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Research Article

Physical Intimate Partner Violence and Maternal Outcomes in a Hospital-Based Sample of Pregnant Women in Jordan

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Abstract

AIM: The purpose of this study was to examine the effect of physical intimate partner violence on maternal pregnancy/ birth outcomes.
METHODS: A cross-sectional, descriptive, comparative design was used. Consecutively, 223 birthing women were chosen. Data was collected in 2014 using the Arabic World Health Organization's Domestic Violence Questionnaire.
RESULTS: Results showed that women who had experienced physical violence during pregnancy had a significantly higher risk of pregnancy-induced hypertension, cesarean section, more pain killer use during birth, and excessive use of postnatal medication.
CONCLUSION: Jordanian health policy makers should find a strategy to eliminate intimate partner violence and reduce its negative impact on women. The inclusion of intimate partner violence screening and identification for every pregnant woman is vital. Sufferers should receive a better-focused care in order for early detection and treatment of complications that are related to intimate partner violence.
Keywords: Jordan, pregnancy, physical intimate partner violence, pregnancy outcome

Introduction

Intimate partner violence (IPV) in Jordan –socially – can be considered as a normal daily interaction inside some of the Jordanian families especially for those in urban areas. The situation becomes worst in light of traditional gender gap and inequity. The Jordanian sufferers of IPV have low opportunity to approach specialized medical, psychological, and legal care services, compared to those who do not suffer from IPV, which exposed them to risks that increase their health and psychological problems (Damra et al., 2015). In Jordan, disempowerment of women limits their ability to decide when to become pregnant. For example, it is known that having babies is an issue related to men's preferences and attitudes (McCleary-Sills, 2013).

Previous studies have found diverse proportions of different types of IPV during pregnancy around the world (Garcia-Moreno et al., 2012). These proportions fluctuated from 2.0% in Australia, Denmark, Cambodia, and the Philippines to 13.5% in Uganda (Devries et al., 2010). In Jordan, researchers found that 15% of Jordanian women reported physical violence while they were pregnant (Clark et al., 2009). Another two Jordanian studies have reported that physical IPV during pregnancy were 34.7% (Okour & Badarneh, 2011) and 10.4% (Oweis et al., 2010). Sufferers of physical IPV were in lower level of education (illiterate, primary, or secondary level education), in low-income households (Abdollahi et al., 2015), and single or divorced (Van Parys et al., 2014).

Intimate partner violence during pregnancy has negative, multifaceted, and largely preventable outcomes for the mother and her baby. Researchers reported that babies of women who suffered from IPV during pregnancy were more likely to be small for their gestational age, have less weight at birth (Abdollahi et al., 2015), perinatal mortality and neonatal mortality (Pool et al., 2014), respiratory problems, neonatal hospitalization and post-neonatal hospitalization (Pavey et al., 2014), stillbirth (Han & Stewart, 2014), premature, and have neonatal complications (Han & Stewart, 2014). Meanwhile, women suffered from IPV were more likely to have premature rupture of membranes (Abdollahi et al., 2015), miscarriage (Okenwa et al., 2011), postpartum depression (Islam et al., 2017), emergency cesarean section (CS) (Schei et al., 2014), less family planning use, unplanned pregnancy, less than four antenatal visits (Meiksin et al., 2015), preterm labor, antenatal hospitalization, vaginal bleeding (Hassan et al., 2014), inadequate weight gain (Alhusen et al., 2015), hypertension, pre-eclampsia (Han & Stewart, 2014), self-harming behaviors (Tiwari et al., 2008), unexplained physical pain (Yoshihama et al., 2009), and an

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abortion (Okenwa et al., 2010). Such consequences were related to the relationship between IPV and the increasing levels of maternal stress (Talley et al., 2006), maternal cortisol (Han & Stewart, 2014), and depression during pregnancy (Efetie & Salami, 2007). We can evaluate the level of maternal physical and psychological health during pregnancy through knowing the maternal pregnancy/birth outcomes. Data on maternal pregnancy/birth outcomes are vital for the development of the antenatal healthcare plans. Knowing the outcomes also has implications for ongoing health practice (Wadhera & Millar, 1996). Considerable attention paid specifically to IPV during pregnancy could result in a better pregnancy/birth outcome for women (Efetie & Salami, 2007).

