

## RESEARCH ARTICLE

# Intimate partner violence among Jordanian pregnant women and its predictors

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**Abstract**

**Aim:** To determine and compare the level of prevalence of intimate partner violence (IPV) at 12 months before pregnancy and during pregnancy and to identify the predictors of physical IPV.

**Design:** A cross-sectional, correlational design was used for data collection and analysis.

**Methods:** Convenience sampling was used to recruit 247 women for the study. The women's IPV experience was measured by the Arabic version of the World Health Organization's Domestic Violence Questionnaire Screening Tool.

**Results:** The women reported that they experienced substantial levels of different types of IPV during pregnancy: 93.1% control, 66% psychological, 31.2% physical and 8.9% sexual. The levels of psychological, physical and sexual IPV during pregnancy were statistically significantly lower than those before pregnancy. In the case of physical IPV, women's age and verbal fighting were independent positive predictors, while women's educational level, husbands' educational level and level of mutual understanding were independent negative predictors. It is therefore recommended that policymakers focus on providing marital advice and marriage counselling and on empowering women by education in order to tackle IPV during pregnancy.

**KEYWORDS**

intimate partner violence, Jordan, predictors of IPV, pregnancy

## 1 | INTRODUCTION

Worldwide, women experience a range of abusive behaviours at the hands of their intimate partner. Indeed, intimate partner violence (IPV) is the most common form of violence experienced by women today. Intimate partner violence is defined as any behaviour that causes harm within an intimate relationship and may include controlling behaviours as well as psychological, physical, and sexual abuse (WHO, 2012). There is no specific profile for perpetrators

of IPV; they have a range of socioeconomic, cultural and religious backgrounds, and therefore, it follows that all women are potentially at risk of IPV (WHO, 2012). In the Arab world, IPV is widespread, where the prevalence of physical violence ranges between 6%–59%, sexual abuse ranges from 3%–40%, and psychological abuse ranges from 5%–91% (Elghossain et al., 2019). In Jordan, 33% of femicide cases are related to fatal IPV (Salameh et al., 2018).

Women are also at risk of IPV during pregnancy. The prevalence of IPV during pregnancy differs across countries, ranging between

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2%–13.5%, with the highest rates reported in Africa and Latin America (Devries et al., 2010). In Jordan, studies have reported that the prevalence of IPV during pregnancy is 10%–34.7% for physical, 23.4%–28.1% for psychological and 5.7%–15.5% for sexual violence (Clark et al., 2009; Okour & Badarneh, 2011; Oweis et al., 2010).

Intimate partner violence during pregnancy is a serious public health problem because it has adverse health consequences for both mother and child. The World Health Organization (WHO) (2011) has summarized the adverse health consequences, dividing them into two main categories: fatal and non-fatal. The fatal category includes homicide and suicide, while the non-fatal includes negative health behaviours (e.g. drug-taking, alcohol misuse and smoking), adverse reproductive health issues (e.g. preterm birth, low birth weight, sexually transmitted infections, miscarriage and unsafe abortion) and poor physical and mental health (e.g. injury, depression, lack of attachment and a range of effects on the child) (WHO, 2011).

Researchers have shown that a number of different factors can predict whether a woman is more likely to experience IPV during pregnancy, including the following: low household income (Al-Adayleh & Al Nabulsi, 2013), residence in a city, six or more previous pregnancies, four or more female children, under pressure to have a male child (Okour & Badarneh, 2011), lower level of education, unemployment (Almeida et al., 2017) and a husband with a lower level of education (Abdelhai & Mosleh, 2015). As to whether the condition of pregnancy itself triggers IPV, the evidence is contradictory, and there is also a lack of consensus regarding whether IPV increases, remains the same or decreases during pregnancy (Bailey, 2010).

Recently, Van Parys et al. (2014) identified four main patterns of IPV during pregnancy: (1) starting of IPV with pregnancy; (2) continuation of IPV during pregnancy; (3) stopping of IPV during pregnancy; and (4) absence of IPV before or during pregnancy. Given the complexity of the phenomenon, the researchers emphasized the importance of conducting scientific research on the effect of pregnancy on the IPV rate, the factors that affect the IPV pattern (increase, same, decrease or stop), and why pregnancy is a factor that protects some women from IPV but leads to an increase in IPV for others (Van Parys et al., 2014).

