

Original Research Article

Assessment of postnatal depression and some associated risk factors among mothers attending the immunisation outpatient department in a tertiary health care centre: a cross sectional study

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ABSTRACT

Background: Postpartum depression is a significant and common health problem that causes a considerable amount of impact to both the mother and baby and distress on the family and society. The objective of this study is to find out prevalence of postnatal depression among mothers attending immunization outpatient department (OPD) for immunization of their baby in a tertiary health care center and to study some risk factors responsible for it.

Methods: This cross sectional study was conducted in a tertiary care teaching hospital of Maharashtra state during period September to February 2019. Total 188 mothers were screened for postpartum depression using local version of EPDS (Edinburgh Postnatal Depression Scale).

Results: 24 (12.76%) mothers were found to have a score of 10–12 indicating moderate depressive symptoms, and 18 mothers had a score of 13 and above. (9.57%). Risk factors found to be significantly associated with postnatal depression rural residence of mother, lack of support during and after pregnancy, history of domestic abuse, and stressful life events in the past year.

Conclusions: Since the prevalence of EPDS score >13 was found to be high in the current study, we recommend routine screening for PPD in our population.

Keywords: Postnatal depression, EPDS, Tertiary health care centre

INTRODUCTION

Postnatal depression is an affective disorder (any mental disorder characterized by a consistent change in mood that affects thoughts and behaviours) that can occur after pregnancies of all duration, from spontaneous (not induced) abortions, also called miscarriages, to full-term deliveries.¹ Postnatal depression may range from mild self-limiting depression named postpartum blues to postnatal major depression and psychosis.²

According to the National Institutes of Mental Health studies, the childbearing years are when a woman is most

likely to experience depression in her lifetime.³ Postpartum depression is a significant and common health problem that causes a considerable amount of impact and distress on the family and society.⁴ PPD elicits negative clinical implications for maternal-infant attachment there is a withdrawn and disengaged behaviour in the mother and/or intrusive and hostile mother-infant communication.⁵⁻⁸

Research has shown that experiencing symptoms of PPD can have immediate ill effects on the offspring.⁹ Thus, the recognition and assessment of this psychological disorder is important. The present study was undertaken to

determine the prevalence of probable depression among women attending OPD of tertiary care hospital in Maharashtra state and identify some associated risk factors.

METHODS

The present cross sectional study was carried out in Government Medical College, Aurangabad in Maharashtra state during period September to February 2019. All the mothers attending immunisation OPD for immunization of their baby who have completed 42 days since their last delivery but are <6 months of delivery were included in the study. Women who were not consenting to participate in the study were excluded. Sample size was calculated by taking 7.5% as prevalence from a study by Sheela et al carried out in St. John’s medical College and Hospital, Bangalore, considering 95% confidence level and 5% allowable error.¹⁰ The sample size came to be 111. We have studied total 188 participants.

The participants were administered the Edinburgh postnatal depression scale (EPDS), with a cut off value of score 13, in the local language, which has been pre validated.¹¹ The 10 item scale gauges depression based on a 7-day recall of mood and feelings, each item scored on a severity scale of 0 to 3, giving a total score ranging from 0 to 30. A score of 10–12 indicates moderate

depressive symptoms and 13 or more a clinically relevant depressive symptomatology.¹²⁻¹⁴ The questionnaire also included information about the socio demographic profile of the mother and history regarding risk factors for postnatal depression. Written informed consent was taken from every participant. Data entry and analysis of the variables were done using the MS Excel and trial version of SPSS 16 Descriptive statistics were calculated for background variables and postpartum depression. Association between postpartum depression and the related factors were analysed using the Chi-square test.

RESULTS

Total 188 study participants were studied in this study, out of these 24 (12.76%) mothers were found to have a score of 10–12 indicating moderate depressive symptoms, and 18 mothers had a score of 13 and above (9.57%).

The mean age of study participants was 25.07 years. Most of i.e., 86 study participants were from age group 21-25 years old. All the study participants were married. Only 2 participants were illiterate, 6 had completed primary education, 64 had completed secondary education, 41 had completed HSC, and majority i.e., 75 were graduates or post graduates. 159 participants resided in urban area (84.6%) and 29 in rural area (15.4%).