The majority of the studies recommended early IPV screening for all pregnant women during antenatal visits in order to identify, plan, and intervene in enough time to prevent the negative consequences of IPV. Moreover, they stressed the importance of a disclosure and screening policy while caring for pregnant women in order to educate, refer, and help them (Han & Stewart, 2014; Sarkar, 2008). In Jordan, findings of Damra et al. (2015) revealed that lack of screening for IPV in the maternity clinics in Jordanian hospitals and health centers is due to lack of privacy, continuity of care, time constraints, and low healthcare workers' capacities to work with IPV cases. This contradiction between medical care and psychological ones at maternity clinics could increase IPV sufferers' suffering.

Sufferers of violence are in an exceptional situation during pregnancy, as not only they but also their babies are sufferers of violence. Knowing the risk of physical violence on maternal outcomes in Jordan could have important clinical and public health implications. Data on violence during pregnancy and its effects on maternal outcomes are crucial information for Jordanian policy makers to understand the situation and plan the appropriate interventions and intervene early to prevent the negative effects of IPV (Nojomi & Akrami, 2006).

Intimate partner violence screening is still not a part of the Jordanian routine antenatal care. This means sufferers of IPV were unknown, and also, their health problems as a result of violence were still unknown. In the current study, we aimed to answer the following questions: What is the potential prevalence of physical IPV during pregnancy? What are the effects of physical IPV on maternal pregnancy/birth outcomes? This research tested the hypothesis that undergoing IPV increases the risk of suffering from maternal problems during their pregnancy and birth.

In Jordan, some studies about IPV were located. The first one found that violence during pregnancy has been noted to be more prevalent among urban women; those who have had more than four pregnancies; had more than two female children; and were in burden to have a male child (Okour & Badarneh, 2011). The second study found that there was a significant association between the IPV during pregnancy and unplanned pregnancy, the woman's perception of her husband's violent attributes, and the woman's low self-esteem (Oweis et al., 2010). The third study's researchers noted that the risk of IPV in Jordan was increased by verbal fighting, the alcohol use by the husbands, not obey the husband, woman's occasional communication with her family, and the woman's experience of violence during childhood (Clark et al., 2009).

Unfortunately, there were no Jordanian studies concerned with the effect of IPV on maternal pregnancy/birth outcomes. Effects of IPV could be different in Jordan as there are various social, environmental, and cultural variations between Jordan and Western countries (AbuAbed, 2016).

For that reason, the primary goal of this study was to examine the effect of physical IPV during pregnancy on maternal pregnancy/birth outcomes and to compare the outcomes for sufferers and non-sufferers of physical violence among Jordanian birthing women.

Research Questions

In the current study, we aimed to answer the following questions:

1. What is the potential prevalence of physical IPV during pregnancy?
2. What are the effects of physical IPV on maternal pregnancy/birth outcomes?

Method

Study Design

A cross-sectional, descriptive, comparative design was utilized for this study because of the non-manipulative nature of the independent variable (i.e., IPV).

Sample

The target population was all birthing women in Jordan, while the accessible population was birthing women in the postnatal unit within the selected governmental hospital. The inclusion criteria were married women (it is not allowed to get pregnant without legal or formal marriage) with singleton pregnancy, from different reproductive age groups, who were living with their husbands during the current pregnancy, and did not have any chronic illnesses. Mentally ill women were excluded as they cannot make a truly informed decision about voluntary participation. Women with chronic medical illnesses before pregnancy and who have twin pregnancy were excluded as their conditions might affect their birth outcomes. Data was collected from September to December 2014.

Based on power analysis with an α value of .05 and a power of .80, the sample size had to be at least 63 participants in both study groups (sufferers and non-sufferers) (Polit & Beck, 2011). A consecutive sampling was used for choosing the pregnant women in order to improve population representativeness of the sample. The sample size was 223 birthing women as considered adequate sample based on the power analysis.

Setting

Data were collected from the postnatal unit in a large, educational, governmental hospital. This hospital was randomly selected from a list of the higher birth rate hospitals in Jordan (more than 6000 births annually) (MOH, 2011). Women were

accessed after obtaining permission from the Ministry of Health (MOH) and the hospital administration.

