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Intimate partner violence: last year prevalence and association with socio-economic factors among women in Madrid, Spain

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Background: Intimate partner violence (IPV) is a public health problem with significant consequences on women's health. This study estimates the prevalence of intimate partner violence by type among Madrid's female population and assesses the association with socio-economic variables. **Methods:** We conducted a cross-sectional study in 2004, 2136 women aged 18–70 years, living in the Madrid region with a partner or who had been in contact with an ex-partner in the previous year, were interviewed by telephone. The questionnaire used to measure past-year intimate partner violence, consisted of a Spanish translation of the psychological and sexual violence module of the French National Survey on Violence against Women, and the physical violence module of the Conflict Tactics Scale-1. To assess the association with socio-economic factors, logistic regression models were fitted. **Results**: About 10.1% [confidence interval (CI) 8.9–11.5] of the women had suffered some type of IPV in the previous year. 8.6% (CI 7.4–9.8) experienced psychological violence, 2.4% (CI 1.8–3.1) physical violence and 1.1% (CI 0.68–1.6) sexual violence; the prevalence of psychological-only violence (non-physical/non-sexual) was 6.9% (CI 5.8–8.0). Factors associated with psychological-only violence were divorced or separated status and Group III (clerical workers; supervisors of manual workers) or V (unskilled manual workers) occupation. Unemployment and divorced or separated status were associated with physical violence. **Conclusions:** Spanish women in our study, experienced past year partner violence at a similar level as in other industrialized countries. Unemployment and low occupational status are associated with physical and psychological-only violence, respectively.

Keywords: empowerment, gender, intimate partner violence, prevalence, socioeconomic factors.

Introduction

Violence against women includes 'any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty'.[1] The most common type of violence against women is intimate partner violence (IPV), which refers to any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship.[2] According to various studies, lifetime prevalence of any type of IPV varies, with estimates of 17.1% in France,[3] 25% in the USA,[4] 26% in England and Wales[5] and 30% in Sweden. The estimated lifetime prevalence of physical and/or sexual violence ranges from 15 to 75% in different countries and settings.[6,7] These results indicate that IPV is widespread, although the comparability of the data may be limited due to methodological differences among the studies.[8–11]

In recent years, Spain has witnessed a progressive increase in the number of women killed by their partners as a result of IPV,[12] reaching 69 in 2006.[13] This has generated considerable alarm throughout society and a demand for action to tackle the problem. Partner violence has a deep impact on women's health, both direct and indirect.[14–18] The health system is a unique setting to identify women suffering IPV. It should be prepared to recognize and provide assistance through adequate support services. The availability of reliable data on violence is necessary to guide policies. Within the framework of the project 'Technical Committee for the Co-ordination of Public Health and Health-care Actions for Female Victims of IPV in the Madrid Region', a general population cross-sectional survey was conducted for the purpose of identifying last year prevalence of IPV types among women living in Madrid.

The lines between the different types of violence are not always clear in both research and practice.[2] While physical violence almost always appears combined with psychological violence, psychological abuse is frequently experienced isolated from physical or sexual violence, and almost always precedes physical abuse.[19] This implies that prevention and intervention efforts clearly need to address this type of IPV. We have considered three types of IPV. Psychological violence is characterized by acts of intimidation, belittling and humiliating, physical violence by suffering acts of physical aggression, and sexual violence by a positive response to experiencing forced sex[2] (table 1). The term 'psychological-only violence' is used to characterize women that report psychological violence as defined above, but did not experience physical or sexual violence.

