

RESEARCH ARTICLE

Intimate partner abuse among couples during pregnancy and its predictors as reported by pregnant women visiting governmental health care centres in Tabriz, Iran

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Abstract

Little is known about intimate partner abuse (IPA) among couples during pregnancy in Iran. This study aimed to compare the rates of IPA by pregnant women towards their husbands (perpetration), and women's experience of IPA from their husbands (victimization) and determine the predictors of the two behaviours. The cross-sectional study was conducted on 525 pregnant women at 24–30 weeks of gestation visiting governmental health care centres/posts in Tabriz, Iran, in 2014. The study sample was selected using random cluster sampling. The Revised Conflict Tactics Scale (CTS2) was used to assess IPA perpetration and victimization. The McNemar test was employed to compare the prevalences of IPA perpetration and victimization, and adjusted logistic regression was utilized to determine the socio-demographic predictors of overall IPA perpetration and victimization. The overall rates of women's reported abuse of their husbands (perpetration) and women's experience of abuse from their husbands (victimization) were 70% and 67%, respectively, but the difference was not statistically significant ($p=0.086$). The prevalence of psychological aggression perpetrated by women towards their husbands was significantly higher than that experienced by the women from their husbands (65% vs 58%, $p<0.001$). The prevalences of sexual coercion (15% vs 30%) and injury (8% vs 16%) perpetrated by women on their husbands were significantly lower those they experienced by the women from their husbands ($p<0.001$). There was no statistically significant difference between the prevalence of perpetration of physical violence towards husbands by women (19%) and that experienced by women from their husbands (22%) ($p=0.072$). Women's and husbands' satisfaction with their own occupations were predictors of both perpetration and victimization of IPA. The observed high rates of IPA perpetration by, women and victimization of, women during pregnancy, and the significantly higher rate of violence towards women compared with that perpetrated by women, especially for sexual coercion and injury, require health policymakers and care providers to make serious efforts to identify such violence, and take appropriate measures to reduce it, during pregnancy in women in Iran.

Keywords: Intimate partner abuse; Perpetration; Victimization

Introduction

Intimate partner abuse (IPA) is a serious public health concern (Mikton, 2010). It is defined as the psychological, physical or sexual abuse of an intimate partner or spouse (WHO, 2013). People usually do not report domestic abuse and its effects on their life, so the burden of IPA, and consequent reduced quality of life of its victims, remain unknown in Iran (Asadi *et al.*, 2017).

Globally, one in three women experience physical or sexual abuse perpetrated by an intimate partner (WHO, 2013). There are contradictory results about whether rates of abuse decrease or increase during pregnancy (Jasinski, 2004). According to a population-based survey conducted in ten countries by the World Health Organization (WHO), the prevalence of physical abuse against pregnant women ranged from 1% in Japan to 28% in Peru in 2002 (WHO, 2005). The rate of overall IPA against pregnant women in Iran has been reported to be 56–72% in studies conducted from 2009 to 2012 (Jamshidimanesh *et al.*, 2013, Hassan *et al.*, 2014; Hajikhani-Golchin *et al.*, 2014; Farrokh-Eslamlou *et al.*, 2014).

The abuse of women during pregnancy is associated with many complications, including inadequate pregnancy care, inadequate pregnancy-related weight gain, vaginal bleeding, spontaneous abortion, pre-eclampsia, sexually transmitted infections, stress, reduced quality of life, dissatisfaction of pregnancy, drug and alcohol abuse, stillbirth, premature birth, low birth weight and newborn complications (Sarkar, 2008; Han & Stewart, 2014).

Men, like women, can also be the victims of IPA. Common complications among male victims of IPA include poor health status, chronic diseases, depression, chronic mental disorders, drug abuse, injuries and suicide (Coker *et al.*, 2002; Grande *et al.*, 2003). One in seven men in the USA (Breiding *et al.*, 2008) and one in eight in England have reported experiencing IPA (Office for National Statistics, 2014). The rate of IPA perpetration by men compared with their victimization varies in different contexts. For example, the rate of IPA against men has been found to be less than that against women in Africa (Gass *et al.*, 2011), but equal in the USA (Mulawa *et al.*, 2018). In a study conducted in Tabriz, Iran, women of reproductive age reported a lower rate of IPA perpetration than victimization (Asadi *et al.*, 2018). In another study among married couples aged 17–50 years in Tehran, Iran, in 2006 men reported more IPA perpetration and women reported more IPA victimization (Mohamadkhani *et al.*, 2006).

There have been limited studies comparing the rate of IPA perpetration and victimization among pregnant women. In a study among high-risk African-American pregnant women, the reported rate of physical assault/sexual coercion perpetration by women was higher than that of the victimization of women (Shneyderman & Kiely, 2013). In a study in Iran, the overall rate of IPA perpetration (including psychological aggression) was higher than that of victimization, but the rates of physical assault, as well as sexual coercion perpetration, were less than that of victimization among primigravida women aged 20–29 years (Mohammad-Alizadeh-Charandabi *et al.*, 2016).

