Panorama of intimate partner violence against women in Brazil and its association with self-perception of health: findings from a national representative survey

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Abstract

Objective: This study aimed to describe the prevalence of Intimate Partner Violence (IPV) and its subtypes against adult women in Brazil, as well as their health consequences, and the use of health services resulting from IPV. We also investigated the association of IPV with self-perceived health in victimized women.

Methods: Cross-sectional study including 34,334 women aged 18 to 59 years from the 2019 Brazilian National Health Survey. For the analyses, the prevalence of IPV and its types in the last 12 months, health consequences, and use of health services by these women were calculated. Logistic regression models were performed to estimate the association of sociodemographic characteristics and self-perceived health status with IPV.

Results: The prevalence of IPV against Brazilian adult women in the last twelve months was 7.6% (95% CI: [7.0; 8.2]). Women aged 18 to 39 years, living with a partner, single or divorced, with complete high school or incomplete higher education and income of up to 1 minimum wage, had higher odds of suffer IPV. As health consequences, approximately 69% of the women who suffered IPV reported psychological consequences. Among those who reported health consequences, 13.9% sought health care, mainly in primary or secondary health care in the Brazilian Public Unified Health System (SUS) (41.9%). Regarding the self-perceived health variables, women who reported eating problems (OR=1.29; 95% CI [1.01; 1.65]), lack of interest/absence of pleasure (OR=1.41; 95% CI [1.11; 1.79]), depressive feeling (OR=1.39; 95% CI [1.03; 1.88]), feeling of failure (OR=1.75; 95% CI [1.36; 2.24]) and suicidal thinking (OR=1.73; 95% CI [1.25; 2.41]) had greater odds of reporting IPV, when compared to those who did not report these same perceptions.

Conclusion: The results show that younger, divorced or single, low-income women with eating and mental health problems were more likely to suffer IPV. IPV often led to health problems, and many abused women sought support from public health services due to IPV. Therefore, health professionals must be trained to identify and care for these women, thereby acting as allies in preventing and reducing violence against women in Brazil.

Introduction

The physical, sexual, and emotional abuse resulting from intimate partner violence (IPV) against women negatively impacts the health of these women and their children¹⁻⁴. The consequences of IPV for women include physical injuries, chronic pain, disfigurement, permanent disabilities, depression, anxiety, post-traumatic stress disorder (PTSD), gastrointestinal and gynecological signs, including sexually transmitted diseases⁴⁻⁶. IPV, as well as other forms of violence practiced by familiar people, can also have negative consequences on the perception of the health of victimized women^{7,8}, including reports of difficulty for walking, dealing with daily activities, pain, memory loss, and dizziness, among other complaints⁹.

A multicenter study by the World Health Organization (WHO) conducted in ten countries estimated that 15% (Japan) to 71% (Ethiopia) of women have suffered physical and/or sexual violence by an intimate partner at some point in their lives, while 4 to 54%, in the same evaluated countries, declared to have suffered it in

the last twelve months¹⁰. IPV against women is more prevalent and challenging in low- and middle-income countries (LMIC), with fewer resources available to deal with the problem^{11,12}. Brazil stands out negatively in this scenario; the country is among those with the highest figures of femicide in the world^{13,14}, a crime usually preceded by repeated episodes of IPV¹⁵.

Brazil is far from reaching the fifth Sustainable Development Goal (SDG) of the United Nations, which aims at gender equality, empowering women and girls, and eliminating all forms of violence against them¹⁶. Recent WHO estimates (2018) indicate the prevalence of physical and/or sexual IPV in the last 12 months against Brazilian women aged 15-49 years, which equals 6% (95% CI 4–10%)¹². A study preliminarily analyzed data from the 2019 Brazilian National Health Survey (PNS), which includes a module on violence, revealing that the prevalence of IPV in adult women (18 to 59 years old) was 7.6%, with IPV more associated with younger and low-income women¹⁷.

However, this study¹⁷ did not analyze the consequences of IPV for women's health, the search for/use of health services resulting from IPV, nor the association of IPV with self-perceived health. PNS 2019 is the most recent and renowned as the largest and most comprehensive health survey conducted in Brazil, providing information on determinants and health needs of the population, and access to health services, allowing robust analyses to inform health policies and actions^{17–19}.