The relationship between IPV and different socioeconomic variables has been explored in several studies, mainly centred on physical violence. It has been shown to be more frequent and severe in the lower socioeconomic groups across different settings, although not in all.[8] This implies that economic and

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Table 1 Detection and classification modules for IPV[a] (English version and Spanish translations)

Could you please tell me if in the last 12 months, your partner (or ex-partner) has had some of these behaviours with you and with what frequency?	Por favor, dígame si en los últimos 12 meses, su pareja o ex-pareja ha tenido alguno de estos comportamientos o actuaciones con usted y con qué frecuencia
Psychological violence	
Kept you from seeing or talking to your friends or your family?	¿Le ha impedido hablar o ver a sus amigos o familiares?
Prevents you from speaking with other men? (he is jealous)	¿Le impide hablar con otros hombres (es celoso)?
Criticized or belittled what you do?	¿Ha criticado o desvalorizado lo que usted hace?
Has made unpleasant comments about your appearance?	¿Hace comentarios desagradables sobre su apariencia física?
Imposed on you a way of dressing up, or behaving in public?	¿Le ha impuesto un modo de vestirse, peinarse o comportarse en público
Has despised or scorned your opinions?	¿No ha tenido en cuenta o ha despreciado sus opiniones?
Tells you what you should think?	¿Le dice lo que usted debe pensar
Insists on knowing with who and where you are at all times?	¿Le ha exigido saber con quién y dónde ha estado usted?
Refuses completely to talk or discuss an issue with you?	¿Ha dejado de hablarle o se ha negado totalmente a discutir?
Prevents you from having access to money for daily living needs?	¿Le ha impedido tener acceso al dinero para las necesidades de la vida cotidiana?
Threatens to take away your children?	¿Le ha amenazado con quitarle o llevarse a sus hijos?
Threatens to commit suicide?	¿La ha amenazado con suicidarse?
Threatens to hurt you or someone of your family?	¿La ha amenazado con hacerle daño a usted o a sus familiares?
Insulted or was offensive to you?	¿La ha insultado u ofendido?
Turned you homeless or prevent you to enter the home?	¿La ha echado de casa o le ha impedido entrar en ella?
Sexual violence	
Did he physically force you to have sexual intercourse when you did not want to?	¿Ha utilizado la fuerza para tener relaciones sexuales con usted?
Did your partner force you to do something sexual that you rejected?	¿Le ha impuesto actos sexuales que usted rechazaba?
Physical violence	
In the last 12 months how many times has he:...	En los últimos doce meses cuántas veces
Thrown something at you (some object)?	¿Le tiró algo (algún objeto) ?
Pushed, grabbed or shoved you?	¿Le empujó, agarró o la tiró?
Slapped you?	¿Le dio una bofetada?
Kick, bit or hit you with a fist?	¿Le dio patadas, la mordió o le dio un puñetazo?
Hit or tried to hit you with some object?	¿La pegó o trató de pegarle con alguna cosa?
Beat you up?	¿La dio una paliza?
Choked you?	¿La agarró del cuello
Threatened you with a knife or a gun?	¿La amenazó con un cuchillo o pistola?
Used a knife or fired a gun?	¿Utilizó un cuchillo o una pistola?

a: Based on the psychological and sexual violence module of the French National Survey on Violence against Women[3] and physical violence module of the Conflict Tactics Scale-1.

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social independence of women, in other words, empowerment, may be protective.[5,8] The study additionally explores if several variables related to socioeconomic factors also had an effect on the more frequent forms of IPV against women in our context.

The aim of the study is to establish the magnitude of IPV in the Madrid Region. We present here the results pertaining to the prevalence in the previous year and combination of the different types of IPV among Madrid's female population. The relationship between IPV and different socioeconomic variables are explored and risk markers described as possible facilitating factors that can affect the risk of suffering, or remaining in partner violence situations are identified.

Methods

The target population comprised of all women aged 18–70 years who had been living in the Madrid Region for a period of 12 months or more, and who had a relationship with a partner or were in contact with a previous partner in the preceding year.

Stratified random sampling of the female population, aged 18−70 years was performed, with proportional allocation by age (four strata) and residential area (three strata: Madrid city, Greater Madrid Area and outlying towns). The women to be interviewed in each age group and geographic stratum were selected by simple random sampling, on the basis of the health-card data base. More than 90% of the population possesses a health card.

Interviews were conducted by telephone during 2004 using a Computer Assisted Telephone Interviewing (CATI) system. The study was conducted in accordance with ethical and safety guidelines for research into domestic violence against women recommendations.[20] The team of interviewers was exclusively made up of women. They were specifically trained in the characteristics of IPV, and above all, in the importance of safety and confidentiality for women experiencing IPV, as well as in providing information on the availability of telephone and support services. Women were offered the possibility of choosing the date and hour for the interview and were informed that they could end the interview at any point.

