Original Research Article

An epidemiological study of postnatal depression among women availing maternal health services in rural areas of Belagavi, Karnataka, India

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ABSTRACT

Background: Postnatal depression is an important public health issue exhibiting the strongest link to adverse child outcomes and also maternal morbidity. Objectives were to study the prevalence of Postnatal depression among mothers and to identify the factors associated with depressive symptoms among post-natal mothers.

Methods: The present cross sectional study was conducted from January 2016 to June 2016 in two rural areas among 300 women attending immunisation clinics in the Primary health centre with postpartum period less than 3 months were included in the study. Edinburgh Postnatal depression scale was used to for identifying mothers at risk of postnatal depression. A score of ≥13 was considered as positive for depressive symptoms.

Results: The prevalence of Post-natal depression 41 (13.6%). Factors like age, literacy status, socio economic status, gravidity, sex of newborn, mode of delivery and unplanned pregnancy were significantly associated with the prevalence of postnatal depression.

Conclusions: Early screening of the women and counselling of women and their family will reduce the maternal morbidity and adverse child outcomes.

Keywords: Edinburgh postnatal depression scale, Postnatal Depression, Postnatal mothers, Rural area

INTRODUCTION

Pregnancy and postnatal period are considered as most fragile periods for the women in her life. For women childbirth represents a time of great vulnerability to become mentally unwell and postpartum mood disorders representing the most frequent form of maternal morbidity following delivery.[1] Maternal mental ill health is one of untouched part of maternal and child health. There is a range of mental illness that women may experience during pregnancy and after delivery: antenatal and postpartum stress, anxiety, depression, and psychosis.[2]

Postnatal depression (PND) is a silent disease where women face both the disease and the fear of complaining about it. It is a significant medical status and a common complication of women after childbirth being one of the important health problem having significant impact on the mother, the family, her partner, mother-infant interaction and on the long term emotional and cognitive development of the baby.[3,4] Prevalence estimates range from 13 to 19% in western studies.[5] Studies in India have found the prevalence of postnatal depression ranging from 11 to 26.3%.[6,7]

Postnatal depression describes non-psychotic depressive episodes, with loss of interest, insomnia, and loss of energy experienced by mothers within the period of 4 to 6 weeks after delivery.[8] Symptoms are found to occur anytime from immediately after delivery to up to a year post delivery.[9] Many variables to be found associated with postpartum depression from meta-analysis; Prenatal depression, self-esteem, child care stress, prenatal anxiety, marital relationship, infant temperament, marital status, low social support, socioeconomic status and unplanned/unwanted pregnancy.[10]

PND has been associated with tragic outcomes, such as maternal suicide and infanticide.[11] In spite of so many adverse events associated with postpartum depression almost half of the postnatal depression cases goes unnoticed by the health care providers. The major reason being unrevealing of symptoms by the mother due to fear. Prenatal and postnatal counselling, support to mothers and screening in the early stage giving special attention to vulnerable groups may prevent many future adverse outcomes of both mother and child. Thus, the present study was conducted to study the prevalence and associated risk factors of postnatal depression among postpartum mothers.

The objective of the study was to study the prevalence of Postnatal depression among mothers and to identify the factors associated with depressive symptoms among post-partum mothers.

METHODS

The present cross sectional study was conducted from January 2016 to June 2016 in two rural field practice areas namely, Vantamuri and Kinaye catered by Department of Community Medicine, Jawaharlal Nehru Medical College, Belagavi, Karnataka, India. Women attending immunisation clinics in the primary health center and who wished to participate, with postpartum period less than 3 months were included in the study. Sample size was calculated by taking the prevalence of Postnatal depression from other study.[4]

$$n = \frac{4pq}{d^2}$$

Where, p = 12.5% (Prevalence of postnatal depression)

q = 100 − p = 100 − 12.5 = 87.5
Taking d = 4%
N=4(12.5) (87.5)/16= 275 which can be rounded off to 300.

