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ORIGINAL ARTICLE

Intimate partner violence and perinatal common mental disorders among women in rural Vietnam

Jane Fisher[a,b,*], Thach Duc Tran[a,b,c], Beverley Biggs[d], Tho Hai Dang[c], Trang Thu Nguyen[c] and Tuan Tran[c]

[a]*Jean Hailes Research Unit, School of Public Health and Preventive Medicine, Monash University, Alfred Centre, 89 Commercial Road, Melbourne, Australia;* [b]*Melbourne School of Population Health, University of Melbourne, Melbourne, Australia;* [c]*Research and Training Centre for Community Development, Hanoi, Vietnam;* [d]*Department of Medicine, Faculty of Medicine, Dentistry and Health Sciences, University of Melbourne, Melbourne Australia*

*Corresponding author: Tel: +03 9594 7503; Fax: 03 9594 7554; E-mail: jane.fisher@monash.edu

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Introduction: Intimate partner violence against women (IPV) is regarded increasingly as a public health problem worldwide. The overall aim of this study was to examine the associations between different exposures to IPV and women's mental health during pregnancy and after childbirth in rural Vietnam.

Methods: This was a secondary analysis of data generated in a community-based longitudinal investigation in which a cohort of pregnant women were recruited and followed until 6 months after childbirth. Different forms of IPV were measured by the Intimate Partner Violence section of the WHO Multi-Country Study on Women's Health and Domestic Violence Against Women questionnaire. The Edinburgh Postnatal Depression Scale–Vietnam Validation was used to assess symptoms of the common perinatal mental disorders of depression and anxiety (CPMD).

Results: Overall, 497 women were recruited and complete data were available from 417 (83.9%). Exposure to either lifetime or perinatal IPV including emotional abuse, physical violence and sexual violence was associated with increased CPMD symptoms (adjusted odds ratio, OR, ranges 1.3–14.3) and suicidal thoughts (OR ranges 4.7–6.1) in women during pregnancy and after childbirth. Experiencing more than one form of IPV increased the magnitude of the association between IPV and CPMD symptoms and thoughts of suicide.

Conclusion: It is clearly essential in this and other resource-constrained settings to address emotional, physical and sexual violence perpetrated by an intimate partner in any strategies to reduce the risk of perinatal mental health problems in women.

Keywords: Intimate partner violence, Perinatal common mental disorders, Women, Vietnam

Introduction

Domestic violence is a broad descriptor for acts of physical, psychological or sexual aggression perpetrated by a family member at home. Intimate partner violence (IPV) is the most common type of domestic violence experienced by women worldwide.[1] There is considerable variation in the prevalence of IPV between nations. In WHO's Multi-Country Study of Women's Health and Domestic Violence Against Women,[2] the lifetime prevalence of physical violence perpetrated by an intimate partner was 61.0% in rural Peru, 48.7% in rural Ethiopia and 33.8% in rural Thailand.[3] There is increasing recognition that IPV is a major public health problem not only because it seriously violates human rights but also because it has adverse consequences for women's mental and physical health, suicidal behaviours and social and economic participation.[4]

There is growing evidence of the adverse effects of IPV on women's mental health. In 1999 Golding[5] reviewed 18 studies of depression in women in the general population in high income countries and found consistent evidence of an association between experiencing IPV and depression (odds ratios ranged from 3.55 to 5.62). More recently, Beydoun et al.[6] reviewed 37 observational studies conducted in both low- and high-income settings among women who were pregnant or had recently given birth (the perinatal period). Beydoun's meta-analyses indicated a two to three-fold increased risk of major depression among women who reported lifetime experience of IPV. The meta-analysis found a pooled relative risk (RR) of 1.43 (95% CI 1.21–1.69) for IPV on perinatal depression, but 11 of 17 data points in the analyses were not significant. Furthermore, the pooled RR in the non-American cohort studies in this review was not statistically significant (95% CI 0.64–2.49).

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It was concluded that the association between IPV and perinatal mental health problems in women remained ambiguous.

