
Skin colorᵉ					<0.001
White	133 (26.5)	502	85 (34.1)	252	
Black	19 (34.5)	55	24 (55.8)	43	
Oriental	3 (23.1)	13	3 (30.0)	10	
Mixed	81(33.7)	240	226 (35.0)	645	
Indigenous	3(50.0)	6	5 (38.5)	13	
Birth family					
Mother suffered aggression from partnerᶜ					0.025
No	158 (22.6)	699	288 (32.7)	881	
Yes	100 (46.3)	216	121 (48.2)	251	
Separated parents/does not know	14 (58.3)	24	29 (51.8)	56	
Counts on the family					0.372
Yes	206 (25.9)	796	341 (34.5)	989	
No	66 (45.8)	144	97 (48.7)	199	

To be continued

Table 1 continuation

Variable	SP N = 940		ZMP N = 1188		
	n (%)	All the women	IPV n (%)	All the women	p[a]
Woman's experiences during life					
First sexual intercourse[f]					<0.001
> 15 years old, not forced	155 (23.7)	654	222 (29.0)	766	
< 15 years old, not forced	22 (44.0)	50	67 (53.2)	126	
> 15 years old, forced	74 (36.4)	203	94 (43.3)	217	
< 15 years old, forced	20 (66.7)	30	53 (70.7)	75	
Sexual abuse during childhood					0.162
No	234 (27.0)	866	389 (34.9)	1113	
Yes	38 (51.3)	74	49 (65.3)	75	
Problems with alcoholic drinks[b]					0.568
Never drank / no problems	249 (27.5)	905	405 (35.6)	1137	
Some problems	23 (65.7)	35	32 (64.0)	50	
Sexual violence after the age of 15 by others					0.005
No	241 (27.6)	873	406 (35.7)	1137	
Yes	31 (46.3)	67	32 (62.7)	51	
Number of pregnancies					<0.001
None	22 (14.8)	149	23 (24.7)	93	
1 or 2	114 (25.0)	456	150 (31.0)	483	
3 or 4	95 (36.5)	260	138 (37.2)	371	
5 or more	41 (54.7)	75	127 (52.7)	241	
Acceptance of violence					<0.001
No	231 (27.7)	835	272 (34.0)	799	
Some	41 (39.0)	105	166 (42.7)	389	
Financial autonomy[b]					<0.001
No	73 (25.5)	286	208 (32.6)	637	
Yes	199 (30.4)	654	230 (41.8)	550	

SP: São Paulo
ZMP: Zona da Mata of Pernambuco
IPV: intimate partner violence
[a] p corresponds to the chi-square test for difference between locations
[b] N = 1187 in ZMP
[c] N = 939 in SP
[d] N = 1186 in ZMP
[e] N = 937 in SP and 1184 in ZMP
[f] N = 816 in SP and 963 in ZMP

Table 2 presents the models for SP. The first column shows the model for each level. The second column shows an intermediate model, composed of level 1 (sociodemographic characteristics) and level 2 (birth family). The third column shows the final model, adding leveldomain 3 (experiences of autonomy or submission) to the two previous levels. Table 3 presents the same for ZMP.

Because the final model is hierarchical, it can be examined horizontally (a given variable over the course of adjustment) and diagonally (adjustment between the levelsdomains),[26] as indicated by the bolding in Tables 2 and 3.

In level 1, having an less than nine years of schooling lost its significance in the final models in both locations, and the same occurred in relation to age over 30 years. Living without a formal partnership was associated with IPV in both locations, but only remained in ZMP after the final adjustment. Dating was not associated with IPV in SP in any of the levels, but it only ceased to be associated in ZMP after including level 3. Finally, being separated, widowed or partnerless at the time of the interview was associated only in SP. The number of people per room, when adjusted within its level, did not reach statistical significance and was excluded from the model.

In level domain 2, IPV experienced by the mother remained statistically associated with IPV in both locations until the final model. Ability to count on the family remained associated only in SP and in its respective level, after adjustment for IPV experienced by the mother.

In leveldomain 3, sexual abuse during childhood, five pregnancies or more, forced first sexual intercourse

Table 2. Sociodemographic, birth family and life experience characteristics of the women interviewed and their associations with intimate partner violence. São Paulo, Southeast Brazil, 2000-2001.

