



Original Article

Categories and health impacts of intimate partner violence in the World Health Organization multi-country study on women's health and domestic violence

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Editorial decision 21 September 2020; Accepted 7 October 2020

Abstract

Background: Intimate partner violence (IPV) damages health and is costly to families and society. Individuals experience different forms and combinations of IPV; better understanding of the respective health effects of these can help develop differentiated responses. This study explores the associations of different categories of IPV on women's mental and physical health.

Methods: Using data from the World Health Organization (WHO) Multi-Country Study on Women's Health and Domestic Violence, multilevel mixed effects logistic regression modelling was used to analyse associations between categories of abuse (physical IPV alone, psychological IPV alone, sexual IPV alone, combined physical and psychological IPV, and combined sexual with psychological and/or physical IPV) with measures of physical and mental health, including self-reported symptoms, suicidal thoughts and attempts, and nights in hospital.

Results: Countries varied in prevalence of different categories of IPV. All categories of IPV were associated with poorer health outcomes; the two combined abuse categories were the most damaging. The most common category was combined abuse involving sexual IPV, which was associated with the poorest health [attempted suicide: odds ratio (OR): 10.78, 95% confidence interval (CI) 8.37-13.89, thoughts of suicide: 8.47, 7.03-10.02, memory loss: 2.93, 2.41-3.56]. Combined psychological and physical IPV was associated with the next poorest outcomes (attempted suicide: 5.67, 4.23-7.60, thoughts of suicide: 4.41, 3.63-5.37, memory loss: 2.33, 1.88-2.87-).

Conclusions: Understanding the prevalence and health impact of different forms and categories of IPV is crucial to risk assessment, tailoring responses to individuals and

planning services. Previous analyses that focused on singular forms of IPV likely underestimated the more harmful impacts of combined forms of abuse.

Key words: Intimate partner violence (IPV), psychological abuse/ violence, emotional abuse/ violence, physical abuse/ violence, sexual abuse/ violence, combined abuse/ violence, measurement, health

Key Messages

- This study tests the associations of different categories of IPV (psychological, physical and sexual abuse and combinations of these) on women's mental and physical health using a large international sample.
- All categories of IPV are detrimental to women's physical and mental health and this persists after the abuse ends.
- Combined categories of abuse cause the greatest physical and mental health damage, particularly with regards to suicidal behaviours. They are also more prevalent than singular forms of IPV.
- Psychological IPV is at least as harmful to women's physical and mental health as physical IPV.
- Prevention policies and professional response to IPV should appreciate the persistent health detriment of experiencing IPV, and the greater damage to health of combined abuse categories, in the design of their programmes.

Introduction

Globally, 30% of women have experienced physical or sexual intimate partner violence (IPV).¹ Violence against women is a violation of women's human rights which damages their and their children's physical and mental health, with substantial health care and societal costs. It is an important cause of morbidity for women and a global public health problem² and an indicator for Goal 5 (Gender Equality and Women and Girls' Empowerment) of the Sustainable Development Goals (SDGs).

The World Health Organization (WHO) Multi-Country Study on Women's Health and Domestic Violence found significant associations between experience of physical and/or sexual IPV and self-reported ill health, symptoms, suicidal behaviours, unintended pregnancy and abortion.³⁻⁵ Our analysis of the WHO multi-country data aimed to understand better the relationship between different categories of intimate partner violence and women's health.

There are different forms of partner violence and these can be experienced as singular forms or different combinations of forms of IPV.⁶ It is not yet clear how best to categorize the spectrum of behaviours, frequency and chronicity of IPV in relation to its impact on health. Someone who experiences a single episode of physical abuse has a different experience from that of someone who experiences severe and frequent combined psychological, physical and sexual abuse.^{7,8}

Intimate partner violence has been found to increase health care utilization and costs in high-income country

settings,⁹ but this had not yet been rigorously assessed in low- and middle-income countries. It is also important to better understand how the recency of different categories of abuse is associated with health status.

Previous analyses of this large, international dataset defined a woman exposed to domestic violence if she had ever experienced any physical and/or sexual violence by a partner, without inclusion of exposure to psychological abuse. There is theoretical and methodological debate about the boundary between abusive behaviours in a relationship and psychological abuse or violence.¹⁰⁻¹² Different intimate partner violence scales, based on diverse underlying theories, have produced a range of population prevalence estimates.¹³ The main measures and underlying theories have been described and critiqued elsewhere.^{14,15} We know that psychological abuse contributes to ill health¹⁶; we wanted to understand this better.

For the first time we are analysing different categories of intimate partner violence, including psychological abuse, both within and greater than a year since the abuse, and its associations with women's physical and mental health and number of nights in hospital. This is to improve understanding of how different profiles of abuse may impact on health over time and to inform the development of interventions for these.

Methods

Our analysis was based on data from 21 221 ever-partnered women from 16 different sites in 11 different countries, collected as part of the WHO Multi-Country Study on Women's Health and Domestic Violence.¹⁷

Ethics permission for the WHO study was obtained from the WHO Secretariat Committee for Research in Human Subjects, from the local institutions and, where necessary, from national ethics review boards.