Recognition of IPV has been neglected in Vietnam until very recently.[7] Vung et al.[8] argue that despite rapid economic advances and increasing engagement with the non-Communist world, but reflecting Confucian doctrines, traditional patriarchal and gender norms prevail in Vietnam. Vietnamese women are expected to be responsible for household work and the care of children, to comply with their husband's wishes and to 'maintain family happiness and harmony' by being obedient. They cannot refuse sexual demands. In general, moderate forms of physical IPV perpetrated by men towards women have been regarded as normative and emotional and sexual IPV were overlooked.[9,10] In this setting only a few studies have been conducted to investigate the prevalence and determinants of IPV perpetrated by men against their female partners. An observational study of 867 partnered women aged 17–60 in rural areas of Vietnam found a lifetime prevalence of physical IPV of 30.9% and sexual IPV of 32.7%.[8] In another study undertaken in Ho Chi Minh City among 315 men who were or had been married it was found that 47% of the participants acknowledged that they were currently physically abusive to their wives and 68% that they had been in the past.[11]

There are a small group of investigations of the prevalence of perinatal mental health problems among women in Vietnam. The most robust evidence has emerged from a population-based study of 369 women who were pregnant or had recently given birth living in urban and rural areas of northern Vietnam.[12] In this study, the prevalence of common perinatal mental disorders (CPMD), including depression and anxiety diagnosed by psychiatrist-administered structured clinical interviews for *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (DSM IV) diagnoses,[13] was 29.9% (95% CI 25.2–34.7). Mental health also contributes to maternal mortality in Vietnam. Suicide was the cause of up to 16.9% of maternal deaths in a survey[14] using psychological autopsies to investigate 796 deaths in pregnant women and women who were up to six weeks postpartum in seven provinces. Prevalence was highest in the poorest rural provinces, with problematic 'community behaviours towards women' and limited health services.

There is emerging local evidence in Vietnam of associations between IPV and several health problems in women including memory loss, pain or discomfort, sadness or depression, and having suicidal thoughts.[9] In our investigation of the prevalence and determinants of CPMD we found that 3.8% of women living in rural and 2.3% in urban areas reported that they had experienced physical IPV in the previous 12 months.[12] In that study, however, IPV was ascertained only through a single question which focused on acts of severe physical abuse and did not assess other physically, emotionally or sexually abusive behaviours. We found that severe physical IPV was associated with CPMD in women (adjusted OR 2.11, 95% CI 1.12–3.96). However, the prevalence of the other forms of IPV including emotional and sexual violence and their effects on women's perinatal mental health was not investigated in the study and remains unknown.

The aims of this study were to establish the prevalence of different forms of IPV experienced by women during their lifetimes and in the perinatal period; to describe the socio-demographic characteristics of women who had experienced IPV; and to examine the associations between different forms of IPV and women's mental health during pregnancy and after childbirth in rural Vietnam.

Methods

Study setting

This study was conducted in Ha Nam, a northern rural province in Vietnam located approximately 50 km south of Hanoi. Ha Nam Province has a population of 0.8 million inhabitants. In 2011 the average annual per capita income was approximately US$800 and 7.5% of people lived below the international poverty line of a per capita income of US$1.25 per day.

Study design, sampling and recruitment

This is a secondary analysis of data from a prospective population-based study in which women were enrolled during pregnancy and followed until six months postpartum to examine the effects of perinatal psychosocial and biological risk factors on maternal and infant outcomes.

The sample size required for the original study was 500 pregnant women. Based on the numbers of births in the prior 12 months in each commune in Ha Nam, we estimated that we would achieve a sample of this size by recruiting from the pool of women in early pregnancy living in 50 communes. Participants were recruited in a two-stage sampling process. First, 50 of the 104 rural communes in the province were selected randomly from a list using the 'select' command in Stata (StataCorp LP, College Station, Texas, USA) by an independent statistician. Second, all pregnant women who met the eligibility criterion of being between 12 and 20 weeks gestation and living in the selected communes during the enrolment period (December 2009 to January 2010) were eligible and invited to participate.[15]

Several strategies were used to inform potential participants about the study. Announcements were made over the loudspeaker systems, which are widely used to disseminate public information in all villages in Ha Nam. In this setting, women register their pregnancies at the commune health stations in order to receive antenatal care. Commune health workers compiled lists of eligible women. They visited every household as part of the Expanded Program for Immunisation and informed women about the study. All eligible women who wished to participate were invited to attend the commune health station on the two nominated days when the data collection team visited. At the recruitment interview, eligibility was confirmed by asking the women the date of the first day of her last menstrual period, from which gestational age was calculated. Only eligible women who provided written or verbal consent witnessed by an independent observer were recruited in this study.