Reported IPA predictors include race and ethnicity (Breiding *et al.*, 2008), history of family abuse (Semahegn & Mengistie, 2015), female partner age (Grande *et al.*, 2003), husband's age (Breiding *et al.*, 2008), educational level of couples (Mohamadian *et al.*, 2016), employment status of couples, family income (Grande *et al.*, 2003; Semahegn & Mengistie, 2015; Mohamadian *et al.*, 2016; Jeyaseelan *et al.*, 2007), duration of partnership and having fewer children (Mohamadian *et al.*, 2016).

With the recent shift in Iran's population policy towards growth, an increase in pregnancy rate is expected (Khamenei, 2014). Given the high prevalence of IPA during pregnancy in Iran and limited comparative studies about IPA perpetration and victimization by men and women, this study aimed to compare the rates of IPA by pregnant women towards their husbands (perpetration), and their own experience of IPA from their husbands (victimization) and determine their predictors. The study also examined the prevalence of lifetime IPA.

Methods

Study population

This cross-sectional study was conducted on 525 pregnant women aged 15–49 years at 24–30 weeks of gestation who were visiting public health care centres/posts in Tabriz, Iran, in 2014. In Iran, the majority of pregnant women have health records in public health centre/posts and receive prenatal care free of charge.

The sample size was calculated as 349, given the previously reported prevalence of 35% for abuse during pregnancy (Hajikhani-Golchin *et al.*, 2014), an error rate of 5% and a significance level of $p < 0.05$. Considering a design effect of 1.5 due to cluster sampling, 524 persons was considered as the overall sample size. This study was conducted on 525 pregnant women.

The inclusion criteria included duration of marriage between 1 and 15 years, living with their husband during the past 12 months, literacy of middle school level or more, and first formal marriage of both wife and husband. Women with any of following conditions, or husbands with any of these, were excluded: serious known chronic disease or mental illness, drug abuse, a history of being in prison, a history of infertility or experience of a very stressful event (like death of first degree family members) in the past 9 months.

Data collection

The data were collected between June to December 2014 using a cluster random sampling method. Ten out of 39 active health centres and 11 out of 42 active health posts were randomly selected in Tabriz. Then, based on the number of pregnant women covered in each centre/post, a proper sample size for each centre/post was proportionally calculated according to the study sample size. The list of women covered by each centre was prepared and a number was assigned to each woman and participants were randomly selected according to the quota for each centre/post. Then, a researcher phoned the selected women and invited them to attend the centre/post to participate at the study after reviewing the inclusion and exclusion criteria and briefing them about the objectives, research methodology and confidentiality of data. Written informed consent was obtained from participants and data were collected through a self-administered questionnaire.

The data collection tools consisted of a socio-demographic questionnaire and the Revised Conflict Tactics Scales (CTS2). The CTS2 has 39 items and assesses prevalence and chronicity of IPA with five sub-scales including negotiation, psychological aggression, physical assault, sexual coercion and injury. It measures two levels of severity (minor and severe). In the study, IPA was assessed using four sub-scales (33 items): 8 items on psychological aggression (questions 1, 29, 41 and 57 related to minor psychological aggression and questions 19, 23, 55 and 59 related to severe psychological aggression); 12 items on physical assault (questions 3, 5, 11, 37 and 45 related to minor physical assault and questions 15, 21, 27, 31, 35, 51 and 63 related to severe physical assault); 7 items on sexual coercion (questions 9, 43 and 53 related to minor sexual coercion and questions 13, 39, 49 and 65 related to severe sexual coercion); and 6 items on injury (questions 7 and 61 related to minor injury and questions 17, 25, 33 and 47 related to severe injury). The CTS2 has 8 response categories (0 to 7) for each item; the category 0 corresponds to 'never' and category 7 corresponds to 'not in the referent period but it did happen before'; the 1 to 6 response categories correspond to 'once', 'twice', '3 to 5 times', '6 to 10 times', '11 to 20 times' and 'more than 20 times' in the referent period, respectively. The approximate mid-points of the frequency-response categories are used for scale-scoring purposes, i.e. 'once' is scored as 1; 'twice' as 2; '3 to 5 times' as 4; '6 to 10 times' as 8; '11 to 20 times' as 15; and 'more than 20 times' as 25. The report of violence experience for any type of psychological aggression, physical assault, sexual coercion or injury was considered positive overall IPA.