The questionnaire was made up of various components that addressed acts of violence and socioeconomic and demographic characteristics of women and their partners or ex-partners.

The following instruments were included in the IPV detection and classification modules: for physical violence, the Conflict Tactics Scale-1 (CTS-1),[21] for psychological and sexual violence the module developed for the national survey of violence against women in France, *Enquête national sur les violences envers les femmes en France (Enveff)*[3]; The questions included in the instrument are translated to English and shown in table 1.

The operational definition of the type of IPV was as follows: Psychological violence: four or more psychological attacks 'at some time' or one or more such attacks 'often' or 'systematically'; Psychological-only violence: the previous criteria without reference to acts of physical or sexual violence; Physical violence: reference to a single physical aggression on the CTS. Sexual violence: reference to a single positive response to the two questions targeting behaviours that implied sexual abuse.

To validate the measurement instruments, we developed a cross-sectional study evaluating the IPV detection and classification modules against an in depth personal interview with two trained psychologists in a convenience sample in primary care.[22] Sensitivity and specificity for the psychological violence module were 80.4 and 90.0%, respectively; for the physical violence module the results were 75.0 and 95.0%, while the sexual violence module had 28.5 and 95.1%, respectively. The three modules exhibited good internal reliability with a Crombach's α of 0.94; 0.79 and 0.84 in the same order.

The occupations of the women and the head of the household were classified as per the Spanish National Classification of Occupations[23] and then grouped into four categories: Groups I–II: corporate and public-administration management staff and professions linked to university degrees; Group III: clerical workers and supervisors of manual workers; Group IV: skilled and semi-skilled manual workers and Group V: unskilled manual worker. For those women not working at the time of the interview, their last occupation was the one recorded.

The completed educational attainment was identified in accordance with the Spanish Epidemiology Society recommendations[23] and classified into: primary (no formal education and primary education), secondary (compulsory secondary education; school-leaving certificate and the like), and tertiary (university).

The main activity was grouped in four categories: employed or student; unemployed; housewife; other, based on the answer to a closed question in relation to her actual situation.

The type of partner relationship was categorized on the basis of the relationship with the current/last year partner to which the interview referred, as: (i) married or live-in partner; (ii) boyfriend (not living together); and (iii) separated from husband or partner, or divorced. Questions on household total income, area of residence and country of origin were also included.

Statistical analysis

The prevalence of the different types of violence was calculated. Prevalence of psychological-only and physical violence was calculated with respect to different variables. Results were expressed in percentages, with 95% confidence intervals.

To describe the association of psychological-only and physical violence with other variables, unadjusted odds ratios (ORs) were calculated through univariate logistic regression. Sexual violence was not analysed as a consequence of the small number of cases.

To assess the association between each type of violence and different socioeconomic and demographic variables, a multivariate logistic regression model was fitted, with each type of violence taken as the dependent variable. Models were selected using the likelihood-ratio test. First order interactions between all factors significantly associated in the univariate analysis were explored.

Data were analysed using the SPSS version 14.0 and Stata v.6 computer software packages

Results

A total of 3434 women were contacted, with an overall response rate of 73% (2504); of this number, 2136 eligible women were included in the analysis.

Of the 2136 women, 10.1% [confidence interval (CI) 8.9–11.5] had suffered some type of IPV in the previous year. 8.6% (CI 7.4–9.8) of the women experienced psychological violence, 2.4% (CI 1.8–3.1) had been victims of physical violence and 1.1% (CI 0.68–1.6) of sexual violence. For the women who reported psychological violence, 80% did not refer to acts of physical or sexual violence. This

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represents a prevalence of psychological-only violence of 6.9% (CI 5.8–8.0).

About 72% of women suffering physical violence also experienced psychological violence and 12% all three types of violence. Of those victims of sexual violence, 43% referred psychological or physical violence while 52% did not refer other types of violence.

The characteristics of the women surveyed, along with the prevalence of IPV according to different demographic and socio-economic variables are described in table 2.

