Original Article

Violence during pregnancy and postpartum depression

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ABSTRACT

Objectives: To estimate the prevalence of physical and emotional violence and postpartum depression in a pregnant Iranian population.

Methodology: This is a cross-sectional survey. A consecutive sample of women who were routinely referred to health care centers for immunization of their two month infants after delivery were enrolled in this study. They were interviewed by a designated research nurse using the Edinburgh-Postpartum-Depression-Scale (EPDS) and Abused-Assess-Scale (AAS).

Results: Nearly two-third of women reported some kind of violence; 59.7% had experienced one or more types of emotional abuse, and 37.0% reported physical violence during the pregnancy. The prevalence of postpartum depression was approximately 45.8%. The highest odds ratio of postpartum depression were associated with husband's drug abuse, domestic violence, woman's education.

Conclusion: The high prevalence of different types of domestic violence during pregnancy and postpartum depression and their significant relationship should be regarded as a priority for local and possibly National Health Service policy.

KEY WORDS: Domestic Violence, Postpartum Depression, Risk Factors, EPDS.

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INTRODUCTION

Domestic violence is defined as "a continuum of behavior ranging from emotional and verbal abuse through threats and intimidation to actual physical and sexual assault".[1] According to definition of WHO, 1997 Domestic violence is the range of sexually, psychologically and physically coercive acts used against adult and adolescent women by current or former male intimate partners.[2] In the United States it affects one in three women in their lifetime and up to one in nine annually.[3]

Domestic violence during pregnancy has been estimated to affect between 0.9% and 20.1% of pregnant. In the United States known risk factors for violence during pregnancy include marital age, ethnicity, marital status, education, alcohol use and drug Abuse.[4,5] Domestic violence can have long term health consequences for victims including psychiatric illness, such as depression, anxiety, post-traumatic stress disorder and varying degrees of sexual and physical trauma, and injury.[1,6,7] Postpartum blues and postpartum depression might thus be the correct outcome measures that can reflect the real impact of domestic violence in pregnancy in Iranian community. It seems that, this is the first study on

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the relationship between domestic violence and postpartum depression in Iranian community.

Postpartum depression generally occurs within 6–8 weeks after childbirth.[8] One meta-analysis has shown an average prevalence of postpartum depression of 13% (95% confidence interval [CI]=12.3–13.4) in the general population.[9] In the Brazil, the reported incidence of postpartum depression has been reported about 27.85,[10] and a prevalence of 13.8% has been reported by Huang (2001) in china.[11] In developed countries, the risk factors for postpartum depression are past psychological disorder history, psychological disorder during pregnancy, low socioeconomic status, complicated delivery, and poor marital relationship.[9] Many biological and social factors have been reported as associated with postpartum depression. For example, cortisol levels, thyroid abnormalities, marital conflict, past psychiatric history, obstetric complications, poor relationship with partners and poor social support all have been reported as significant associations.[11]

Depressed mothers breast-fed for a shorter time than those who had no depression symptoms. It has been found that the children of depressed mothers are more likely to suffer from emotional, cognitive and behavioral problems later in life.[8] There are some studies conducted in Iran on postpartum depression and domestic violence. For example Najafi studied about postpartum depression, but he did not access either the related risk factors or associations between domestic violence and postpartum depression.[12] However there is a paucity of research dealing with domestic violence during pregnancy in developing countries, some researchers[13] believe that more studies are required to evaluate domestic violence, postpartum depression and the associated risk factors among pregnant women in developing countries.[14] The purpose of the present study was to examine the demographic factors related to postpartum depression and domestic violence in pregnant mothers in Kerman.

METHODOLOGY

This study was conducted in urban clinics in Kerman, the capital city of the largest province of Iran located in southeast of Iran. In early 2008, 450 women were invited to join this study and 400 accepted to be interviewed (response rate = 80%). Eligibility criteria included the following: All women were married, having no complications with the mother or the baby, having no history of depression or mental disorder. They were interviewed by a designated research nurse during the 8 weeks after delivery when they come to health centers to immunize their two month infants, a single interview was conducted during the postpartum period rather than during pregnancy or on multiple occasions. The interview was conducted by a Edinburg Postpartum Depression Scale (EPDS), a questionnaire for postpartum depression[15] and abused assess scale (AAS) a questionnaire for domestic violence which both are well validated in Persian.[16]

EPDS is a useful screening tool for postpartum depression, in which the total score ranges from 0 to 30. The Persian version of EPDS had also been validated.[15] The cut-off score of ≤13 was recommended for screening depressive illness in Persian postpartum population. The second part of the questionnaire consists of 14 items regarding different types of physical, emotional and sexual violence.