The WHO Multi-country study methods, sampling, response rates and prevalence of intimate partner violence in this dataset have been described in detail elsewhere.¹⁷ Briefly, standardized household surveys were conducted by trained female interviewers, between 2000 and 2004, in 15 sites in 10 countries (Bangladesh, Brazil, Ethiopia, Japan, Namibia, Peru, Samoa, Serbia and Montenegro, Thailand, United Republic of Tanzania), among women aged 15–49. Two contrasting sites (a large city and a provincial, mostly rural site) were used in all countries except: Ethiopia (a rural setting was used); Japan, Namibia and Serbia and Montenegro (a large city was used); and Samoa where the whole country was sampled. A two-stage cluster sampling design was used to select households and within each household one woman between the ages of 15 and 49 (18 and 49 in the case of Japan) was selected. Since the first report, national surveys using the same methodology have been conducted. For the purposes of this analysis, data were included from all the countries in the original study, except for Ethiopia (as a different instrument for measuring health outcomes was used and therefore was not available in the dataset for this study), as well as from studies replicating the WHO Multi-country study in Cambodia and Maldives.

The research team developed a robust ethical and safety framework.¹⁸ The study received ethical clearance from the WHO Ethics Review Committee as well as from relevant national bodies.

Women who had ever had an intimate male partner (referred to as ‘ever-partnered’ women) were asked in private whether they had ever experienced specific acts of psychological, physical or sexual abuse (see [Table 1](#)); whether this happened once, few or many times; and whether it had happened in the past 12 months.

Categories of abuse

We tested five categories of intimate partner violence: physical IPV alone, psychological IPV alone, sexual IPV alone, combined psychological and physical IPV, and combined sexual and psychological and/or physical IPV; and analysed the association with physical and mental health outcomes. The categories used in this analysis were agreed upon by the authors, based on our expert knowledge and clinical experience and building on previous IPV categorization work. This included latent class analysis of data from six sites in the WHO multi-country study, articulating four or five categories of IPV (psychological only,

sexual dominant, mixed (less severe), physical, systematic) depending on the setting¹⁹ and the Composite Abuse Scale dimensions (CAS), severe combined abuse, physical and psychological abuse, physical abuse alone, psychological abuse alone).²⁰ The cut-off scores for psychological IPV used in this work were consistent with those used in the recent analysis on psychological IPV and health¹⁶ (see [Table 1](#)).

Physical and mental health

We selected the same health measures as those analysed in the original WHO Multi-country study,³ with the addition of number of nights spent in hospital (other than for childbirth).

Women were asked a series of questions about their physical health, based on the Short Form-12 questionnaire.²¹ This included whether they considered their health to be excellent, good, fair, poor or very poor; and whether they had spent nights in hospital in the past year (other than to give birth). They were asked whether they had experienced physical symptoms in the past weeks: difficulty walking, difficulty with daily activities, pain, memory loss. Each of these was asked on a five-point scale, and for analysis women scored as positive if they responded with the highest three categories (some problems, many problems or unable/extreme). They were also asked if they experienced dizziness and vaginal discharge in the past 4 weeks (yes or no).³

Mental health was assessed using the Self-Reporting Questionnaire 20 (SRQ-20), a validated WHO questionnaire for mental distress,²² consisting of 20 questions about experience of various markers of distress in the past 4 weeks (e.g. crying, loss of interest, feeling nervous, tense or worried). Medication usage was assessed by asking if in the past 4 weeks they had taken medication for sleep, sadness or pain. Participants were also asked whether they ever had thoughts of suicide and whether they had ever attempted suicide.

Analysis

We used bivariate analysis to estimate the associations between experience of different categories of IPV and self-reported measures of physical and mental health, which we dichotomized as described above, so that logistic regression suitable for binary outcomes could be carried out. Adjusted and non-adjusted odds ratios (OR) with 95% confidence intervals (CIs) were calculated for the odds of health problems in ever-partnered women experiencing different categories of IPV, compared with those who had not experienced any IPV. For the SRQ-20 score outcome

Table 1 Category definitions used for different types of IPV

Category	Behaviours	Threshold exclusions
Physical IPV alone	Slapped or threw something Pushed or shoved you Hit you with a fist or something else Kicked or dragged you Choked or burnt you Threatened with or used weapon	If only a single episode of being pushed/ shoved/slapped or thrown something
Psychological IPV alone	Insulted you, made you feel bad Belittled or humiliated you Scare or intimidated you Threatened to hurt you	If insulted, belittled or humiliated only once or a few times without being threatened or intimidated
Sexual IPV alone	Physically forced sexual intercourse Had sexual intercourse because you were afraid Forced to do something degrading/ humiliating	No exclusions. Includes any frequency of sexual abuse, without experience of psychological or physical abuse
Combined psychological and physical IPV	If has experienced at least one psychologically abusive behaviour and at least one physically abusive behaviour	Same thresholds as outlined above
Combined sexual and psychological and/or physical IPV	If has experienced at least one sexually abusive behaviour and at least one physically and/or psychologically abusive behaviour	Same thresholds as outlined above

