Intimate partner violence during pregnancy: a large-scale survey of pregnant women in Da Nang City, Vietnam

Tran Dinh Trung[1,3*], Vo Van Thang[1], Nguyen Vu Quoc Huy[2]

(1) Faculty of Public Health, Hue University of Medicine and Pharmacy, Hue University

(2) Department of Obstetrics and Gynecology, Hue University of Medicine and Pharmacy, Hue University

(3) Faculty of Public Health, Da Nang University of Medical Technology and Pharmacy

Abstract

Introduction: Intimate partner violence during pregnancy (p-IPV) is a significant public health concern and a severe violation of human rights, leading to numerous adverse health outcomes for women and children. **Methods:** A cross-sectional study was conducted among 1235 pregnant women living with their husbands in Da Nang City, Vietnam. We used the Revised Conflict Tactics Scales (CTS2) to assess p-IPV. **Results:** The prevalence of p-IPV was 32.9%, of which psychological violence at 26.9%, physical violence at 14.7%, and sexual violence at 12.5%. Chracteristics of partners (Education level occupation, alcohol use), and social support were found to be significantly associated with p-IPV. **Conclusions**: Pregnant women experience p-IPV exhibit a high prevalent. Our findings contribute to providing evidence in implementing programs that enable pregnant women to identify and seek help for p-IPV.

Keywords: *Intimate partner violence during pregnancy, Revised Conflict Tactics Scales, p-IPV, CTS2.*

1. INTRODUCTION

Intimate partner violence during pregnancy (p-IPV) is a significant public health concern and a severe violation of human rights [1] due to health consequences for women and children [2, 3]. For women, it causes negative effects such as depression, anxiety and suicide risk [2, 4]. Additionally, p-IPV was indicated to be associated with adverse birth outcomes, including miscarriage, preterm birth, low birth weight, and neonatal death [2, 5].

The prevalence of p-IPV has been estimated to be about 25.0% with a range from 20.4% to 30.7% globally. Notably, a high prevalence was reported in Asia, accounting for 32.1% [6], with mental violence being the most common, ranging from 13.7% to 26.5%, followed by physical and emotional violence at 6.5% to 12.3%, and educational violence at 4.1% to 10.7% [6]. In Vietnam, there were 35.4% of women experienced p-IPV in the north region [5] and 15.0% in the central region [7].

Previous studies in Vietnam focused on examining p-IPV in relation to personal characteristics of women and their husbands including low educational level, young age, early marriage, alcohol abuse, housework, and social support [8]. Furthermore, other studies emphasized other factors related to husband, such as youth, intention to have children, and preference for sons [9]. However, the assessment of social support has not been comprehensive and multidimensional [8].

p-IPV has not yet been reported in Da Nang, a city in Central Vietnam with a diverse ecological landscape, including districts that border both the sea and mountains. Thus, our study aims to to identify the prevalence of p-IPV among women during pregnancy and identify factors related to p-IPV in Da Nang City, Vietnam.

2. MATERIALS AND METHODS

2.1. Subjectives

Pregnant women in their third trimester (from months 7, 8, 9 of pregnancy) living in Da Nang City, Vietnam.

Selection criteria: women aged 18-49 years; Women who are married and live with their husbands; willingness to participate in the study.

Exclusion criteria: the study focused solely on p-IPV by husbands. Violence from other family members was excluded. Women whose husbands were present during the interview. Participants with acute, severe illnesses or undergoing inpatient treatment in medical facilities.

2.2. Methods

Study Design

We conducted a cross-sectional study from October 2022 to March 2023 to assess the prevalence of p-IPV among pregnant women who live with their husbands in Da Nang City, Vietnam.

Corresponding Author: Tran Dinh Trung. Email: tdtrung.21ncs007@huemed-univ.edu.vn

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Sample size

Using the formula to estimate a ratio:

$$n = Z^2_{\left(1-\frac{\alpha}{2}\right)} \frac{p(1-p)}{d^2} xDE$$

n: the minimum sample size for the study.

α: the level of statistical significance.

$Z_{(1-\alpha/2)}$: Distribution factor at (1-α/2) confidence level. $Z_{(1-\alpha/2)}$ value in our study was 1.96.

d: Precision level. We chose d = 0.05.

p: 0.234 (The proportion of women experiencing spousal violence during pregnancy in Ho Chi Minh City (2019) according to the CTS2 scale by author Tran Thi Nhat Vy was 23.4%) [10].