Table 1: Socio-demographic profile of study subjects.

	Not depressed (n=170)	Depressed (n=18)	Total (n=188)	Chi square
Age group (years)				
<20	24	2	26	$\chi^2=0.866$ p=0.834
21-25	78	8	86	
26-30	51	7	58	
>31	17	1	18	
Education				
Illiterate	2	0	2	$\chi^2=7.390$ p=0.117
Primary	4	2	6	
Middle school	55	9	64	
Higher secondary	39	2	41	
Graduation and above	70	5	75	
Occupation				
Employed	42	4	46	$X^2=0.54$
Housewives	128	14	142	p=0.538
Resident				
Urban	147	12	159	$\chi^2=4.893$ p=0.039
Rural	23	6	29	
Religion				
Hindu	93	10	103	$\chi^2=0.583$ p=0.965
Muslim	70	7	77	
Buddhist	5	1	6	
Christian	1	0	1	
Others	1	1	0	
Type of family				
Nuclear	63	6	69	$\chi^2=0.097$ p=0.489
Joint	107	12	119	

Table 2: Association between various risk factors and the prevalence of postnatal depression among the study participants.

Parameter	Not depressed (n=170)	Depressed (n=18)	Total (n=188)	Chi square
Gravida				
Primigravida	73	9	82	$\chi^2=0.330$
Multigravida	97	9	106	p=0.370
Planned pregnancy				
Yes	128	13	141	$\chi^2=0.012$
No	42	5	47	p=0.484
Mode of delivery				
Vaginal	107	11	118	$\chi^2=0.023$
Caesarean	63	7	70	p=0.534
Gender of the baby				
Male	75	11	86	$\chi^2=1.774$
Female	93	7	100	p=0.139
Preference regarding gender of baby				
As expected	38	4	42	$\chi^2=0.303$
No preference	105	12	117	p=0.859
Not as expected	27	2	29	
Pregnancy outcome				
Baby sickly	48	7	55	$\chi^2=0.893$
Baby healthy	122	11	133	p=0.246
Baby feeding practices				
Breastfeeding	150	14	164	
Animal milk	4	1	5	$\chi^2=3.223$
Formula feed	4	0	4	p=0.521
Mixed	12	3	15	
Complications during pregnancy				
Yes	24	2	26	$\chi^2=0.123$
No	146	16	162	p=0.532
Complications during delivery				
Yes	24	2	26	$\chi^2=0.123$
No	146	16	162	p=0.532
H/o abortion				
Present	32	4	36	$\chi^2=0.121$
Absent	132	14	152	p=0.465
Availability of family support during pregnancy				
Very less	153	12	165	$\chi^2=8.253$
Often	17	6	23	p=0.012
History of domestic abuse				
Yes	6	5	11	$\chi^2=17.373$
No	164	13	177	p=0.01
Family history of psychiatric disorder				
Yes	6	1	7	$\chi^2=0.186$
No	164	17	181	p=0.512
Received health advise during pregnancy				
Less	165	18	183	$\chi^2=0.544$
Often	5	0	5	p=0.601
Stressful life events in the past year				
Yes	18	5	23	$\chi^2=4.479$
No	152	13	165	p=0.050

The association between residence of mother and postpartum depression was found to be statistically significant (p value <0.05). 69 participants belonged to a

nuclear family (36.7%), and 119 to a joint family (63.3%). 142 (75.1%) were housewives and 46 (24.3%) were employed. Majority i.e., 103 (54.8%) were Hindu

by religion. Table 1 shows the socio demographic details of the participants.

82 participants were primigravida (43.6%), and 106 were multigravida (56.4%). 141 pregnancies were wanted (75%), 47 pregnancies were unwanted (27%). The mode of delivery was vaginal in 118 participants (62.8%), and LSCS in 70 cases (37.2%). 86 participants delivered a male child (46.2%), and 100 delivered a female child (52.9%). Majority of the mothers (117) had no preference regarding the gender of the baby (62.2%), 42 say gender of the baby was as expected, and 29 mothers were unhappy with the gender of their child. Majority of the mothers (163) exclusively breastfed their baby (86.7%), 2.7% sustained their babies on animal milk, 4 on formula feed, and the rest on a combination of the above. 133 (70.7%) babies were healthy, and 55 (29.3%) were sickly.

