



Association between witnessing domestic violence against the mother in childhood and intimate partner violence in adulthood: A population-based analysis of Peru

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ARTICLE INFO

Keywords:

Domestic violence
Exposure to violence
Intimate Partner Violence
Peru

ABSTRACT

Objective: To assess the association between witnessing domestic violence against the mother in childhood and intimate partner violence (IPV) in adulthood.

Study design: An analytical cross-sectional study was conducted using data from the 2019 Peruvian Demographic and Family Health Survey (ENDES). The independent variable was the condition of witnessing physical violence by the father against the mother during childhood. The dependent variable was IPV, defined by the presence of some subtype of violence (physical, psychological, and sexual) against the respondent in the last year by her husband or partner. To assess this association, generalized linear models of the Poisson Family with a logarithmic link function were performed to estimate crude and adjusted prevalence ratios (aPR) with their respective 95% confidence intervals (95% CI).

Results: Data from 17,911 Peruvian women between 15 and 59 years of age were analyzed. Most women were between 30 and 49 years old (71.4%), were cohabiting (65.0%), and had secondary education (43.2%). The prevalence of IPV in the last year was 16.0%, and the history of witnessing domestic violence against the mother during childhood was 42.0%. In the regression models, those with the studied exposure showed a higher prevalence of experiencing an episode of IPV in the last year (any IPV [aPR: 1.69; 95% CI: 1.50–1.91]; physical IPV [aPR: 1.70; 95% CI: 1.43–2.02], psychological IPV [aPR: 1.64; 95% CI: 1.42–1.88], and sexual IPV [aPR: 1.68; 95% CI: 1.22–2.32]).

Conclusions: Women with a history of domestic violence towards their mothers were likelier to have had IPV in the last year than women who did not report violence towards their mothers during childhood. Approximately two in ten Peruvian women reported having had IPV in the past year, and nearly half reported witnessing domestic violence against their mother as a child.

1. Introduction

Intimate partner violence (IPV) is considered a latent public health problem and constitutes a violation of human rights [1]. IPV is common throughout the world and mainly affects women [2]. Globally, 27% of

women between the ages of 15 and 49 have experienced an episode of IPV at some time in their lives [2].

Previous studies have highlighted the intergenerational transmission of violence [3–5]. The reasons for this relationship can be analyzed from different perspectives. In the aggressors, there is a tendency to repeat

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violent behaviors. This can be supported by the attachment theory [6] or the social learning theory of aggression [7]. In some cases, the victims develop a normalization of violent behaviors [8]. Generally, situations of violence experienced in childhood include physical, psychological, or sexual abuse. However, it is important to emphasize other scenarios, such as IPV between parents. Witnessing IPV is described as being associated with a higher risk of being a victim of IPV in adult life in both men and women [5].

In Latin America and the Caribbean there are many factors perpetuating IPV [2]. In this region, there is still a culture that imposes gender roles; whereby there is greater tolerance for episodes of violence by the partner [9]. On the other hand, socioeconomic inequality places women in a disadvantaged position [10]. Although previous studies describe the relationship between witnessing violence towards the mother and IPV [5,11,12], little is known about this situation in Latin America and the differences between IPV subtypes. The prevalence of IPV registered in Peru is 38% [2]. Although there has been a decrease in the prevalence of IPV among Peruvian women, this continues to be one of the highest in Latin America [13], making it necessary to identify factors predisposing the presence of this type of violence for the development of programs of identification and prevention of violence in the home, which allow the reduction of IPV. For this reason, the present study seeks to evaluate the association between witnessing domestic violence against the mother and experiencing an episode of IPV in the last year in Peruvian women.

2. Material and methods

2.1. Study design and setting

An analytical cross-sectional study used data from 2019 Demographic and Family Health Survey (ENDES) in Peru. This survey is carried out annually by the National Institute of Statistics and Informatics of Peru (INEI - acronym in Spanish) and is based on the DHS Demographic and Health Surveys program. This survey is carried out by personnel previously trained in correctly filling out the questionnaires, following the standards and procedures described in the interviewer's manual to ensure the quality of the information collected [14].

2.2. Population, sample, and sampling

The ENDES is an annual national survey. This survey uses a probabilistic, two-stage (conglomerates and households), balanced, stratified, and independent sampling [14]. The primary sampling units include habitual residents who spent the night before the survey in the selected urban and rural dwellings. Thus, the results of this survey are representative at the national, departmental level (25 administrative regions), urban and rural areas, and by geographic domain (coast, highlands, and jungle).