DE: the design effect factor was 4.

A total of 1235 pregnant women were included in our study.

Sampling method

A multistage cluster sampling method was employed for participant selection:

Stage 1: Cluster selection, in Da Nang City, compiles a list of all 56 ward/communes. Then, randomly select 28 of these wards and communes to participate in the study.

Stage 2: Cluster random sampling, within the 28 selected wards and communes, we contacted local stations to generate a list of women who are currently in their third trimester of pregnancy and receiving prenatal care. After that, partcipants were randomly selected based on this list.

Variables and Measurement

Independent variables:

- General information about pregnent women: Age group (18 - < 25; 25 - 35; and > 35 years), religion, occupation, level of education. Characteristics of the husbands: age group, education level, occupation, and alcohol use.

- Social support was evaluated based on Multidimensional Scale of Perceived Social Support (MSPSS) and classified in to low, medium, high levels. MSPSS consists of 12 items divided into three parts: family, friends, and other significant people (special people). Each item was rated on a 7-point scale from strongly disagree (1) to strongly agree (7) strongly. The total score was categorized as follows: a score of 1 to 2.9 implied low support, 3 to 5 indicated moderate support, and 5.1 to 7 reflected high support [11].

Dependent variable: p-IPV and forms of p-IPV

We identified p-IPV using the Revised Conflict Tactics Scale (CTS2), which includes 21-item questionnaire regarding psychological violence (4 items), physical violence (11 items) and sexual violence (6 items). Women were considered to be affected by p-IPV if they have experienced any form of violence at least once [12].

Data collection

We used a pretested and structured questionnaire to direct face-to-face interviews with the participants. The interview was conducted in a private room at the health station, ensuring privacy and the absence of third-party relatives during the interview.

Prior to data collection, the questionnaire was tested on 30% of the sample from health facilities other than the selected one, and was modified based on the results. The CTS2 was firstly backward translated between Vietnamese and English. Then, CTS2 was assess its internal consistency with Cronbach's Alpha coefficient and Omega coefficient (Cronbach's alpha = 0.81, McDonald's omega=0.80, and ICC=0.91) [12].

Data collectors were female staffs working at health stations. They were trained in interviewing skills, handling ethical issues, confidentiality, and privacy.

Data Analysis Methods

The results were presented as frequencies and percentages (%) for categorical variables. The chi-square test or Fisher's exact test was used to compare the proportions for each independent variable. All factors associated with $p<0.05$ were included in the multivariate logistic regression model analysis to investigate the factors associated with the prevalence of violence. The results were presented using adjusted odds ratios (OR) with 95% confidence intervals (CI). Statistical significance threshold was $p<0.05$. SPSS 29.0 software was ultilised to analyze the data.

Research Ethics

The study was conducted under approval number: H2020/503 dated 20/10/2022 by the Ethics Committee for Biomedical Research of the Hue University of Medicine and Pharmacy, Hue University. Subjects voluntarily participated in the study and their information was kept confidential.

3. RESULTS

3.1. The common characteristics of the study subjects.

Table 1. The general information of the study participants (n=1235)

Pregnant Women Demographics		Frequency (n)	Proportion (%)
The age group	18 - < 25	166	13.4
	25 - 35	873	70.7
	> 35	196	15.9
Religion	Yes	80	6.5
	No	1155	93.5
Occupation	Civil Servants, Office Staff	636	51.5
	Factory Workers	157	12.7
	Self-Employed	136	11.0
	Housewife	306	24.8
Educational level	Less than high school	281	22.8
	High school	255	20.6
	More than high school	699	56.6
Husband's age group	< 25	105	8.5
	25 - 35	798	64.6
	> 35	332	26.9
Husband's educational level	Less than high school	93	7.5
	High school	452	36.6
	More than high school	690	55.9
Husband's occupation	Civil Servants, Office Staff	466	37.7
	Factory Workers	383	31.0
	Self-Employed	273	22.1
	Traders - Service Providers	99	8.0
	Unemployed	14	1.1
Husband's alcohol use Status	Yes	740	59.9
	No	495	40.1
	Total	**1235**	**100.0**

The majority of participants (70.7%) fell within the 25 - 35 year age group. Civil servants and office staff made up the largest occupational group (51.5%), followed by factory workers (12.7%). Over half of the participants (50.9%) had an education level above high school.