The CTS2 items are presented as paired questions. The first question in a pair asks respondents to indicate how often they carried out each item (perpetration) and the second asks how often their partner carried out each behaviour (victimization). The default referent period is the past 12 months, but it can be used for any period of time (Straus *et al.*, 1996). In this study, the referent period was 6 months. Selecting options 1 to 6 for any item of each subscale or scale was considered as 'presence', and selecting options 0 or 7 for all items of the subscale or scale was considered as 'absence' of that type of IPA. To assess the prevalence of lifetime IPA, option 7 was also considered

as presence of IPA. Chronicity of minor and severe violence in each type among women with a positive experience of that type of violence was determined by adding up the mid-point scores of their items. The CTS2 has high internal consistency. The reported Cronbach's alpha coefficients for various scales of the English version range from 0.79 to 0.95 (Straus *et al.*, 1996). The reliability of the instrument was confirmed using the test–retest method with a correlation coefficient of 0.90 in Iran (Behboodi-Moghadam *et al.*, 2010).

In this study, the scale was administered twice to 20 eligible women with a 10-day interval (test–retest); intra-class correlation coefficients (ICC) were 0.93–0.99 and Cronbach's alphas (consistency) were 0.70–0.87 for the CTS2 subscales.

Statistical analysis

Data were analysed using SPSS version 21. The McNemar test was used to compare the prevalence of IPA perpetration by, and victimization of, the sample women. Data for abuse chronicity did not follow a normal distribution. Therefore, the Wilcoxon test was used to compare chronicity of IPA perpetration and victimization. To determine the relationship of socio-demographic characteristics with prevalence of overall IPA perpetration and victimization, unadjusted and adjusted logistic regression with backward LR strategy was used. First, women's and husbands' variables, including age, duration of marriage, whether the woman received pre-pregnancy care, educational level of woman and her husband, woman's and her husband's employment, woman's and her husband's satisfaction with their employment status, sufficiency of income, interest in the sex of the fetus, having forced marriage and number of pregnancy, were entered into the unadjusted logistic regression separately. Then, variables significant at $p < 0.2$ were entered into the adjusted logistic regression with a backward LR strategy to determine IPA predictors. Statistical significance was assessed at $p < 0.05$.

Results

Participant characteristics

Of the 550 eligible women, 25 declined to attend the centres/posts to participate in the study, giving a sample size of 525. The mean ages of the women and their husbands were 25.8 and 30.6 years, respectively. The mean length of marriage and age difference between couples were 5.1 and 4.8 years, respectively. The majority of the women (92%) were housewives and 65% of them were satisfied or very satisfied with their employment status. Approximately half of the women's husbands were working (45%), and about half of these (52%) were satisfied or very satisfied with their occupation (Table 1).

Prevalence of IPA during pregnancy

The overall rates of IPA of husbands by women (perpetration) and women's experience of IPA from their husbands (victimization) were 70% and 67%, respectively, but the difference was not statistically significant ($p = 0.086$). The most common type of IPA perpetration by women was psychological aggression (65%), followed by physical assault (19%) and sexual coercion (15%). The most common type of IPA experienced by women from their husbands (victimization) was psychological abuse (58%), followed by sexual coercion (30%) and physical assault (22%). The prevalence of psychological abuse by women (perpetration) was significantly higher than that experienced by women from their husbands (victimization). The prevalences of sexual coercion (15% vs 30%) and injury (8% vs 16%) perpetrated by women on their husbands were significantly lower than those experienced by the women from their husbands ($p < 0.001$). There was no statistically significant difference between the prevalence of perpetration of physical violence towards husbands by women (19%) and that experienced by women from their husbands (22%) ($p = 0.072$) (Table 2).

Table 1. Socio-demographic characteristics of study participants and their husbands (*N*=525)

Characteristics	<i>n</i> (%)
Women's characteristics	
Age (years), mean (SD)	25.8 (5.1)
Duration of marriage (years), mean (SD)	5.1 (4.2)
Educational level	
Secondary	152 (29.0)
High school	80 (15.2)
Diploma	212 (40.4)
Some college	81 (15.4)
Employment: Housewife	484 (92.2)
Woman's satisfaction with employment status	
Dissatisfied/ relatively dissatisfied	102 (19.4)
Neither satisfied nor dissatisfied	82 (15.6)
Satisfied or completely satisfied	341 (65.0)
Sufficiency of income	
Absolutely not	96 (18.3)
To some extent	384 (73.1)
Completely	45 (8.6)
Had forced marriage	29 (5.5)
Received pre-pregnancy care	44 (8.4)
Primigravida	292 (55.6)
Interest in sex of fetus	478 (91.0)
Husbands' characteristics	
Age (years), mean (SD)	30.6 (5.4)
Age difference between couple (years), mean (SD)	4.8 (3.7)
Educational level	
Illiterate	12 (2.3)
Primary	78 (14.9)
Secondary	148 (28.2)
High school	58 (11.0)
Diploma	143 (27.2)
Some college	86 (16.4)
Employment	
Unemployed	10 (1.9)
Labourer	239 (45.5)
Employee	88 (16.8)
Shopkeeper	82 (15.6)

(Continued)

Table 1. (Continued)

Characteristics	n (%)
Other	106 (20.2)
Satisfaction with employment	
Dissatisfied/relatively dissatisfied	161 (30.7)
Neither satisfied nor dissatisfied	92 (17.5)
Satisfied or completely satisfied	272 (51.8)
Interest in sex of fetus	475 (90.5)

The data indicate number (percentage), unless otherwise specified.