The ENDES registered 33,288 responses from women of reproductive age (15–49 years) in 2019. The effective study sample comprised 17,911 women of reproductive age who were married or cohabiting at the time of the survey and had complete data on the variables of interest (number

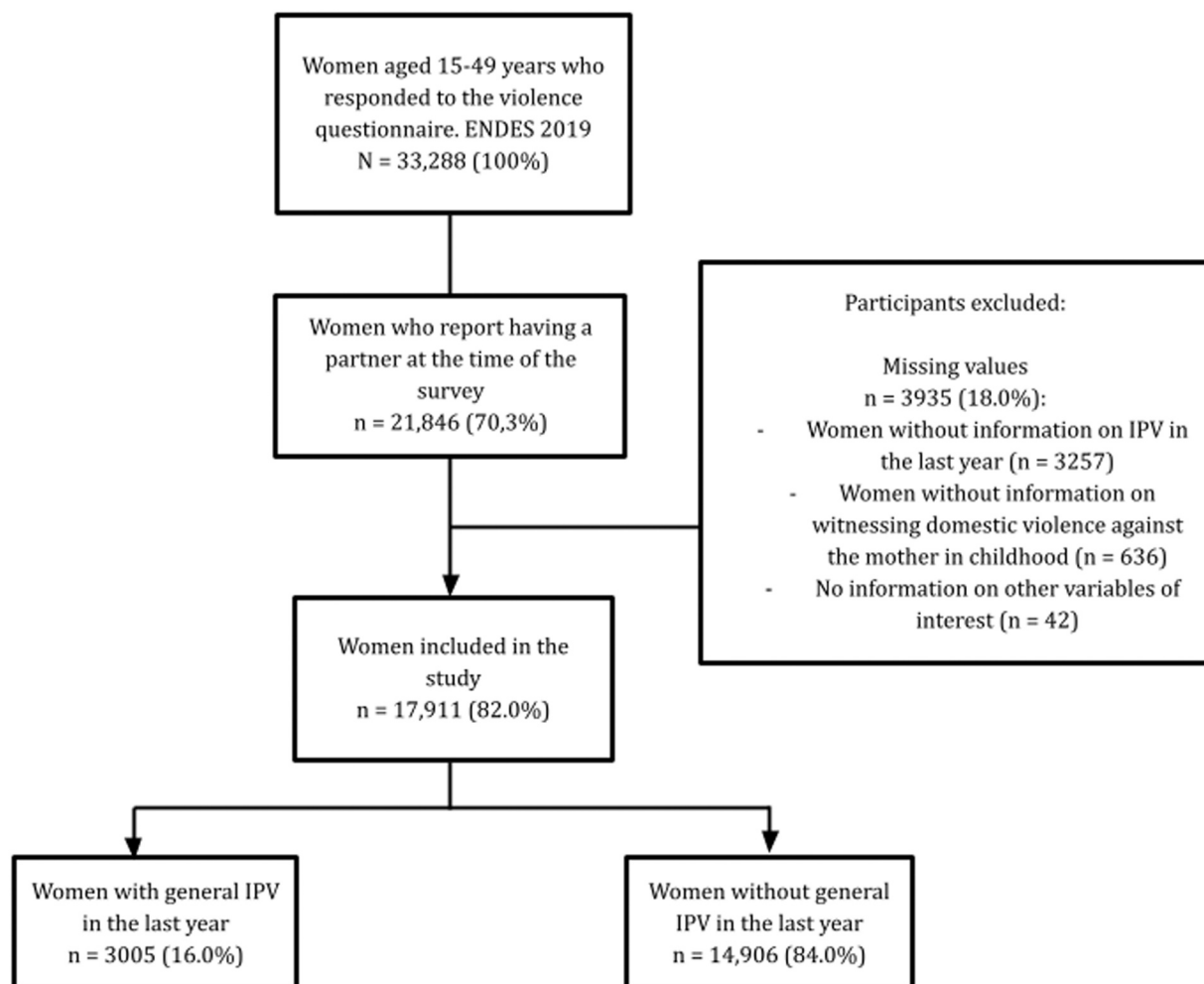


Fig. 1. Flow chart of participant selection.

and reasons for exclusion are presented in Fig. 1).

