

Prevalence and risk factors of post partum depression in a sample of women in Basrah

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Abstract

Background and objective: Post partum depression is considered an important public health concern worldwide with its negative impact on mothers and children. The aim of this study was to determine the prevalence and risk factors of post partum depression among women in Basrah.

Methods: Data were collected by interviewing women 8-12 weeks post partum using a questionnaire including information on socio-demographic and prenatal, natal and postnatal medical history. Postpartum depression was assessed using an Edinburgh Postnatal Depression Scale.

Results: A total of 302 women were included in the study. The prevalence of postnatal depressive symptoms was 31.5%. The results showed no significant relationships between depression symptoms and education, occupation, monthly income and parity, while several obstetric and psychosocial variables were significantly associated with postnatal depression. On multiple regression analysis, history of depressive symptoms, anaemia during pregnancy, exposure to violence and relationship with mother or daughter in law remained significant factors ($P < 0.001$)

Conclusion: A substantial number of women in Basrah showed postpartum depression. Further research is required to affirm these determinations.

Keywords: Post-partum depression, Prevalence, Risk factors, Basrah.

Introduction

Post partum depression (PPD) is a crucial public health concern in forward-looking communities^{1,2} with a quick health effect on the woman and her assurance as a mother and at later on her infants' emotional, cognitive and physical development due to deficient maternal infant interact.^{3,4} PPD is considered the most usual medical ramification of childbirth, touching 10-15% of women worldwide.⁵⁻⁷ The prevalence is different according to population tried and screening instrument put-upon (screening standardized diagnostic tool), the point in the time applied, dissimilar cut off points of the same tool and other ethnic and geographical issues.⁸ The diagnostic and statistical manual of mental disorders define PPD as a major depressive episode that take place within four weeks after

delivery and this risk may extend for one year.⁹ The symptoms of PPD are tearfulness, dependency, and feeling of guilt, insomnia, fatigue, and appetite change.¹⁰ The imminent depressive danger was described during the first 3-4 months post partum in a lot of cases.¹¹ So screening of PPD is exceedingly significant and should be carried out on regular bases after six weeks postnatal. The exact causes of post partum depression remain obscure, but at the same time it is likely that several constituents, including psychological, biological, and social are tangled and so considered as multifactorial aetiology.¹² The most coherently risk factors are an early history of depression, history of psychiatric illness, and depression during pregnancy,¹³ experience of stressful life events during pregnancy and few months before.¹¹ Other factors

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considered as important in low-income countries like lack of perceived social support and family disruption.¹⁴ A review of many studies showed that the prevalence rate of PPD in high-income countries was lower than the prevalence of PPD in low-middle income countries.¹² Some risk factors are exclusively seen in eastern and Arabic societies, such as dissatisfaction with having female child, increased parity and poor relationship with the husband and or relatives.¹⁵ Nutritional factors have been associated with PPD, including fatty acid zinc and iron.⁵ Iron is the predominant food inadequacy in all-childbearing women worldwide and several studies showed that anaemia due to iron deficiency was associated with PPD symptoms.⁶ Apart from one study done in Kurdistan region in north Iraq,¹⁶ from literature search, no study reporting the prevalence and risk factors of PPD in Basrah population has been conducted. So this study was conducted with the aim of determining the prevalence of PPD and its associated risk factors among Basrah women.

Methods

A cross-sectional study was conducted over a period of six weeks from March 15th, to May 2nd, 2014. A list of primary health care (PHC) centers in Basrah city was obtained from Basrah General Health Directorate. A total of 14 PHC centres were chosen by systematic random method (every third of the list). The sample size was calculated according to the following equation:¹⁷

$$n = \frac{Z^2 P(1-P)}{d^2}$$

Where (n) is the sample size, Z= Z statistic for a level of confidence. For the level of confidence of 95%, which is conventional, Z value is 1.96. P = expected prevalence or prevalence from previous studies, which was 28.4 % according to Ahmed et al study.¹⁶ d = precision or margin of error allowed. In this study a degree of precision of 0.05 was used. The sample size