Table 2. Prevalence of intimate partner abuse (IPA) by women of their husbands (perpetration) and experience of IPA by women from their husbands (victimization) during pregnancy and during their lifetime, as reported by study women ($N=525$)

	IPA perpetration by women n (%)	IPA victimization of women n (%)	p-value ^a
Psychological aggression			
During pregnancy	342 (65.1)	305 (58.1)	<0.001
In lifetime	377 (71.8)	351 (66.9)	0.008
Physical assault			
During pregnancy	101 (19.2)	118 (22.5)	0.072
In lifetime	118 (22.5)	151 (28.8)	0.001
Sexual coercion			
During pregnancy	76 (14.5)	155 (29.5)	<0.001
In lifetime	112 (21.3)	200 (38.1)	<0.001
Injury			
During pregnancy	44 (8.4)	83 (15.8)	<0.001
In lifetime	61 (11.6)	106 (20.2)	<0.001
Overall IPA ^b			
During pregnancy	368 (70.1)	351 (66.9)	0.086
In lifetime	403 (76.8)	400 (76.2)	0.810

^aMcNemar test.

^bIPA experienced at least once for one of the items: psychological, physical, sexual or injury abuse.

Minor psychological abuse was the most common type of IPA perpetration and victimization, with prevalences of 56% and 53%, respectively. The least common types of IPA perpetration and victimization were severe sexual coercion (4% and 8%, respectively), followed by minor injury (5% and 10%, respectively) and severe injury (5% and 11%, respectively) (Table 3).

Chronicity of IPA during pregnancy

Among couples who had experienced IPA, the chronicity of minor and severe physical assault of husbands by women was significantly lower than that of women by their husbands ($p=0.003$ and $p=0.021$ respectively). This was also the case for chronicity of minor and severe sexual coercion ($p<0.001$) and minor and severe injury ($p=0.004$ and $p<0.001$, respectively). However, there was

Table 3. Prevalence and chronicity of intimate partner abuse (IPA) of husbands by women (perpetration) and experience of IPA by women from their husbands (victimization) among couples during pregnancy, $N=525$

Type of IPA	IPA prevalence		Chronicity among those with experience of IPA		
	<i>n</i> (%)	<i>p</i> -value ^a	Mean (SD)	Median (P25–75)	<i>p</i> -value ^b
Minor psychological aggression		0.090	Possible score range: 1–75		0.786
Perpetration	296 (56.4)		8.7 (12.2)	4.0 (2.0–8.0)	
Victimization	277 (52.8)		9.2 (10.9)	4.0 (4.0–12.0)	
Severe psychological aggression		0.010	Possible score range: 1–125		0.753
Perpetration	206 (39.2)		6.7 (9.9)	2.0 (1.7–8.0)	
Victimization	179 (34.1)		8.4 (11.2)	4.0 (2.0–8.0)	
Minor physical assault		0.289	Possible score range: 1–125		0.003
Perpetration	89 (17.0)		5.9 (10.2)	2.0 (1.0–4.0)	
Victimization	99 (18.9)		7.9 (12.6)	4.0 (2.0–8.0)	
Severe physical assault		0.031	Possible score range: 1–175		0.021
Perpetration	38 (7.2)		5.5 (8.7)	2.0 (1.0–4.0)	
Victimization	55 (10.5)		6.8 (12.5)	2.0 (1.0–6.0)	
Minor sexual coercion		<0.001	Possible score range: 1–75		<0.001
Perpetration	64 (12.2)		6.3 (7.6)	4.0 (2.0–8.0)	
Victimization	135 (25.7)		10.6 (12.6)	4.0 (2.0–16.0)	
Severe sexual coercion		<0.001	Possible score range: 1–100		<0.001
Perpetration	20 (3.8)		5.0 (7.0)	2.0 (1.0–4.0)	
Victimization	41 (7.8)		13.5 (14.4)	6.0 (2.0–28.0)	
Minor injury		<0.001	Possible score range: 1–50		0.004
Perpetration	26 (5.0)		5.2 (6.7)	2.0 (1.0–8.0)	
Victimization	52 (9.9)		6.7 (11.7)	2.0 (1.0–5.0)	
Severe injury		<0.001	Possible score range: 1–100		<0.001
Perpetration	26 (5.0)		3.1 (4.8)	1.0 (1.0–3.0)	
Victimization	58 (11.0)		4.1 (6.1)	2.0 (1.0–4.0)	

The higher the score, the more frequent the violence.

^aThe McNemar test was used to compare prevalences of IPA perpetration and victimization.