Model / variable	Models 1, 2 and 3 singly		Models 1 + 2 (n = 939)		Models 1 + 2 + 3 (n = 936)	
	OR[a]	p	OR[a]	p	OR[a]	p
1. Sociodemographic characteristics (n = 940)						
Woman's educational level (years)						
12 or more	**1.00**		1.00		1.00	
9 to 11	**1.36**	**0.79;2.35**	1.28	0.72;2.27	1.03	0.53;2.02
0 to 8	**2.14***	**1.26;3.63**	1.85**	1.05;3.24	1.32	0.70;2.48
Conjugal situation						
Married	**1.00**		1.00		1.00	
Living together	**1.71***	**1.19;2.47**	1.74*	1.20;2.50	1.34	0.90;2.00
Dating with sexual activity	**1.14**	**0.71;1.81**	1.10	0.68;1.80	1.10	0.62;1.98
Separated, widowed or without partner	**5.16***	**2.88;9.23**	5.71*	3.15;10.35	5.13*	2.61;10.08
Age						
15-19	**1.00**		1.00		1.00	
20-29	**1.24**	**0.53;2.92**	1.42	0.54;3.69	1.25	0.42;3.72
30-39	**1.26**	**0.54;2.94**	1.32	0.51;3.42	1.10	0.36;3.38
40-45	**1.40**	**0.53;3.67**	1.55	0.54;4.45	0.99	0.28;3.54
2. Birth family (n = 939)						
Ability to count on family		0.0000				
Yes	1.00					
No	2.15*	1.72;3.67				
Mother suffered aggression from partner						
No	1.00		**1.00**			
Yes	2.51*	1.67;10.18	**2.77***	**1.89;4.07**	2.48*	1.69;3.64
Parents separated / not known	4.12*	1.38;3.36	**4.87***	**2.20;10.73**	4.31*	1.81;10.24
3. Woman's experiences of life (n = 937)						
Sexual abuse during childhood		0.0000				
No	1.00				**1.00**	
Yes	2.42*	1.41;4.13			**2.47***	**1.21;4.18**
Number of pregnancies						
None	1.00				**1.00**	
1 or 2	2.51*	1.42;4.44			**2.20****	**1.11;4.36**
3 or 4	4.01*	2.38;6.75			**3.27***	**1.70;6.28**
5 or more	6.54*	2.85;15.04			**5.86***	**2.26;15.15**
Drinking problems						
Never drank / no problem	1.00				**1.00**	
Some problems	5.27*	2.40;11.58			**4.83***	**2.03;11.49**
First sexual intercourse						
> 15 years old Not forced	1.00				**1.00**	
< 15 years old Not forced	2.53*	1.26;5.05			**1.71**	**0.77;3.81**
> 15 years old forced	1.80**	1.08;3.01			**1.65**	**0.98;2.78**
< 15 years old forced	3.77*	1.46;9.76			**2.47**	**0.95;6.42**

Bold values indicate the reading direction of the association in the hierarquical analysis.
[a] adjusted OR; * p < 0.01; ** p < 0.05

or occurring before the age of 15 years and drinking problems were all associated with IPV in both locations. Financial autonomy for the woman remained in the model only for ZMP. Sexual violence after the age of 15 years and acceptance of violence lost their significance and were excluded from the model in both locations.

Table 3. Sociodemographic, birth family and life experience characteristics of the interviewed women and their association with intimate partner violence. Zona da Mata of Pernambuco, Northeast Brazil. 2000-2001.

Model / variable	Models 1, 2 and 3 singly		Models 1 + 2 (n = 939)		Models 1 + 2 + 3 (n = 936)	
	OR[a]	p	OR[a]		OR[a]	p
1. Sociodemographic characteristics (n = 1187)						
Woman's educational level (years)						
12 years or more	**1.00**		1.00		1.00	
9 to 11 years	**1.46**	**0.70;3.02**	1.42	0.67;3.01	1.77	0.78;4.01
0 to 8 years	**2.27***	**1.02;5.04**	2.04	0.91;4.55	1.98	0.79;4.98
Conjugal situation						
Married	**1.00**		1.00		1.00	
Living together	**2.64****	**1.66;4.19**	2.64**	1.65;4.22	2.00**	1.21;3.31
Dating with sexual activity	**2.41***	**1.11;5.21**	2.48*	1.15;5.37	1.87	0.82;4.26
Separated, widowed or without partner	**2.85****	**1.63;5.33**	2.82**	1.47;5.43	2.16	0.90;5.21
Age						
15-19	**1.00**		1.00		1.00	
20-29	**2.11**	**0.95;4.65**	2.14	0.97;4.73	2.18	0.95;5.00
30-39	**2.82***	**1.08;7.35**	2.78*	1.05;7.38	2.42	0.92;6.37
40-45	**2.84****	**1.33;6.03**	2.73*	1.49;3.42	1.99	0.89;4.44
2. Birth family (n = 1188)						
Mother suffered aggression from partner						
No	1.00		**1.00**			
Yes	1.86**		**1.68****	**1.20;2.36**	1.52*	1.09;2.13
Parents separated / not known	2.41**		**2.25****	**1.49;3.42**	2.05*	1.11;3.82
3. Woman's experiences of life (n = 1182)						
Sexual abuse during childhood		0.0048				
No	1.00				**1.00**	
Yes	2.53**	1.27;5.05			**2.18***	**1.06;4.48**
Number of pregnancies						
None	1.00				**1.00**	
1 or 2	1.67	0.76;3.66			**1.45**	**0.81;2.61**
3 or 4	2.00	0.86;4.66			**1.69**	**0.79;3.60**
5 or more	3.71*	1.22;11.28			**2.77***	**1.18;6.50**
Drinking problems						
Never drank / no problem	1.00				**1.00**	
Some problems	3.39**	1.36;8.42			**3.76***	**1.28;11.08**
First sexual intercourse						
> 15 years old Not forced	1.00				**1.00**	
< 15 years old Not forced	2.99**	1.72;5.20			**2.49****	**1.48;4.18**
> 15 years old forced	1.70*	1.11;2.59			**1.41**	**0.86;2.31**
< 15 years old forced	7.94**	4.74;13.30			**6.99****	**3.88;12.60**
Financial autonomy						
No	1.00				**1.00**	
Yes	1.80**	1.42;2.28			**1.77****	**1.28;2.45**