Data were collected in four surveys. The first one (Wave One, W1) was conducted when the women were recruited and the second (Wave Two, W2) when participants were at least 28 weeks gestation. After childbirth two assessments of mothers and infants were conducted when the babies were eight weeks (Wave Three, W3) and six months (Wave Four, W4) old.

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Data sources

Data were collected in structured interviews comprising both study specific questions and standardised measures.

Experiences of intimate partner violence

Experiences of violence perpetrated by an intimate partner were assessed in W1, W2 and W4 with the IPV section of the WHO Multi-Country Study on Women's Health and Domestic Violence Against Women questionnaire.[2] This uses structured questions to assess women's experiences of specific physically and sexually violent and emotionally abusive behaviours perpetrated by a current or previous intimate partner. The questions on moderate physical partner violence included experiences of being slapped, having something thrown at them that could hurt, or being pushed or shoved; and on severe physical violence included being hit with a fist or something else that could hurt; kicked, dragged or beaten up; choked or burnt on purpose; and threatened or actual use of a gun, knife or other weapon. The questions on sexual violence included experiences of forced or coerced sexual intercourse. The questions on emotional abuse include being insulted or made to feel bad about herself; belittled or humiliated in front of other people; scared or intimidated on purpose; and having threats made to hurt someone she cared about. The questions on physical violence during pregnancy were any experiences of being slapped, hit, or beaten while pregnant; or being punched or kicked in the abdomen while pregnant. Lifetime IPV was collected at W1, physical violence during pregnancy was collected at W2 and postpartum IPV was collected at W4.

Mental health

The Edinburgh Postnatal Depression Scale-Vietnam Validation (EPDS-V) was used to assess symptoms of the common mental disorders of depression and anxiety in W1, W2, W3, and W4.[16,17] The EPDS-V includes 10 fixed choice items scored from 0–3 which yield a total score from 0–30. It has been validated in rural Vietnam against the gold-standard of psychiatrist-administered diagnostic interviews.[17] It has been found that a score of four or more has optimal sensitivity (70%) and specificity (73%) to identify clinically significant symptoms of CPMD in Vietnamese women. At this cut off 70% of cases are correctly classified.[17]

Suicidal thoughts (assessed in W1, W2, W3, and W4) were ascertained by EPDS-V Item 10 which had been re-worded for this setting to read 'I have had thoughts that I do not want to live any more' with response options to ascertain if and to what extent women had experienced these thoughts in the preceding seven days.[18]

Social, economic and health characteristics

Socio-demographic factors and other possible risks for CPMD were collected by study-specific questions. These included the age and marital, educational and occupational status of the women and their husbands. Household economic status was established using the World Bank method which calculates a Household Wealth Index from 17 household characteristics, services and durable assets.[19,20] Parity, history of miscarriage or stillbirth, quality of relationship with her own mother and mother-in-law, and whether the index pregnancy was welcome were assessed in fixed-response choice questions which had been used in our previous study of CPMD in the same setting and found to be meaningful and comprehensible.[12]

Procedure

All data were collected in individual structured interviews, which were conducted by trained health research workers from the Research and Training Centre for Community Development (RTCCD), Hanoi and recorded on paper forms. Interviews were conducted in private rooms at commune health centres between December 2009 and June 2011. Data were entered into a password-protected database by expert data-entry officers at RTCCD.