was calculated to be 313. Taking in consideration a non-response rate of 10%, the sample size was extended to 344. The sample size was distributed proportionally between the selected PHC centres. The participants were women chosen by simple random sampling from those who were in the post partum period (8-12 weeks) attending the chosen PHC centres in Basrah City for vaccination of their babies. Exclusion criteria included the illiterate women and those who were well known to have any psychiatric illness. Data were collected by interviewing the participants according to a special questionnaire designed for the purpose of the study. The questionnaire consisted of two parts. The first part covered the socio-demographic variables, which included age, education, occupation, parity and family income. The second part checked obstetric history variables and past psychiatric history. The Arabic version of the Edinburgh Postnatal Depression Scale (EPDS) was used to assess the postnatal depression symptoms. The EDPS is a ten item self report scale validated and widely used to screen for PPD in community samples.¹⁸ The EDPS is a 10-item self-rating scale. Each item is scored 0-3 and the maximum total score is 30. Seven of its items are reverse-scored. The scale rates the strength of depressive symptoms present within the formers seven days. Participants who collect ten scores or higher on the EPDS were considered as potential PPD cases and those who collect less than ten were considered normal. An Informed verbal consent was obtained and the participants were briefed about the study and encouraged to participate. The Ethical Committee of the College of Medicine approved the research proposal and another endorsement from the Directorate of Health in Basrah was also obtained. Confidentiality was assured through namelessness of the questionnaire. The collected information was kept secret and used only for research purposes. Organization was made for

adequate referral of participants discovered at risk of depression. Data were coded, and analysed using the statistical package for the social sciences (version 20.0). Descriptive statistics, including mean and standard deviation (SD) and frequencies were used for summarizing the data and outcome variables. Chi-squared test and Odds ratios (OR) with 95% confidence intervals (CI) were used to quantify the risk factors. Binary logistic regression was done taking depression as dichotomous variable with the referent category being not having PPDs to identify the independent risk factors associated with PPD. $P < 0.05$ was considered statistically significant.¹⁹

Results

Of 344 targeted women, 302 participated in the study, representing a response rate of 87.7%. The prevalence of PPD was 31.5%. The mean (\pm SD) age of the participants was 26.68 (\pm 5.935) years

(range 16–40 years). Table 1 shows the basic demographic characteristics of the participants and their association with PPD. Of the total participants, 147 (48.6%) women were aged 25 years and below with a depression rate of 38.8%, whereas 26 (8.7%) women were aged more than 35 years with a depression rate of 15.4% with a significant difference ($P = 0.016$). Women who were housewives constituted 87.1% of the study population with PPD rate of 31.9%, while those who were employed constituted 12.9% of the study population with a prevalence rate of PPD 28.2% without a significant association between occupation and PPD. Women with university education were 74 (24.5%) and the prevalence of depression among them was 29.7% compared to 32.9% among women with primary/intermediate education without significant difference. Family monthly income and parity showed no significant association with PPD.

Table 1: Socio-demographic characteristics and their association with PPD.

Variables	PPD No. (%)	No PPD No. (%)	p
Age (years)			
≤25	57(38.8)	90 (61.2)	0.016
26 - 35	34(26.4)	95 (73.6)	
>35	4 (15.4)	22 (84.6)	
Education			
Read &right	8(29.6)	19 (70.4)	0.952
Primary/intermediate	53(32.9)	108 (67.1)	
Secondary	12(30.0)	28 (70.0)	
University	22(29.7)	52 (70.3)	
Occupation			
Housewife	84(31.9)	179 (68.1)	0.639
Employed (governmental and non- governmental)	11(28.2)	28 (71.8)	
Family monthly income			
<500000 ID	50(30.3)	115 (69.7)	0.659
500000ID-million ID	32(31.1)	71 (68.9)	
>1million ID	13(28.3)	21 (71.7)	
Parity			
Para 1	30(35.7)	54 (64.3)	0.532
Para 2-3	37(31.4)	81 (68.6)	
Para ≥4	28(28.0)	72 (72.0)	

Table 2 presents the psychosocial and obstetric characteristics of the study population and their association with PPD. Of the studied women, 127 (42.1%) had anaemia, of whom 57.5% showed PPD with a highly significant association ($P < 0.001$). Eighty-eight (29.1%) of the studied women reported past history of depression, of whom 62 (70.5%) showed PPD with a highly significant association.

association was noted between PPD and pregnancy period, mode of delivery, sex of the last baby, non-preferred sex of the present baby, and planning of last pregnancy. Similarly, poor relationship with mother or daughter in law and a past history of exposure to violence was significantly associated with PPD. No significant

Table 2: Association between PPD and obstetrics and psychosocial characteristics of the participants.