^bThe Wilcoxon test was used to compare chronicity of IPA perpetration and victimization.

no significant difference for the chronicity of minor and severe psychological aggression between perpetration and victimization (Table 3).

Lifetime IPA

There was no significant difference between the prevalence of lifetime overall IPA perpetration by women and victimization of women (77% vs 76%, $p=0.810$). The most common type of lifetime IPA was psychological aggression and the least common type was injury. The prevalence of lifetime psychological aggression of women towards their husbands was significantly higher than that of husbands towards women (72% vs 67%, $p=0.008$). The prevalences of all other types of IPA perpetration by women were significantly lower than IPA victimization of women ($p<0.001$) (Table 2).

Table 4. Prevalence of intimate partner abuse (IPA) of husbands by women (perpetration) and of women by their husbands (and victimization) during pregnancy by women's and husbands' satisfaction with their own occupations

Satisfaction with employment status	Overall IPA perpetration			Overall IPA victimization		
	<i>n</i> (%)	OR (95% CI) ^a	<i>p</i> -value ^b	<i>n</i> (%)	OR (95% CI) ^a	<i>p</i> -value ^b
Women						
Dissatisfied/relatively dissatisfied	86 (84.3)	2.2 (1.2–4.1)	0.011	81 (79.4)	1.9 (1.1–3.3)	0.026
Neither satisfied nor dissatisfied	65 (79.3)	2.0 (1.1–3.6)	0.023	57 (69.5)	1.3 (0.8–2.3)	0.293
Satisfied or completely satisfied	217 (63.6)	Ref.	Ref.	213 (62.5)	Ref.	Ref.
Husbands						
Dissatisfied/relatively dissatisfied	126 (78.3)	1.6 (1.0–2.6)	0.061	126 (78.3)	1.8 (1.1–2.3)	0.019
Neither satisfied nor dissatisfied	72 (78.3)	1.8 (1.0–3.3)	0.036	64 (69.6)	1.2 (0.7–2.1)	0.458
Satisfied or completely satisfied	170 (62.5)	Ref.	Ref.	161 (59.2)	Ref.	Ref.

^aOdds Ratio (95% Confidence Interval).

^bMultivariate logistic regression analysis with backward LR strategy.

Predictors of IPA

According to the results of the adjusted logistic regression model with a backward LR strategy, the women's and husbands' variables of age, duration of marriage, received pre-pregnancy care, educational level of woman and her husband, woman's and her husband's employment, sufficiency of income, interest in sex of fetus, having forced marriage, and number of pregnancy were excluded from the model as they did not have a significant relationship with abuse perpetration by women or victimization of women. However, the variables of wife's satisfaction with her own employment status and husband's satisfaction of his own job remained in the model and were predictors of abuse perpetration by women and victimization of women. The odds of overall IPA perpetration by women were about two times higher among women who were dissatisfied or relatively dissatisfied with their occupation compared with among satisfied or completely satisfied women (OR=2.2, 95% CI=1.2–4.1, $p=0.011$) and were about two times higher in women whose husbands were dissatisfied or relatively dissatisfied with their occupations than women whose husbands were satisfied or completely satisfied (OR=1.8, 95% CI=1.0–3.3, $p=0.036$).

The odds of overall IPA victimization of women were about two times higher in women who were dissatisfied or relatively dissatisfied with their occupation than in those who were satisfied or completely satisfied (OR=1.9, 95% CI=1.1–3.3, $p=0.026$), and about two times higher in women whose husbands were dissatisfied or relatively dissatisfied with their occupation than among those who were satisfied or completely satisfied (OR=1.8, 95% CI=1.1–2.3, $p=0.019$) (Table 4).

Discussion

The study found that the perpetration of IPA by women in the first 6 months of pregnancy towards their husbands and the experience of IPA by these women from their husbands (victimization) were very common in Iran. No significant difference was found in the overall reported rates of IPA perpetration and victimization in these women. The most common type of reported IPA was psychological aggression. The rate of psychological aggression perpetrated by women was significantly higher than women's experience of IPA. However, the rates of sexual coercion and

injury perpetration by women were significantly lower than their experience of those types of abuse. Among women with experience of IPA, chronicity of minor and severe physical assault, sexual coercion and injury of women by their husbands were significantly higher than the perpetration of such abuse by women to their husbands. Wife's satisfaction with her own employment status and husband's satisfaction with his own job were predictors of overall IPA perpetration by women and victimization of women, respectively.

The overall rate of IPA victimization suffered by women was 67%. Similar results have been obtained in studies conducted in Gorgan, Iran (66%) (Hajikhani-Golchin *et al.*, 2014) and West Azerbaijan (72%) (Hassan *et al.*, 2014) using the same instrument (CTS2). This could be due to their close cultural similarity, especially between the two neighbouring provinces.

The rate of IPA victimization of women in the current study was higher than that reported in studies conducted in Tehran, the capital of Iran (57%) (Jamshidimanesh *et al.*, 2013) and Urmia, Iran (56%) (Farrokh-Eslamlou *et al.*, 2014). The difference in the results can be attributed to the different instruments used to assess IPA (Abuse Assessment Screen).