Regarding husband's demographics, 25-35 years old accounted for the most common age group (64.6%). The majority of husbands had an education above high school (55.9%). Civil Servants, Office Staff were the most common occupation for husbands (37.7%). 59.9% of participants reported their husbands using alcohol.

Table 2. Social support for pregnant women in Da Nang City (n = 1235).

Social Support	Frequency (n)	Proportion (%)
Low	61	4.9
Medium	602	48.7
High	572	46.4
Total	**1235**	**100.0**

Among pregnant women, 48.7% had a moderate level, 46.4% had a high level, and 4.9% had a low level of social support.

3.2. The prevalence of p-IPV among pregnant women living with their husbands in Da Nang City

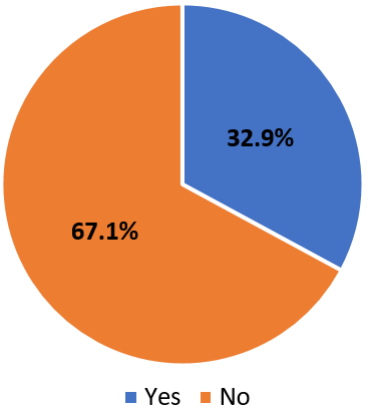

Figure 1. The prevalence of p-IPVamong pregnant women living with their husbands in Da Nang City.
The prevalence of p-IPV among pregnant women living with their husbands in Da Nang City was 32.9%.

Table 3. The distribution of the prevalence of various forms of p-IPV among pregnant women living with their husbands in Da Nang City (n=1235)

Forms		Frequency (n)	Proportion (%)
Physical violence	Yes	182	14.7
	No	1053	85.3
Psychological violence	Yes	332	26.9
	No	903	73.1
Sexual violence	Yes	154	12.5
	No	1081	87.5
Total		**1235**	**100.0**

Ragarding the form of IPV, 12.5% experienced sexual violence, 14.7% experienced physical violence, and 26.9% experienced psychological violence.

3.3. Factors associated with spousal violence against pregnant women in Da Nang City

Table 4. Factors associated with spousal violence against pregnant women in Da Nang City (n=1235)

Characteristics		The prevalence of p-IPV among pregnant women				*p*
		Yes		No		
		n	%	n	%	
The age group of pregnant women	< 25	53	31.9	113	68.1	0.955
	25 - 35	289	33.1	584	66.9	
	> 35	64	32.7	132	67.3	
Religion of pregnant women	Yes	23	28.8	57	71.2	0.417
	No	383	33.2	772	66.8	
The occupation of pregnant women	Civil Servants, Office Staff	216	34.0	420	66.0	0.621
	Factory Workers	55	35.0	102	65.0	
	Self-Employed	42	30.9	94	69.1	
	Housewife	93	30.4	213	69.6	

Educational level of pregnant women	Less than high school	106	37.7	175	62.3	
	High school	81	31.8	174	68.2	0.143
	More than high school	219	31.3	480	68.7	
Husband's age group	< 25	31	29.5	74	70.5	
	25 - 35	267	33.5	531	66.5	0.713
	> 35	108	32.5	224	67.5	
Husband's educational level	Less than high school	45	48.4	48	51.6	
	High school	163	36.1	289	63.9	**<0.001**
	More than high school	198	28.7	492	71.3	
Husband's Occupation	Civil Servants, Office Staff	125	26.8	341	73.2	
	Factory Workers	157	41.0	226	59.0	
	Self-Employed	77	28.2	196	71.8	**<0.001**
	Traders - Service Providers	35	35.4	64	64.6	
	Unemployed	12	85.7	2	14.3	
Husband's Alcohol Use Status	Yes	267	36.1	473	63.9	**0.003**
	No	139	28.1	356	71.9	
Social support for pregnant women	Low	18	29.5	43	70.5	
	Medium	235	39.0	367	61.0	**<0.001**
	High	153	26.7	419	73.3	
Total		**406**	**32.9**	**829**	**67.1**	

Our analysis identified several factors associated with p-IPV, including the husband's occupation and education level, the husband's alcohol consumption, and social support.