It is with this call-in mind that this study was conducted to determine and compare the level of prevalence of IPV at 12 months before pregnancy and during pregnancy and to identify the predictors of physical IPV. The Jordanian context was chosen because little is known about IPV during pregnancy in Jordan. Previous studies conducted in Jordan were focussing on association between intimate IPV and women's experience of interference with their attempts to avoid pregnancy (Clark et al., 2008), prevalence of intimate partner violence (Clark et al., 2009) and protective factors against violence during pregnancy (Clark, Hill, et al., 2009). None of these studies were concerned with whether IPV increases or decreases during pregnancy nor predictors of physical IPV. Moreover, pregnant women in Jordan might have different IPV experiences and patterns during pregnancy than

women in other cultures. Jordan has unique social circumstances because the prevailing socio-cultural constructs of masculinity and female sexuality legitimize the control exerted on and violence perpetrated by men against women. These constructs include biased gendered social traditions and customs that keep women in disempowered positions and limit their ability to make fundamental reproductive decisions such as whether and when to become pregnant. For example, it is known that having babies is an issue related to the preferences and attitudes of men (Clark et al., 2008; McCleary-Sills, 2013). For the above reasons, this study of the patterns of IPV before and during pregnancy within the Jordanian culture context is a vital step towards having a greater understanding on the effect of pregnancy on IPV among Jordanian women.

## 1.1 | Significance

It is crucial that we know why and to what extent IPV levels alter during pregnancy in order to plan and implement appropriate strategies to meet the needs of women. Furthermore, such knowledge could help nurses in identifying pregnant women who are experiencing violence and provide them with the required help at the appropriate time (e.g. psychological counselling, protection and social services) (Almeida et al., 2017). The findings may also have wider implications because when members of the community also have an understanding of the magnitude of the problem this may help in deterring some men from engaging in IPV. It is mainly for these reasons that this study aims to answer the following questions:

- Does the rate of IPV against pregnant women increase during pregnancy?
- What are the predictors of physical IPV during pregnancy?

## 2 | METHODS

### 2.1 | Design

A cross-sectional, correlational design was used for this study because this type of design is considered the most appropriate for studying a non-manipulative variable such as IPV.

### 2.2 | Setting

A large governmental hospital was randomly selected for this study. For more details, the names of the hospitals with the highest birth rate were written on small pieces of paper; then, the hospital was randomly selected from among these hospitals. The hospital has the highest birth rate in the country (more than 6,000 births per annum) (MOH, 2011). It is located in the capital, Amman. Permission to access the hospital was obtained from the Ministry of Health

because the Ministry is responsible for all health matters in Jordan, from primary care to rehabilitation. Data were collected from 1 September–31 December 2014.

### 2.3 | Sample

The target population was all women who had delivered in the last 24 hr in Jordan, while the accessible population was women in the selected governmental hospital. The inclusion criteria were as follows: married women who live with their husbands, with no known long-term illness, of reproductive age, and who had given birth to at least one baby. Women who could not read and write in Arabic were excluded from the study. Convenience sampling was used to select the participants because randomization is not possible in Jordan due to information system limitations. The sample size was calculated according to Thorndike's rule, where the prerequisite is 20 participants for each variable (Thorndike, 1982). A total of 10 variables were considered in this study; therefore, 200 participants were needed. This number was increased by a further 10% to compensate for the possibility of missing data. Around 1,500 women were potentially eligible, where 750 of them examined for eligibility, 274 confirmed eligible, and 247 were included in the study and analysed. Around 10% of the women refuse to participate. For more details, see Figure 1.

### 2.4 | Instruments

Each participant was asked to complete a three-part questionnaire (self-report), where they included all sources of data:

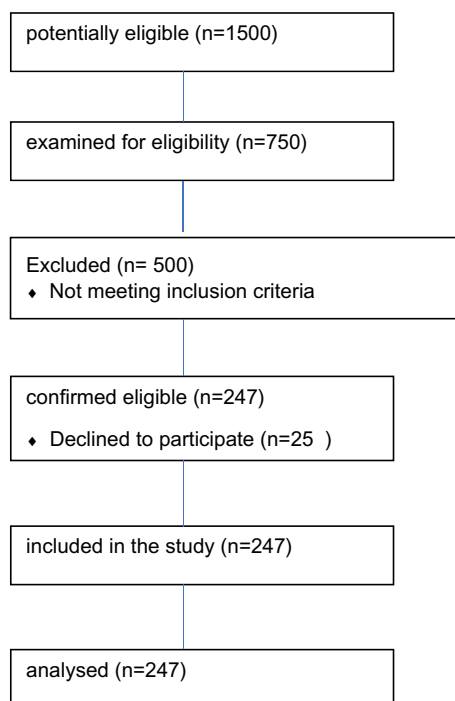


FIGURE 1 Flow diagram for the sample

#### 2.4.1 | Part I: Demographic, Obstetrical, and Gynecological History (Clark, Hill, et al., 2009)

The Demographic, Obstetrical, and Gynecological History (DOGH) instrument is a validated measure for the collection of demographic, obstetrical and gynaecological data. Permission to use the tool was obtained from the authors. The DOGH consists of 34 questions that use different levels of measurement (nominal, ordinal or ratio). It was originally developed in English, translated into Arabic and then back-translated into English to ensure that the translated version was equal in meaning to the original (Clark, Hill, et al., 2009). For the present study, eight experts in the field of maternity care validated the DOGH for relevancy, ambiguity, simplicity and clarity, and the content validity index was 0.83.

#### 2.4.2 | Part II: Domestic Violence Questionnaire Screening Tool (WHO, 2005)

The women's experience of IPV was measured by using the Arabic version of the Domestic Violence Questionnaire Screening Tool (DVQST), which was translated and adapted to Jordanian culture by Clark, Hill, et al. (2009). The questionnaire measures four types of violence: control (10 items), psychological (8 items), physical (6 items) and sexual (2 items). The score for each item ranges from 1–4, where 1 = never, 2 = once, 3 = a little and 4 = too much, which were ratio measure. If the woman reports that she has experienced any of the violent acts in the DVQST, she is identified as a victim of IPV (Clark, Bloom, et al., 2009) and is coded as "1"; otherwise "0." The operational definition of IPV is "at least one act of physical or sexual violence during the 12 months before the interview" (Garcia-Moreno et al., 2006). The Cronbach's alpha for the DVQST is 0.81, which indicates that the tool is a relatively reliable measure for IPV (Garcia-Moreno et al., 2006).

#### 2.4.3 | Part III: Justification for Wife-beating, Mutual Understanding, and Verbal Fighting Scale (Clark, Hill, et al., 2009; Yoshikawa et al., 2014)

The Justification for Wife-beating, Understanding Each Other, and Verbal Fighting Scale, which was translated, back-translated and adapted to Jordanian culture by Clark, Hill, et al. (2009), comprised the third part of questionnaire for this study. The Justification for Wife-beating Scale is presented in nominal measure, in the form of the following statement: "The husband has the right to beat his wife in the following situations: she does not complete her household work to his satisfaction, she disobeys him, she refuses to have sex with him, she suspects that he has other girlfriends, he suspects that she is unfaithful, he finds out that she has been unfaithful." Hence, the scale contains six "yes/no" items. If a woman responds "yes" to any of these items, she is considered to show acceptance of wife-beating and is coded as "1"; otherwise "0." The Cronbach's alpha for

the Justification for Wife-beating is 0.75, which indicates that the tool is a relatively reliable. The Mutual Understanding Scale and the Verbal Fighting Scale are each measured by one ratio item on a five-point rating scale ranging from 1 = never–5 = always (Clark, Bloom, et al., 2009). Eight experts validated the Mutual Understanding Scale and the Verbal Fighting Scale, and the CVI was 0.84 for each one.

## 2.5 | Data collection procedure

After gaining approval from the Institutional Review Board (IRB) of the University and obtaining permission from Ministry of Health to access the participants, the data were collected by four trained research assistants from the Postnatal Department at the selected hospital by face-to-face recruitment. Prior to their involvement, in order to prevent experimenter bias, the research assistants were fully trained on how to collect the data. The research assistants identified potential participants according to the inclusion criteria and invited them to participate in the study. They fully disclosed the purpose of the study and explained the rights of the participants. Each participant took approximately 30 min to fill in the questionnaire. The participants filled in the questionnaire alone in a private place in order to give them the opportunity to be as truthful as possible and to prevent the presence of social desirability bias in the responses. Each questionnaire was assigned a number to protect the confidentiality of the women involved. The response rate was 90%.

## 2.6 | Data analysis

The Statistical Package for the Social Sciences version 22 was used to analyse the data. Descriptive statistics (mean and frequency) were used to describe the characteristics of the participants and the types of IPV experienced. A paired-samples *t* test was used to compare IPV levels before and during pregnancy. Multiple linear regression was used to identify the predictors of physical IPV. The significance level was set at  $p < .05$ .