IPV, intimate partner violence.

which counts the number of symptoms out of 20, we analysed this with negative binomial regression model which produced rate ratios associated with IPV categories: these showed the multiplicative effect on the number of symptoms from each category of IPV. We found variation among sites both in the outcome measures themselves and in the impact of IPV on those outcomes; therefore we used multilevel mixed effects logistic regression, adjusting for age, education and partnership status as well as site, to allow data to be pooled from all sites. The variable 'taken medication for sadness in the past 4 weeks' was not included in this model, because data for this variable were incomplete for Bangladesh province and Tanzania province.

To assess whether different categories of IPV had different strengths of association, we compared models which regarded IPV as a binary variable (any vs none) with models regarding IPV as a six-level factor, using a likelihood ratio test.

We conducted sensitivity analyses to explore the intimate partner violence case definitions we used. In this case, the threshold exclusions mentioned for physical and psychological abuse in [Table 1](#) were not applied, leading to a higher prevalence of physical and psychological abuse. Data were analysed with STATA version 14.

Results

The original survey achieved a high response rate (97% of all eligible women). Response rates from each setting varied from 60.2% in Japan to 99.7% in Samoa, with all

except Japan above 85%, and has been described in detail elsewhere.¹⁷ [Table 2](#) gives the sociodemographic characteristics of ever-partnered women, which vary across countries and between urban and rural sites. Women in cities had higher levels of education and socioeconomic status and lower parity than women from rural areas.

[Table 3](#) reports the proportion of ever-partnered women in each site that have experienced different types of IPV. The lifetime prevalence of experiencing physical IPV alone ranged from 2% in Japan city to 15% in Samoa, psychological IPV alone ranged from 1% in Samoa to 14% in Brazil province, sexual IPV alone ranged from 0% in Brazil city to 20% in Bangladesh province, combined psychological and physical IPV ranged from 3% in Bangladesh province to 12% in Brazil province, and combined sexual and psychological and/or physical IPV ranged from 4% in Japan city to 39% in Peru province.

[Table 4](#) shows the adjusted odds ratios for the associations between different categories of IPV and selected health conditions, symptoms or nights in hospital, from pooled data across all the countries.

All self-reported symptoms were associated with experience of all the categories of IPV. Combinations of different forms of violence (psychological and physical, or sexual and psychological and/or physical) were associated with markedly higher odds ratios of symptoms than singular abuse categories. The highest odds ratios were for suicide attempts, particularly in women exposed to combined

Table 2 Sociodemographic characteristics of ever-partnered women by study site

Site	Mean age (SD)	Education				Parity			Socioeconomic status			Relationship status	
		None	Primary	Secondary	Above	No children	Has child(ren)	Low	Middle	High	Currently partnered	Formerly partnered	
													None
Bangladesh city (n = 1372)	29.9 (8.1)	275 (20%)	267 (20%)	618 (45%)	208 (15%)	155 (11%)	1217 (89%)	995 (73%)	276 (20%)	87 (6%)	1282 (93%)	90 (7%)	
Bangladesh province (n = 1329)	31.2 (8.4)	540 (41%)	267 (32%)	342 (26%)	18 (1%)	84 (6%)	1245 (94%)	1002 (76%)	270 (20%)	49 (4%)	1266 (95%)	63 (5%)	
Brazil city (n = 940)	33.1 (8.8)	24 (3%)	436 (46%)	292 (31%)	188 (20%)	203 (22%)	737 (78%)	336 (36%)	367 (39%)	232 (25%)	833 (89%)	107 (11%)	
Brazil province (n = 11187)	31.8 (8.6)	116 (10%)	774 (65%)	243 (20%)	54 (5%)	132 (11%)	1055 (89%)	320 (27%)	747 (63%)	117 (10%)	1063 (90%)	124 (11%)	
Cambodia ^b (n = 2200)	34.4 (8.1)	389 (18%)	1140 (52%)	618 (28%)	52 (2%)	180 (8%)	2020 (92%)	^c	^c	^c	2064 (94%)	136 (6%)	
Japan city ^a (n = 1277)	35.3 (8.2)	0 (0%)	0 (0%)	474 (37%)	803 (63%)	0 (0%)	1277 (100%)	145 (12%)	777 (66%)	265 (22%)	1105 (87%)	172 (14%)	
Maldives ^b (n = 1732)	30.8 (9.0)	149 (9%)	909 (53%)	613 (36%)	39 (2%)	472 (27%)	1260 (73%)	^c	^c	^c	1555 (90%)	177 (10%)	
Namibia city (n = 1373)	31.5 (8.2)	57 (4%)	245 (18%)	448 (60%)	241 (18%)	264 (19%)	1108 (81%)	372 (27%)	350 (26%)	637 (47%)	1126 (82%)	246 (18%)	
Peru city (n = 1090)	33.0 (8.7)	9 (1%)	152 (14%)	448 (41%)	481 (44%)	194 (18%)	896 (82%)	141 (13%)	141 (24%)	680 (63%)	912 (84%)	178 (16%)	
Peru province (n = 1536)	32.7 (8.4)	193 (13%)	762 (50%)	343 (22%)	238 (16%)	106 (7%)	1430 (93%)	680 (45%)	557 (37%)	291 (19%)	1355 (88%)	181 (12%)	
Samoa ^b (n = 1206)	33.3 (7.89)	5 (0%)	170 (14%)	963 (80%)	68 (6%)	90 (7%)	1116 (93%)	185 (15%)	607 (50%)	414 (34%)	1110 (92%)	96 (8%)	
Serbia and Montenegro city (n = 1194)	35.0 (9.0)	0 (0%)	21 (2%)	551 (46%)	619 (52%)	364 (31%)	827 (69%)	217 (20%)	477 (44%)	40 (37%)	1075 (90%)	116 (10%)	
Thailand city (n = 1051)	34.5 (7.9)	21 (2%)	446 (43%)	332 (32%)	250 (24%)	180 (17%)	869 (83%)	103 (10%)	268 (26%)	667 (64%)	947 (90%)	102 (10%)	
Thailand province (n = 1027)	35.9 (8.3)	46 (5%)	705 (70%)	160 (16%)	110 (11%)	98 (10%)	925 (90%)	91 (9%)	519 (51%)	409 (40%)	932 (91%)	91 (9%)	
United Republic of Tanzania city (n = 1450)	30.5 (8.5)	189 (13%)	919 (64%)	283 (20%)	45 (3%)	256 (18%)	1180 (82%)	913 (65%)	321 (23%)	168 (12%)	1326 (92%)	110 (8%)	
United Republic of Tanzania province (n = 1257)	29.7 (8.0)	305 (24%)	852 (68%)	95 (8%)	2 (0%)	101 (8%)	1153 (92%)	1087 (88%)	111 (9%)	40 (3%)	1114 (89%)	140 (11%)	