Bold values indicate the reading direction of the association in the hierarquical analysis.
[a] adjusted OR; * p < 0.05; ** p < 0.01

The final model for SP and ZMP shared four associated factors: history of aggression experienced by the mother at the hands of her partner; sexual abuse during the interviewee's childhood; five or more pregnancies and drinking problems. For SP alone, the following factors were identified: separated, widowed or partnerless status and between one and four pregnancies. Forced first sexual intercourse before or after the age of 15 years was at the threshold of statistical significance, but this variable remained in the model because it adjusted other variables (conjugal situation). For ZMP alone, the following were associated: living together and first sexual intercourse before the age of 15 years, whether forced or not.

DISCUSSION

This is the first population-based survey to identify factors associated with IPV in Brazil among representative samples of women, by means of an internationally standardized instrument. It has made it possible to establish a panorama of the diversity of Brazilian realities that is comparable with that of other locations in the world.

The findings show that thewere sociodemographic characteristics were associated with IPV. However, they were weak and largely mediated by the variables of levelsdomains 2 and 3.

Age did not present any association, despite the fact that, considering IPV throughout life, greater IPV with increasing numbers of years in exposure would be expected. This can be explained by certain hypotheses that are not mutually exclusive: IPV may have increased over the past few years; the older aggressions, especially the less severe ones, would be given lower value in the reports, thus leading to underestimated prevalence among older women; or violence may, in most cases, have started at an early age, which is confirmed by the finding that there is a greater risk among young women for recent episodes.[14]

Having up to eight years of education was associated with IPV, but was mediated by other factors and lost its significance in the final model in both study locations. Low educational level was associated with greater numbers of children, informal partnerships and higher rates of violence in the birth family, along with greater acceptance of violence (data not presented in any Table). Its effect on the women's vulnerability seems to be mediated by these factors. The fact that educational level is inconsistently associated with IPV in studies from around the world may be due to its great interaction with other variables, which are not always tested in the models.[4,6,7]

The women's skin color was not independently associated with IPV, thus suggesting that the greater prevalence among black women is associated with their unfavorable socioeconomic conditions. However, future studies should investigate more specifically the meaning of race/ethnicity in relation to IPV,[24] including the partner's

color and possible differences internal to the couples.

Socio-communitarian support was not associated with IPV. However, the proxy for social support may not have been the most appropriate one, and this topic will need further research in future studies.

With regard to childhood experiences, reports that the mother suffered aggressionwas agressed from her partner were reiterated as an important risk factor. This maintained a significant association even after controlling for all other variables, in agreement with the literature. Such experience may reduce the women's capacity to protect themselves in the future. It was associated with little family support in adulthood, along with reiterating the idea that violence is natural or is a trivial occurrence of everyday life in amorous relationships, for which no help or transformation can be expected.[18]

Sexual abuse during childhood maintained a significant association, independent of all other variables that were added to the model, in both locations. Its action probably reproduced values such as trivialization of violence or disqualification of women.[9]

These findings – witnessing or experiencing abuse during childhood – mean that there is a pressing need to break the cross-generational transmission of violence against women.[18] It can be expected that actions today that reduce IPV and child sexual abuse will give rise to reductions in future occurrences of violence against women.

Regarding the women's experiences of autonomy/submission, contrary to the literature, it was found that the "acceptance of violence" did not maintain an association with presence/absence of experiences of IPV. Such acceptance was relatively low in both locations of the study and it provided little discrimination of the women with higher chances of IPV within the context studied. However, a hypothesis can be put forward that, even though individual acceptance of violence was not associated with IPV, its greater occurrence within a community may be associated with greater prevalence. In this respect, future studies using multilevel analysis may provide clarification.[17]

Drinking problems presented consistent associations in both locations, and remained in the final model. These problems may stigmatize these women and probably partially represent ways of dealing with IPV, as well as possibly inciting such episodes.