In the present study, psychological abuse was found to be the most commonly reported type of IPA. This is consistent with the findings of other studies in Iran (Jamshidimanesh *et al.*, 2013; Hajikhani-Golchin *et al.*, 2014) and other countries (Moraes & Reichenheim, 2002; Martin *et al.*, 2004). According to a study conducted in North Carolina, the course of pregnancy is associated with an increase in the rate of psychological abuse among couples (Martin *et al.*, 2004).

The rates of physical assault, sexual coercion and injury victimization suffered by the sample women were 22%, 29% and 16%, respectively. In a study conducted by the WHO in fifteen countries, the prevalence of physical assault of women during pregnancy ranged from 4% to 12% (WHO, 2005), and in a study conducted in India, it was found to be 26% (Jeyaseelan *et al.*, 2007). The reported rate of sexual coercion in Gorgan, Iran, was 4% (Hajikhani-Golchin *et al.*, 2014) and that in Urmia, Iran, 17% (Farrokh-Eslamlou *et al.*, 2014). The reported rate of injury of women in Brazil was 9% (Moraes & Reichenheim, 2002). Also, another study conducted among pregnant women in India found the rate of 'slap' to be 16%, 'hit' 10%, 'beat' 10%, 'kicked' 9%, 'use of weapon' 5% and 'harmed in any other way' 6%. Eighteen per cent of women experienced at least one of these behaviours and 3% experienced all six (Peedicayil *et al.*, 2004).

In the present study, the reported rate of sexual coercion perpetration by women was lower than sexual coercion suffered by women, i.e. victimization (14% vs 29%). Similar results were obtained in previous studies conducted in Tabriz, Iran, among pregnant women aged 20–29 years (14% vs 21%), adolescent pregnant women (16% vs 31%) (Mohammad-Alizadeh-Charandabi *et al.*, 2016) and women of reproductive age (33% vs 54%) (Asadi *et al.*, 2018). The similarity of the results can be attributed to the identical scale (CTS2) used for IPA assessment, and the similarity of the study setting and culture. It could be that in traditional communities, women tend to respond less effectively to sexual coercion and are therefore more likely to succumb to it, and perhaps their attitudes regarding gender roles prohibit them from defending themselves against sexual coercion (Lacasse & Mendelson, 2007).

The high prevalence of IPA and its different types may be due to the acceptance of abuse as a means of conflict handling, a lack of knowledge about legal rights by couples and the lack of serious attention to the issue of abuse. The wide range of abuse and differences in abuse perpetration and victimization results can be due to the difference in operational definition of abuse, inclusion criteria, samples size, instruments used, and socio-cultural differences. In the current study, IPA was evaluated with the CTS2, which produced higher results than other instruments, such as the Abuse Assessment Screen (AAS) and WHO's Violence Scale (Desmarais *et al.*, 2012).

The results showed differences between the prevalences of IPA victimization of, and perpetration by, women, in that the prevalence of psychological aggression perpetration was higher than its victimization; on the other hand, the prevalence of sexual coercion and injury victimization were higher. These findings are consistent with the results of studies conducted in the USA (Coker *et al.*, 2002; Martin *et al.*, 2004) and Brazil (Moraes & Reichenheim, 2002).

The mean rate of minor and severe abuse victimization of, and perpetration by, women among those with experience of IPA in the current study was lower than that found in a study conducted in Latin America by Newman and Campbell (2011), except severe injury perpetration (3.1 vs 1.0) and victimization (4.1 vs 1.7). These differences could be due to the difference in samples (pregnant women aged 15–45 years in the current study versus pregnant adolescents in the other study), resulting in an increase in the rate of abuse among the second group. In addition, according to a study conducted in India, overall prevalence of moderate to severe physical abuse against women during pregnancy was lower than in the current study (Peedicayil *et al.*, 2004), which may be attributed to the difference in instrument and context.

According to the multivariate logistic regression, only the variables of women's and husbands' satisfaction with their own occupations were the predictors of IPA perpetration by women and victimization of women and there was no statistically significant relationship between the other socio-demographic characteristics and overall IPA perpetration by women and victimization of women. According to the results, the majority of housewives were satisfied with their employment status; in addition, women's dissatisfaction with their employment status was a significant predictor of abuse perpetration and victimization among women. A study in Ethiopia reported women's occupation as a predictor of IPA and lower rate of sexual abuse among housewives (Deribe *et al.*, 2012). Also, a study conducted in India showed that women's participation in paid employment increased the odds of them experiencing physical domestic violence (Pallikadavath & Bradley, 2018). This could be attributed to greater obedience of housewives to their husbands due to their economic and emotional dependency (Semahegn & Mengistie, 2015). In general, the results of the Ethiopian study were inconsistent with those of the present study. Given the current cultural changes in Iran and trend towards the employment and social participation of women (Hasani, 2013), unemployment among housewives may result in conflict, as well as abuse among couples.