Two contrasting sites (a large city and a provincial, mostly rural site) were used in most countries where a national sample was not logistically possible.

SD, standard deviation.

^aSample included women aged 18–49 years in Japan, but 15–49 in the other sites.

^bEntire country sampled.

^cSocioeconomic status not available for Cambodia and Maldives.

Table 3 Prevalence of lifetime experience of different types of intimate partner violence (IPV) for ever-partnered women, by site

Site	Physical IPV alone	Psychological IPV alone	Sexual IPV alone	Combined psychological and physical IPV	Combined sexual and psychological and/or physical IPV
Bangladesh city (<i>n</i> = 1372)	113 (8.2%)	64 (4.7%)	154 (11.2%)	59 (4.3%)	359 (26.2%)
Bangladesh province (<i>n</i> = 1329)	77 (5.8%)	26 (2.0%)	266 (20.0%)	42 (3.2%)	395 (29.7%)
Brazil city (<i>n</i> = 940)	35 (3.7%)	105 (11.2%)	8 (0.1%)	86 (9.2%)	87 (9.2%)
Brazil province (<i>n</i> = 1187)	48 (4.0%)	161 (13.6%)	23 (1.9%)	141 (11.9%)	147 (12.4%)
Cambodia ^b (<i>n</i> = 2200)	40 (1.8%)	245 (11.2%)	84 (3.8%)	131 (6.0%)	131 (6.0%)
Japan city ^a (<i>n</i> = 1277)	22 (1.7%)	127 (10.0%)	23 (1.8%)	57 (4.5%)	56 (4.4%)
Maldives ^b (<i>n</i> = 1732)	108 (4.3%)	108 (6.2%)	16 (0.9%)	90 (5.2%)	100 (5.8%)
Namibia city (<i>n</i> = 1373)	122 (8.9%)	55 (4.0%)	70 (5.11%)	91 (6.7%)	155 (11.3%)
Peru city (<i>n</i> = 1090)	106 (9.8%)	70 (6.4%)	29 (2.7%)	110 (10.1%)	216 (19.9%)
Peru province (<i>n</i> = 1536)	136 (8.9%)	68 (4.4%)	115 (7.5%)	152 (9.9%)	601 (39.2%)
Samoa ^b (<i>n</i> = 1206)	180 (15.0%)	12 (1.0%)	79 (6.6%)	55 (4.6%)	156 (13.0%)
Serbia and Montenegro city (<i>n</i> = 1194)	38 (3.2%)	79 (6.6%)	13 (1.1%)	67 (5.6%)	62 (5.2%)
Thailand city (<i>n</i> = 1051)	28 (2.7%)	85 (8.1%)	155 (14.9%)	50 (4.8%)	157 (15.0%)
Thailand province (<i>n</i> = 1027)	60 (5.9%)	84 (8.2%)	113 (11.1%)	75 (7.3%)	182 (17.8%)
United Republic of Tanzania city (<i>n</i> = 1450)	83 (5.8%)	125 (8.7%)	102 (7.1%)	105 (7.3%)	229 (16.0%)
United Republic of Tanzania province (<i>n</i> = 1257)	103 (8.2%)	80 (6.4%)	108 (8.6%)	145 (11.6%)	278 (22.2%)
Total (<i>n</i> = 21 221)	1299 (6.1%)	1494 (7.0%)	1358 (6.4%)	1456 (6.9%)	3311 (15.6%)

IPV, intimate partner violence.