One of the first steps in reducing IPV is knowing how often it occurs and its associated factors and consequences for women's lives. The WHO has recommended nationwide surveys to measure the impacts of violence on women and health systems and services^{20,21}.

In this study, we described the prevalence of the types of IPV suffered by adult Brazilian women in the last 12 months, the consequences of IPV on their health, and the search for health care. In addition, we sought to investigate the association between self-perception of women's health status and exposure to IPV to identify predictor variables of exposure to IPV that can help recognize abused women in health services.

Methods

Type of study, population, and sample

This is a cross-sectional study using data from the PNS 2019, the largest and most recent epidemiological survey including a representative sample of non-institutionalized people aged 15 or over on health status, lifestyle, access, and use of health services in Brazil^{19,22}. PNS 2019 used complex cluster sampling, defined from a Master Sample, in three stages of selection: (1) census tracts or aggregate of sectors – Primary Sampling Units (UPA); (2) households, selected in each UPA; and (3) resident aged 15 or over, selected by simple sampling, in each household. 108,525 households were selected, of which 94,114 individuals agreed to participate (response rate of 93.6%). For this study, only women, aged between 18 and 59 years old were included, totaling 34,334 respondents. A previous study by Stopa et al.²² describes more information about the PNS 2019 sampling plan and data analysis.

Intimate partner violence, health consequences, and access to health services

The IPV was defined based on specific questions of Psychological, Verbal, Digital/Technological, Economic, Physical, Sexual or Threat Violence when committed by an “Intimate Partner” (Spouse/partner, Ex-spouse/ex-partner, boyfriend/girlfriend, and ex-boyfriend/ex-girlfriend). Thus, the occurrence of IPV was informed by answering “Yes” to any questions related to the types of violence practiced and attributed to the intimate partner; answering “No” to all questions informed the absence of IPV.

For analysis of IPV, the following questions were reported: “In the last 12 months, has anyone [...]”: “[...] offended, humiliated or ridiculed you in front of other people?” (Psychological violence); “[...] yelled at you or called you names?” (Verbal Violence); “[...] used social media or cell phones to threaten, offend, curse or expose your images without your consent?” (Digital/Technological Violence); “[...] verbally threatened to hurt you or someone important to you?” (Threat); “[...] destroyed something of yours on purpose?” (Economic Violence); “[...] slapped you?”, “[...] pushed you, held you tightly or threw something at you intending to hurt?”, “[...] punched, kicked or dragged you by the hair?”, “[...] tried to or in fact strangled, choked or burned you on purpose?”, “[...] threatened or injured you with a knife, firearm or any other weapon or object?” (Physical Violence); “[...] touched, manipulated, kissed or exposed parts of your body against your will?”; “[...] threatened or forced you to have sex or any other sexual acts against your will?” (Sexual Violence).

Consequences to health as a result of IPV were defined as: Consequences in usual activities (“Yes” or “No,” also applied to the following variables); Physical consequences (bruises, cuts, fractures, burns, or other physical injuries); Psychological consequences (fear, sadness, discouragement, difficulty sleeping, anxiety, depression or other psychological consequences); Sexually transmitted infections or unwanted pregnancy resulting from sexual violence;

Health care, due to the consequences of IPV on health were assessed via Search for health care (“Yes” or “No,” also applied to the following variables); Receiving health care; Location of health care (Private; SUS Primary or Secondary Health Care; SUS Tertiary Health Care; Other locations); Hospitalization for 24 hours or more. The respondent had to answer this block of variables considering the most serious violence suffered.

Sociodemographic characteristics and self-perception of health

Potentially predictors of IPV were selected and organized, according to the contextual dimensions of the analysis, in:

- Sociodemographic characteristics: Age group (18 to 24 years old; 25 to 39 years old; 40 to 59 years old); Race/Color (White; Non-white); Living with a spouse or partner; Marital status (Married; Divorced/Separated/Widow; Single); Education (No education/Incomplete Elementary school (0 to 8 years

of study); Complete Elementary/Incomplete High School (9 to 11 years of study); Complete High School/Incomplete Higher Education (12 to 14 years of study); Complete Higher Education/Post-Graduation (>15 years of study)); Income (up to 1 Brazilian Minimum Wage (SM); from 1 to 3 SM; from 3 to 5 SM; above 5 SM). In 2019, one SM was R\$ 998 (Brazilian Real), which was equivalent to approximately US\$250.