Results of the univariate and multivariate logistic regression analyses for psychological-only violence are given in table 3. In the univariate analysis, among demographic and socioeconomic characteristics, living in households with a monthly income of under €900 (against those who had an income of over €1800), separated or divorced women against those married or living together, and women with primary education (versus those who had a university education), showed a higher risk; women having a Group I–II occupation and in the age range between 25 and 39 years were less likely to refer psychological-only violence. No significant associations were observed by the country of origin, the main activity of women, or head of household's occupation (table 3).

In the multivariate logistic regression analysis, being separated or divorced remained associated with an elevated risk, while age between 25 and 39 years, and having a Group I-II occupation continued to predict a lower prevalence. Household income and educational attainment did not remain statistically significant in the final model after adjustment for the other factors.

The results of the regression analysis for physical violence are shown in table 3. In the univariate analysis, physical violence was significantly associated with living in households with a monthly income of under €900 (against those who had an income of over €1800), separated or divorced women against those married or living together and an association to unemployment was also observed. In the multivariate logistic regression analysis, being unemployed and separated or divorced status remained associated with

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Table 2 Previous year's prevalence of IPV: total, psychological-only, and physical violence according to socio-economic and demographic characteristics of women and partners

	N	IPV, Total[a] % Prevalence (CI)	Psychological-only violence[b] % Prevalence (CI)	Physical violence[c] % Prevalence (CI)
Age (in years)				
18–24	295	12.2 (8.3–6.1)	8.8 (5.4–12.2)	3.0 (0,9–5.2)
25–39	792	8.1 (6.0–9.9)	4.5 (3.0–6.0)	2.6 (1.5–3.8)
40–54	626	10.5 (8.1–13.0)	7.7 (5.5–9.8)	2.2 (0.9–3.5)
55–70	423	12.1 (8.8–15.3)	8.9(6.1–11.8)	1.9 (0.5–3.3)
Type of partner relationship				
Married/living together	1594	9.2 (7.7–10.7)	6.4 (5.1–7.4)	2.1 (1.3–2.3)
Boyfriend	492	11.0 (8.1–13.8)	7.9 (5.4–10.4)	2.2 (0.8–3.6)
Separated/divorced	50	30.0 (16.2–43.7)	14.6 (3.3–24.6)	16.0 (4.8–27.2)
Educational level				
Tertiary	549	8.0 (5.6–10.3)	5.3 (3.3–7.2)	1.8 (0.5–3.1)
Secondary	1138	10.2 (8.4–12.0)	6.8 (5.3–8.3)	2.9 (1.8–3.9)
Primary	449	12.5 (9.3–15.6)	9.3 (6.5–12.1)	2.0 (0.7–3.2)
Women's main activity				
Employed/student	1373	9.1 (7.5–10.7)	6.6 (5.3–7.9)	1.9 (1.2–2.7)
Unemployed	134	18.7 (11.7–25.6)	8.9 (3.7–14.2)	7.5 (2.6–12.3)
Housewife	601	10.1 (7.6–12.6)	7.0 (4.9–9.1)	2.2 (0.91–3.4)
Other	28	17.9 (6.1–36.8)	10.7 (2.3–28.2)	7.1 (0.87–23.5)
Country of origin				
Spain	2023	9.9 (8.6–11.3)	6.9 (5.7–8.0)	2.3 (1.6–3.2)
Other	113	13.2 (6.6–19.2)	8.0 (2.5–13.4)	4.4 (1.4–10.0)
Women's occupation				
Group I-II	409	6.1 (3.7–8.6)	3.9 (1.9–5.9)	2.2 (0.7–3.7)
Group III	601	10.3 (7.8–12.8)	7.3 (5.1–9.4)	2.0 (0.8–3.2
Group IV	604	11.3 (8.6–13.8)	7.0 (4.8–9.1)	3.5 (1.9–5.0)
Group V	254	13.8 (9.3–18.2)	9.8 (5.9–13.7)	2.7 (0.5–5.0)
Never worked	258	10.1 (6.2–13.9)	8.1 (4.6–11.7)	1.2 (0.2–3.4)
Household income				
<900 Euros/month	207	15.9 (10.1–21.1)	11.1 (6.6–15.6)	4.4 (1.3–7.4)
900–1200 Euros/month	284	10.2 (6.5–13.9)	7.0 (3.9–10.2)	2.1 (0.3–4.0)
1200–1800 Euros/month	409	10.5 (7.4–13.6)	6.6 (4.1–9.1)	2.4 (0.8–4.1)
>1800 Euros/month	597	7.4 (5.2–9.5)	5.7 (3.7–7.6)	1.3 (0.3–2.3)
No reply	639	10.5 (8.0–12.9)	6.9 (4.8–8.9)	2.9 (1.6–4.4)
Head of household occupation				
Groups I–II	640	7.5 (5.3–9.6)	5.8 (3.9–7.7)	1.4 (0.4–2.4)
Group III	622	11.3 (8.6–13.8)	7.1 (5.0–9.2)	3.0 (1.6–4.5)
Group IV	691	10.3 (7.9–12.6)	6.9 (5.0–8.9)	2.5 (1.2–3.7)
Group V	138	12.3 (6.5–18.1)	8.7 (3.6–13.7)	2.9 (0.8–7.2)
Area of residence				
Madrid city	1189	9.9 (8.2–11.6)	7.1 (5.6–8.6)	2.2 (1.3–3.1)
Greater Madrid Area	802	10.1 (7.9–12.2)	6.6 (4.8–8.4)	2.4 (1.3–3.5)
Rural area	145	11.7 (6.1–17.3)	6.9 (2.4–11.4)	4.8 (1.0–8.7)
Total	2136	10.1 (8.9–11.4)	6.9 (5.8–8.0)	2.4 (1.7–3.1)