^aSample included women aged 18–49 years in Japan, but 15–49 in the other sites.

^bEntire country sampled.

sexual and psychological and/or physical IPV (OR: 6.49, 95% CI 5.41–7.79), followed by combined psychological and physical IPV (4.48, 3.57–5.62). The odds ratios for physical, psychological or sexual violence alone are comparable. The odds of spending a night in hospital were higher with exposure to physical violence alone, sexual violence alone and both combined abuse categories, but not with psychological abuse alone. Likelihood ratio tests showed that models regarding IPV as a six-level factor fitted the data significantly better than a two-category model: $P < 0.001$ for all outcomes except nights in hospital ($P = 0.0016$), medication for sleep ($P = 0.061$) and medication for pain ($P > 0.5$).

Table 5 displays the association of each type of intimate partner violence with SRQ-20 score. Combined psychological and physical IPV and combined sexual and psychological and/or physical IPV have the strongest association with mental distress, although the 95% confidence intervals of relative risk overlap for all categories.

Table 6 displays the association between health markers and experience of IPV within the past 12 months compared with experience of IPV over 12 months ago. For all types there is no difference in health markers between the women who experienced IPV within the past year compared with women who experienced IPV more than a year ago, except for combined sexual and psychological and/or physical IPV and suicidal thoughts and attempts. This suggests that within 12 months of experiencing the most

severe category of IPV, women have an even higher risk of suicidal behaviours compared with experiencing this over 12 months previously; this temporal change is not evident for other categories of IPV or other health markers.

We investigated whether removing the threshold exclusions of physical and psychological IPV (outlined in Table 1) would change our results. The number of participants experiencing psychological abuse almost doubled, with a more modest increase in those reporting physical abuse. However the associations with health outcomes remained, albeit with a slightly weaker association for variables listed in Table 4. For the SRQ-20 score, associations remained very similar to those reported in Table 5 (see Supplementary Table S1, available as Supplementary data at *IJE* online).

Discussion

In this paper we have reported for the first time the differential association of categories of partner violence with markers of physical and mental health problems, and (non-birth-related) nights in hospital, both within and over a year since the abuse, using a large international dataset. Based on the WHO Multi-Country Study on Women's Health and Domestic Violence,³ we have found that whereas all types of partner violence are associated with poorer physical and mental health, combined abuse categories are associated with the poorest health markers,

Table 4 Multilevel mixed effects logistic regression models for the associations between any lifetime experience of different types of intimate partner violence and selected health conditions, symptoms or nights in hospital. Adjusted odds ratios are reported with 95% confidence intervals, to compare odds of the health problem for those who have experienced each type of intimate partner violence (IPV), with respondents who don't meet the criteria for IPV as defined in Table 1

Adjusted odds ratio (OR)	Physical IPV alone	95% CI	Psychological IPV alone	95% CI	Sexual IPV alone	95% CI	Combined psychological and physical IPV	95% CI	Combined sexual and psychological and/or physical IPV	95% CI
Self-reported general health: poor or very poor (<i>n</i> = 2163)	1.17	(0.94-1.45)	1.50	(1.26-1.80)	1.42	(1.16-1.73)	1.74	(1.46-2.09)	1.90	(1.62-2.22)
Health in past 4 weeks: difficulty walking (<i>n</i> = 2884)	1.34	(1.12-1.60)	1.26	(1.07-1.49)	1.34	(1.12-1.60)	1.65	(1.40-1.96)	1.74	(1.46-2.07)
Health in past 4 weeks: difficulty with daily activities (<i>n</i> = 3029)	1.34	(1.13-1.60)	1.48	(1.27-1.72)	1.40	(1.18-1.67)	1.81	(1.53-2.11)	1.95	(1.70-2.24)
Health in past 4 weeks: pain or discomfort (<i>n</i> = 5433)	1.43	(1.25-1.64)	1.41	(1.24-1.61)	1.45	(1.26-1.67)	1.70	(1.49-1.92)	1.87	(1.69-2.07)
Health in past 4 weeks: memory or concentration (<i>n</i> = 3078)	1.26	(1.05-1.51)	1.73	(1.49-2.00)	1.41	(1.20-1.67)	2.03	(1.75-2.35)	2.30	(2.05-2.59)
Health in past 4 weeks: dizziness ^a (<i>n</i> = 6860)	1.47	(1.29-1.67)	1.44	(1.27-1.65)	1.48	(1.30-1.69)	1.70	(1.50-1.93)	1.99	(1.82-2.19)
Health in past 4 weeks: vaginal discharge ^a (<i>n</i> = 3906)	1.49	(1.27-1.75)	1.35	(1.15-1.59)	1.62	(1.36-1.92)	1.91	(1.63-2.23)	2.04	(1.77-2.35)
Health in past 4 weeks: taken medication for sleep (<i>n</i> = 833)	1.28	(0.94-1.75)	1.66	(1.27-2.16)	1.29	(0.92-1.82)	1.68	(1.28-2.21)	1.86	(1.44-2.41)
Health in past 4 weeks: taken medication for pain (<i>n</i> = 3955)	1.33	(1.14-1.55)	1.49	(1.29-1.71)	1.36	(1.16-1.60)	1.60	(1.39-1.85)	1.73	(1.52-1.96)
Ever suicidal thoughts (<i>n</i> = 3276)	1.80	(1.51-2.14)	2.28	(1.96-2.64)	1.77	(1.49-2.10)	3.78	(3.30-4.34)	4.92	(4.42-5.47)
Ever suicidal attempts (<i>n</i> = 952)	2.29	(1.69-3.10)	2.52	(1.93-3.28)	2.52	(1.86-3.41)	4.48	(3.57-5.62)	6.49	(5.41-7.79)
Past 12 months: nights in hospital (other than labour) (<i>n</i> = 1651)	1.70	(1.37-2.11)	1.12	(0.91-1.38)	1.53	(1.18-1.98)	1.66	(1.34-2.05)	1.66	(1.33-2.06)

