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POST PARTUM DEPRESSION - A PROSPECTIVE STUDY IN URBAN SOUTH INDIAN WOMEN

Dr.M.Scindiya Senior resident,Department of obstetrics and gynaecology, voluntary health services hospital, Chennai

Dr. Sarala Gopalan Professor Department of obstetrics and gynaecology, voluntary health services hospital, chennai

Dr.A.Madhu mitha Senior resident,Department of obstetrics and gynaecology, voluntary health services hospital, chennai

ABSTRACT

"Postpartum depression" (PPD) is a clinical term that refers to a treatable mood disorder that may begin 24 hours after childbirth or several months postpartum but typically has an onset between two to six weeks postpartum. Postpartum depression has adverse effects on the socio-emotional and cognitive development of the children.This prospective study was undertaken to study the incidence of post partum depression in an urban and area in South India.

A total of 528 postnatal women were included in the study.A detailed history was obtained in the postnatal ward. Mothers were initially asked to attend the postnatal clinic at 2 weeks postpartum and was administered the standardized questionnaire of Edinburgh Postnatal Depression Scale3 and the observer rated Hamilton Depression Rating Scale 4 in the local language (Tamil). Mothers diagnosed to be depressed were given supportive therapy with the help of the Department of Psychiatry. Subsequent follow ups were at 2 months and 6 months postpartum to coincide with the immunization schedule of the baby and both the scales were administered.

Summarizing the results it is seen that age, gravidity, educational status, husband's occupation and socio-economic status have no relation with PPD. Nuclear family type, cesarean section, female gender of the baby, multiple pregnancy, single marital status, mother in law as caretaker and family history of depression have a statistically significant risk of developing PPD.

KEYWORDS

Partum Depression, Postpartum Depression, EPDS And HDRS

Article History

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*Corresponding Author

Dr.M.Scindiya

Senior resident,Department of obstetrics and gynaecology, voluntary health services hospital, mscindiya@gmail.com

INTRODUCTION

"Postpartum depression" (PPD) is a clinical term that refers to a treatable mood disorder that may begin 24 hours after childbirth or several months postpartum but typically has an onset between two to six weeks postpartum.According to qualitative study from rural South India1 in Christian Medical College, Vellore, 26.3% were diagnosed to have PPD. In the developed countries2 10-15% of women experience major depression in postpartum period.

Postpartum depression is due to the hormonal changes occurring after child birth. Past history of depression, recent stressful life events, daily stressors such as childcare, lack of social support (especially from the partner), unintended pregnancy and insurance status have been validated as risk factors. Women who have suffered one episode of major depression following childbirth have a risk of recurrence of about 25%2.

Postpartum depression has adverse effects on the socio-emotional and cognitive development of the children.This prospective study was undertaken to study the incidence of post partum depression in an urban and area in South India.

AIM OF THE STUDY:

To determine the incidence of postpartum depression and its risk factors.

MATERIALS AND METHODS:

This prospective study was done from June 2010 to March 2012 in the department of obstetrics and gynecology with the collaboration of the department of psychiatry in the Voluntary health services, Multi–specialty Hospital & Research Institute, Chennai.

Women who delivered in this hospital were interviewed in the postnatal ward .If they satisfied the inclusion and exclusion criteria, they were included in the study after obtaining an informed consent.

Inclusion criteria:

- Willing to participate in the study.
- Living in the catchment area to be able to attend the hospital at 2 weeks, 2months and 6 months follow up.

Exclusion criteria:

- Past history of depression and taking anti-depressants.
- Inability to answer the questionnaire due to serious illness.

Methodology:

A detailed history including mother's age, parity, mother's educational status, husband's occupation, socio-economic status of the family, type of family and family history of depression, if present was obtained in the postnatal ward. Any risk factors during pregnancy, mode of delivery and gender of the baby were documented.

Mothers were initially asked to attend the postnatal clinic at 2 weeks postpartum and was administered the standardized questionnaire of Edinburgh Postnatal Depression Scale3 and the observer rated Hamilton Depression Rating Scale 4 in the local language (Tamil). Mothers diagnosed to be depressed were given supportive therapy with the help of the Department of Psychiatry. Subsequent follow ups were at 2 months and 6 months postpartum to coincide with the immunization schedule of the baby and both the scales were administered.

RESULTS AND DISCUSSION

A total of 528 postnatal women were included in the study. Of these, 509(96.4%) women attended the follow up at 2 months and only 472(89.39%) mothers attended at 6 months. In the present study, majority of the women (84 %) were in the age group of 21-30yrs and one half of the women were primigravidas. About 2/3rds of the women included in the study have stopped with school education and belonged to lowsocioecomic status (69%).

INCIDENCE

There is a wide range of difference in the incidence of PPD across the globe. It is noteworthy that this variation reported by researchers is considerable since it depends on factors such as instruments used, the methods in which mothers were defined as depressed, the study design, sampling methods, differences in symptom definition and expression, and the duration after delivery when the depression is evaluated.

In the present study two scales namely EPDS and HDRS were used for diagnosis of PPD. It was observed that the incidence of PPD was higher by HDRS (28.03%) as compared to EPDS (22.54%). The higher incidence is probably due to the fact that HDRS contains parameters related to somatic symptoms. In postpartum women somatic symptoms are more common and this probably accounts for the higher incidence when assessed by HDRS. Using EPDS incidence similar to the present study has been reported by two other recent studies from India. The incidence noted from Vellore1 was 26.3% and Kolkata5 was 25%. A study from Native America6 (23%) has also reported a similar incidence though the scale used was different (Postnatal Depression Screening Scale).