- Self-perceived health status: Self-rated health (Good/Very Good; Fair; Bad/Very Bad); Chest pain or discomfort (variable dichotomized into “Yes” or “No,” applied to the other variables of the dimension); Sleep problems; Eating problems; Tiredness; Disinterest/Absence of pleasure; Concentration problems; Slowness or agitation; Depressive feeling; Feeling of failure; Suicidal thinking.

Data analysis

Prevalences of total IPV and IPV types, health care aspects resulting from IPV, and their respective 95% confidence intervals were calculated. Logistic regression models were performed to estimate the crude and adjusted odds ratios (OR) for the association of sociodemographic variables and self-perceived health status with IPV. All statistical analyzes were performed *using the* Stata®16.1 software and, due to complex sampling, the sampling plan design was incorporated to correct point and variance estimates through the *survey* module. The data set and the questionnaire applied are available on the PNS 2019 website through the Oswaldo Cruz Foundation (Fiocruz) (www.pns.fiocruz.br).

Ethical considerations

This study was approved by the National Research Ethics Commission (CONEP) of the Brazilian Ministry of Health (<http://conselho.saude.gov.br/comissoes-cns/conep/>). All methods were conducted in accordance with national and international ethical guidelines and regulations. The informed consent was obtained from all participants. The study was approved under number 3,529,376 (August 23, 2019), and complied with Resolution nº 196/96 of the Brazilian National Health Council (CNS), guaranteeing voluntariness, anonymity and the possibility of giving up.

Results

Table 1 shows the sociodemographic characteristics and the health status perceived by the 34,334 women interviewed according to IPV. Women who experienced IPV were more likely to be adults aged 25 to 39 years, living with a partner and reporting being single, having completed high school or incomplete higher education, and earning up to 1 SM than women who did not experience IPV.

Table 1
Sociodemographic and perceived health status characteristics of women according to exposure to IPV (n = 34,334).

Variables	Suffered IPV*					
	Yes			No		
	n	w%	95% CI	n	w%	95% CI
Age						
18 to 24 years old	416	19.9	[16.7; 23.6]	3,865	16.6	[16.3; 16.9]
25 to 39 years old	1,197	43.2	[39.9; 46.5]	1,949	36.4	[36.2; 36.7]
40 to 59 years old	1,004	36.9	[33.6; 40.4]	15,903	46.9	[46.6; 47.2]
Age (years) - Mean	35.9		[35.0; 36.7]	38.5		[38.4; 38.6]
Race/Color						
White	804	39.8	[36.0; 43.7]	10,943	42.1	[41.1; 43.0]
Non-white	1,813	60.2	[56.3; 63.9]	20,772	57.9	[56.9; 58.9]
Do you have a spouse or partner you live with						
No	1,359	42.8	[39.2; 46.4]	13,720	39.4	[38.6; 40.3]
Yes	1,258	57.2	[53.6; 60.8]	17,997	60.6	[59.7; 61.4]
Marital status						
Married	705	33.5	[29.3; 38.0]	11,664	41.3	[40.4; 42.2]
Divorced/ Separated/Widowed	385	12.3	[10.3; 14.5]	4,113	11.1	[10.6; 11.7]
Single	1,527	54.2	[49.9; 58.5]	15,940	47.5	[46.6; 48.4]
Education (Years of Study)						
No Education/Elementary School incomplete (0 to 8 years)	756	28.2	[24.9; 31.8]	8,904	24.8	[23.9; 25.7]

n: sample size; w%: weighted percentages; CI: confidence intervals; *IPV: Intimate Partner Violence