The differences found between ZMP and SP again reinforce the importance of gender issues for understanding of IPV. The value given to formal marriage, together with female chastity,[3] may explain why, in ZMP, informal partnership was associated with IPV, independent of all other factors studied. This differed from what was seen in SP, where separated or widowed status showed an association. These findings probably indicate that, in agreement with the literature,[13] there is a greater possibility of escaping from violent relationships for

women in SP and greater vulnerability of women in stable partnerships in ZMP, in relation to those who are formally married. However, in both of the study locations, there was very high prevalence of IPV among separated women, possibly indicating that a considerable proportion of the women who were partnerless had previously had violent relationships and got out of these relationships exactly because of IPV. Also in ZMP, if a woman had her first sexual intercourse before the age of 15 years, whether forced or consensual, her chance of experiencing IPV was greater, even after adjustment for socioeconomic characteristics, unlike in SP. This probably shows that in ZMP, there is greater sociocultural condemnation of early sexual initiation, even when the young woman consented to this.

It was notable that financial autonomy was a risk factor for IPV only in ZMP. Similar results were found in a study in Bangladesh,[17] in a rural region. It seems that, in ZMP, this autonomy may be seen as a potential transgression of traditional gender norms that is punished with IPV. However, in SP, where women have been working outside the home for longer, it is therefore a more culturally accepted situation, as well as being valued more for contributing towards family income. In SP, financial autonomy does not show an association with IPV, thus confirming the literature, which indicates that the association with financial autonomy seems to be specific for each context.[6,15,17] However, it was noted that financial autonomy was a protection factor in SP, which places doubt on the argument that women would experience IPV mainly because of their economic dependence on their partner, when this issue seems to be dependent on specific contexts. Since financial autonomy is associated with greater violence in rural regions,[15,17] there is a need to study what impact programs of preferential transfer of income and properties to women would have, so as to guide preventive actions while implementing such programs.

Regarding greater numbers of pregnancies, although this is generally associated with IPV, Ellsberg et al[4] showed that the episodes of violence begin soon after entering into the partnership and usually before the arrival of children. It is suggested, therefore, that an increased number of children would be more of a consequence, because of the woman's loss of involvementcontrol? in reproductive planning, than the cause of violence. On the other hand, the successive pregnancies may also increase the woman's economic dependency and the conflicts between the couple, and bring difficulties regarding the possibility of getting out of the situation, in locations where there is little social support for childcare. In the present study, the number of pregnancies presented different behavior in the two locations, with greater risk in SP, where the association with IPV remained in the three levels even among women who had only had one or two pregnancies. The cultural norms about the ideal number of children,

female work outside of the home, the expectations of more equitable division of family responsibilities and the conditions under which reproductive rights are enjoyed, which include access to family and health or social institution support, differ greatly between a metropolis (SP) and rural regions where life is based on family work, including child labor, such as in ZMP.[3]

These findings coincide with those in the literature and indicate the extent to which traditional gender rules can put women at greater risk of IPV when affirming their reproductive and sexual rights.[2,10] The differences between the locations seem therefore to be mediated by sociocultural issues, in which social and particularly gender inequalities are included.

Because this was a cross-sectional study, it shares the limitations of this kind of study design regarding inferences relating to the time sequence of events. Another limitation is given by the restriction of the analysis of the associations to the women's characteristics, without including the characteristics of the partner and of the community. On the other hand, we believe that identifying the women's characteristics associated with IPV may increase the sensitivity of health professionals involved in listening to and caring for women in Brazil.

Finally, there may have been underestimation of the prevalence of both the dependent variable and some independent variables, such as sexual abuse during childhood. It was sought to minimize such conditions as much as possible, by following the recommendations in the literature,[25] through the issues of training, research ethics and care within the interview setting in the questionnaire.

In conclusion, the data presented have documented that IPV is highly prevalent and has a complex web of associations, with local variations. The aspects relating to gender issues had a great influence and largely displaced the sociodemographic variables from the model, thus suggesting that gender issues predominated in this topic. Hence, to reduce the incidence of IPV, it would be necessary to adopt not only public policies relating to caring for women and girls who are in situations of violence, but also preventive measures that promote changes in the hierarchical gender patterns and seek greater social and gender equality. On the other hand, it also seems that the interactions between gender norms and socioeconomic conditions do not occur mechanically and necessarily in the same direction, but are distinct in different contexts. Therefore, public policies aimed at offering care and support to victims of violence or preventing violence should modulate social, economic and gender issues, respecting particular aspects of their interrelations.

Within the field of healthcare, these issues imply an intersection between this sector and human and social rights, thereby requiring studies that widen the visibility and support for women in IPV situations.

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