2.3. Variables

2.3.1. Dependent variable: Intimate Partner Violence in the last year

The dependent variable was defined as the history of some subtype of violence (physical [shoving, twisting, dragging, strangling, cutting, pulling hair, slapping, punching, burning, spitting, kicking, hitting with objects, throwing objects to hurt her, threats with knives, scissors, firearms, among others], psychological [verbal or gestural assault to humiliate her in front of other people, a verbal threat that the spouse leaves home, takes custody of the children, or abandons them financially], and sexual [forced her to have sexual relations or perform sexual acts that she disapproves of]) in the last year prior to the survey by her husband or partner. This variable is operationalized as a dichotomous variable (yes/no), considering the presence or absence of any forms of violence perpetrated by the partner against the woman. We only considered the events of the last year to minimize memory bias and avoid cases in which the respondent has had more than one partner in her life that has caused some violence, but that currently does not occur. If the surveyed woman had presented one or more of these subtypes of violence (physical, verbal or psychological, and sexual), IPV was considered with the answer Yes.

To collect information on domestic violence from the respondent, the interviewer had to ensure that the selected woman was completely alone during the survey to maintain her privacy and not bias the information. In case of not obtaining the necessary privacy, the interviewer was obliged to end the interview.

2.3.2. Independent variable

The independent variable was the respondent's childhood exposure to physical domestic violence towards the mother. This variable was recorded by self-report as a response to the following question: "When you were a child, did your father ever hit your mother?" with "Yes" and "No" as possible answers.

2.3.3. Covariates

The following characteristics were considered as covariates: age groups (adolescents [15 to 17 years], youths [18 to 29 years] and adults [30 to 49 years]) according to the life groups defined by the Peruvian Ministry of Health [15], marital status (married and cohabiting), educational level (without education or primary, secondary, higher), employment situation (works and does not work), region of residence (metropolitan Lima, coast without Lima, highlands and jungle), area of residence (urban and rural), well-being index (first quintile, second quintile, third quintile, fourth quintile and fifth quintile; the cut-off points were established according to Peru's own distribution for the survey year), ethnic group (Quechua, mestizo, black/brown/zambo and other ethnic minorities), educational level of the couple (without education or primary, secondary, higher), relationship with the head of the household (wife, the survey is with the head of household and other type of relationship), number of members living in the household (≤ 5 , 3 to 4, and 1 to 2), duration of relationship (< 5 years, 5 to 9 years, 10 to 14 years, and ≥ 15 years), and frequency of alcohol consumption by the partner (never, sometimes to always).

2.3.4. Statistical analysis

All the statistical analyses were performed using Stata v.17 software (Stata Corporation, College Station, Texas, USA). The Stata command svy was used to consider the complex sampling characteristics of the ENDES.

Absolute frequencies and weighted proportions were calculated for descriptive analysis of the categorical variables. The association between the categorical variables was evaluated using the chi-square test with the Rao-Scott correction for the bivariate analysis. Generalized linear models of the Poisson Family with a logarithmic link function

were performed to estimate crude (cPR) and adjusted (aPR) prevalence ratios with their respective 95% confidence intervals (95% CI) to evaluate the association between the exposure of domestic violence and IPV, as well as each of the components of IPV (physical IPV, sexual IPV, and psychological IPV). An epidemiological approach was used for the adjusted model, including potential confounding factors, whose association with the independent and dependent variables has been described in previous studies [16,17].

The variance inflation factor was used to assess collinearity, where a value > 10 determined multicollinearity between the variables; however, all the values obtained were less than 10.

2.3.5. Ethical considerations

This study did not require ethics committee's approval as it was an analysis of secondary data that does not include identifiers of the individuals surveyed. In addition, the ENDES 2019 database is in the public domain (<https://proyectos.inei.gob.pe/microdatos/>) and guarantees the confidentiality of participant data. The primary data collection for this survey, carried out by the INEI team, required the previous consent from the respondents to participate.

3. Results

Data from 17,911 women of childbearing age with a partner at the time of the survey were analyzed (Fig. 1). Regarding the characteristics of the population studied, the highest percentage were adults (30 to 49 years, 71.4%), 65.0% lived with their partner but were not married, 43.2% had secondary studies, 63.1% were not employed, 22.8% belonged to the second quintile of wealth, 46.4% belonged to the mestizo ethnic group, 34.7% lived in metropolitan Lima, and 77.2% in urban areas (Table 1).

The frequency of IPV in the last year was 16.0%, with a higher proportion among women who cohabited but were not married (17.6%; $p < 0.001$), those with a secondary educational level (18.2%; $p < 0.001$), those who were not currently working (16.8%; $p = 0.043$), those in the second wealth quintile (19.5%; $p < 0.001$), those of Quechua ethnicity (19.4%; $p < 0.001$), those whose partner had a secondary level of education (17.8%; $p < 0.001$), those cohabiting/married more than 15 years (18.2%; $p < 0.001$), those who reported that their partners consumed alcohol regularly (20.1%; $p < 0.001$) and those with a history of domestic violence during childhood (21.8%; $p < 0.001$) (Table 2).