Suffered IPV*						
Complete Elementary/Incomplete Secondary School (9 to 11 years)	441	15.8	[13.35; 18.5]	4,503	14.4	[13.7; 15.1]
Complete Secondary School/Incomplete Higher Education (12 to 14 years old)	996	38.8	[34.9; 42.9]	12,043	41.4	[40.5; 42.4]
Complete Higher Education/Postgraduation (>15 years)	424	17.2	[14.3; 30.4]	6,267	19.4	[18.5; 20.3]
Income						
Up to 1 SM	763	49.9	[44.7; 55.0]	7,486	39.7	[38.5; 40.9]
From 1 to 3 SM	677	40.9	[36.1; 45.8]	7,992	45.8	[44.5; 47.0]
From 3 to 5 SM	97	4.9	[3.4; 7.0]	1,587	8.0	[7.4; 8.7]
Above 5 SM	87	4.3	[3.0; 6.1]	1,475	6.5	[5.9; 7.1]
Perception of health status						
Health self-assessment						
Good/Very good	1,483	60.4	[57.0; 63.7]	20,489	68.1	[67.2; 69.0]
Regular	914	31.4	[28.2; 34.8]	9,346	26.8	[26; 27.6]
Bad/Very bad	220	8.1	[6.1; 10.8]	1,882	5.1	[4.7; 5.5]
Chest pain or discomfort	603	22.3	[19.7; 25.2]	4,459	13.7	[13.1; 14.4]
Sleep problems	1,477	54.7	[50.7; 58.6]	12,629	39.2	[38.2; 40.2]
Eating problems	1,157	46.1	[41.8; 50.5]	8,222	26.1	[25.3; 27.0]
Tiredness	1,648	64.1	[60.2; 67.8]	14,175	45.2	[44.2; 46.2]
Disinterest/Absence of pleasure	1,461	58.0	[54.6; 61.4]	11,135	35.0	[34.0; 36.0]
Concentration problems	1,112	45.0	[40.9; 49.1]	7,996	25.6	[24.7; 26.5]

n: sample size; w%: weighted percentages; CI: confidence intervals; *IPV: Intimate Partner Violence

	Suffered IPV*					
Slowness or agitation	961	37.3	[34.1; 40.5]	6,866	21.3	[20.5; 22.1]
Depressive feeling	1,549	58.5	[54.3; 62.6]	10,517	32.9	[32.0; 33.8]
Feeling of failure	1,122	44.8	[40.7; 49.0]	6,394	20.4	[19.6; 21.2]
Suicidal thinking	480	20.2	[17.2; 23.6]	1,810	5.4	[5.0; 5.9]
n: sample size; w%: weighted percentages; CI: confidence intervals; *IPV: Intimate Partner Violence						

Compared with women who did not suffer IPV, women who suffered IPV reported a worse perception of their health status. For example, women who experienced IPV (compared to women who did not experience IPV) reported, respectively, a higher proportion of bad or very bad health status (8.1% vs 5.1%), tiredness (64.1% vs 45.2%), feeling depressed (58.5%) vs 32.0%), disinterest/absence of pleasure (58.0% vs 35.0%), sleeping problems (54.7% vs 39.2%) and eating problems (46.1% vs 26.1%) (Table 1).

The prevalence of IPV in Brazilian women in the last 12 months was 7.6% (95% CI: [7.0; 8.2]) (Table 2). Regarding the types of IPV, the most prevalent were verbal violence (6.2%; 95% CI: [5.7; 6.8]), followed by psychological violence (4.3%, 95% CI: [3.8; 4.8]), threat (2.8%, 95% CI: [2.5; 3.1]) and physical violence (2.7%, 95% CI: [2.4; 3.2]). Although less common, the prevalence of economic violence (1.5%, 95% CI: [1.3; 1.8]) and digital violence (1.0%, 95% CI: [0.8; 1.2]) perpetrated by partners were also found. The least prevalent type was sexual violence (0.7%, 95% CI: [0.5; 0.9]). Table 2 also expresses the estimated number of adult Brazilian women who suffered IPV and its subtypes in the last 12 months, with a total of 4,949,780 women.

Table 2
Prevalence of types of violence committed against women aged 18 to 59,
perpetrated by an intimate partner in the last 12 months (n = 34,334).

	weighted n	w%	95% CI
Any IPV	4,949,780	7.6	[7.0; 8.2]
Verbal violence	4,053,244	6.2	[5.7; 6.8]
Psychological violence	2,814,532	4.3	[3.8; 4.8]
Threat	1,824,633	2.8	[2.5; 3.1]
Physical violence	1,793,997	2.7	[2.4; 3.2]
Economic/Property Violence	1,011,088	1.5	[1.3; 1.8]
Digital/Technological Violence	662,248	1.0	[0.8; 1.2]
Sexual violence	441,885	0.7	[0.5; 0.9]
w%: weighted percentages; CI: confidence intervals; IPV: intimate partner violence.			