Data management and analysis

Data analyses were performed in Stata version 11 (StataCorp LP). Descriptive analyses were conducted to describe the socio-demographic characteristics of four groups of women: Group 1, who had not experienced any form of IPV; Group 2, who had experienced any form of IPV in their lifetime; Group 3, who experienced IPV during the pregnancy; and Group 4, who experienced IPV postpartum. The groups were not mutually exclusive. Univariate significance tests (t-tests for continuous variables and χ^2 tests for categorical variables) were performed to compare each of Groups 2, 3 and 4 to Group 1. The 95% CIs of different forms of IPV were calculated to estimate population prevalence. The associations between each type of IPV and antenatal CMD (EPDS-V score $\geq$4 in W1 or W2) or postnatal CMD (EPDS-V score $\geq$4 in W3 or W4) were tested by multiple logistic regression models which adjusted for other risks of CPMD including the woman's age, education level and occupation; parity; history of miscarriage or stillbirth; household wealth index; quality of relationship with her own mother and mother-in-law; and if the index pregnancy was welcome. Having suicidal thoughts was defined as any response $>$0 to Item 10 on the EPDS-V. As the numbers of women endorsing this item at each assessment wave were relatively small, comparisons were only made between the group of women who endorsed this item in at least one assessment wave with the group who did not. The same models were used to examine the associations between each type of IPV and suicidal thoughts.

Results

Overall, 523 women met inclusion criteria and 497 (95.0%) were recruited from the 50 selected communes. Two of those were later excluded because they had a multiple gestation. Finally, 495 (99.6%) women provided complete data at W1, 417 (83.9%) at W2, and 453 (91.1%) at W3 and W4. The reasons for not participating in W2 were: having already given birth (47), or being away from the area at the time the survey team visited the commune (15), stillbirth (7) and withdrawn (9). The reasons for not participating in W3 and W4 were: being away from the area at the survey time (17), neonatal or infant deaths (3) and withdrawn (6).

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Table 1. Socio-demographic characteristics of women who had or had not experienced intimate partner violence (IPV), and their husbands

	Total n = 495	No experience of IPV n = 360	Any lifetime experience of IPV n = 135	p-value
Women's age, mean [SD]	26.1 [4.8]	25.8 [4.7]	26.8 [5.0]	0.02
Women's education level, n (%)				
Up to grade 5	92 (18.6)	62 (17.2)	30 (22.2)	0.13
Grade 6–9	259 (52.3)	183 (50.8)	76 (56.3)	
Grade 10–12	58 (11.7)	46 (12.8)	12 (8.9)	
Higher	86 (17.4)	69 (19.2)	17 (12.6)	
Women's occupation, n (%)				
Farmer	222 (44.9)	151 (41.9)	71 (52.6)	0.08
Factory, handcraft worker or retailer	157 (31.7)	115 (31.9)	42 (31.1)	
Government or private company officer	61 (12.3)	49 (13.6)	12 (8.9)	
Not currently engaged in income-generating activity	55 (11.1)	45 (12.5)	10 (7.4)	
Husband's age, mean [SD]	30.2 [5.8]	30.1 [5.8]	30.8 [5.7]	0.27
Husband's education level, n (%)				
Up to grade 5	87 (17.6)	56 (15.6)	31 (22.9)	0.18
Grade 6–9	240 (48.6)	174 (48.5)	66 (48.9)	
Grade 10–12	91 (18.4)	71 (19.8)	20 (14.8)	
Higher	76 (15.4)	58 (16.2)	18 (13.3)	
Husband's occupation, n (%)				
Farmer	132 (26.7)	93 (25.9)	39 (28.9)	0.01
Factory, handcraft worker or retailer	227 (46.0)	155 (43.2)	72 (53.3)	
Government or private company officer	53 (10.7)	40 (11.1)	13 (9.6)	
Unstable/casual work	82 (16.6)	71 (19.8)	11 (8.2)	
Number of children, n (%)				
Nulliparous	201 (40.6)	161 (44.7)	40 (29.6)	0.01
One	210 (42.4)	145 (40.3)	65 (48.2)	
Two or more	84 (17.0)	54 (15.0)	30 (22.2)	
Household economic status, n (%)				
First quartile group, poorest 25%	125 (25.3)	84 (23.3)	41 (30.4)	0.14
Second quartile group	124 (25.1)	86 (23.9)	38 (28.2)	
Third quartile group	122 (24.6)	96 (26.7)	26 (19.2)	
Fourth quartile group, richest 25%	124 (25)	94 (26.1)	30 (22.2)	

Socio-demographic characteristics

The socio-demographic characteristics of the whole sample and the groups stratified by whether or not they had ever experienced IPV are reported in Table 1. All of the participants were married and in a first marriage. Women who reported experiencing violence perpetrated by a current and/or previous partner were slightly older and had more children than women who did not report any experiences of IPV. Women whose husbands worked as farmers, unskilled workers or traders were more likely to report IPV than others. Women married to men who worked in government or private company offices and who were themselves not currently engaged in income-generating activity (indicators of relative socioeconomic advantage) were less likely to report IPV. Most of the men who were in casual or unstable income-generating occupations were working away from home, often on construction sites in the city, and therefore they were not able to perpetrate violence.