Data Collection Tools

A three-part study questionnaire were completed during a face-to-face structured interview:

Part I Demographical, Obstetrical, and Gynecological History

Demographical, Obstetrical, and Gynecological History (DOGH) was used as a validated tool to collect the targeted demographical, obstetrical, and gynecological data. The DOGH contains 34 items and were validated in Clark et al.'s study (2009) (used by permission). These items were identified by analyzing the literature of IPV during pregnancy. Then, they were translated into Arabic and back-translated to English (Clark et al., 2009). The DOGH contains the following continuous variables: age, woman's personal income, household income, gravity, parity, number of children, number of antenatal visits, number of miscarriages, weight, height, gestational age, length of the first and second stage of labor, and length of hospital stay and the following categorical variables: woman and her husband's educational level, woman and her husband's employment status, relative to husband, women's health history, pregnancy planning, history of miscarriages, health problems during pregnancy, type of birth, labor induction, presence of episiotomy, labor complications, and pain medication use. Demographical, Obstetrical, and Gynecological History was evaluated for clarity, simplicity, relevancy, and ambiguity, and the content validity index was .83.

Part II Domestic Violence Questionnaire Screening Tool

The IPV experience was assessed by the Arabic World Health Organization's (WHO's) Domestic Violence Questionnaire Screening Tool (DVQST) (WHO, 2005) which was translated and adapted to Jordanian culture by Clark et al. (2009). This accredited tool was developed by the WHO (2005) to measure IPV in different cultures. Clark et al. (2009) modified the questionnaire after the focus group discussions, which were done in Jordan. Then, the questionnaire was translated into Arabic and back-translated into English. A through numerous revisions for the Arabic version were followed. The questionnaire contains 26 items and includes 4 different types of violence: control and humiliation (10 items), psychological violence (8 items), physical (6 items), and sexual violence (2 items). Only the physical violence data were used in this study. If the woman had experienced any of the events described within the tool categories, the items of the tool were considered a valid representation of her experience (Clark et al., 2009). Intimate partner violence was defined operationally according to the WHO operational definition (Garcia-Moreno et al., 2006). This definition includes physical and sexual violence while, for the purpose of this study, only physical violence was included. The Cronbach α was .81, indicating a relatively reliable measure for physical violence (Garcia-Moreno et al., 2006).

Part III Women's Pregnancy/Birth Outcomes Questionnaire

It is a self-developed questionnaire based on a literature review (Hammoury et al., 2009; Silverman & Loudon, 2010; Urquia et al., 2011). This questionnaire covered most of the reported maternal pregnancy/birth outcomes reported in the literature. Before administration of the questionnaire, a rigorous review and validation by experts in the area of the study was underwent. Also, the instrument was subjected to several reviews by six academic members in the reproductive healthcare field and some modifications were made according to their comments and suggestions. This questionnaire contains 21 questions; 6 *Yes/No* questions were concerned with health during pregnancy. The health during pregnancy questions include questions about gestational diabetes, pregnancy-induced hypertension, acute heart problems, amniotic fluid problems, preterm labor, and preterm rupture of membranes. Fifteen questions were concerned with the birth outcomes and were completed by the data collectors and collected from the participants' files.

Data Collection

Four qualified research assistants collected the data. They were trained by the first author on how to interview, identify, recruit, and collect data from pregnant women. Data collectors visited the postnatal department in the selected governmental hospital in the morning shift and identified the potential participants based on the inclusion criteria. Women were asked to participate in face-to-face recruitment strategy. Women were motivated to participate by understanding that their participation will help other women in their situation, while no other incentives were given. Following this, each participant was given the time to take an independent decision about signing the informed consent. The data were kept mysterious by asking women not to write their names on the form. Then women were given the tools with the DVQST in order to classify the women as IPV sufferers or non-sufferers. Each questionnaire took around half an hour to complete and the data collector ensured that the questionnaire was completed and assigned a number for it. Then, information about the birth outcome was taken from the participants' files.