Regarding the health consequences of IPV (Table 3), 69.1% (95% CI: [66.1; 72.0]) of women who suffered IPV reported psychological consequences, such as fear, discouragement, difficulty sleeping, anxiety, depression, or other psychological consequences. Among those who suffered sexual violence, 8.1% (95% CI: [6.0; 10.9]) reported having contracted a sexually transmitted infection or unwanted pregnancy due to sexual abuse.

Among women who suffered health consequences, 13.9% (95% CI: [12.0; 16.2]) sought health care, of which 88.8% (95% CI: [84.9; 91.8]) were attended. The most sought after place was the primary health care (PHC) or secondary care of the Unified Health System (SUS) (41.9%, 95% CI: [37.8; 46.1]), which along with public hospitals or public emergency units (21.4%, 95%CI: [17.6; 25.8]) accounted for more than 63% of the assistance provided to victims in public health, in contrast to a minority that received care in private health services (26.9%, 95%CI: [23.4; 30.8]).

Table 3

Prevalence of health consequences and aspects of health care for women as consequence of IPV.

Variables	n	w%	95% CI
Consequences of IPV for health			
Failed to perform usual activities	593/2,617	22.2	[19.8; 24.8]
Physical consequences ^b	430/2,617	16.3	[13.2; 20.0]
Psychological consequences ^c	1,790/2,617	69.1	[66.1; 72.0]
Health consequences of sexual violence			
Sexually transmitted infection or unwanted pregnancy	23/227	8.1	[6.0; 10.9]
Health care due to IPV			
Search for health care	374/2,617	13.9	[12.0; 16.2]
Health care assistance	338/374	88.8	[84.9; 91.8]
Location of health care service			
Private	93/338	26.9	[23.4; 30.8]
SUS Primary/Secondary Care	132/338	41.9	[37.8; 46.1]
SUS Tertiary Care	82/338	21.4	[17.6; 25.8]
Other places ^d	31/338	9.8	[7.0; 13.5]
Hospitalization for 24 hours or more	17/338	6.2	[4.5; 8.4]
n: sample size; w%: weighted percentages; CI: confidence intervals;			
^a The variables refer only to the most severe type of IPV suffered by women;			
^b Bruises, cuts, fractures, burns or other physical injuries;			
^c Fear, sadness, discouragement, difficulty sleeping, anxiety, depression or other psychological consequences;			
^d Pharmacy, home, place of occurrence of IPV and others.			

In the multivariable logistic regression model (Table 4), women aged 18 to 24 years and 25 to 39 years had higher odds of IPV compared to women aged over 40 years (OR=1.45; 95% CI [1.01; 2.08] and OR=1.46; 95% CI [1.14; 1.87], respectively). Divorced/separated/widowed and single women had higher odds of IPV than married women, OR=1.64 (95% CI [1.18; 2.27]) and OR=1.38 (95% CI [1.00; 1.89]), respectively. Women who earn up to 1 minimum wage had greater odds of IPV than women with an income above 5 minimum wages, OR=1.61 (95% CI [0.99; 2.61]; p=0.029). Regarding the health perception variables, women who reported eating problems (OR=1.29; 95% CI [1.01; 1.65]), lack of interest/absence of pleasure (OR=1.41; 95% CI [1.11; 1.79]), depressive feeling (OR=1.39; 95% CI [1.03; 1.88]), feeling of failure (OR=1.75; 95% CI [1.36; 2.24]) and

suicidal thinking (OR=1.73; 95% CI [1.25; 2.41]) had higher odds of IPV than women who did not report these same perceptions.

Table 4

Logistic regression for the association between sociodemographic characteristics and perceived health and IPV (n = 34,334).