Patterns of intimate partner violence

Overall, 27.3% (95% CI 23.3–31.2) women had experienced at least one form of IPV during their lifetimes (see Table 2 and Figure 1 for a detailed description of experiences of different forms of violence). As, on average, participants were young, and informal or de facto marriages are socially proscribed in this setting, it is likely that this violence had been experienced predominantly in the current partnership. In total 5.9% (95% CI 3.8–8.1) had experienced IPV during the first six months after childbirth. All women who reported IPV during pregnancy

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Table 2. Prevalence of different forms of intimate partner violence in Hanam, Vietnam, 2010

Type of intimate partner violence	Percentage (95% CI)
Lifetime, n = 495	
Emotional abuse	15.2 (12.0–18.3)
Physical violence	19.0 (15.5–22.5)
Moderate	13.5 (10.5–16.5)
Severe	5.5 (3.4–7.4)
Sexual violence	6.7 (4.5–8.9)
Only one form of violence	17.0 (13.6–20.3)
Two or three forms of violence	10.3 (7.6–13.0)
Physical violence during pregnancy, n = 417	3.8 (2.0–5.6)
Postpartum, n = 453	
Emotional abuse	4.6 (2.7–6.5)
Physical violence	3.3 (1.7–4.9)
Moderate	2.2 (0.8–3.6)
Severe	1.1 (0.1–2.1)
Sexual violence	1.1 (0.1–2.1)
Only one form of violence	3.3 (1.7–5.0)
Two or three forms of violence	2.6 (1.1–4.1)

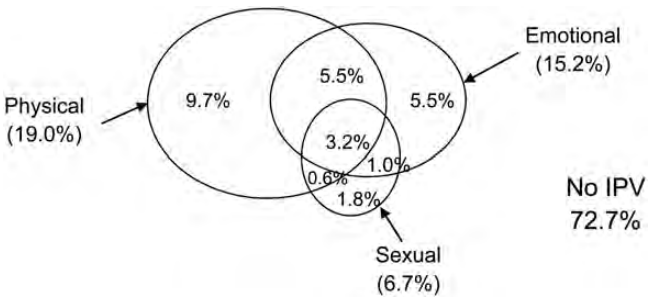

Figure 1. Distribution of co-occurrence of lifetime experiences of emotional, physical and sexual violence perpetrated by an intimate partner reported by women at Wave 1 (n = 495). IPV, intimate partner violence.

or in the postpartum period had also disclosed lifetime experience of IPV at the baseline W1 assessment.

Perinatal common mental disorders and experiences of intimate partner violence

Overall, the prevalence of women with clinically significant symptoms of CPMD was 41.4% at W1, 28.2% at W2, 13.4% at W3, and 14.6% at W4. There were 45 new cases (incidence proportion 9.1%) in W2, seven new cases (incidence proportion 1.4%) in W3, and seven new cases (incidence proportion 1.4%) in W4. When adjusted for other known risks symptoms indicative of CPMD (EPDS-V ≥4) and mean EPDS-V scores at both antenatal and both postnatal assessments were associated with experiences of any form of IPV (see Tables 3 and 4). There was a dose-response relationship between increasing severity of physical IPV and increased rates of clinically significant symptoms of CPMD. Experiencing more than one form of IPV (emotional abuse, physical violence and sexual violence) increased the effect size of IPV on the risk of antenatal CMD or postpartum CMD.