a: Psychological and/or physical and/or sexual IPV.

b: Psychological-only violence: psychological violence without reference to acts of physical or sexual violence.

c: Physical violence alone or in combination with psychological or sexual violence.

a higher prevalence of physical violence. However, the association with household income did not continue to be statistically significant after controlling for the other factors.

Discussion

To our knowledge, this is the first population-based study published on the prevalence of IPV in the general population in Madrid and other Spanish regions.

We have observed a prevalence of 10.1% for any type of IPV in the preceding year. This result is similar to that in France,[3] where 9% of the women surveyed, had suffered some form of IPV in the past year. However, this indicator cannot be compared with other studies, as the measurement instrument varies.

The last year prevalence of physical violence obtained in our study is similar to that observed in several studies in the United States, with a prevalence between 2 and 5.6%,[4,10,24,25] and in Europe: 3.4% in England and Wales,[5] 6.7% in Finland,[26] 3.2% in Serbia.[9] Physical violence is more readily comparable, given that most of the studies use the complete or amended version of the Conflict Tactics Scale.

The combination of different types of violence is comparable to that reported in other studies. Over 70% of physical violence appears to be combined with psychological or sexual violence. About 80% of women who refer psychological violence were not concurrently experiencing physical or sexual assault. This result is somewhat higher than findings in other population-based studies, which report ~50−60%[27,28] and similar to that reported in France[3] (Enveff), although the comparison is difficult due to the differences in the measurement instrument mentioned above. The high prevalence of psychological-only violence, which, as stated earlier, affects women's health to a similar degree as physical violence[27] and frequently precedes physical abuse[19] stresses the need to address this form of IPV through health care interventions.

Table 3 Factors associated with psychological-only and physical violence. Odds ratios and confidence intervals of the univariate and multivariate logistic regression model