Variables	PPD No. (%)	No PPD No. (%)	P
Anaemia during pregnancy(<11gm/dl)			
Yes	73(57.5)	54 (42.5)	<0.001
No	22(12.6)	153 (87.4)	
Pregnancy period			
Full term (≥ 37 weeks gestation)	88(31.4)	192 (68.6)	0.970
Premature (<37 weeks gestation)	7(31.8)	15 (68.2)	
Mode of delivery			
Vaginal	71(32.1)	150 (67.9)	0.679
Caesarean section	24(29.6)	57 (70.4)	
Sex of the last baby			
Male	50(31.4)	109 (68.6)	0.997
Female	45(31.5)	98 (68.5)	
Past history of depression			
Yes	62(70.5)	26 (29.5)	<0.001
No	33(15.4)	181 (84.6)	
Psychological disease in the family			
Yes	18(51.4)	17 (48.6)	0.007
No	77(28.8)	190 (71.2)	
Exposure to violence			
Yes	51(58.0)	37 (42.0)	<0.001
No	44(20.6)	170 (79.4)	
Sex of present baby not preferred			
Yes	17(34.7)	32 (65.3)	0.594
No	78(30.8)	175 (69.1)	
Relationship with mother Or daughter-in- law			
Good	48(21.4)	176 (78.6)	<0.001
Bad	47(60.3)	31 (39.7)	
Planning of last pregnancy			
Yes	56 (28.4)	141 (71.6)	0.120
No	39 (37.1)	66 (62.9)	

To examine the independent association of the studied risk factors and PPD, a binary logistic regression analysis was performed. The variables, which showed a significant independent association were; past history of depression, anaemia during pregnancy, history of exposure to violence, and poor relationship with mother or daughter in law (Table 3).

Discussion

The prevalence of PPD in this study was 31.5%, which is somewhat higher than worldwide rate of PPD (10-15%).⁵⁻⁷ This is also higher than that reported in Kurdistan, Iraq¹⁶ and some Arab and surrounding countries such as Lebanon (21%)³ Turkey (25.6%),²⁰ and Iran (20%).⁴ However, it is slightly lower than that reported in some Arab countries such as Bahrain (37.1%),²¹ and Saudi Arabia (33.2%).⁵ Such variation in prevalence is not astonishing as a review study reported a very broad scope of prevalence due to varieties of socio-cultural factors,²² or may be due to variance of the tools used for measurement of depression and ethnic issues.²³ Education, occupation and monthly incomes were not significantly associated with PPD. This finding is in accordance with other studies.^{5,15} Younger age (< 25 years) was significantly associated with high risk of PPD, which is in agreement with studies that done in Saudi

Arabia⁵ and Costa Rica and Chile,²⁴ which declared that young age is a risk factor for PPD. However, such association disappeared on multivariate analysis that may be explained by confounding by other factors such as social support which was clear in a study that done in China and showed that younger mothers are more liable to get depression but such depression decreases when there is a social support²⁵ and it is well known that social ties and support are high in our society. With regard to the sex of the child, no significant association was discovered between sex of the child and risk of PPD, which agrees with studies done in Saudi Arabia⁵ and Sweden,²⁶ but it is inconsistent with other studies done in Turkey,²⁰ China,²⁷ and Egypt²⁸ which observed significant association between gender of the baby and the risk of PPD. In this study, the mode of delivery had no relation with risk of PPD which agrees with that reported by other studies in Turkey² and Iran^{29,30} who stated that delivering vaginally or by caesarean section had no effect on the PPD. In this study, previous history of depression was significantly associated with PPD and this result is in conformity with that reported by other researches.^{3,11,22,23} The other risk factor that was significantly associated with PPD symptoms in this study is anaemia during

Table 3: Logistic regression analyses of PPD and related factors.

Variables	(OR) 95% C.I	p-value
Past history of depression		
Negative	1	
Positive	5.41 (2.62-11.23)	<0.001
Anaemia during pregnancy		
Negative	1	
Positive	3.44 (1.70-6.76)	0.001
Expose to violence		
Negative	1	
Positive	3.44(1.75-6.77)	0.001
Relationship with mother and daughter- in -law		
Good	1	
Bad	3.99(2.00-7.96)	<0.001

pregnancy,³¹ which is in consistence with other studies done in Saudi Arabia⁵ and Iran⁶ which showed that identification and management of anaemia during pregnancy would decrease the risk of PPD. The decreased level of haemoglobin can induce fainting, helplessness, prickling of the extremities and negative consequences on self-reported character of life, contributing to depressive symptoms in the women.³² A significant relationship between exposure to violence and the symptoms of post partum depression had been found in this study, a result which agrees with that of a study done in Chile.³³ The relationship with mother or daughter in law was found to affect PPD significantly; this result is consistent with the finding of a study done in China.²⁵ A few limitations must be addressed in this study. This was a cross-sectional study based on observational information, which does not certify causing. Furthermore, the only screening tool used for estimation of depression in this research was the EPD scale but further diagnostic tests for ratification are recommended.

Conclusion

The prevalence of PPD in this study appeared relatively high as compared with other studies carried on in the area. Substantial endeavour and resourcefulness would be a requisite to put on an intervention program. The research's findings call for another study that is required by the comprehension of appropriate diagnostic instrument.

Conflicts of interest

The author reports no conflicts of interest.

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