Perinatal suicidal thoughts and experiences of intimate partner violence

There were 26/495 (5.3%) women at W1, 6/417 (1.4%) at W2, 4/453 (0.9%) at W3, and 11/453 (2.4%) at W4 who reported having had suicidal thoughts (EPDS-V Item 10 >0) in the previous 7 days. Overall, 40/495 (8.1%) women reported suicidal thoughts in at least one wave. Suicidal thoughts at any time in the perinatal period were associated significantly with exposure to any form of lifetime IPV (Table 5). Like the relationship with CPMD, the magnitude of the association between IPV and suicidal thoughts increased if the women experienced more forms of IPV or more severe physical abuse.

Discussion

These data were derived from a methodologically rigorous longitudinal study in which a cohort of pregnant women was recruited systematically in a rural province of Vietnam. Data about lifetime and perinatal experiences of IPV were assessed by the gold-standard World Health Organization Multi-Country Study of Women's Health and Domestic Violence Against Women questionnaire, which has been demonstrated to be comprehensible and meaningful to women in resource-constrained settings like rural Vietnam. We used multiple strategies to minimise bias, including asking about experiences of specific abusive behaviours, in structured interviews administered by female interviewers in private rooms where responses could not be overheard. Data collectors reiterated at a number of points during the interviews that data were not identified by name or ever to be released in an individualised form.

The study had several limitations. First, our sample did not include women living in urban areas or the centre or the south of Vietnam. Second, we did not assess duration of relationship with the intimate partner and therefore cannot establish that the lifetime IPV occurred within these relationships. Finally, it is possible that recall and reporting bias might govern disclosure of stigmatised experiences like IPV, and that these data are an underestimate of the prevalence of IPV.

Overall, however, we believe that the quality of the data, the association between every form of IPV and CPMD, and the dose-response relationship between experiences of IPV and both CPMD symptoms and suicidal ideas, permit us to conclude that IPV contributes to CPMD in women in rural Vietnam.

The prevalence of women who reported lifetime experiences of IPV in our cohort was lower than in the findings of several previous studies in Vietnam.[8,11] There are a number of potential explanations. The most likely one is that the mean age of the cohort in our study (26.1 years) was much lower than that of the other studies (38 years in Vung et al.[8] and 43.5 years in Nguyen's study[11]). It is plausible that the likelihood of having any experience of IPV increases with the duration of the relationship and therefore with age. The Law on Domestic Violence Prevention and Control which made domestic violence a crime was enacted in Vietnam in December 2007. Vung et al.[7] and Nguyen

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Table 3. Mean scores of Edinburgh Postnatal Depression Scale-Vietnam Validation (EPDS-V) at Waves 1–4[a] by intimate partner violence types (IPV)

Type of IPV	EPDS-V mean score			
	W1 Mean (95% CI)	W2 Mean (95% CI)	W3 Mean (95% CI)	W4 Mean (95% CI)
No experience	3.5 (3.0–3.8)	2.3 (1.9–2.8)	1.1 (.8–1.3)	1.1 (0.9–1.3)
Any experience	5.8 (4.9–6.8)	3.7 (2.9–4.6)	2.2 (1.6–2.8)	2.8 (2.0–3.5)
Lifetime IPV				
Emotional abuse	6.7 (5.3–7.8)	4.1 (2.9–5.2)	2.7 (1.8–3.6)	3.8 (2.6–5.1)
Physical violence	5.5 (4.4–6.6)	3.8 (2.9–4.7)	2.2 (1.6–2.9)	2.8 (1.9–3.7)
Moderate	5.2 (4.1–6.4)	2.6 (1.5–3.6)	2.0 (1.1–2.6)	2.2 (1.3–3.2)
Severe	6.1 (3.7–8.7)	6.7 (4.1–9.2)	2.9 (1.1–4.7)	4.1 (2.2–6.1)
Sexual violence	8.3 (6.2–10.1)	4.9 (2.6–7.0)	3.2 (1.7–4.9)	4.9 (2.6–7.2)
One type of violence	5.3 (4.2–6.4)	3.4 (2.3–4.5)	1.7 (1.1–2.4)	1.7 (0.9–2.5)
Two or three types	6.7 (5.1–8.4)	4.3 (2.8–5.8)	2.9 (1.9–4.0)	4.4 (2.9–5.9)
Physical violence during pregnancy	7.3 (4.9–9.8)	4.9 (3.1–6.6)		
Postpartum				
One type of violence			3.3 (1.4–5.1)	4.9 (2.4–7.4)
Two or three types			4.8 (1.2–8.4)	8.8 (4.4–13.1)

[a]Data were collected in four surveys: Wave 1 (W1): at recruitment; Wave 2 (W2): at least 28 weeks gestation; Wave 3 (W3): 8 weeks postpartum; Wave 4 (W4): 6 months postpartum.