	Psychological-only violence[a]		Physical violence[b]	
	Univariate analysis Odds ratio (95% CI)	Multivariate Logistic regression model[c] Odds ratio (95% CI)	Univariate analysis Odds ratio (95% CI)	Multivariate Logistic regression model[c] Odds ratio (95% CI)
Age (in years)				
18−24	0.84 (0.54–1,31)	0.87 (0.55–1.38)	1.63 (0.62–4.28)	4.1 (0.96–17.6)
25−39	0.48 (0.30–0.77)[d]	0.46 (0.27–0.78)[d]	1.41 (0.62–3.22)	1.7 (0.68–4.23)
40−54	0.97 (0.58–1.65)	0.65 (0.29–1.46)	1.19 (0.49–2.85)	1.3 (0.53–3.33)
55−70	1	1	1	1
Type of partner relationship				
Married/living together	1	1	1	1
Boyfriend	1.25 (0.85–1.84)	1.68 (0.89–3.16)	1.08 (0.54–2.16)	0.58 (0.18–1.84)
Separated/divorced	2.38 (1.04–5.42)[d]	2.49 (1.08–5.73)[d]	9.01 (3.92–20.7)[d]	10.0 (4.12–24.34)[d]
Educational level				
Tertiary	1		1	
Secondary	1.30 (0.83–2.02)		1.46 (0.73–2.91)	
Primary	1.85 (1.13–3.02)[d]		0.88 (0.35–2.22)	
Women's main activity				
Employed/student	1		1	
Unemployed	1.39 (0.74–2.60)		4.02 (1.90–8.5)[d]	4.66 (2.14–10.16)[d]
Housewife	1.06 (0.72–1.55)		1.1 (0.56–2.15	1.60 (0.73–3.49)
Other	1.69 (0.50–5.70)		3.83 (0.87–16.9)	3.02 (0.64–14.24)
Country of origin				
Spain	1		1	
Other	1.17 (0.58–2.37)		1.95 (0.76–4.99)	
Women's Occupation				
Groups I−II	1	1	1	
Group III	1.94 (1.08–3.49)[d]	1.82 (1.01–3.29)[d]	1.91 (0.51–7.13)	
Group IV	1.83 (1.02–3.31)[d]	1.62 (0.90–2.96)	1.73 (0.48–6.19)	
Group V	2.68 (1.40–5.13)[d]	2.40 (1.24–4.65)[d]	3.06 (0.90–10.36)	
Never worked	2.17 (1.11–4.25)[d]	1.65 (0.81–3.34)[d]	2.41 (0.61–9.42)	
Household income				
<900 Euros/month	2.07 (1.19–3.60)[d]		3.34 (1.27–8.79)[d]	
900−1200 Euros/month	1.25 (0.71–2.22)		1.59 (0.54–4.62)	
1200−1800 Euros/month	1.17 (0.69–1.97)		1.84 (0.72–4.72)	
>1800 Euros/month	1		1	
Head of household occupation				
Groups I−II	1		1	
Group III	1.24 (0.79–1.95)		2.21 (0.99–4.92)	
Group IV	1.21 (0.78–1.89)		1.77 (0.78–4.00)	
Group V	1.55 (0.78–3.06)		2.09 (0.63–6.90)	
Area of residence				
Madrid city	1		1	
Greater Madrid area	0.91 (0.64–1.31)		1.08 (0.60–1.97)	
Rural area	0.96 (0.48–1.90)		2.27 (0.97–5.32)	

a: Psychological-only violence: psychological violence without reference to acts of physical or sexual violence.
b: Physical violence alone or in combination with psychological or sexual violence.
c: Final model only includes variables that appear in the column.
d: $P < 0.05$.

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In relation to psychological-only violence and its association with social factors, it was observed to be less frequent among women aged between 25 and 39 years.

As in other studies,[24] women who are separated or divorced also register an association with psychological-only violence. It has to be taken into account that women in this study at least had to have been in contact with their partners in the past year; as a consequence, of the separated women included in the study, 68% were recently separated (in the preceding year). This indicates that psychological violence frequently continues in the period after separation.

Of all the factors indicative of the socioeconomic level, women's occupation appears as the most important factor with respect to psychological-only violence: women with a Group I–II occupation are at a lower risk. This result is in line with other studies. The level of education does not show an association in our study when adjusted for women's occupation as a result of both variables being highly correlated, though it is associated with psychological-only violence in the univariate analysis. Women with low educational level have been found to be at higher risk,[15,29,30] while a higher education has been identified as a strong correlate for help-seeking IPV victims.[31] As Jewkes has stated, women who are more empowered educationally and socially are most protected from violence, and the mechanism of protection appears to be not only economic independence but also greater social empowerment, including the ability to use information and the social resources available.[8,32] We believe that it applies also in our context. Occupation reflects women's empowerment; it stands for both educational level and economic autonomy, and represents a proxy for women empowerment.