Table 5. The association between the prevalence of p-IPV and the associated factors among pregnant women in Da Nang City in the logistic regression model

Characteristics		OR	95%CI	p
Husband's educational level	Less than high school	1		
	High school	2.24	1.39 - 3.63	**0.001**
	More than high school	1.25	0.94 - 1.66	0.124
Husband's Occupation	Civil Servants, Office Staff	1		
	Factory Workers	1.65	1.21 - 2.26	**0.001**
	Self-Employed	0.79	0.55 - 1.15	0.225
	Traders - Service Providers	1.31	0.82 - 2.10	0.256
	Unemployed	11.72	2.53 - 54.26	**0.002**
Husband's Alcohol Use Status	Yes	1		
	No	1.37	1.06 - 1.76	**0.018**

Social support	High	1		
	Medium	1.27	0.70 - 2.29	0.431
	Low	1.66	1.29 - 2.15	<0.001

Our analysis identified several factors associated with an increased risk of p-IPV among pregnant women. These include subjects' husbands with a high school education (OR=2.24, 95%CI:1.39 – 3.63, p=0.001), husbands working as factory workers (OR=1.65, 95%CI:1.21 - 2.26, p=0.001), husbands who were unemployed (OR=11.72, 95%CI: 2.53 - 54.26, p=0.002), and having a spouse who consumes alcohol (OR=1.37, 95%CI: 1.06-1.76, p=0.018). Additionally, pregnant women with low social support (OR=1.66, 95%CI: 1.29 - 2.15, p<0.001) were also more likely to experience spousal violence.

4. DISCUSSION

Our cross-sectional study with 1235 pregnant women in Da Nang city showed that the prevalence of p-IPV among women during pregnancy was 32.9% with psychological violence has the highest proportion. This result is higher than Mariella Stiller's study where there was only 9.2% of violence among pregnant women [13], and is equivalent to Dang Thi Hoa's study where 22.6% of women suffer from violent acts [14]. Notably, our study found that 12.5% of women experienced sexual violence, 14.7% experienced physical violence, and 26.9% experienced psychological violence among pregnant women. The findings are consistent with a previous study in Hanoi showing the p-IPV proportion up to 35.4% [5]. Our findings were higher than the study in Hue with a p-IPV prevalence of 15.0% [7]. This disparities may be due to differences in study designs and local social culture [15]. Thus, further studies are required to elucidate this geographical variation.

Additionally, husbands who are factory workers or unemployed have higher prevalence of p-IPV. Several studies in China and Japan provide evidence of a relationship between husbands' employment and violence against pregnant women [16, 17]. The explanation for this may be because these families have to depend economically on a husband or wife or sometimes both do not have a stable job, leading to economic pressure increasingly weighing on their lives. From there, sexual violence occurs and this can be explained by the fact that the husband/ wife working helps reduce the communication gap between husband and wife, thereby reducing marital tension and reducing p-IPV.

Furthermore, low education levels of husband were observed to be associated with p-IPV in our study. Education level has an influence on thinking and behaviors. Educated husbands tend to have a different mindset and comprehensive understanding about IPV's consequences compared to those who is uneducated. At the same time, women with low education levels seem to have low self-esteem and a lack of ability to protect themselves against p-IPV due to insufficient knowledge.

Our study also found that the prevalence of p-IPV was higher in women whose husbands use alcohol, which is consistent with the result of a previous study [18]. Drinking alcohol can increase levels of aggression and create misunderstandings in understanding communication signals, verbal or non-verbal. It can also increase risk-taking behavior in relationships [19]. Additionally, women with low social support were more likely to be p-IPV in our study. According to Shamu's study, women who have regular contact with their families were less likely to experience violence [20]. Women with violence tend to isolate and separate from the community, thus, social support is an important and meaningful factor that can help reduce p-IPV.

5. CONCLUSION

The prevalence of p-IPV among pregnant women in Da Nang City is quite high. p-IPV is a significant public health problem. Thus, attention and action from communities and relevant agencies are necessary to support and protect women, with the emphasis on the strategies to increase education, create support programs, and build a safety environment.

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