A history of domestic violence in childhood was reported by 42.0% of women. In addition, a higher proportion of exposure to domestic violence was found in women who presented general IPV in the last year (57.1%; $p < 0.001$), as well as for psychological (56.6%; $p < 0.001$), physical (56.8%; $p < 0.001$), and sexual (58.6%; $p < 0.001$) IPV (Table 3). In the adjusted regression model, exposure to childhood domestic violence by the father towards the mother was associated with a higher prevalence of IPV in adulthood (aPR: 1.69; 95% CI: 1.50–1.91) as well as all subtypes, physical IPV (aPR: 1.70; 95% CI: 1.43–2.02), sexual IPV (aPR: 1.68; 95% CI: 1.22–2.32), and psychological IPV (aPR: 1.64; 95% CI: 1.42–1.88) (Table 4).

4. Discussion

This study aimed to assess the association between witnessing domestic violence against the mother in childhood and IPV in adulthood. According to the study results, at least one out of ten women included reported experiencing at least one episode of IPV in the last year. An association was observed between witnessing physical violence against the mother in childhood and experiencing IPV in the past year. Physical IPV was the subtype of IPV that showed the greatest association with the outcome.

The prevalence of IPV reported in the last year of life by women in Peru was greater than the worldwide estimate (13%) and similar to that

Table 1
Characteristics of the study population (n = 17,911).

Characteristics	n	%*	95%CI*
Age (years)			
15 to 17	159	0.6	0.5 - 0.7
18 to 29	6733	28.0	26.9 - 29.2
30 to 49	11,019	71.4	70.2 - 72.5
Current marital status			
Married	5375	35.0	33.6 - 36.5
Cohabiting with partner	12,536	65.0	63.5 - 66.4
Women's education level			
Primary or preschool	4256	21.2	20.2 - 22.4
Secondary	7971	43.2	41.8 - 44.7
Higher	5684	35.5	34.0 - 37.0
Currently employed			
Yes	7303	36.9	35.5 - 38.2
No	10,608	63.1	61.8 - 64.5
Geographical region			
Lima Metropolitan Area	2061	34.7	33.0 - 36.4
Rest of coastline	5144	24.3	23.2 - 25.6
Highlands	6132	25.5	24.2 - 26.8
Jungle	4574	15.4	14.5 - 16.4
Area of residence			
Urban	12,113	77.2	76.3 - 78.0
Rural	5798	22.8	22.0 - 23.7
Wealth index			
First quintile	5219	20.9	20.0 - 21.8
Second quintile	4851	22.8	21.6 - 24.0
Third quintile	3480	21.0	19.8 - 22.3
Fourth quintile	2551	18.2	17.0 - 19.5
Fifth quintile	1810	17.1	15.7 - 18.5
Ethnicity			
Mestizo	7287	46.4	44.9 - 47.9
Quechua	5326	24.9	23.7 - 26.2
Negro/moreno/zambo	1873	10.8	10.0 - 11.7
Others	3425	17.8	16.6 - 19.1
Partner's education level			
Primary or preschool	3132	15.6	14.7 - 16.5
Secondary	8716	47.7	46.3 - 49.1
Higher	6063	36.7	35.2 - 38.2
Relationship to head of household			
Wife	13,548	76.3	75.1 - 77.5
Is head of household	1819	10.3	9.4 - 11.2
Other relationship	2544	13.4	12.5 - 14.5
Number of members in household			
≥ 5	7387	36.1	34.8 - 37.4

Table 1 (continued)

Characteristics	n	%*	95%CI*
3-3	9506	53.7	52.2 - 55.2
1-2	1018	10.2	9.1 - 11.4
Duration of relationship (years)			
< 5	3958	17.9	16.9 - 18.9
5-9	4477	21.9	20.7 - 23.2
10-14	4036	22.2	21.0 - 23.5
≥ 15	5440	38.0	36.6 - 39.5
Frequency of alcohol consumption by partner			
Never	6897	42.9	41.3 - 44.5
Sometimes to always	11014	57.1	55.5 - 58.7
History of physical domestic violence by father to mother			
No	10,328	58.0	56.5 - 59.5
Yes	7583	42.0	40.5 - 43.5
Psychological IPV in the last year			
No	15,615	87.7	86.7 - 88.6
Yes	2296	12.3	11.4 - 13.3
Physical IPV in the last year			
No	16,190	91.2	90.4 - 91.9
Yes	1721	8.8	8.1 - 9.6
Sexual IPV in the last year			
No	17,480	97.7	97.3 - 98.0
Yes	431	2.3	2.0 - 2.7
IPV (any) in the last year			
No	14,906	84.0	82.9 - 85.0
Yes	3005	16.0	15.0 - 17.1