Data was collected using predesigned and pretested questionnaire. EPDS ("Edinburgh Postnatal depression scale") scale was used to detect the depressive symptoms and it has been validated for both antenatal and postpartum use and also widely used as screening instrument for detecting symptoms of depression. EPDS scale has ten components in it. Each item is rated from 0 to 3, yielding a total score of 0-30. Seven of its items are reverse-scored. An EPDS score cut off of 13 on Kannada version of EPDS was used to calculate the prevalence of Postnatal depression in the present study.[12] Informed written consent was taken from every participant. To ensure participant privacy data was collected in a separate room. Ethical clearance was obtained from Institutional Ethics Committee. Data analysis was done by using SPSS 21 trial version.

RESULTS

Among the 346 mothers interviewed, the mean age was 27±4.06 years and the most of respondents 97 (32.3 %) were 20–24 years of age followed by (27%) were 25-29 years. Majority 272 (90.7%) of the mothers were housewives and 288 (96%) of the respondents were literate. About 198 (66%) of the participants belong to Hindu religion, followed by 76 (25.3%) Muslims and only 26 (8.7%) were Christians. Most of the study participants belong to joint family 186 (62%). About 92(30.6%) of them belonged to class II, 83(27.6%) of them belonged to class III socioeconomic status according to Modified B.G Prasad classification (Table 1).

The prevalence of Post-natal depression among the 300 study participants in the present study is 41(13.6%) using Edinburgh post-natal depression scale. The score ≥13 is considered as the presence of depression. In the present study there was a statistically significant (p<0.05) association between the age of the women and the prevalence of post-natal depression and it was found the highest 23 (28.4%) was among the age group 25-29 years. As the literacy status of the women increased the prevalence of postnatal depression decreased and it was found highest 24 (20.5%) among the women who were studied up-to primary school which was found to be statistically significant (p<0.05).

The prevalence of postnatal depression was more in mothers who Hindus 31 (15.6%) by religion followed by Muslims 9 (11.8%) and least was among Christians 1 (3.8%). Even though there was no significant association between the family type and post-natal depression but still it was seen to be more prevalent among nuclear family 18 (15.7%). As the socio economic status (SES) and the prevalence of postnatal depression were inversely related, and it was highest 16 (27.5%) among the women with SES class IV according Modified BG Prasad classification.

Table 1: Socio-demographic characteristics of the study participants.

Characteristics	Depressed		Not - depressed		Total	%	p-value
	No.	%	No.	%			
Age (years)							
<20	2	8.6	21	91.4	23	100	
20-24	11	11.3	86	88.7	97	100	
25-29	23	28.4	58	71.6	81	100	$x^2 =22.84$
30-34	4	8.1	45	91.9	49	100	p < 0.05
>34	1	3.9	49	96.1	51	100	
Total	41	13.6	259	86.4	300	100	
Education							
Illiterate	2	16.6	10	83.4	12	100	
Primary	24	20.5	93	79.5	117	100	
Secondary	8	8.3	88	91.7	96	100	$x^2 = 8.25$
Pre university college	7	10.9	57	89.1	64	100	p <0.05
Degree	0	00	11	100	11	100	
Total	41	13.6	259	86.4	300	100	
Religion							
Hindu	31	15.6	167	84.4	198	100	
Muslim	9	11.8	67	88.2	76	100	$x^2 = 3.01$
Christians	1	3.8	25	96.2	26	100	p - 0.22
Total	41	13.6	259	86.4	300	100	
Family							
Joint	23	12.3	163	87.7	186	100	$x^2 = 0.70$
Nuclear	18	15.7	96	84.3	114	100	p – 0.402
Total	41	13.6	259	86.4	300	100	
Socio-economic status (modified B. G. Prasad classification)							
Class I	3	4.6	61	95.4	64	100	
Class II	9	9.8	83	90.2	92	100	
Class III	13	15.6	70	84.4	83	100	$x^2 = 13.99$
Class IV	16	27.5	42	72.5	58	100	p <0.05
Class V	0	00	3	100	3	100	
Total	41	13.6	259	86.4	300	100	