Table 4. Associations of different forms of intimate partner violence (IPV) and antenatal and postpartum common mental disorders (CMD) in Ha Nam, Vietnam

Type of IPV	Antenatal CMD Adjusted OR[a] (95% CI)	Postpartum CMD Adjusted OR[a] (95% CI)
Lifetime IPV		
Emotional abuse (1: yes; 0[b]: no)	2.5 (1.4–4.5)	3.1 (1.8–5.8)
Physical violence (1: yes; 0: no)	1.7 (1.0–2.7)	2.6 (1.5–4.5)
Moderate violence (1: yes; 0: no)	1.3 (0.7–2.4)	2.2 (1.2–4.2)
Severe violence (1: yes; 0: no)	3.1 (1.2–8.5)	3.8 (1.5–9.1)
Sexual violence (1: yes; 0: no)	14.3 (3.3–62.7)	3.9 (1.8–8.7)
One type of violence (1: yes; 0: no violence)	2.3 (1.4–4.1)	1.9 (1.1–3.5)
Two or three types (1: yes; 0: no violence)	2.6 (1.3–5.3)	4.3 (2.2–8.6)
Physical violence during pregnancy (1: yes; 0: no)	4.1 (1.1–15.8)	NA
Postpartum		
One type of violence (1: yes; 0: no violence)	NA	5.0 (1.6–15.7)
Two or three types (1: yes; 0: no violence)	NA	10.1 (2.8–37.3)

NA: Not applicable.
[a]Adjusted for woman's age, education level and occupation; parity; history of miscarriage or stillbirth; household wealth index; quality of relationship to her own mother and mother-in-law; and welcome pregnancy by multiple logistic regression models.
[b]0: reference group.

et al.[10] completed their studies 8–10 years earlier than this study and it is possible that the law has contributed to a reduction in domestic violence in the intervening period.

The findings of this study confirm that prevalence of emotional, physical and sexual IPV against women is high in rural Vietnam. However, it seems that pregnancy might protect women to some degree against physical violence. It is possible that this is because perpetrators of violence manage impulse control more effectively when their partners are pregnant or that violence towards pregnant women incurs social disapproval

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Table 5. Associations of different forms of intimate partner violence and suicidal thoughts during perinatal periods in Ha Nam, Vietnam

Type of lifetime intimate partner violence	Suicidal thoughts Adjusted OR[a] (95% CI)
Emotional abuse (1: yes; 0[b]: no)	6.1 (2.3–15.9)
Physical violence (1: yes; 0: no)	5.1 (2.0–12.9)
Moderate (1: yes; 0: no violence)	4.7 (1.7–13.6)
Severe (1: yes; 0: no violence)	5.9 (1.5–23.5)
Sexual violence (1: yes; 0: no)	5.0 (1.5–15.9)
One form of violence (1: yes; 0: no violence)	4.8 (1.7–13.7)
Two or three forms of violence (1: yes; 0: no violence)	7.7 (2.4–24.5)

[a]Adjusted for woman's age, education level and occupation; parity; history of miscarriage or stillbirth; household wealth index; quality of relationship to her own mother and mother-in-law; and welcome pregnancy by multiple logistic regression models.
[b]0: reference group.

in Vietnam. The prevalence of IPV during pregnancy in this study (3.8%) was lower than reported in other resource-constrained countries (10.6% in rural Thailand, 15.1% in rural Ethiopia, 29.2% in rural Bangladesh and 44.0% in rural Peru).[2] Similarly, the rate of experiences of physical and sexual violence during the early postpartum period was relatively low (1.1% of participants experienced severe physical and sexual violence). In Vietnam, cultural beliefs reflect the humoral schema in which giving birth leads to an imbalance of *Am* 'cold' and *Duong* 'hot', which together render a woman vulnerable to ill health in the short and longer term.[21] Traditional practices to counter this risk include that women are expected to have complete rest, avoid heavy physical activities and having sexual intercourse for at least the first month, after childbirth.[21] It is likely that forced intercourse or other forms of violence against a woman during this period would be regarded as generally unacceptable.