Statistical Analysis

The authors finalized the statistics using the Statistical Package for Social Sciences version 17 (SPSS Inc., Chicago, IL, USA). Participants' characteristics were analyzed by descriptive statistics (means and frequencies). Physical violence scores were dichotomized as [0] when the total IPV score was zero (non-sufferers) and [1] when the total IPV score was greater than zero (sufferers). Effects of physical IPV on categorical pregnancy/birth outcome variables were analyzed by logistic regression. Continuous outcome variables were compared between sufferers and non-sufferers of physical IPV by independent sample *t*-test. The significance level was set as $< .05$. Data were examined for their appropriateness for statistical analyses and no violations for the assumptions were found (Pallant, 2005). Questionnaires with missing and auto-answered data were pair-wisely deleted. The total sample size for the study was 223.

Ethical Considerations

The Hashemite University's institutional review board (date: 24th Nov 2013, approval no #2/2013/2014) approved the study. All participating women signed an informed consent after they were fully disclosed about the study. All women signed an anonymous consent form after they had been assured that their data would be confidential. Furthermore, they had been assured

that no one can access their data except the research team and that their data would be used only for study purposes and publications in scientific research. Women participated voluntarily in the study and they were assured that they had the right to withdraw from the study at any time and to refuse to answer any question without the need for explanation. Confidentiality of the data was assured throughout the study process, from the data collection to the analysis. Each woman was assigned an identification number instead of her name. All the data will be deleted at the end of the study.

Results

The whole sample was 223 birthing women. The women's mean age was 27 (SD = 5.7), where 63.7% of them were ≤ 29 years old. Around one quarter (n = 52, 23%) of them had a higher education, where 63.2% of them were educated to secondary school level or above. A few women were working (n = 16, 7.2%) and earned between 150 JD (US$167) and 600 JD (US$845.37) monthly (mean = 317 (US$446.73), SD = 153). Most of their husbands (91.9%) were employed. The total household income mean was 343.7 JD (US$484.36) (SD = 181). Most of the women (n = 140, 62.8%) were not a relative of their husbands. Three women (1.3%) were primiparous and the rest (n = 220, 98.7%) were multiparous. The number of children ranged between one and nine (M = 2.6, SD = 1.7). Around a third (n = 69, 30.9%) of the husbands were educated at a higher level, whereas 58.7% of them were educated to secondary school level or above.

None of the women had any chronic diseases before pregnancy. Around one-third (n = 76, 34.1%) did not plan for the current pregnancy. Most of the women (n = 211, 95%) had more than four antenatal visits, with a mean of 9.5 (SD = 3.8). Forty-four women (19.7%) had experienced abortions before, and these ranged between one and four abortions. During the current pregnancy, 1.8% (n = 4) women developed diabetes mellitus, 5.8% (n = 13) developed pregnancy-induced hypertension, 0.4% (n = 1) developed heart problems, 8.5% (n = 19) had prematurely ruptured membranes. Furthermore, their weight increased by around 11 kg (SD = 5.5) during pregnancy. In relation to the birth outcomes, 11.3% (n = 25) of the women experienced preterm birth. Eighty-eight percent (n = 196) had vaginal birth, and 11.7% (n = 26) had CS. Eighty women (40.4%) who gave birth vaginally had induced labor, 118 (59.6%) had spontaneous labor, 119 (55.1%) experienced an episiotomy, and 22 (10.4%) experienced laceration. Furthermore, they spent around 7 hours (SD = 4) in the first stage and 25.5 minutes (SD = 17.3) in the second stage. Five percent (n = 11) of all women experienced a postpartum hemorrhage and 23.9% (n = 53) of them received pain medication. After giving birth, they stayed at the hospital between 3 and 96 hours (mean = 18.7, SD = 13.8).