95%CI: 95% confidence interval; IPV: Intimate partner violence

* Weighted percentages according to survey complex sampling

of North Africa and the Midwest and surpassed by some regions of Asia, Africa, and Oceania [2]. Although there are differences, the pattern regarding IPV against women is homogeneous in countries with unstable socioeconomic and political conditions and is related to the limited development of women within society [18]. In Peru, the low autonomy of women is associated with experiencing a higher prevalence of IPV in the last year [19]. In this study, most women who reported IPV in the last year self-identified as a member of the Quechua ethnic group. Indigenous peoples in Peru face social exclusion and discrimination related to their ethnic origin. This further accentuates many of educational and economic limitations of these women [20] and the violation of their autonomy in aspects such as choosing a partner, giving consent for an intimate relationship or refusing to participate in forced activities [20,21].

The literature describes a worldwide pooled prevalence of the witnessing of family violence during childhood of 16.5% to 29% [22,23], with a higher value found in this study for Peruvian women higher. According to UNICEF, 275 million children are exposed to domestic violence worldwide. Their results show that these data are not known in our country or in many countries in Latin America [24]. The scenario is even more complex since 40% of these cases have also reported suffering from child abuse [25]. Exposure to domestic violence in childhood is a latent and little-addressed problem in Peru that perpetuates the cycle of violence and affects emotional, cognitive, and social development [26, 27], as well as brain development [28], and a greater tendency for risky behaviors in adulthood [29].

Table 2

Prevalence of intimate partner violence (physical, psychological, or sexual) in the last year according to the characteristics of the study population (n = 17911).