Women who had experienced IPV were slightly older and had more children than those who had not experienced it, probably because their partnerships were of longer duration and therefore there had been greater potential opportunity for IPV to occur. Women whose husbands were working in semi-skilled occupations as farmers, manual workers or traders were more likely to report experience of IPV than those whose husbands worked in more skilled occupations as office workers or government officers. This finding is similar to that of Vung et al.[8] who found in a rural Vietnamese sample that low education in women and their husbands and low household income were risk factors for lifetime and preceding year physical and sexual violence. In a previous study we found that alcohol dependency (33.8%) and mental health problems (17.7%) in men were prevalent and that the combination of these contributed significantly to an increased risk of them behaving violently towards their partners in this setting.[22,23]

All the existing investigations of the relationship between IPV and CPMD in low-income settings have focused only on physical IPV. As found in Bangladesh,[24] Ethiopia,[25] Nepal,[26] Pakistan[27] and India[28,29] our data confirm that physical IPV is associated with increased rates of CPMD. However, to our knowledge, this is the first study to demonstrate in an equivalent resource-constrained setting that emotional abuse and sexual violence perpetrated by an intimate partner also increases risk of CPMD. It is also the first to demonstrate the dose-response relationship between lifetime exposure to either multiple forms of IPV or more severe physical abuse and CPMD.

The psychological mechanism whereby IPV leads to mental health problems was established by Brown and Harris[30] who concluded from systematic investigations of women living in situations of chronic adversity in public housing in London that depression is a consequence of co-occurring experiences of entrapment and humiliation. Home is optimally a haven, in which there is physical and psychological safety and in which people can trust that they will be responded to with sensitivity and care. Intimate partner violence is a complete contravention of this and involves inability to escape (entrapment) and breach of trust (subordination and humiliation).[31]

The severity of the helplessness and despair, which can accompany experiences of IPV, is demonstrated in suicidal behaviours. Previous studies in Vietnam[32,33] and in other low and lower-middle income countries[34,35] have shown that suicidal thoughts are observable in women. Although suicidal behaviours per se were not assessed, the responses to Item 10 on the EPDS-V suggest that some pregnant women and women who have recently given birth in rural Vietnam experience suicidal thoughts. An association between physical IPV and suicidal thoughts and behaviours in women has been reported in several low and lower-middle income countries, including Bangladesh, the Philippines, Egypt, Chile, and India.[34-37] Our data indicate that there is a link between IPV and perinatal suicidal thoughts in rural Vietnamese women, which could, in some, lead to acts of self-harm or death. Unlike the findings from Bangladesh and India,[34] which did not find an association, we found that sexual IPV was associated with thoughts of suicide in women. This could be because sexual violence by partners is more widespread and perhaps regarded as normative in those settings[2] but not in Vietnam where all women have access to some education and local organisations like the Women's Union campaign against it. Our study adds to the evidence that emotional IPV is linked to suicidal thoughts as strongly as severe physical IPV.

Intimate partner violence contravenes women's rights to liberty, security of person and freedom from fear and thereby constitutes a major rights transgression.[38] This study confirms that every form of IPV against women is prevalent in rural Vietnam.[7] These findings suggest that besides the more well-recognised physical form of IPV, emotional and sexual IPV also have significant adverse effects on women's perinatal mental health. In Vietnam as well as in many other developing countries, emotional IPV is overlooked or regarded as an acceptable way to treat women and sexual IPV is highly sensitive and rarely discussed. It is clearly essential in this and other resource-constrained settings to address emotional, physical and sexual violence perpetrated by an intimate partner in any strategies to reduce the risk of perinatal mental health problems in women.

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Authors' contributions: JF, TT and BB designed the study protocol; JF, TDT, TTN and THD carried out the study; JF and TDT undertook the analysis and interpretation of these data and drafted the manuscript. All authors critically revised and approved the final manuscript. JF is guarantor of the paper.

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