Prior to the main analysis, some preliminary analyses were performed, the results of which showed that there were no violations of the assumptions for the statistical tests (Pallant, 2005). Firstly, the data did not violate the multicollinearity assumption because the independent variables were correlated with the dependent variable (where *r* ranged from  $-0.15$  to  $0.36$ ) and the correlations between the independent variables ranged from  $0.01$ – $0.64$  (less than  $0.7$ ), see Table 4. Also, the collinearity diagnoses showed that the tolerance ranged from  $0.54$ – $0.96$  ( $<0.1$ ), while the variance inflation factor ranged from  $1.04$ – $1.94$  (less than  $10$ ). Secondly, the normality, linearity, outlier, homoscedasticity and independence of residual assumptions were not violated. The normal probability plot was in a reasonably straight diagonal line from bottom left to top right, which indicated that there were no major deviations from normality. A total of three outliers were found (the

standardized residual was  $<3.3$  in the scatter plot, and the three outlier values were above the critical value of  $24.32$  in terms of the Mahalanobis distance). This finding was judged acceptable because Pallant (2005) states that it may not be necessary to take any action if only a few cases are found. Finally, the maximum value for Cook's Distance was  $0.213$ , which suggested that there was no problem because the value was below  $1$ . Lastly, missing data items were deleted pairwise. The total sample size for the study was  $247$ .

## 2.7 | Ethical considerations

The IRB of the University approved the study protocol (#2/2013/2014). All women signed an anonymous consent form after they had been assured that their data would be confidential and that only the researchers would access the data for study purposes. The women were also assured that their participation was voluntary, that they had the right to withdraw from the study at any time, that they could refuse to answer any question and that doing so would not affect their care. The women who agreed to participate did so because they understood that their participation would help other women in similar situations.

# 3 | FINDINGS

## 3.1 | Characteristics of the participants

A total of  $247$  women participated in this study. The women were aged  $16$ – $44$  years ( $M = 27.3$ ,  $SD = 5.9$ ), and  $65.2\%$  of them were  $\leq 29$  years old. All of the women were married (mean years of marriage =  $6.3$  years,  $SD = 5.0$ ) and living with their husbands. Most of the women were educated to high school level and above ( $61.6\%$ ,  $n = 152$ ). Only  $7.3\%$  ( $n = 18$ ) of the women were employed; the majority ( $92.75\%$ ,  $n = 229$ ) were housewives. The mean household monthly income was  $340.2$  Jordanian dinars ( $479.84$  US dollars). Almost all ( $99.6\%$ ,  $n = 246$ ) of the women were living in the city. Over one third ( $39.6\%$ ,  $n = 98$ ) were living in an extended family, and  $38.9\%$  ( $n = 96$ ) were had a family connection to their husband. The majority ( $93.9\%$ ,  $n = 232$ ) were living in a monogamous relationship (mean number of wives =  $1.0$ ,  $SD = 0.2$ ). Eleven ( $4.5\%$ ) women had been married before. As regards the characteristics of the women's husbands, their mean age ranged from  $19$ – $60$  years ( $M = 34.4$ ,  $SD = 7.0$ ),  $91.9\%$  ( $n = 227$ ) were employed, and  $58.3\%$  ( $n = 144$ ) were educated to high school level or above. For more details, see Table 1.

Among the women, gravida ranged from  $1$ – $12$  pregnancies ( $M = 3.1$ ,  $SD = 2.0$ ) and the mean number of live children was  $2.8$  ( $SD = 1.7$ ). Just over one fifth ( $21.5\%$ ,  $n = 53$ ) of the women had a history of abortion,  $3.2\%$  ( $n = 8$ ) had diabetes mellitus,  $7.7\%$  ( $n = 19$ ) had hypertension,  $0.4\%$  ( $n = 1$ ) had a heart problem, and  $8.1\%$  ( $n = 20$ ) had amniotic membrane problems during pregnancy. Three women