Characteristics	IPV (any) in the last year						p-value**
	No			Yes			
	n	%*	95%CI*	n	%*	95%CI*	
Age (years)							
18 to 29	5566	82.9	81.0 - 84.6	1167	17.1	15.4 - 19.0	0.179
15 to 17	125	79.5	69.4 - 86.8	34	20.5	13.2 - 30.6	
30 to 49	9215	84.5	83.1 - 85.7	1804	15.5	14.3 - 16.9	
Current marital status							
Married	4678	86.9	85.1 - 88.5	697	13.1	11.5 - 14.9	< 0.001
Cohabiting partner	10,228	82.4	81.1 - 83.7	2308	17.6	16.3 - 18.9	
Women's education level							
Primary or preschool	3529	84.0	82.2 - 85.6	727	16.0	14.4 - 17.8	< 0.001
Secondary	6503	81.8	80.0 - 83.5	1468	18.2	16.5 - 20.0	
Higher	4874	86.7	84.8 - 88.3	810	13.3	11.7 - 15.2	
Currently employed							
Yes	6240	85.4	83.7 - 86.9	1063	14.6	13.1 - 16.3	0.043
No	8666	83.2	81.8 - 84.5	1942	16.8	15.5 - 18.2	
Geographical region							
Lima Metropolitan Area	1715	84.9	82.2 - 87.3	346	15.1	12.7 - 17.8	0.068
Rest of coastline	4387	85.4	83.7 - 86.9	757	14.6	13.1 - 16.3	
Highlands	5013	82.0	80.6 - 83.3	1119	18.0	16.7 - 19.4	
Jungle	3791	83.1	81.5 - 84.7	783	16.9	15.3 - 18.5	
Area of residence							
Urban	10,073	84.0	82.6 - 85.2	2040	16.0	14.8 - 17.4	0.879
Rural	4833	84.1	82.9 - 85.3	965	15.9	14.7 - 17.1	
Wealth index							
First quintile	4332	84.0	82.6 - 85.3	887	16.0	14.7 - 17.4	< 0.001
Second quintile	3917	80.5	78.3 - 82.4	934	19.5	17.6 - 21.7	
Third quintile	2878	82.1	79.3 - 84.5	602	17.9	15.5 - 20.7	
Fourth quintile	2175	85.3	82.4 - 87.8	376	14.7	12.2 - 17.6	
Fifth quintile	1604	89.7	86.8 - 92.0	206	10.3	8.0 - 13.2	
Ethnicity							
Mestizo	6179	85.3	83.7 - 86.8	1108	14.7	13.2 - 16.3	< 0.001
Quechua	4299	80.6	78.3 - 82.7	1027	19.4	17.3 - 21.7	
Negro/moreno/zambo	1590	86.3	83.6 - 88.6	283	13.7	11.4 - 16.4	
Others	2838	83.8	81.3 - 86.0	587	16.2	14.0 - 18.7	
Partner's education level							
Primary or preschool	2566	83.6	81.6 - 85.5	566	16.4	14.5 - 18.4	< 0.001
Secondary	7165	82.2	80.6 - 83.7	1551	17.8	16.3 - 19.4	
Higher	5175	86.5	84.7 - 88.1	888	13.5	11.9 - 15.3	
Relationship to head of household							
Wife	11,269	83.9	82.6 - 85.0	2279	16.1	15.0 - 17.4	0.645
Is head of household	1478	83.5	80.3 - 86.3	341	16.5	13.7 - 19.7	
Other relationship	2159	85.2	82.2 - 87.7	385	14.8	12.3 - 17.8	
Number of members in household							
≥ 5	6128	83.1	81.3 - 84.7	1259	16.9	15.3 - 18.7	0.253
3-3	7933	84.2	82.7 - 85.5	1573	15.8	14.5 - 17.3	
1-2	845	86.4	82.3 - 89.7	173	13.6	10.3 - 17.7	
Duration of relationship (years)							
< 5	3310	85.5	83.2 - 87.5	648	14.5	12.5 - 16.8	0.009
5-9	3750	84.7	82.6 - 86.6	727	15.3	13.4 - 17.4	
10-14	3388	85.9	83.9 - 87.7	648	14.1	12.3 - 16.1	
≥ 15	4458	81.8	79.7 - 83.8	982	18.2	16.2 - 20.3	
Frequency of alcohol consumption by partner							
Never	6159	89.5	87.8 - 90.9	738	10.5	9.1 - 12.2	< 0.001
Sometimes to always	8747	79.9	78.4 - 81.3	2267	20.1	18.7 - 21.6	
History of physical domestic violence by father to mother							
No	9018	88.2	87.0 - 89.2	1310	11.8	10.8 - 13.0	< 0.001
Yes	5888	78.2	76.3 - 80.0	1695	21.8	20.0 - 23.7	

95%CI: 95% confidence interval; IPV: intimate partner violence.

* Weighted percentages according to survey complex sampling

** Calculated by Chi2 test of independence with Rao Scott correction for complex sampling. p-values < 0.05 are in bold.

We found an association between witnessing domestic violence against the mother in childhood and experiencing some IPV in the last year (any IPV or for specific IPV). This finding is in line with what was reported by a study that analyzed data from the UN multi-country report that described that exposure to any trauma during childhood, including witnessing abuse towards the mother, produces an increased probability of suffering IPV in all its types [30]. The literature also describes an increased probability of IPV among adolescents and young women exposed to witnessing violence against the mother [31]. Furthermore,

this association is also reported in relationships that include different gender identities, which have also evidenced this association, evaluated as a higher risk of IPV perpetration and victimization in adult life [32]. Although previous reports show that exposure to domestic violence increases the probability of IPV in adulthood, it is also described that this exposure can increase the probability of directing IPV towards the partner [33,34]. Hence, the strategies to reduce IPV in Peruvian women should begin with detecting children of both sexes exposed to violence at home, providing them with psychological support and follow-up, and

Table 3

Prevalence of history of parental physical violence according to the characteristics of the study population (n = 17911).