Effects of Physical Intimate Partner Violence on Maternal Pregnancy/Birth Outcomes

In the current study, the prevalence of physical IPV was 30% (n = 67). Logistic regression tests were run to examine the effect of physical violence during pregnancy on pregnancy and birth outcomes. On one hand, comparing to those women indicated no physical violence incidents, women who suffered from physical violence were 4.1 times more likely to have pregnancy-induced hypertension (PIH) (OR = 4.1, 95% CI 1.3–13, p = .02), 3.2 times more likely to have CS (OR = 3.2, 95% CI 1.4–7.2, p = .01), 3 times more likely to use pain killer during birth (OR = 3, 95% CI 1.6–5.7, p = .001), and 3.6 times more likely to use postnatal medication (OR = 3.6, 95% CI 1.8–7.1, p = .000). On the other hand, there were no significant associations between violence and other pregnancy/birth outcomes (unplanned pregnancy, inadequate antenatal visits (less than four), abortions, premature rupture of membranes, preterm birth, induction of labor, episiotomy, laceration, or postpartum hemorrhage). See Table 1 for more details. Heart problems and diabetes mellitus (DM) statistical tests could not be run as the four DM women and the heart problem women were non-sufferers. It was worth noting here that, further analysis of the data by using chi-square test showed that there was no significant association between CS and hypertension as 5.6% (n = 11) of the vaginal birth cases were having hypertension and 7.7% of the CS cases were having hypertension.

Independent samples t-tests were conducted to compare the first stage of labor in hours, the second stage of labor in minutes, the length of hospital stay in hours, and weight gain in kilograms during pregnancy for sufferers of physical violence and non-sufferers. There was a significant difference in postnatal hospital stay for sufferers (M = 22.5 hours, SD = 19) and non-sufferers (M = 17, SD = 10.4, t = –2.2, p = .03). Further analysis of the data showed that CS women stayed in the hospital significantly longer (mean = 37.2, SD = 22.8) than vaginal-birth women (mean = 16.2, SD = 9.8). Consequently, analysis of the length of hospital stay was repeated by removing the CS women from the data. Findings showed that there was no significant difference in hospital stay length between sufferers (n = 53, M = 17.8, SD = 13.9) and non-sufferers (n = 142, M = 15.6, SD = 7.6, p = .2). Other outcomes were not significant (Table 2).

Discussion

Physical IPV was common (the prevalence was 30%) in Jordan. The evidence of the study shows that IPV sufferers were at a higher risk for PIH, CS, pain killers' use during birth, and postnatal medication use. However, it should be noted that our study was carried out in a single center and findings could be affected by sampling bias, which limited the generalizability of the findings to the wider population.

When we compared the characteristics of Jordan Population and Family Health Survey's (JPFHS) Department of Statistics & International Classification of Functioning (DOS & ICF, 2019) sample with our sample, we found that 63.7% of our participants were ≤ 29 years old, while only 30% of ever-married women in the JPFHS were ≤ 29 years old. Also, in this study, only 7.2% 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. Furthermore, 63.2% of participants and 58.7% of participants' husbands were educated to secondary school level or above, whereas 53% of ever-married women and 45% of their husbands in the JPFHS had completed secondary schooling or higher. These differences could be related to the fact that non-randomized sampling was used

Table 1.
Logistic Regression Results. Risks of Physical IPV on Maternal Pregnancy/Birth Outcomes

		Physical Violence (*n* = 67)		No Physical Violence (*n* = 156)					CI		
Item	**Outcome**	***n***	**%**	***n***	**%**	***B***	**S.E.**	**OR**	**Lower**	**Upper**	***p***
1	Unplanned pregnancy	19	28	57	36.5	-.38	.32	.69	.37	1.28	.24
2	Less than four antenatal visits	5	7.6	6	3.9	.71	.62	2	.6	6.9	.26
3	Abortion	15	22.4	29	18.6	.23	.36	1.3	.63	2.6	.51
5	PIH*	8	11.9	5	3.2	1.4	.59	4.1	1.3	13	.02*
	Rupture of membranes	8	11.9	11	7.1	.58	.49	1.8	.7	4.7	.24
7	Preterm birth	8	11.9	17	11	.1	.56	1.1	.45	2.7	.8
8	CS*	14	20.9	12	7.7	1.2	.43	3.2	1.4	7.2	.01*
9	Induction of labor	24	44.4	56	38.9	.23	.32	1.3	.67	2.4	.48
10	Episiotomy	34	54.8	85	55.2	–.01	.3	.97	.55	1.8	.96
11	Laceration	8	13.3	14	9.2	.41	.47	1.5	.6	3.8	.38
12	PPH	3	4.5	8	5.2	–.15	.7	.87	.22	3.4	.83
13	Pain medication use*	26	38.8	27	17.4	1.1	.33	3	1.6	5.7	.001*
14	Postnatal medication*	23	34.3	20	12.8	1.3	.35	3.6	1.8	7.1	.000*