ORs adjusted for site, age group, current partner status and education. ORs and 95% CIs are given for the odds of health problems in ever-partnered women.

who have experienced the type of IPV compared with ever-partnered women who have not experienced IPV as defined in Table 1.

IPV, intimate partner violence; OR, odds ratio; CI, confidence interval.

^aNot asked in Cambodia.

Table 5 Association between experience of different categories of partner violence and self-reported questionnaire 20 (SRQ-20) score

Intimate partner violence (IPV) category	Unadjusted RR	95% CI	Adjusted ^a RR	95% CI
Physical IPV alone	1.38	(1.06-1.78)	1.34	(1.05-1.72)
Psychological IPV alone	1.50	(1.16-1.95)	1.49	(1.17-1.90)
Sexual IPV alone	1.46	(1.13-1.90)	1.43	(1.12-1.83)
Combined psychological and physical IPV	1.71	(1.32-2.21)	1.65	(1.30-2.11)
Combined sexual and psychological and/or physical IPV	1.84	(1.43-2.38)	1.77	(1.39-2.25)

RR denotes multiplicative effect of various types of abuse on the number of symptoms reported in the Self Reporting Questionnaire (SRQ-20). Model allows for random intercepts (mean SRQ-20 scores differ between sites) and random slopes (effects of IPV on SRQ-20 scores differ between sites).

IPV, intimate partner violence; RR, risk ratio; CI, confidence interval.

^aAdjusted for site, age group, current partner status and education.

particularly with suicidal thoughts and behaviours. These associations persist over a year after the abuse ends.

Previous analysis of the associations between partner violence and health in the WHO Multi-Country Study³ only included data on physical and sexual violence from 10 countries. We have extended the scope to the prevalence and impact of combined forms of abuse, including psychological abuse, and sexual violence on its own or combined with any other type of abuse across 11 countries.

Combined abuse

Women's experience of intimate partner violence often involves more than one form of violence. We found that combined abuse involving sexual and psychological and/or physical IPV is the most prevalent pattern of IPV and is associated with the poorest health outcomes; experience of this in the past year is associated with 10 times the odds of attempted suicide compared with those not exposed to IPV. The strength of the association of combined categories of abuse has not emerged in previous analyses, which have not looked at different categories of exposure compared with exposure to singular forms of violence. The greater health impact of combined abuse should inform the clinical and policy response to intimate partner violence.

Psychological abuse

Recognizing that psychological abuse can be just as damaging as physical abuse,^{23,24} it was considered necessary to look more in depth at the severity and frequency of psychologically abusive acts measured before determining what constituted psychological abuse. This gap has been addressed in a recent study which categorized psychological abuse into high-intensity, moderate-intensity and little or no exposure, based on act and frequency. Testing these categories for association with health behaviours demonstrated a dose-response relationship with psychological

abuse to all the health behaviours except physical pain.¹⁶ The omission of psychological abuse from any analysis of the health impact of IPV gives an incomplete picture of the epidemiology of intimate partner violence.