Regarding physical violence, having a separated or divorced status and being unemployed, present an association, while age does not. In general, most published studies report a higher frequency of physical violence among younger women.[5,24,33–35]

The association of unemployment with physical violence may be indicative of violent partners preventing women from working outside the home as a way of isolating and controlling them, as well as loss of employment as a consequence of maltreatment.[36,37]

Women who are separated or divorced register a higher association with physical violence. As the separated women in this study were recently separated, this finding confirms what has been described in other studies that the risk of ensuing physical violence grows during the process of separation,[9,24,33–35,38] and has important implications for the safety of separated or divorced women.

The differences between the forms of violence explored in this study affect age, occupational status and unemployment. This differences may reflect a higher severity of violence, including higher control exert over women, as has been suggested, in relation to unemployment, by other studies[41]. This should be further explored in other studies.

Our study has some limitations. It should be noted that estimates about IPV are extremely sensitive to the definitions used and the way the questions are asked. The way violence was measured – determining the frequency of violent acts and situations – the established criteria proposed by Enveff[3] which takes into account the combination and the frequency of different acts and situations, and previous validation of the instrument may contribute to an objective measurement of the problem.

Estimates are based on telephone interviews. The interviewee's concern for their safety may have led to the underestimation of prevalence. An attempt was made to reduce this bias by offering women the option of postponing the completion of the interview, and then resuming it at a later date. On the other hand, the anonymity of the telephone interview allowed more open responses to sensitive questions that may not be answered in other settings.

Although all the types of violence are part of the same phenomenon, we focused our analysis on two types of violence: psychological-only and physical violence. This also stemmed from the observed frequency of psychological-only violence. While the health impact of this kind of violence has been established, the discussion on how to measure it has precluded a broader analysis. The difference found between these two types of violence reinforces this approach. To better assess these differences, new studies should be carried out with sample sizes that allow comparisons between the different forms of IPV.

The sample size decreased the power of our study to detect associations, especially in the multivariate analysis. Although many of the factors explored show positive association, they failed to be statistically significant. Based on the results of the univariate analysis, several factors, such as country of origin and residence area should be further explored in a larger sample.

Furthermore, as the study is cross-sectional, social factors may represent a risk of suffering or remaining with an abusive partner, or the effect of IPV. This affects the results, especially those related to unemployment. Because the previous year's violence is analysed, this kind of bias is unlikely.

In view of our study objective, no data were collected on other factors, specifically partner characteristics that might also have an important role, such as alcohol or drug abuse, a history of suffering maltreatment, or having witnessed maltreatment during childhood. At the individual level, the two latter factors were most frequently associated with IPV.[16,29,30–32,39,40] The limited number of factors studied may have resulted in associations that would not have been found if other factors were taken into account. Larger future studies can help clarify this.

Despite these limitations, this study contributes to establish the extent of IPV in women in Madrid, in a population-based sample, for the first time. The data indicate the enormous magnitude of IPV in the region. Indeed, application of the estimates to the general population would mean that 48 000 women must have suffered physical violence in the preceding year, and an estimated 150 000 would have suffered psychological-only violence. Strategies for the prevention, early detection, and support for women suffering IPV both within the health services and in the community should be a priority.

Prevention strategies in Madrid should take into account the relevance of psychological-only violence in our context and must also support programs and interventions directed to enhance empowerment of women.

Intervention programs to attend to women suffering IPV should include safety planning during the separation process, as it is a period of high risk for IPV in our context, especially for physical violence. Unemployment should be considered a risk marker for all forms of IPV but especially for physical violence, and should also be address in intervention programs.

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Key points

- Women in Madrid experienced IPV at a similar level as other industrialized countries.
- Our results support the hypothesis of economic and social independence of women, in other words, empowerment, protects against IPV.
- Divorce or separation is confirmed as a period of high risk, particularly for physical violence.

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