Characteristics	History of physical domestic violence by father to mother						p-value**
	No			Yes			
	n	%*	95%CI*	n	%*	95%CI*	
Age (years)							
18 to 29	3989	61.4	59.2 - 63.5	2744	38.6	36.5 - 40.8	< 0.001
15 to 17	106	71.0	61.2 - 79.1	53	29.0	20.9 - 38.8	
30 to 49	6233	56.6	54.7 - 58.5	4786	43.4	41.5 - 45.3	
Current marital status							
Married	3107	59.1	56.5 - 61.8	2268	40.9	38.2 - 43.5	0.302
cohabiting partner	7221	57.4	55.6 - 59.3	5315	42.6	40.7 - 44.4	
Women's education level							
Primary or preschool	2532	58.6	55.7 - 61.3	1724	41.4	38.7 - 44.3	< 0.001
Secondary	4413	54.6	52.4 - 56.7	3558	45.4	43.3 - 47.6	
Higher	3383	61.9	59.2 - 64.6	2301	38.1	35.4 - 40.8	
Currently employed							
Yes	4346	61.0	58.7 - 63.2	2957	39.0	36.8 - 41.3	0.002
No	5982	56.3	54.4 - 58.3	4626	43.7	41.7 - 45.6	
Geographical region							
Lima Metropolitan Area	1167	55.5	51.8 - 59.2	894	44.5	40.8 - 48.2	0.003
Rest of coastline	3096	62.7	60.7 - 64.8	2048	37.3	35.2 - 39.3	
Highlands	3450	57.3	55.4 - 59.2	2682	42.7	40.8 - 44.6	
Jungle	2615	57.4	55.2 - 59.5	1959	42.6	40.5 - 44.8	
Area of residence							
Urban	6864	57.4	55.5 - 59.2	5249	42.6	40.8 - 44.5	0.027
Rural	3464	60.3	58.5 - 62.1	2334	39.7	37.9 - 41.5	
Wealth index							
First quintile	3137	61.4	59.4 - 63.3	2082.0	38.6	36.7 - 40.6	< 0.001
Second quintile	2661	54.4	51.7 - 57.1	2190.0	45.6	42.9 - 48.3	
Third quintile	1870	51.7	48.2 - 55.2	1610.0	48.3	44.8 - 51.8	
Fourth quintile	1475	57.2	53.4 - 60.9	1076.0	42.8	39.1 - 46.6	
Fifth quintile	1185	67.4	63.1 - 71.4	625.0	32.6	28.6 - 36.9	
Ethnicity							
Mestizo	4338	59.7	57.5 - 62.0	2949	40.3	38.0 - 42.5	< 0.001
Quechua	2766	49.9	47.1 - 52.7	2560	50.1	47.3 - 52.9	
Negro/moreno/zambo	1164	66.1	62.8 - 69.3	709	33.9	30.7 - 37.2	
Others	2060	60.1	56.8 - 63.3	1365	39.9	36.7 - 43.2	
Partner's education level							
Primary or preschool	1874	60.5	57.8 - 63.2	1258	39.5	36.8 - 42.2	0.011
Secondary	4925	55.8	53.6 - 58.0	3791	44.2	42.0 - 46.4	
Higher	3529	59.8	57.2 - 62.4	2534	40.2	37.6 - 42.8	
Relationship to head of household							
Wife	7729	57.3	55.6 - 59.1	5819	42.7	40.9 - 44.4	0.049
Is head of household	967	57.4	52.9 - 61.8	852	42.6	38.2 - 47.1	
Other relationship	1632	62.5	58.8 - 66.1	912	37.5	33.9 - 41.2	
Number of members in household							
≥ 5	4250	56.9	54.7 - 59.0	3137	43.1	41.0 - 45.3	0.411
3-3	5491	58.3	56.3 - 60.3	4015	41.7	39.7 - 43.7	
1-2	587	60.5	54.6 - 66.2	431	39.5	33.8 - 45.4	
Duration of relationship (years)							
< 5	2398	62.1	59.0 - 65.2	1560	37.9	34.8 - 41.0	< 0.001
5-9	2641	61.8	58.8 - 64.7	1836	38.2	35.3 - 41.2	
10-14	2234	56.3	53.2 - 59.3	1802	43.7	40.7 - 46.8	
≥ 15	3055	55.0	52.5 - 57.4	2385	45.0	42.6 - 47.5	
Frequency of alcohol consumption by partner							
Never	4224	60.8	58.2 - 63.3	2673	39.2	36.7 - 41.8	0.003
Sometimes to always	6104	56.0	54.2 - 57.8	4910	44.0	42.2 - 45.8	
Psychological IPV in the last year							
No	9315	60.1	58.5 - 61.7	6300	39.9	38.3 - 41.5	< 0.001
Yes	1013	43.4	39.7 - 47.2	1283	56.6	52.8 - 60.3	
Physical IPV in the last year							
No	9591	59.5	57.9 - 61.1	6599	40.5	38.9 - 42.1	< 0.001
Yes	737	43.2	38.9 - 47.5	984	56.8	52.5 - 61.1	
Sexual IPV in the last year							
No	10,159	58.4	56.9 - 60.0	7321	41.6	40.0 - 43.1	< 0.001
Yes	169	41.4	33.7 - 49.5	262	58.6	50.5 - 66.3	
General IPV in the last year							
No	9018	60.9	59.3 - 62.5	5888	39.1	37.5 - 40.7	< 0.001
Yes	1310	42.9	39.6 - 46.2	1695	57.1	53.8 - 60.4	

95%CI: 95% confidence interval; IPV: Intimate partner violence

* Weighted percentages according to survey complex sampling

** Calculated by Chi2 test of independence with Rao Scott correction for complex sampling. p-values < 0.05 are in bold

Table 4

Association between history of physical domestic violence by father to mother and intimate partner violence in the last year.