The third part of questionnaire contained 10 questions related to mothers background. After discussing the aim of the study verbal consent was obtained from the women before the interview and they were interviewed in a private area in health care centers eight weeks after delivery when they attended to health care centers for getting their infants immunized. Our research design was to correlate the results of AAS with those of EPDS.

Student's t-test, χ^2-test and Mann-Whitney Test were used where appropriate. $P<0.05$ was considered statistically significant. Using multivariate logistic regression the associations between socio-demographic variables and DV and PPD were analyzed. Dependent variables which showed a P value less than 0.1 in bivariate analysis were entered in the final model. Fitness of the model was confirmed by Hosmer & Lemeschow test.

RESULTS

Out of 450 women in the health centers who were invited to join the study, 400 women completed the AAS and EPDS questionnaire. The mean age of women was 27.18 years (±5.76) and mean age of husband was 31.31 years (±6.39). All the women were married and the average children number was 5.56 (±4.44). The prevalence of the different kind of physical and emotional violence is shown in Table-I.

Results show that, 262(65.5%) women experienced violence during pregnancy. Among them, emotional violence occurred during the current pregnancy in 239 women (59.7%), which were mainly mentioned as shouted (41%) and 148(37%) women experienced one or more episodes of physical violence during the pregnancy. The most common physical violence was

Table-I: Prevalence of women experiencing violence in the last pregnancy (n =400).

Type of Violence	*Yes*		*No*	
	No	%	No	%
Shouted or swear at you	164	41	236	59
Kept you short of money	89	22.2	311	77.8
Prevented you from leaving the home	54	13.5	346	86.5
Criticized you in front of people	148	37	252	63
Humiliated you	109	27.2	291	72.8
Threatened to beat or kill you	66	16.5	334	83.5
Other emotional	239	59.7	161	40.3
Slapped or punched you in the face	70	17.5	330	82.5
Choked or held hand over your mouth	54	13.5	346	86.5
Pushed, grabbed or shoved you	86	21.5	314	78.5
Punched you on body or extremities	90	22.5	310	77.5
Hit you with an object	99	24.8	301	75.2
Threw things at you	105	26.2	297	73.8
Kicked you	103	25.8	297	74.2
Other physical abuse	148	37	252	63

threw an object (26.3%). The prevalence of postpartum depression was approximately 45.8% (183).

The final results of the multiple logistic regression analyses are shown in Table-II. The highest odds of postpartum depression was associated with husband's drug abuse (Odds Ratio=3.874, Confidence Interval = 1.694–8.859, P=0.001), Domestic Violence (Odds Ratio=4.758, 95% Confidence Interval = 2.893–7.825, P=0.000), Women's Education (Odds Ratio Diploma=0.408, Confidence Interval = 0.236–0.704, P=0.001, Odds Ratio University=0.341, Confidence Interval = 0.184–0.632, P=0.001). Beside this result women who had more children, and longest duration of marriage showed higher score of postpartum depression.

DISCUSSION

Women's vulnerability for experiencing violence physical and emotional from a partner during pregnancy appears to be an under-estimated and under-recognized problem. To the best of our knowledge this is the first Iranian cross-sectional study which examines the prevalence of domestic violence during pregnancy and postpartum depression and detects associated risk factors. The results of this study will serve a basic knowledge for Iranian health professional and will contribute to the development of Iranian health care system in terms of dealing with domestic violence and postpartum depression.

In accordance with previous studies in other countries, the prevalence of physical and emotional domestic violence reported during pregnancy was high. The prevalence of any violence in Johnson's study was 5.1-17%,[17] in McFarlane's study is about 17%,[18] and Ahmed[19] showed that the prevalence of domestic violence in his study was about 18%,[20] and the emotional and physical violence in salari's study is about 35% to 25%, respectively.[16] The prevalence of emotional and physical violence, during pregnancy in our study was 59.7% and 37% respectively. In total 65.5% of participants experienced any violence during pregnancy, these results are higher than results of other studies. This is probably because of face to face interview which was conducted by a nurse in private area without presence of their husbands. Hence this increased the confidence of participants.