**p* value is less than .05, i.e. significant result.
Note. PIH = pregnancy induced hypertension; CS = caesarian section; PPH = post-partum hemorrhage; OR = odds ratio; CI = confidence interval; *B* = unstandardized regression weight; SE = standard error; IPV = intimate partner violence.

to select the participants for this study. For that, the sample was not representative of the general population of women in Jordan.

Around one-third (30%) of women were suffering from physical IPV during their pregnancy, which is considered a high rate of IPV in comparison to developed countries (5% in Europe and 7% in the Americas) (WHO, 2021). Jordan is part of the Arab world where women are suffering from substantial levels of physical IPV (ranging from 6% to 59%) (Elghossain et al., 2019). This high prevalence rate could be understood by knowing that IPV is widely accepted by Jordanian women (Al-Badayneh, 2012), and around half of the ever-married Jordanian women are justifying their husband's physical violence (DOS & ICF, 2019). This result is like that published in Shamu et al.'s (2011) systematic review, which reported that the prevalence rate of physical IPV during pregnancy was 23–40%.

Table 2.
t-Tests for Differences Between Sufferers and Non-sufferers of Physical Violence for Continuous Variables of Maternal Pregnancy/Birth Outcomes

Outcome	**Sufferers vs. Non-sufferers**	***n***	**Mean**	**SD**	***t***	***p***
First stage of labor in hours	Non-sufferers	144	6.7	4	–1.4	.15
	Sufferers	53	7.7	4.1		
Second stage of labor in minutes	Non-sufferers	144	25	16.8	–.4	.7
	Sufferers	52	26.3	18.7		
Length of hospital stay in hours	Non-sufferers	154	17	10.4	-2.2	.03*
	Sufferers	67	22.5	19		
Weight gain during the current pregnancy	Non-sufferers	155	10.6	5.7	–.19	.8
	Sufferers	66	10.7	5.2		

**p* value is less than 0.05, that is significant result.

Physical IPV caused a significant risk of PIH. This result was congruent with Han and Stewart's (2014) review where they reported that physical IPV was significantly associated with hypertension and pre-eclampsia. Furthermore, the results revealed that physical IPV increases the risk of having a CS birth. The same findings were reported by Hassan et al. (2014). For our study, there was no association between CS and hypertension, while Ramos Filho and Antunes (2020) have found that hypertensive disorders are associated with higher rates of CS. For that, we can understand that the difference between sufferers and non-sufferers in CS rate could be related to physical violence and not to the presence of hypertension, even though we think this conclusion needs further investigation. It was worth to say that in Jordan, there was a good screening for high blood pressure, as blood pressure measurements were available and provided systematically in all Jordanian hospitals and clinics (Khader et al., 2018).

Sufferers of physical IPV were at a higher risk for pain killers' use during birth and postnatal medication use Furthermore, previous studies reported that pain medication was used more

frequently by women with a history of IPV (Carbone-López et al., 2006; Wuest et al., 2007; Yoshihama et al., 2009). The IPV sufferers reported significantly higher rates of using pain medications to deal with their chronic problems. All previous studies have attempted to study the physical chronic and severe pain for IPV survivals in general but not specific for birthing women, for that, the findings of the current study regarding the sufferers' use of more pain killers during birth and the postnatal period could be considered as a pioneer finding in the field of maternal health as no previous study with this result was located.