Suffered Violence						
Variables	cOR	95% CI	p	aOR	95% CI	p
Age			<0.001			0.010
18 to 24	1.52	[1.18; 1.97]	0.001	1.45	[1.01; 2.08]	0.043
25 to 39	1.51	[1.28; 1.76]	<0.001	1.46	[1.14; 1.87]	0.003
40 to 59	1.00			1.00		
Race			0.268			0.763
White	1.00			1.00		
Non-white	1.10	[0.93; 1.29]	0.268	0.96	[0.75; 1.23]	0.763
Has a spouse or partner she lives with	0.87	[0.75; 1.02]	0.083	1.19	[0.93; 1.52]	0.166
Marital status			0.007			0.013
Married	1.00			1.00		
Divorced/ Separated/Widowed	1.36	[1.05; 1.74]	0.016	1.64	[1.18; 2.27]	0.003
Single	1.41	[1.13; 1.75]	0.002	1.38	[1.00; 1.89]	0.048
Education (Years of Study)			0.077			0.075
No education/ Elementary school incomp. (0 to 8 years)	1.28	[1.02; 1.61]	0.033	1.00	[0.70; 1.45]	0.973
Elementary/Secondary incomplete (9 to 11 years)	1.24	[0.95; 1.62]	0.117	0.87	[0.61; 1.26]	0.472
Secondary/Incomplete Higher education (12 to 14 years)	1.06	[0.82; 1.36]	0.663	0.75	[0.56; 0.99]	0.046
Complete higher education/Postgraduation (>15 years)	1.00			1.00		
Income			<0.001			0.029

cOR: crude odds ratio; aOR: adjusted odds ratio; CI: confidence intervals; Bold font indicates Wald test.

* Comparison refereed to yes vs. no (reference group).

Suffered Violence							
Up to 1 SM	1.88	[1.27; 2.80]	0.002	1.61	[0.99; 2.61]	0.053	
From 1 to 3 SM	1.34	[0.91; 1.97]	0.137	1.23	[0.79; 1.90]	0.352	
From 3 to 5 SM	0.92	[0.60; 1.42]	0.714	0.85	[0.56; 1.29]	0.448	
Above 5 SM	1.00			1.00			
PERCEPTION OF HEALTH							
Health self-assessment			<0.001			0.112	
Good/Very good	1.00			1.00			
Regular	1.32	[1.12; 1.55]	0.001	0.87	[0.68; 1.12]	0.288	
Bad/Very bad	1.81	[1.31; 2.50]	<0.001	0.62	[0.39; 0.97]	0.038	
Chest pain or discomfort*	1.80	[1.52; 2.13]	<0.001	0.98	[0.77; 1.27]	0.911	
Sleep problems*	1.87	[1.59; 2.22]	<0.001	1.04	[0.83; 1.30]	0.721	
Eating problems*	2.42	[2.02; 2.89]	<0.001	1.29	[1.01; 1.65]	0.042	
Felt tired*	2.16	[1.84; 2.55]	<0.001	1.01	[0.81; 1.26]	0.903	
Disinterest/Absence Pleasure*	2.57	[2.23; 2.96]	<0.001	1.41	[1.11; 1.79]	0.005	
Concentration problems*	2.38	[2.00; 2.83]	<0.001	1.13	[0.88; 1.45]	0.332	
Slowness or agitation*	2.20	[1.90; 2.54]	<0.001	1.09	[0.83; 1.42]	0.538	
Felt depressed*	2.88	[2.41; 3.43]	<0.001	1.39	[1.03; 1.88]	0.031	
Feeling of failure*	3.17	[2.66; 3.77]	<0.001	1.75	[1.36; 2.24]	<0.001	
Suicidal thinking*	4.42	[3.56; 5.51]	<0.001	1.73	[1.25; 2.41]	0.001	
cOR: crude odds ratio; aOR: adjusted odds ratio; CI: confidence intervals; Bold font indicates Wald test.							
* Comparison refereed to yes vs. no (reference group).							

Discussion

Our study including a representative sample of the Brazilian population estimated that 7.6% of adult Brazilian women reported to have suffered IPV in the last 12 months. IPV was more prevalent in younger women (up to 39 years old), divorced or single, low-income, with more eating and mental health problems, such as anhedonia, feeling of disinterest in life, despair, failure, and suicidal ideation. The study also showed that, as a result of IPV, many women reported health consequences and sought care in health services, especially in the context of public health.