Characteristics	Crude Model			Adjusted Model*		
	cPR	95% CI	p-value	aPR	95% CI	p-value
Model 1. Psychological IPV in the last year						
No history of parental physical violence	Ref.			Ref.		
Yes, history of parental physical violence	1.80	1.56 - 2.08	< 0.001	1.64	1.42 - 1.88	< 0.001
Model 2. Physical IPV in the last year						
No history of parental physical violence	Ref.			Ref.		
Yes, history of parental physical violence	1.82	1.54 - 2.16	< 0.001	1.70	1.43 - 2.02	< 0.001
Model 3. Sexual IPV in the last year						
No history of parental physical violence	Ref.			Ref.		
Yes, history of parental physical violence	1.96	1.41 - 2.72	< 0.001	1.68	1.22 - 2.32	< 0.001
Model 4. IPV (any) in the last year						
No history of parental physical violence	Ref.			Ref.		
Yes, history of parental physical violence	1.84	1.63 - 2.08	< 0.001	1.69	1.50 - 1.91	< 0.001

cPR: crude Prevalence Ratio; aPR: adjusted. Prevalence Ratio; 95%CI: 95% confidence interval; IPV: Intimate partner violence

Prevalence ratios and confidence intervals were calculated considering the survey complex sampling.

P-values < 0.05 are in bold.

* The models were adjusted for age, current marital status, women's education level, currently employed, geographical region, area of residence, wealth index, ethnicity, partner's education level, relationship to head of household, number of members in household, duration of relationship, and frequency of alcohol consumption by partner

re-educating families about mental health and the impact of violence on children to break the cycle of violence.

Regarding the limitations of this study, the study population included responses from individuals who were married or cohabiting and had experienced IPV in the past year. This may have underestimated the representativeness of the results; however, it was delimited in such a way as to avoid memory bias, and the information varies in case the persons surveyed had more than one partner. Second, some information related to our main variables, such as frequency, severity, duration, and time of IPV, was unavailable, limiting the characterization of the phenomenon in study. Third, some IPV-related questions were asked only if the respondent was alone. This can generate frequencies lower than in real life; however, this measure seeks to protect the integrity of the interviewer [35]. Fourth, it is not possible to measure or establish that exposure to domestic violence in childhood occurred homogeneously among the respondents. Finally, given the nature of some questions, a social convenience bias could affect the answers. Despite the above-mentioned limitations, the ENDES is a nationally representative survey with a reliable methodology widely used to study various aspects of health in Peru.

5. Conclusions

Two out of ten Peruvian women reported having presented IPV in the

last year; this percentage is superior to the reported globally. Half of Peruvian women indicated having witnessed physical domestic violence towards their mother in childhood. The results showed that this exposure increases the probability of presenting IPV as an adult, supporting an intergenerational transmission of violence. This relationship was found for any IPV subtypes. Physical domestic violence harms women's health, affects the development of children, and perpetuates the cycle of violence against women in the future. Therefore, detection, management, and prevention programs for domestic violence should be prioritized.

Funding

The study was self-funded.

CRedit authorship contribution statement

Fernandez-Guzman Daniel: Data curation, Formal analysis, Writing – original draft, Writing – review & editing. **Rosales-Rimache Jaime:** Conceptualization, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Urrunaga-Pastor Diego:** Methodology, Supervision, Writing – original draft, Writing – review & editing. **Caira-Chuquineyra Brenda:** Conceptualization, Methodology, Writing – original draft, Writing – review & editing. **Cortez-Soto Andrea G.:** Writing – original draft, Writing – review & editing. **Bendezu-Quispe Guido:** Conceptualization, Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Chavez-Malpartida Sandra S.:** Writing – original draft, Writing – review & editing.

Declaration of Competing Interest

The authors declare that they have no competing interests.

Data availability statement

The database is available from the *Instituto Nacional de Estadística e Informática* website (available at: <https://proyectos.inei.gob.pe/microdatos/>).

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