Majority of the participants had an uncomplicated pregnancy and delivery. The commonest complications during pregnancy were pre-eclampsia and oligohydromnios, and those during delivery were prolonged labour. 59% participants did not have a live male child and 19% had a previous abortion history. 11 participants admitted to marital conflict during pregnancy, and 23 had no support from their in laws during pregnancy. Majority participants received healthcare advice during their ANC period, 23 had suffered a stressful life event during the past year, and 7 had a family history of depression.

Table 2 shows association between various risk factors and the prevalence of postnatal depression among the study participants. Residence of the mother, lack of support during pregnancy, history of domestic abuse, and stressful life events during the past year were significantly associated with postpartum depression ($p < 0.05$).

DISCUSSION

All the mothers of postpartum period between 6 weeks to 6 months who attended the OPD for immunisation of their children were interviewed for Postnatal Depression by EPDS Scale with some socio demographic characteristics and risk factors like age, sex, occupation, gender of neonate, family support, history of abortion obstetric outcome, antenatal complications etc. Total 188 study participants were studied in this study, out of these 24 (12.76%) mothers were found to have a score of 10–12 indicating moderate depressive symptoms, and 18 mothers had a score of 13 and above. (9.57%) Similar results were found in a study by Sheela et al (7.5%), and Lanes et al who found national prevalence of minor/major and major PPDS in Canadian women as 8.46% and 8.69% respectively.^{10,15}

Other studies carried out by Suguna et al, Shriram et al and Saldanha et al have recorded the prevalence of postpartum depression as 18%, 11% and 21.5% respectively.¹⁶⁻¹⁸ Differences in reported prevalence

among various studies might be due to differences in the cut-off score used for EPD scale, reporting style, differences in educational status, levels of social support or its perception, differences in perception of mental health, as well as biological vulnerability factors.

The prevalence of postpartum depression was more in women residing in rural area as compared to urban area, this difference was statistically significant ($p < 0.05$). Conflicting results have been obtained in the previous studies regarding the association of postpartum depression with the area of residence. The difference in the present study may be attributed to presence of additional factors reported in rural women such as having 2 or more young children.¹⁹

The women who had faced stressful life events in the past 1 year recorded higher scores on the EPDS scale compared to other women ($p < 0.05$). Similar results were found in study done by Qobadi et al among new mothers in Mississippi, and in a study by Hegde et al conducted at a district hospital and maternity and child health centre in South India.^{20,21}

History of domestic abuse was highly significant in its association with postpartum depression. These findings are consistent with the studies by Bacchus et al and Nongrum, et al which confirmed a significant association between domestic violence and maternal and pregnancy related outcomes (e.g., maternal depression).^{22,23}

Social support is a multidimensional concept; sources of support can be spouse, relatives and friends. Receiving social support during stressful times is thought to be a protective factor against developing depression. Lack of support from spouse and in laws during the pregnancy and after the delivery of the child was found to be significantly associated with postpartum depression in this study. These findings are corroborated by studies by Alasoom et al and Lanes et al.^{14,15}

The findings of the present study are in accordance with those of the previous literature in terms of risk factors like domestic abuse, lack of support during and after pregnancy, and history of stressful life events. In addition rural residence of the mother was also found to be significantly associated with postpartum depression. Further research is needed to explore the role of this factor as a risk factor for postpartum depression. Other obstetric and non-obstetric risk factors inquired for in this study were found to be not significant.

Limitations

The study was carried out in mothers attending the OPD of a single hospital. The use of a single scale to measure probable postnatal depression, i.e., the EPDS was another limitation of this study. And finally some inherent limitations of the EPD scale i.e., it is a questionnaire based on recall and depending greatly on the woman's

comprehension of the questions and rapport with the investigator.

CONCLUSION

The impact of PPD is significant not only to the mother, but also to the baby. Since the prevalence of EPDS score >13 was found to be high in the current study, we recommend routine screening for PPD in our population.

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