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

Risk factors Gravida	Depressed		Not - depressed		Total	%	p-value
	No.	%	No.	%			
1	22	20.5	85	79.4	107	100	
2	9	8.4	98	91.6	107	100	$x^2 = 7.9$
3	4	9.0	40	91.0	44	100	p < 0.05
>4	6	14.3	36	85.7	42	100	
Sex of the newborn							
Male	12	8.95	122	91.0	134	100	$x^2 = 3.26$
Female	29	21.3	137	78.7	166	100	p < 0.05
Time since delivery							
<4 weeks	5	11.1	40	88.9	45	100	
4-8 weeks	20	18.0	91	82.0	111	100	$x^2 = 2.83$
8-12 weeks	16	11.1	128	88.9	144	100	p – 0.243
Mode of delivery							
Normal	26	12.5	181	87.5	207	100	$x^2 = 0.69$
LSCS	15	16.1	78	83.9	93	100	p < 0.05
Age (years) at marriage							
< 20	21	17.6	98	82.4	119	100	
20-24	8	10.5	68	89.5	76	100	$x^2 = 2.84$
25-29	5	10	45	90	50	100	p – 0.416
>29	7	12.7	48	87.3	55	100	
Present preganancy							
Planned	12	7.2	156	92.8	168	100	$x^2 = 13.7$
Unplanned	29	21.9	103	78.1	132	100	p < 0.05
Total	41	13.6	259	86.4	300	100	

Table 2 shows that there was significant association between the Gravidity of the women and the prevalence of postnatal depression and was highest 22 (20.5%) among the primigravida. Women who delivered female baby 29 (21.3%) had suffered high prevalence of postnatal depression compared to women who delivered male baby 12 (8.95%). There was no significant association between the time since delivery and prevalence of postnatal depression and still it was high 20 (18.0%) during the period of 4-8 weeks of delivery. When compared to modes of delivery the prevalence of postnatal depression was more 15 (16.1%) among who delivered through Lower segment caesarean section. Postnatal depression was high 21 (17.6%) among women who got married below the age of 20 years. The prevalence was highest among the women who had >2 living children 15 (22.7%) and women who had unplanned present pregnancy 29 (21.9%) which was statistically significant.

DISCUSSION

The present study reported the prevalence of postnatal depression in 41 (13.6%). Post-natal mothers and it was found the highest 23 (28.4%) was among the age group 25-29 years. Similarly a study done among the women in Andhra Pradesh, the prevalence was found to be 31.4% and majority of the women were found to be between the ages of 21-25 years. Another study done in Goa, Mangalore and Delhi showed the prevalence 22% 31.44% and 24% respectively.[13-15] Similar study done in other countries showed the prevalence 23.77%, 30% and 9.2%.[1,11,16] The prevalence was quite low in the present study compared to the above studies. This may be due to good and proper postnatal care was given to the women in the study area.

Postnatal depression and the literacy status of the women in the present study were inversely associated which was similar to a study done in New Delhi, this may be because literate women will be more empowered and know to handle the thorny situations in the life.[14] In the present study there was significant association between the age, socio economic status and literacy status of the women with the prevalence of postnatal depression which was similar to a study done in Nepal.[17]

The prevalence of postnatal depression and was highest 20.5% among the primigravida and among women who delivered female baby 21.3%. Study done in Mangalore also showed high prevalence among primigravida and women who delivered female baby. This may be due to culturally male dominated Indian society; male children are preferred and this male-bias is deeply rooted.[14]

Another study done among Bahraini women reported that the women who delivered baby through LSCS had high prevalence of postnatal depression which was in par to our study this may be because of the post-delivery pain of the incision in LSCS.[18] The prevalence was high among the women who had unplanned pregnancy in the present study this may be because mentally they were not ready to accept the new-born as it was not planned.

CONCLUSION

Maternal and child health policies must integrate maternal depression as a disorder of public health significance especially in developing countries. Early screening of the women may reduce the adverse outcomes among both mother and child. Proper counselling should be done to all the pregnant women and the family members for the birth preparedness.

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