In addition, a husband's dissatisfaction with his occupation was found to be a predictor of abuse among couples. Other studies have also reported a significant association between men's occupation and the IPA of women. Unemployment (Mohamadian *et al.*, 2016), part-time employment (Grande *et al.*, 2003) and inadequate income (Grande *et al.*, 2003; Sarkar, 2008) have been given as risk factors for IPA of women, while higher socioeconomic status has acted as a protective buffer (Jeyaseelan *et al.*, 2007). Men's dissatisfaction with their job could result in psychological pressures as well as conflict and abuse among couples. Dissatisfied men may feel inferior to their wives, and try to fill this gap by showing abusive behaviours and establishing domination over the families and wives.

One limitation of this study is that it was not possible to compare violence status during pregnancy with that in the per- and post-partum periods due to the cross-sectional nature of the data. Another limitation is that the results cannot be generalized to the whole population, because it only surveyed women attending health care centres/posts to receive health care services, and those women who were not visiting such centres could not be included. In addition, the questionnaire was only completed by women, and their husbands were not involved in the study. The sensitivity of the subject surveyed may have affected the results and some women may have not correctly reported the real rate of violence; however, an attempt was made to control this by the self-administration of an anonymous questionnaire in a private environment and ensuring the confidentiality of the data.

In conclusion, this study showed high and similar prevalences of IPA perpetration by women and experience of violence by women (victimization) during pregnancy within the research population. Psychological aggression was the most common type of IPA, and the prevalence of its perpetration by women to their husbands was higher than that experienced by the women. Given the effect of abuse on the collapse of family life, health care authorities should take appropriate steps to prevent, identify and reduce IPA during pregnancy.

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References

- Asadi S, Mohammad-Alizadeh-Charandabi S, Yavarikia P and Mirghafourvand M (2018) Socio-demographic predictors of intimate partner violence in a population sample of Iranian women. *Shiraz e-Medical Journal* **20**(2), e69735.
- Asadi S, Mojgan M, Yavarikia P, Mohammad-Alizadeh-Charandabi S and Nikan F (2017) Domestic violence and its relationship with quality of life in Iranian women of reproductive age. *Journal of Family Violence* **32**, 453–460.
- Behboodi-Moghadam Z, Eftekhar-Ardabili H, Salsali M, Ramezanzadeh F and Nedjat S (2010) Physical and psychological violence against infertile women. *Journal of Family & Reproductive Health* **4**(2), 65–67.
- Breiding MJ, Black MC and Ryan GW (2008) Prevalence and risk factors of intimate partner violence in eighteen US states/territories, 2005. *American Journal of Preventive Medicine* **34**(2), 112–118.
- Coker AL, Davis KE, Arias I, Desai S, Sanderson M and Brandt HM *et al.* (2002) Physical and mental health effects of intimate partner violence for men and women. *American Journal of Preventive Medicine* **23**(4), 260–268.
- Deribe K, Beyene BK, Tolla A, Memiah P, Biadgilign S and Amberbir A (2012) Magnitude and correlates of intimate partner violence against women and its outcome in Southwest Ethiopia. *PLoS One* **7**(4), e36189.
- Desmarais SL, Reeves KA, Nicholls TL, Telford RP and Fiebert MS (2012) Prevalence of physical violence in intimate relationships, Part 1: Rates of male and female victimization. *Partner Abuse* **3**(2), 140–169.
- Farrokh-Eslamlou H, Oshnouei S and Haghghi N (2014) Intimate partner violence during pregnancy in Urmia, Iran in 2012. *Journal of Forensic and Legal Medicine* **24**, 28–32.
- Gass JD, Stein DJ, Williams DR and Seedat S (2011) Gender differences in risk for intimate partner violence among South African adults. *Journal of Interpersonal Violence* **26**(14), 2764–2789.
- Grande ED, Hickling J, Taylor A and Woollacott T (2003) Domestic violence in South Australia: a population survey of males and females. *Australian and New Zealand Journal of Public Health* **27**(5), 543–550.
- Hajikhani-Golchin NA, Hamzehgardeshi Z, Hamzehgardeshi L and Shirzad Ahoodashti M (2014) Sociodemographic characteristics of pregnant women exposed to domestic violence during pregnancy in an Iranian setting. *Iranian Red Crescent Medical Journal* **16**(4), 1–7.
- Han A and Stewart DE (2014) Maternal and fetal outcomes of intimate partner violence associated with pregnancy in the Latin American and Caribbean region. *International Journal of Gynaecology and Obstetrics* **124**(1), 6–11.
- Hasani Z (2013) Factors affecting the level of female employment in Iran. *Technical Journal of Engineering and Applied Sciences* **3**(14), 1424–1431.
- Hassan M, Kashanian M, Hassan M, Roohi M and Yousefi H (2014) Maternal outcomes of intimate partner violence during pregnancy: study in Iran. *Public Health* **128**(5), 410–415.
- Jamshidimanesh M, Soleymani M, Ebrahimi E and Hosseini F (2013) Domestic violence against pregnant women in Iran. *Journal of Family & Reproductive Health* **7**(1), 7–10.
- Jasinski JL (2004) Pregnancy and domestic violence: a review of the literature. *Trauma Violence Abuse* **5**(1), 47–64.
- Jeyaseelan L, Kumar S, Neelakantan N, Peedicayil A, Pillai R and Duvvury N (2007) Physical spousal violence against women in India: some risk factors. *Journal of Biosocial Science* **39**(5), 657–670.
- Khamenei A (2014) Ayatollah Ali Khamenei on Iran's population policy. *Population and Development Review* **40**(3), 573–575.
- Lacasse A and Mendelson MJ (2007) Sexual coercion among adolescents: victims and perpetrators. *Journal of Interpersonal Violence* **22**(4), 424–437.
- Martin SL, Harris BA, Li Y, Moracco E, Kupper L and Campbell JC (2004) Changes in intimate partner violence during pregnancy. *Journal of Family Violence* **19**(4), 201–210.
- Mikton C (2010) Preventing intimate partner and sexual violence against women: taking action and generating evidence. *Injury Prevention* **16**(5), 359–360.
- Mohamadian F, Hashemian A, Bagheri M and Direkvand-Moghadam A (2016) Prevalence and risk factors of domestic violence against Iranian women: a cross-sectional study. *Korean Journal of Family Medicine* **37**(4), 253–258.