Moreover, the significant results could be explained by understanding the effect of physical IPV on maternal psychological variables. Women who experience physical IPV have more likely to report higher levels of emotional stress (Groves et al., 2012), maternal cortisol (Han & Stewart, 2014), and depression (Abdelhai & Mosleh, 2015), which in turn increase the risk of PIH (Yu et al., 2013) and increased maternal request for CS (Riquet et al., 2019)

In this study, the physical I IPV was not significantly associated with, nor affected, unplanned pregnancy, inadequate antenatal visits (less than four), abortions, premature rupture of membranes, preterm birth, weight gain, or induction of labor. These findings contradict the findings of previous studies which showed significant effects and associations between IPV and maternal pregnancy/birth outcomes (Abdollahi et al., 2015; Alhusen et al., 2014; Fanslow et al., 2008; Han & Stewart, 2014; Hassan et al., 2014). Furthermore, episiotomy, laceration, postpartum hemorrhage, the length of the first and second stages of labor, and the hospital stay were not significant among sufferers. These non-significant results could be explained by understanding IPV within Jordanian culture. The majority of Jordanian women accept IPV as part of their marital relationship. It was deeply rooted in their culture (Abujilban et al., 2017). Within this cultural vision of IPV in Jordanian community, the IPV sufferers are not in need of any medical or psychological support or help, which might consequently decrease the effect of IPV on them. This fact was supported by the JPFHS in 2002, 2007, and 2012 where large numbers (70% in 2012 and 90% in 2007) of Jordanian women justified wife-beating (Department of Statistics [Jordan] and ICF Macro, 2010; Department of Statistics [Jordan] and Macro International Inc., 2008; Department of Statistics [Jordan] and ORC Macro, 2003). Furthermore, in Jordanian society, men have the power and can punish his wife when needed, where women are subordinate and have to obey the husbands. And this supported by law and social structure (Al-Badayneh, 2012) which resulted in the acceptance of IPV. Furthermore, the non-significant results could be explained by the reluctance of Jordanian women to disclose their private issues such as IPV (Damra et al., 2015). In this study, Damra et al. (2015) disclosed high levels of reluctance and avoidance from IPV sufferers to report their problems of IPV to healthcare providers. This was because violence in the Jordanian culture was widely viewed as a classified private issues (Al-Badayneh, 2012). This could result in misclassification (false negatives) of the cases and, consequently, to non-significant results.

Study Limitations

This study has different sorts of limitations because of the sensitivity of the subject and the resulted problem of the misclassification as it targeted a sensitive and private issue in Jordan. Sufferers may have been incorrectly classified as non-sufferers. Furthermore, as the sampling technique was non-randomized, which resulted in a not representative sample of ever-married women in Jordan, so the study findings were not generalizable to more than the study participants. Finally, some women might experience physical IPV in their pregnancy and forgive their husbands and forget the experience. This in turn would cause more misclassification.

Conclusion and Recommendations

We recommend a cohort study to be conducted for this issue in order to control the recall bias. Further studies concerning the evaluation of a culturally tailored interventional program were recommended. For policy makers, we recommend the inclusion of IPV screening for all pregnant women at every appointment as what is done with routine blood pressure examinations. This will result in the early detection of the sufferers and inclusion of them in interventional, medical, and psychological programs to decrease the negative impacts of IPV. Including a continuing IPV education program as a promotion requirement for nurses could motivate them to participate; this will have a positive impact on early detection and treatment of sufferers. More interdisciplinary collaboration between healthcare providers of pregnant women will have a positive impact on helping sufferers of IPV. To educators, we recommend that training on screening and helping IPV sufferers is included within the curriculum. Furthermore, more focus on women's rights and legal considerations of violence in the curriculum of nurses is recommended in order to enable them to be good advocates for women.

Physical IPV was common in Jordan and widely accepted by Jordanian women. We found that sufferers of IPV were at a higher risk of PIH and CS. Sufferers of IPV used more pain medication during birth and more medication postnatally. For that reason, Jordanian policy makers should work on effective screening techniques for sufferers. They must find a culturally sensitive strategy to eliminate IPV and reduce its negative impact on women. A cultural difference was an important factor in shaping the relationship between husband and wife, so it should be considered when studying IPV effects. This study has not only provided baseline data on the IPV effects on pregnant women but also the importance of screening and managing sufferers of IPV. Finally, healthcare providers should appreciate their role as an advocate for women and seek professional development in screening skills and counseling.

Ethics Committee Approval: Ethical committee approval was received from the Ethics Committee of the Hashemite University (Date: 24th Nov 2013, Approval no #2/2013/2014).

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