TABLE 1 Demographic information

		n	%
Education level	Illiterate	12	4.9
	Primary	11	4.5
	Elementary	72	29.1
	Secondary	98	39.7
	Higher education	54	21.9
Employment status	No	229	92.7
	Yes	18	7.3
Place of residence	Village	1	0.4
	City	246	99.6
Type of family	With husband and kids	148	59.9
	At the same house of parents in law	46	18.6
	At the same building with parents in law	51	20.6
	At the same house of your parents	1	0.4
	Others	1	0.4
Relative to husband	No	151	61.1
	Yes, first degree	55	22.3
	Yes second degree	20	8.1
	Yes, third degree	21	8.5
Type of marriage	Monogamous relationship	232	93.9
	Polygamous relationship	15	6.1
Married before	No	11	4.5
	Yes	236	95.5
Husband employed	No	20	8.1
	Yes	227	91.9
Husband education	Illiterate	15	6.1
	Primary	29	11.7
	Elementary	59	23.9
	Secondary	69	27.9
	Higher education	75	30.4
Health problems	Dm during pregnancy	8	3.2
	HTN during pregnancy	19	7.7
	Heart problem	1	0.4
	Problem with the membranes or amniotic fluid	20	8.1

(1.2%) did not visit a doctor at all during pregnancy, and nine women attended fewer than four antenatal visits. The mean number of antenatal visits was 9.5 ( $SD = 3.7$ ). The mean haemoglobin level was 10.9 ( $SD = 1.0$ ).

### 3.2 | Types of IPV before and during pregnancy

The analysis revealed that 93.1% ( $n = 230$ ) of the women had experienced control IPV during and before their pregnancy. Paired-samples  $t$  tests were conducted to evaluate the impact of pregnancy on the occurrence of IPV according to the DVQST scores. The results showed that there were statistically significant decreases in DVQST scores during pregnancy for psychological, physical and sexual violence. The eta squared statistics indicated a large effect size for psychological IPV, moderate effect size for physical IPV and small effect size for sexual IPV. Table 2 shows the prevalence of each type of IPV before and during pregnancy and the paired sample  $t$  test data for each IPV type.

### 3.3 | Justification of wife-beating, level of mutual understanding and verbal fighting

Just over one third of the women (35.4%,  $n = 87$ ) said that their husband alone decided how the household income should be spent, while only 18.6% ( $n = 46$ ) had full independence in how to spend the money. Just under half (45.7%,  $n = 113$ ) shared spending decisions with their husbands. Forty-one per cent of the women (41.3%,  $n = 102$ ) said that good wives should obey their husbands even if they did not like what their husbands wanted them to do, while 63.6% ( $n = 246$ ) said that family problems should not be shared with others outside of the home. Also, around half of the women (50.2%,  $n = 124$ ) said that there was no need to tell others if husbands mistreated their wives. Specifically, in relation to justification of wife-beating, 70.9% ( $n = 175$ ) of the participants justified wife-beating in specific situations. As regards the level of verbal fighting, 5.7% ( $n = 14$ ) said that they usually had verbal fights, whereas 4.5% ( $n = 11$ ) stated that they never fought verbally with their husbands. Below one fifth (17.4%,  $n = 43$ ) of the women reported that they and their husbands always understood each other. For more details, see Table 3.

### 3.4 | Predictors of physical IPV during pregnancy

A standard multiple regression was performed on physical IPV as the dependent variable and women's age, women's educational level, husband's educational level, husband's employment status, number of children, verbal fighting and level of mutual understanding as independent variables. These predictors were inserted into the regression model because they were significantly correlated with the dependent variable and mentioned in the previous literature as factors that affect physical violence (Al-Badayneh, 2012; Doi et al., 2019; Shwartz et al., 2020). Table 4 displays the correlations between the variables, the unstandardized regression coefficients ( $B$ ), the standardized regression coefficients ( $\beta$ ), the semi-partial correlations ( $sr^2$ ), the  $R$ ,  $R^2$  and adjusted  $R^2$ . The  $R$  for regression was significantly different from zero:  $F(7, 239) = 12.061$ ,  $p = .000$ .