- Mohamadkhani P, Rezaei-Dogane E, Mohamadi M and Azadmehr H** (2006) Family violence pattern prevalence, enacting or experiencing violence in men or women [in Persian]. *Social Welfare* 5(21), 205–224.
- Mohammad-Alizadeh-Charandabi S, Bahrami-Vazir E, Kamalifard M and Mirghafourvand M** (2016) Intimate partner violence during the first pregnancy: a comparison between adolescents and adults in an urban area of Iran. *Journal of Forensic and Legal Medicine* 43, 53–60.
- Moraes CL and Reichenheim ME** (2002) Domestic violence during pregnancy in Rio de Janeiro, Brazil. *International Journal of Gynaecology and Obstetrics* 79(3), 269–277.
- Mulawa M, Kajula LJ, Yamanis TJ, Balvanz P, Kilongo MN and Maman S** (2018) Perpetration and victimization of intimate partner violence among young men and women in Dar es Salaam, Tanzania. *Journal of Interpersonal Violence* 33(16), 2486–24511
- Newman BS and Campbell C** (2011) Intimate partner violence among pregnant and parenting Latina adolescents. *Journal of Interpersonal Violence* 26(13), 2635–2657.
- Office for National Statistics** (2014) *Intimate Personal Violence and Partner Abuse 2014*. URL: <https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/compedium/focusonviolentcrimeandsexualoffences/yearendingmarch2015/chapter4intimatepersonalviolenceandpartnerabuse> (accessed 18 May 2017).
- Pallikadavath S and Bradley T** (2018) Dowry, 'dowry autonomy' and domestic violence among young married women in India. *Journal of Biosocial Science* 51(3), 353–373.
- Peedicayil A, Sadowski LS, Jeyaseelan L, Shankar V, Jain D, Suresh S et al.** (2004) Spousal physical violence against women during pregnancy. *BJOG: An International Journal of Obstetrics and Gynaecology* 111(7), 682–687.
- Sarkar NN** (2008) The impact of intimate partner violence on women's reproductive health and pregnancy outcome. *Journal of Obstetrics and Gynaecology* 28(3), 266–271.
- Semahegn A and Mengistie B** (2015) Domestic violence against women and associated factors in Ethiopia; systematic review. *Reproductive Health* 12, 78.
- Shneyderman Y and Kiely M** (2013) Intimate partner violence during pregnancy: victim or perpetrator? Does it make a difference? *BJOG: An International Journal of Obstetrics and Gynaecology* 120(11), 1375–1385.
- Straus MA, Hamby SL, Boney MS and Sugarman DB** (1996) The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of Family Issues* 17(3), 283–316.
- WHO** (2005) *Who Multi-Country Study on Women's Health and Domestic Violence Against Women: Initial Results on Prevalence, Health Outcomes, and Women's Responses 2005*. URL: <https://www.who.int/reproductivehealth/publications/violence/24159358X/en/> (accessed 18 May 2017).
- WHO** (2013) *Global and Regional Estimates of Violence Against Women: Prevalence and Health Effects of Intimate Partner Violence and Non-Partner Sexual Violence 2013*. URL: <https://www.who.int/reproductivehealth/publications/violence/9789241564625/en/> (accessed 20 May 2018).

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