Our findings support including psychological abuse within the definition of IPV when examined from the perspective of health impact, given that the association between psychological abuse and symptoms is of a similar magnitude to the association between physical violence and these symptoms. The experience of psychological abuse from an intimate partner is associated with poorer self-reported health symptoms, suicidality and increased self-reported emotional distress scores (self-reported questionnaire 20, SRQ-20). Self-reported health symptom scoring used in this study has been found to be closely associated with actual morbidity.²⁵ Our findings are consistent with the recent analysis of psychological abuse from the WHO Multi-Country Study¹⁶ as well as smaller, single-country studies measuring the impact of psychological abuse.^{26,27} Although psychological violence has been recognized as an important component of partner violence for some time, challenges to measurement cross-culturally have meant that it is a relatively recent addition to partner violence epidemiology, particularly in low- and middle-income countries. This analysis confirms the association between psychological abuse and physical and mental health symptoms which has previously been reported in high-income countries and now also more globally.¹⁶

Nights in hospital

All types of IPV, except psychological abuse alone, were associated with a greater number of nights in hospital. The increased health care utilization and costs from intimate partner violence have been mostly reported in high-income countries,²⁷ but this increase may also be present in low- and middle-income countries.

Table 6 Multilevel mixed effects logistic regression models for the associations between recent and historical experience of different types of intimate partner violence and selected health conditions, symptoms or nights in hospital

	Physical intimate partner violence (IPV) alone			Psychological IPV alone			Sexual IPV alone			Combined psychological and physical IPV			Combined sexual and psychological and/or physical IPV							
	Past 12 m	95% CI	>Past 12 m	Past 12 m	95% CI	>Past 12 m	Past 12 m	95% CI	>Past 12 m	Past 12 m	95% CI	>Past 12 m	Past 12 m	95% CI	>Past 12 m					
	Adjusted odds ratio (OR)																			
Self-reported general health; poor or very poor	1.44	(0.98-2.13)	1.09	(0.85-1.40)	1.65	(1.29-2.11)	1.37	(1.07-1.74)	1.39	(1.07-1.81)	1.41	(1.10-1.80)	1.80	(1.39-2.34)	1.70	(1.37-2.12)	2.54	(2.03-3.18)	1.75	(1.49-2.05)
Health in past 4 weeks; difficulty walking	1.51	(1.11-2.06)	1.28	(1.04-1.58)	1.24	(0.98-1.57)	1.29	(1.02-1.61)	1.44	(1.14-1.81)	1.27	(1.01-1.60)	1.72	(1.36-2.18)	1.61	(1.32-1.97)	2.24	(1.79-2.79)	1.64	(1.38-1.95)
Health in past 4 weeks; difficulty with daily activities	1.46	(1.07-2.00)	1.30	(1.07-1.59)	1.58	(1.27-1.95)	1.39	(1.12-1.72)	1.47	(1.17-1.84)	1.34	(1.08-1.67)	1.93	(1.55-2.40)	1.74	(1.45-2.10)	2.44	(2.00-2.99)	1.86	(1.61-2.13)
Health in past 4 weeks; pain or discomfort	1.78	(1.41-2.26)	1.31	(1.12-1.54)	1.71	(1.44-2.03)	1.17	(0.97-1.39)	1.40	(1.16-1.69)	1.49	(1.25-1.79)	1.75	(1.46-2.11)	1.66	(1.42-1.94)	2.12	(1.79-2.53)	1.81	(1.63-2.02)
Health in past 4 weeks; memory or concentration	1.05	(0.73-1.51)	1.34	(1.09-1.64)	1.98	(1.62-2.41)	1.52	(1.24-1.87)	1.29	(1.03-1.63)	1.54	(1.24-1.91)	2.33	(1.88-2.87)	1.85	(1.54-2.23)	2.93	(2.41-3.56)	2.17	(1.91-2.48)
Health in past 4 weeks; dizziness ^a	1.52	(1.20-1.92)	1.45	(1.24-1.69)	1.41	(1.18-1.70)	1.47	(1.23-1.76)	1.37	(1.15-1.64)	1.61	(1.35-1.93)	1.92	(1.59-2.32)	1.56	(1.32-1.83)	2.36	(1.97-2.82)	1.91	(1.71-2.13)
Health in past 4 weeks; vaginal discharge ^a	1.55	(1.17-2.06)	1.48	(1.22-1.79)	1.36	(1.09-1.70)	1.34	(1.07-1.69)	1.61	(1.30-2.00)	1.63	(1.32-2.02)	2.27	(1.84-2.82)	1.67	(1.37-2.04)	2.69	(2.18-3.31)	1.90	(1.62-2.23)
Health in past 4 weeks; taken medication for sleep	1.76	(1.04-2.99)	1.14	(0.79-1.65)	1.48	(0.99-2.20)	1.73	(1.23-2.44)	1.34	(0.86-2.08)	1.29	(0.84-1.97)	2.37	(1.65-3.40)	1.32	(0.93-1.88)	2.46	(1.70-3.56)	1.73	(1.30-2.30)
Health in past 4 weeks; taken medication for pain	1.33	(1.00-1.77)	1.33	(1.11-1.59)	1.62	(1.34-1.97)	1.36	(1.11-1.65)	1.17	(0.95-1.45)	1.54	(1.27-1.88)	1.72	(1.40-2.12)	1.53	(1.28-1.83)	2.03	(1.66-2.47)	1.67	(1.45-1.92)
Ever suicidal thoughts	1.83	(1.34-2.49)	1.79	(1.47-2.20)	2.58	(2.11-3.14)	1.99	(1.62-2.44)	1.75	(1.38-2.21)	1.81	(1.43-2.29)	4.41	(3.63-5.37)	3.35	(2.80-3.99)	8.47	(7.03-10.20)	4.27	(3.75-4.85)
Ever suicidal attempts	2.35	(1.40-3.94)	2.28	(1.61-3.24)	3.31	(2.40-4.57)	1.78	(1.20-2.64)	2.35	(1.56-3.56)	2.74	(1.85-4.07)	5.67	(4.23-7.60)	3.61	(2.69-4.86)	10.78	(8.37-13.89)	5.44	(4.47-6.63)
Past 12 months; nights in hospital (other than labour)	2.03	(1.43-2.87)	1.57	(1.21-2.04)	1.18	(0.89-1.58)	1.02	(0.76-1.37)	1.74	(1.28-2.35)	1.30	(0.93-1.83)	1.64	(1.23-2.19)	1.69	(1.31-2.18)	1.74	(1.27-2.39)	1.64	(1.30-2.06)