This study, confirms previous findings of Manzolli's study[10] in which women who reported experiencing domestic violence victimization during pregnancy were more likely to be Women with less than a high School education. The mean age of abused women was about 27.52 years but there is no significant association with DV (P=0.08) but mean age of husband was 31.91 years.

One of the objectives of our present study was to test the effect of domestic violence on Iranian pregnant women. However, when the EPDS scores were compared between the abused and non-abused

Table-II: Logistic regression analysis to assess the association between selected characteristics and postpartum depression.

		Adjusted Odds Ratios	*Confidence Interval 90%*	*P value*
Husband's drug abuse	No	1	-	-
	Yes	3.87	1.69-8.86	<0.001
Violence	No	1	-	-
	Yes	4.76	2.90-7.82	<0.000
Women's education	Under diploma	1	-	-
	Diploma	0.41	0.24-0.70	<0.001
	University	0.34	0.18-0.63	<0.001

groups, the abused group had significantly higher EPDS scores two month after delivery. Our results show that there was a strong association between domestic violence and postpartum depression. There are a few possible explanations for the association. Firstly, domestic violence may lead to psychological trauma and then postnatal depression. Secondly, certain psychological traits or personality problems may lead to relationship problems and domestic violence. These psychological traits or personality problems also might predispose to postpartum depression, and similar demographic factors may increase the prevalence of postpartum depression because most of these factors increase risk of domestic violence. Thirdly, the women who subsequently develop postpartum depression may be very sensitive and they may interpret harmless words retrospectively as verbal abuse so they could not reach their spousal support and most of the time they should solve their problem alone. This result was strongly confirmed with previous study.[8,15,21]

Indeed in this study 45.8% of the mothers were identified as being depressed two month after delivery. These findings confirmed the results of similar studies. For example in the study which was conducted in Kerman by Ghafari 31.1% of mothers identified as being depressed after delivery by means of BECK questionaire.[22] Another study in Tehran also showed the same prevalence (45.7%),[23] this results was also confirmed by similar other studies,[12,21,24] but contrary to other reports,[21] we found a positive link between husband's drug abuse (P=0.001), domestic violence (P=0.000), women's education (P=0.001, P=0.00) and having postpartum depression. Beside this women who had more children, and the longest duration of marriage showed higher score of postpartum depression. These findings are similar to the results of some studies,[22,24] but there is no relation between postpartum depression and women's age, sex of infant, mode of delivery and income, these findings were consistent with similar studies,[12,24] but other studies did not confirm these findings.[21,25]

Based on the results of this study, disclosure of domestic Violence in pregnancy should be regarded as a risk factor, which as with diabetes or hypertension, requires additional monitoring and vigilance.

In comparison to other countries, the prevalence of domestic violence in Iran is much higher and has long remained a closeted phenomenon. This study provides additional evidence that domestic violence is prevalent worldwide and should be recognized as an important issue of clinical and public health importance. This study highlights some of the risks and protective factors for violence against women and hopefully will lead on to interventions to prevent women from being battered in their own homes.

Besides these results there are two implications about PPD: First, that the depression rate in newly delivered women in Kerman is higher than expected prevalence rate of 10-15% reported in other studies, and secondly, that postpartum depression is still a hidden illness. It is important to identify postpartum depression as early as possible so as to be able to provide the mother and the whole family with all the support and help they need, and if left untreated, postnatal depression has an adverse effect both on the child's psychological and cognitive development and on the functioning of the entire family.

Although this study found evidence in support of previous research on DV and PPD, as well as relationships with factors not previously identified as being linked to DV and PPD there are some limitations to the investigation which deserve mention. The most important limitation was that unintended pregnancy was not questioned and another limitation was Recall bias which is a concern for any study in which subjects know their exposure or problem

status and are asked to recall, retrospectively, outcome or exposure information. Identifying the full spectrum of risk factors could assist the clinician to detecting DV, postpartum depression and support them to prevent adverse affects of these problems.

Findings of this study cannot be generalized to other parts of the country because of cultural diversity, and this investigation was conducted in an urban Health center and maternal report was the primary data source, which may result in response bias, especially regarding Sensitive issues, such as violence and other potentially Criminal behaviors.

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Authors Contribution:

Dr. Abbas Abbaszadeh did review and final approval of manuscript.

Forough Pouryazdanpanah Kermani did data collection and manuscript writing.

Dr. Hosein Safizadeh did statistical analysis.

Dr. Nouzar Nakhee did editing of manuscript.