**TABLE 2** The prevalence of each type of intimate partner violence (IPV) before and during pregnancy and the paired sample *t* test result for each IPV type

		<i>n</i>	%	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	Eta squared
Psychological IPV	Before pregnancy	175	70.9	6.35	6.05	5.66	245	.000	0.16
	During pregnancy	163	66	5.76	6.11				
Physical IPV	Before pregnancy	101	40.9	1.60	2.71	4.91	246	.000	0.09
	During pregnancy	77	31.2	1.28	2.56				
Sexual IPV	Before pregnancy	34	13.8	0.28	0.76	3.30	246	.001	0.04
	During pregnancy	22	8.9	0.20	0.68				

**TABLE 3** Justification of wife-beating, understanding each other and verbal fighting

		<i>n</i>	%
Acceptable to beat wife if	Wife does not complete household work	19	7.7
	Wife disobeys	50	20.2
	Wife refuses sex	49	19.8
	Wife suspects that husband has other girlfriends	22	8.9
	Husband suspects that wife is being unfaithful	67	27.1
	Husband finds out that wife is being unfaithful	166	67.2
Understanding each other	Never	3	1.2
	Rarely	27	10.9
	Sometimes	110	44.5
	Usually	64	25.9
	Always	43	17.4
Verbal fighting	Never	11	4.5
	Rarely	62	25.1
	Sometimes	121	49
	Usually	39	15.8
	Always	14	5.7

Only five of the independent variables contributed significantly to the prediction of the physical IPV level: women's age ( $sr^2 = 0.14$ ), women's educational level ( $sr^2 = -0.16$ ), husband's educational level ( $sr^2 = -0.12$ ), verbal fighting ( $sr^2 = 0.25$ ) and level of mutual understanding ( $sr^2 = -0.16$ ). Overall, 26% (24% adjusted) of the variability in the physical IPV level was predicted by knowing the scores for these seven independent variables. The correlations between physical IPV and household income ( $r = -0.05$ ) and between physical IPV and justification of wife-beating ( $r = 0.07$ ) were both weak, and they did not contribute significantly to the regression. Furthermore, husband's age was strongly correlated with women's age ( $r = 0.76$ ). Therefore, these three variables (household income,

justification of wife-beating, and husband's age) were omitted from the regression.

## 4 | DISCUSSION

We found that the women who participated in our study experienced different types of IPV while pregnant, and that all types of IPV decreased during pregnancy. We also found that women's age and verbal fighting were independent positive predictors for physical IPV, while women's educational level, husband's educational level and level of mutual understanding were independent negative predictors for physical IPV.

The results revealed that the Jordanian women in our study experienced a considerable amount of the four different types of IPV while they were pregnant: 93.1% control, 66.0% psychological, 31.2% physical and 8.9% sexual. This finding implies that there may be high rates of undiagnosed IPV among Jordanian pregnant women and that healthcare providers are not screening for and recognizing the covert forms of IPV (i.e. controlling behaviours and psychological abuse). This also means that although many of the women were being mistreated while pregnant, they were not able to receive the proper professional support. While it should be noted that this result could be influenced by sampling bias, and thus generalization of the findings to the wider population is limited, the result is nevertheless similar to that published in a systematic review of Africa-based studies, which found prevalence rates of 23%–40% for physical, 3%–27% for sexual and 25%–49% for emotional IPV during pregnancy (Shamu et al., 2011).

However, studies conducted in Western countries have reported lower rates of IPV during pregnancy. For example, in Van Parys et al. (2014), women during pregnancy experienced lower IPV levels (2.4% physical, 1.1% sexual and 12.8% psychological), as compared to the participants in our study. On the other hand, a study conducted in Portugal reported lower physical (21.9%) and psychological (43.2%) IPV, but higher sexual violence (19.6%) (Almeida et al., 2017), as compared to the findings of our study.

Our results are also somewhat different from those reported in another Jordan-based study by Damra and Abujilban (2018), who found that 25.9%, 13.1%, 83.2% and 65.1% of the female participants were exposed to physical, sexual, control and psychological



TABLE 4 Standard multiple regression of women's age, women's educational level, husbands' educational level, husbands' employment status, number of children, verbal fighting and understanding each other on physical IPV

Variable	Physical IPV (DV)	Women's age	Women's educational level	Husbands' educational level	Husbands' employment status	Number of children	Verbal fighting	B	$\beta$	$sr^2$ (unique)
Women's age	0.19**							0.09*	0.19*	0.14
Women's educational level	-0.21**	0.09						-0.12**	-0.18**	-0.16
Husbands' educational level	-0.19**	0.07	0.41**					-0.28*	-0.13*	-0.12
Husbands' employment status	-0.15**	-0.07	0.09	0.11*				-0.9	-0.1	-0.1
Number of children	0.16**	0.64**	-0.15**	-0.12*	-0.08			-0.11	-0.07	-0.05
Verbal fighting	0.36**	0.12	0.06	0.01	0.12	0.12*		0.79**	0.28**	0.25
Understanding each other	-0.35**	-0.16**	0.07	0.02	0.12*	-0.12*	-0.43**	-0.48**	0.18**	-0.16

Note:  $R = 0.51^{**}$ .