ORs adjusted for site, age group, current marital status and education. ORs and 95% CIs are given for the odds of health problems in ever-partnered women who have experienced the type of IPV compared with ever-partnered women who have not experienced IPV as defined in Table 1. ORs and 95% CIs are examined separately between ever-partnered women who report the abuse was within the past 12 months and those who report it was more than 12 months ago.

IPV, intimate partner violence; OR, odds ratio; CI, confidence interval.

^aNot asked in Cambodia.

Recency of abuse

There was no difference in the association with poor health between recent (within 1 year) and historical (more than one year ago) abuse, with the exception of combined abuse involving sexual and psychological and/or physical IPV and suicidal thoughts and attempts, which is consistent with the chronicity of effects of partner violence reported in studies in high-income countries.²⁸ The persistence of poor health means that, in addition to responding to the needs of women currently experiencing IPV, survivors of historical IPV also need empathetic, supportive responses in health care settings.²⁹

Limitations of our analysis include the cross-sectional design of the study, which means that we cannot assume a causal association between exposure to abuse from a partner and health symptoms (except for injuries, which are not included in this analysis). However, the stronger association with poorer health, found with increasing combinations of IPV compared with singular exposure, indicates a dose-response relationship.³⁰ Additionally, a few longitudinal studies investigating the association between IPV and health have found evidence of causality in physical, sexual and reproductive, and mental health problems, as well as some evidence of bidirectionality.^{1,31,32}

Data collection for the WHO Multi-Country Study on Women's Health and Domestic Violence started in 2000. It is a large and robust global dataset, albeit no longer contemporary, although it is unlikely that the relationship between categories of abuse and health impact have changed substantially. We adjusted for site, age group, current partner status and education; further potential confounders such as alcohol abuse or experience of child abuse could also be explored.³³ This study is also limited by its focus on women aged 15–49 years. Women over 50 also experience intimate partner violence, and women can experience abuse from female partners.^{34,35} The study however provided comparable data across a range of geographically and culturally different countries, involved a thorough training of interviewers and others in the research team, had a high response rate and was implemented adhering to strict ethical and safety criteria, including ensuring total privacy and confidentiality during the interview and ability to refer those in need to the relevant services.¹⁷

Conclusion

Our study provides evidence that women experiencing all categories of IPV suffer poorer physical and mental health; but that those experiencing combined forms of IPV suffer the greatest health detriment, particularly with regards to suicidal thoughts and attempts. When professionals ask about intimate partner violence, it is important to ask about

different forms of violence and to tailor support accordingly. This should include responding to the considerably increased risk of suicidal thoughts and behaviours in those who have experienced combined abuse in the past year. Research on violence in intimate relationships must include measurement of physical, sexual and psychological abuse and must explore combinations of these. These findings can contribute to the development of more tailored responses to women who are or have been experiencing violence from a partner, and to formulation of partner violence prevention policies that address violence in a comprehensive way.

The data underlying this article were provided by the World Health Organization by permission. Data will be shared if permitted on request to the World Health Organization.

Supplementary Data

Supplementary data are available at *IJE* online.

Funding

This work was supported by the National Institute for Health Research Integrated Academic Training (IAT) Programme (Academic Clinical Fellowship to L.P. award number ACF-2013-25-002). The authors did not receive any outside funding to support the writing of and analysis in this paper.

Author Contributions

Study concept and design: L.C.P., R.M., K.H., C.G-M, G.F. Analysis and interpretation of data: L.C.P., R.M., G.F. Writing (original draft preparation): L.C.P. Writing (review and editing): L.C.P., R.M., K.H., C.G-M, G.F. All authors were involved in drafting the article or revising it, and all authors approved the final version to be published.

Conflict of Interest

None declared.

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