The prevalence of IPV (7.6%) found in our study corroborates the most recent estimates by the WHO¹² and preliminary analyses by the Brazilian PNS¹⁷. On the other hand, it signals a possible reduction in IPV prevalence compared to the WHO multicentric study also carried out in Brazil about two decades ago^{10,23}. In that study, the prevalence of IPV in the last 12 months for Brazilian women aged 15 to 49 ranged from 18.7–24.2% for psychological violence; 8.3–12.9% for physical violence; and 2.8–5.6% for sexual violence²³. Such differences could result from methodological differences between the studies. Another hypothesis is that, as Brazil has been making efforts to prevent IPV over the last 15 years, with the approval of specific laws to prevent and restrain violence against women^{24–26}, such differences may be a consequence of these laws. Brazilian legislation has expanded the scope, contemplating the classification of violence beyond physical and sexual violence, including psychological, economic, moral, verbal, digital (virtual) violence, threats, among others^{24,26–28}.

The most prevalent types of IPV in our study were verbal and psychological violence, the latter being typified in a specific law in 2021²⁶, given its high prevalence and challenging evidence, different from physical and sexual violence, which leave visible marks on women's bodies. Our results, therefore, support the need for this type of legislation, which is more specific for each type of violence.

Our study also reveals unprecedented data on the prevalence of types of IPV that are less described in the literature in population-based studies, such as economic and digital violence, which are also typified in Brazilian legislation^{24,27}. Although physical violence has been less prevalent than other types of violence, perhaps because it leaves "evidence" that more easily incriminates offenders, the negative impacts that non-physical abuse has on women's health and well-being should be highlighted^{29,30}. For instance, a major source of stress for victims is economic violence, one of the least studied forms of violence and often included in emotional or psychological abuse, encompasses controlling and limiting access to financial resources, denying access to needs (e.g., food, clothing, medication), tracking the use of money and also withholding or hiding the money earned together³⁰. Digital (or technological) intimate partner violence provides a quick and easy method of harassing women, using social media, GPS tracking, constant texting, or other forms of intimidation, embarrassment, and control, and it has been described as more frequent due to the COVID-19 pandemic³¹. Therefore, digital violence is a type of violence that deserves to be further studied through comparative analyzes before and after the pandemic, and our study portrays the prevalence in the year just before the pandemic.

Our study also brings unprecedented nationwide findings on the impacts of IPV on the health of Brazilian women. Two out of three women who suffered IPV in the past 12 months reported experiencing psychological consequences from the abuse, while one in six women reported physical consequences such as bruises, cuts, fractures, burns, or other physical injuries. Sexual violence practiced by intimate partners, including forced sexual intercourse, also had consequences for sexual and reproductive health, such as sexually transmitted infections and unwanted pregnancies for one in every twelve Brazilian women who suffered this type of abuse. These data corroborate the international literature on the impacts of IPV on women's health^{6,32-34}. Consequently, almost one in four women stopped performing their usual activities as a result of IPV. International studies indicate that IPV can increase the chances of women experiencing difficulties with daily activities by up to 60%⁹. That reinforces the need for public policies and specific interventions aimed at health services, including the training of health professionals to care for these women who seek health services.

Our study also identified predictor variables for IPV in women. In the adjusted model, younger women were almost 50% more likely to suffer IPV compared to older ones (over 39 years old), as it converges with the international literature that postulates that the younger ages are strongly associated with increased risk of IPV in the previous year^{35,36}. Possible justifications for this include that younger women are more likely to live in relationships of greater dependence on their partner (financial and related to childcare); in comparison, older women tend to have greater financial and social autonomy, providing opportunities to leave abusive relationships (17). Odds of IPV are also higher for unmarried women, including single (with 38% higher odds) and divorced/separated/widowed women (64% higher odds) than married women. These findings are aligned with results from other countries³⁶, in which women who lived with a partner without being formally married had an increased risk of IPV³⁵.

On the other hand, unlike studies from other countries³⁵⁻³⁸, the results of our adjusted model did not demonstrate that more educated women are less exposed to IPV. In studies of other low- and middle-income countries, in addition to women with less education, lower partner education was also associated with IPV against women^{39,40}, but the Brazilian PNS did not collect data on the education of partners, which limited our analyses.

Regarding self-rated health, women who reported IPV were more likely to report eating problems, lack of interest/lack of pleasure, depressive feelings, feeling of failure, and suicidal thoughts. The findings converge with international studies, showing that women who suffer IPV reported more self-reported health problems, including eating disorders and implications for mental health^{6,9,33,41}.