$R^2 = 0.26^{**}$ .

Adjusted  $R^2 = 0.24^{**}$ .

\* $p < .05$ .

\*\* $p < .01$ .

violence respectively. This difference in findings could be because the sample investigated by Damra and Abujilban (2018) consisted of both pregnant and non-pregnant women. This is a reminder that caution is needed when interpreting and comparing the results of different studies, particularly when the differences in methodologies employed and the challenges faced by studies are substantial.

In our study, we also found that all types of IPV decreased during pregnancy in comparison with IPV before pregnancy. This result is in line with previous studies (Bagcioglu et al., 2014; Van Parys et al., 2014) in which it was found that violence against women significantly decreased during pregnancy. One possible explanation for the decrease in IPV is that husbands intentionally use less violent behaviours against their wives to protect the unborn baby and that the women try to avoid an explosion of violence by using better tactics to avoid confrontation because they feel more vulnerable (Van Parys et al., 2014). For the participants in our study, pregnancy seems to have been a protective period (pause) from the violence. This pause can be used to help abused women have a non-violent lifestyle (Silva et al., 2011). This period could be used in different ways. Firstly, it could be used to provide pregnant abused women with sufficient information, coping skills, support and counselling to help them to take direct steps against the violence they experience. Secondly, family counsellors and gynaecologists could use this period to provide protection for women by meeting and engaging with abusive husbands and discussing with them the significance of decreasing the levels of violence perpetrated during pregnancy and ending their violent behaviours towards their wives after their child is born.

As regards the predictors for physical IPV, we found that women's age and verbal fighting were independent positive predictors and that women's educational level, husband's educational level and level of mutual understanding were independent negative predictors for physical IPV. Also, despite the bivariate correlation between physical IPV and the number of children and the employment status of the husband being statistically different from zero ( $r = 0.16$  and  $r = -0.15$  respectively), these two variables did not contribute significantly to the regression. Seemingly, the relationship between physical IPV and these two variables is mediated by the relationship between physical IPV and the following independent variables: women's age, verbal fighting, women's educational level, husband's educational level and level of mutual understanding.

Our finding that women's age was a positive predictor for physical IPV indicated that the older women experienced higher rates of IPV than the younger women. This finding contradicts the result reported by Doi et al. (2019), who found that being of younger age increases the risk of a woman experiencing IPV. As regards our finding that verbal fighting was a positive predictor of physical IPV, this indicates that the more the verbal fighting, the more the experience of physical IPV. Our finding is similar to that reported by a study conducted in China in which it was found that quarrelling between husband and wife is a strong risk factor for IPV (Tu & Lou, 2017). Therefore, it seems reasonable to suggest that teaching men and women the tactics of conflict resolution, coping skills

and communication skills would decrease the level of IPV experienced during pregnancy and would consequently also improve birth outcomes.

On the other hand, we found that women's educational level was a negative predictor for physical IPV. This means that the higher the educational achievement of the women, the lower their experience of physical IPV. Therefore, it would seem to follow that empowering women through education could play an important role in preventing physical IPV. Furthermore, our findings can be explained through shining a light on the relationship between child marriage, education and IPV. Culturally, in Jordan, child marriage for girls is common. According to the last Higher Population Council, UNICEF, University of Edinburgh, and Analyseize (2019) report, around 13.4% of marriages in Jordan were among girls below 16 years old who did not finish their basic or secondary education. Hence, our results in reference to the relationship between women's educational level and their experience of IPV are consistent with that report, which states that the girls who report being in a child marriage more frequently report the severe forms of physical IPV (29.9%), as compared to those in marriages initiated in adulthood (20.5%) (Higher Population Council et al., 2019).

Intimate partner violence is both a risk factor and a consequence of child marriage. In order to break the cycle of violence within the community, we need to focus on family support and on addressing the root causes of the problem (e.g. child marriage, dropping out of school). The drivers of child marriage can be mapped against several social and behavioural change frameworks. However, in order to address the root causes of child marriage, an inter-sectoral approach is crucial and should involve child protection, youth, social development, justice and health services. Also, all sectors must actively engage in addressing the root causes of IPV.