As a result of abuse, women facing IPV use health services more frequently than other women^{4,6}. Regarding our findings on the use of health services, only one in seven Brazilian women sought health care due to IPV. On the other hand, of those who sought care, the vast majority (nine out of ten) received care, mostly in public health services, with emphasis on primary or secondary health care services. This result reinforces the importance of universal, free and accessible public health services and the important role of primary health care for survivors^{42,43}. Women who have suffered violence can seek health services before seeking

police or social services. If violence is identified, survivors can receive care that increases their safety and improves their health^{6,21}. Therefore, health services are privileged spaces to offer care to these women and prevent the escalation of violence^{42,43}. Health professionals are considered key in supporting women experiencing violence⁴⁴, playing a decisive role in identifying IPV and supporting them⁴⁵. However, such identification is not always easy. Many women are afraid, ashamed, or lack confidence in revealing their IPV situation to professionals, even when questioned^{46,47}; this causes IPV to be underrecognized by health providers³². Therefore, professionals, especially those working in primary health care, need to be aware of the profile of women most exposed to IPV and the signs and symptoms shown by them so that they can provide adequate care. According to our study, these signs and symptoms may include eating problems and mental health issues, like lack of interest, absence of pleasure, depressive feeling, a sense of failure, and suicidal thinking.

One of the limitations derived from the study design is that it is not possible to establish whether the exposure to violence occurred before or after the self-perceived health reports. Previous studies and theoretical reasoning suggest that health problems perceived by women are mainly the result of abuse and not its precursors^{6,9}. It is also possible that the results have a bias in IPV classification since many may not remember or even consider insults, threats, or humiliation suffered as violence. Due to the social stigma associated with disclosing victimization³², feelings such as fear, shame, or repressed memories can decrease the probability of disclosing and discussing violence with a stranger, especially sexual and intimate violence³³. Similar to national health surveys from other countries⁴⁸, due to privacy issues and the seriousness of violence in the domestic environment, a possible limitation is that many of the respondents were not willing to report the IPV they suffered. The sample also excluded homeless populations, villagers, and institutionalized women in places such as jails or shelters, which may contribute to an underestimation.

Conclusions

The findings of our study reveal that women who suffered IPV reported health problems more frequently, such as physical and psychological injuries and consequences for sexual and reproductive health. Although not all women seek help from health services due to IPV, most who do, seek support from the SUS (Brazilian public health system), especially in primary or secondary health care services. Younger, divorced or single, low-income women with eating and mental health problems were more likely to experience IPV. Thus, the training of health professionals to identify and care for women who suffer from IPV is an important step so they can be allies in the prevention and reduction of violence against women.

Declarations

Ethics approval and consent to participate:

This study was approved by the National Research Ethics Commission (CONEP) of the Brazilian Ministry of Health (<http://conselho.saude.gov.br/comissoes-cns/conep/>). All methods were conducted in accordance with national and international ethical guidelines and regulations. The informed consent was obtained from

all participants. The study was approved under number 3,529,376 (August 23, 2019), and complied with Resolution nº 196/96 of the Brazilian National Health Council (CNS), guaranteeing voluntariness, anonymity and the possibility of giving up.

Consent for publication:

NA

Availability of data and materials:

the dataset utilized in this study is publicly available for download at the website of the “Fundação Oswaldo Cruz” – FIOCRUZ [<https://www.pns.iciet.fiocruz.br/bases-de-dados/>]. The datasets analysed during the current study are available in the Google Drive Folder repository, [<https://drive.google.com/drive/folders/1IErJnxJXZ1sPsUx9bWhF5ULsOM6PniTP?usp=sharing>]. It is also available from the corresponding author on request.

Competing interests:

The authors declare no conflict of interest.

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Authors' contributions:

MS conceived the study, collaborated with the analyses, drafted the introduction and discussion, and critically revised the text; FS led the analysis, drafted the results and critically revised the text; RPJr collaborated in the analyses, drafted the abstract and methods, and critically revised the text; JV collaborated with the analyses, drafted the conclusion and critically revised the text; SA conceived the statistical design, supervised the analyzes and critically revised the text; LR supervised the analysis and writing of the article and critically reviewed the text; ZS supervised the analysis and writing of the article, structured the discussion axes and critically revised the text. All authors read and revised the text incorporating significant contributions to the manuscript. The team met weekly for 3 months to discuss the methodological design, conduct the analyses and discuss the results. All approved the final version of the manuscript.

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