Our finding on the predictive relationship between women's educational attainment is similar to that in most of the previous studies that reported that educated women experience a lower rate of IPV (Abdollahi et al., 2015; DOS & ICF, 2019; Van Parys et al., 2014). Moreover, our study's results also highlight the importance of men's education in reducing their violent behaviours. We found that husband's educational level was a negative predictor for physical IPV, which means that the higher the educational level of the husband the lower the physical IPV. This result is similar to those of previous studies that found that IPV decreases as the husband's educational level increases (DOS & ICF, 2019; Rapp et al., 2012).

We also found that level of mutual understanding was an independent negative predictor for physical IPV. This finding indicates that when couples have a better understanding of each other, the woman experiences a lower level of physical IPV during pregnancy. We can understand the relationship between physical IPV and verbal fighting and not having a mutual understanding through Cycles of Violence Theory (Walker, 1979). This theory clarifies that violence starts with a tension-building phase, which is represented by verbal fighting and not understanding each other. This tension is followed by an explosion, which manifests as physical IPV (Katerndahl

et al., 2010). This cycle indicates that couple counselling is important in reducing the level of verbal fighting and increasing the level of mutual understanding that exists.

## 4.1 | Implications

Knowledge of the predictors of IPV and its prevalence during and before pregnancy is of vital importance for policymakers, for research and for practice. Firstly, policymakers should make marriage counselling free and available for all couples in every governorate in Jordan. Secondly, policymakers should develop and implement plans for training healthcare providers on how to identify and screen for IPV among all pregnant women. Further, plans for tackling IPV should be shared between the government and the community (Bright et al., 2018) because the adoption of a community approach that builds resources within the community could empower women to stop the cycle of violence. Moreover, community members could deter men from engaging in violent behaviour in the first place. Thirdly, more research is needed to understand the factors that contribute to the reduction in IPV during pregnancy among Jordanian women. Also, further research is needed to clarify the potential factors that protect pregnant women from IPV. Lastly, from the point of view of practice, nurses and midwives should focus their attention on less-educated women and encourage them to disclose IPV and to ask for professional help. Further, nurses need to develop effective strategies to prevent IPV according to women's needs. Nurses should do IPV screening for all pregnant women. They also need to put a clear interventional plan into action when they detect IPV.

## 4.2 | Limitations

This study has some limitations. Firstly, the data were collected based on the women's recall of their experiences of IPV, which could have led to recall bias as women were asked to report their experiences retrospectively (i.e. before pregnancy). Some women might have/ have not experienced violent behaviour from their husbands but could not remember it. This could affect the generalizability of the findings. Secondly, our sample was not representative of ever-married women in Jordan, so the findings can only be generalized to the participants in this study. When we compared the characteristics of the study sample with those in the Jordan Population and Family Health Survey (JPFHS) (DOS & ICF, 2019) sample, we found that our sample was not representative of the general population of women in Jordan because 65.2% of our participants were  $\leq 29$  years old, while only 30% of ever-married women in the JPFHS were  $\leq 29$  years old. Furthermore, 61.6% of our participants and 58.3% of our participants' husbands were educated to secondary school level or above, whereas 53% of ever-married women and 45% of men in the JPFHS had completed secondary schooling or higher. Also, in our study, only 7.3% of the women and 91.9% of their husbands were employed, whereas in the JPFHS 14% of the women and 55% of the husbands



were employed. These differences could be related to the fact that convenience sampling was used to select the participants for our study. Lastly, IPV is considered a taboo and a personal issue within Jordanian culture, which might have resulted in the non-disclosure or partial disclosure of experiences of IPV, that is the presence of social desirability bias.

## 5 | CONCLUSION

Although women in Jordan experience less IPV during pregnancy, they still experience a substantial amount of different types of IPV. Also, women in relationships where there is a high level of verbal fighting are more likely to experience physical IPV both before and during pregnancy. Therefore, policymakers should make marital counselling available to all pregnant women. Also, governmental and non-governmental institutions could empower women by providing free formal education.

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## CONFLICT OF INTEREST

Sanaa Abujilban, Lina Mrayan and Jalal. K. Damra have nothing to disclose.

## AUTHOR CONTRIBUTIONS

Sanaa Abujilban designed the study and wrote the manuscript. Lina Mrayan involved in study designing and manuscript writing. Jalal Damra involved in results interpretation and manuscript writing. All authors read and agreed on the final version of the manuscript.

## DATA AVAILABILITY STATEMENT

Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data are not available.

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