On the contrary, the study from the USA[7] using the EPDS showed a lower incidence of 13% as compared to the present study. However in that study the mothers were interviewed at 4 weeks postpartum and the cut-off of 13 or more was used to diagnose PPD, whereas in the present study the mothers were interrogated at 2 weeks postpartum and the cut-off of 12 or more was taken to define depression. By using the scale at 4 weeks, a few women with PPD may have been missed.

In our study it was found that Incidence of PPD did not vary significantly in association with the age or gravidity. In contrast to this Nakku et al 8 suggested that those women who had psychiatric disorder were significantly younger ($p<0.001$) and more likely to be adolescents. Being young and having to meet with the demands of a new mother is likely to be associated with significant stress owing to poorly developed coping mechanisms and lead to mental ill health. The study had used Mini International Neuropsychiatric Interview (MINI) for the diagnosis of PPD and around 20% of the women belonged to younger age group whereas in the present study only 10% of mothers were less than 20 years of age. This difference in the sample size of women less than 20 years and the scale used for diagnosis may be the reason for the variation in the results.

Though the incidence of PPD was slightly lower (18%) among professionals and higher among those with primary school education (25%), this was not statistically significant (P=0.942) in this study. On the contrary, in a study by Ghosh et al.9 it was shown that low educational status had statistically significant relationship with PPD ($P<0.001$). In their study around 27% of the mothers fall under the illiterate and just literate groups collectively whereas in the present study there were no illiterate mothers which could explain the discrepancy in results. Though a study by Savairimuthu et al.1 from India found that mothers with less than 5 years of school education had higher incidence of PPD, the number of women in that study was 137 only.

Incidence of PPD was higher among women who had family history of depression and lower among those without family history in this study. This difference had high statistical significance (P value =0.00).This result was supported by Dean et al10 and Savairimuthu et al1 who demonstrated that family history of depression had a significant relation with PPD. Dean et al. cited that the rate of puerperal psychosis in the first-degree relatives of the puerperal patients was significantly greater than in the general population but he hypothesis that there is a specific genetically determined puerperal psychosis was not supported.

In India joint family system is more common. But in the recent years the nuclear families have been on the rise due to urbanization and the adoption of western culture. This is well seen in the present study where the percentage of nuclear families (59%) was slightly higher than that of joint family type (41%).The incidence of PPD was higher in nuclear families as compared to joint families which was found to be statistically significant (P=0.002) in the present study. Similar result was observed in a study by Ghosh et al.9 in 2011, which proves that the lack of social support in a nuclear family as a significant risk factor for PPD.

In this study there is a significant relationship between single marital status (including widows and those women who are separated from their husbands) and postpartum depression (P=0.000). Similar results were found in an African study8 by Nakku and associates despite using a different screening scale ($P<0.025$

There were three twin pregnancies in the present study and all the three mothers (100%) had PPD whereas only 22% of the mothers with singleton pregnancy had PPD. Though the incidence of PPD in twin pregnancy is higher, the sample size is too small to draw any conclusion.A systematic review published by Ross and associates11 also quoted a higher incidence of PPD in multiple pregnancies. However the authors have themselves pointed out some limitations in this review such as small sample size, lack of appropriate comparison groups, lack of control of maternal psychiatric history and other important socio-demographic predictors of depression and co-occurrence of reproductive technologies and multiple births.

Another important variable that has been assessed for its relation to postpartum disorders include complications related to the mode of delivery. In the present study, incidence of PPD was found to be higher (28%) among women delivered by caesarean section and lower (19%) among women who delivered vaginally. This difference was statistically significant (P=0.041). In a study by Adewuya et al.12 women were interviewed 6 weeks after delivery and still cesarean Section was a high risk factor for PPD (OR- 3.58, CI-1.72-7.48). On the other hand, a study by Sankapithilu and associates13 cited that there was no significant difference in depression among post caesarean subjects(20%) as compared to normal deliveries (16%).However the sample size was small in this study(100 women) to draw any definitive conclusion.

The preference for male children is deeply rooted in the Indian society, such gender bias and the limited control a woman has over her reproductive health may make pregnancy a stressful experience for some of them. In the event that the child is a girl, the risk of depression is greater as the mothers are mostly blamed for the birth of a female child In this study, the incidence of PPD was higher (28%) among women who gave birth to female babies and lower (16%) among women who gave birth to male babies and this difference had high statistical significance (P=0.001). The groups were comparable since equal number of male (51%) and female babies (49%) were delivered by the women in this study. Similarly an Indian study by Patel et al.14 had also found female baby as a risk factor for PPD (RR 1.8, CI 1.2–2.7). In a study from Nigeria by Adewuya et al.12 also shows a similar result (OR 2.74, CI 1.87-4.03).

Social support has a significant impact on the degree of depression, either as a mediating or as an independent variable. Incidence of PPD was lowest (17%) among women who were taken care of by their mothers and highest (28%) among women taken care of by the mothers-in-law. This difference was found to be statistically significant (P=0.014). A study by Gausia and associates15 also cited that poor relationship with mother-in-law had a statistically significant association with PPD (OR 3.6, 95% CI 1.1-11.8).

TREND OF PPD INCIDENCE IN THE POSTPARTUM PERIOD.

By both the scales incidence of PPD was highest at 2 weeks postpartum than 2 and 6 months which may be due to the fact that mothers get accustomed to the stress of childcare as time progresses. Observing the trend of PPD the incidence is higher at 2 weeks postnatal period and hence the ideal time of screening would be 2 weeks for the identification of maximum number of cases.

According to a study from USA16 by Gjerdingen et al. incidence of PPD was greatest at 0-1 month postpartum (12.5%), then fell to between 5.0% and 7.1% at 2-6 months, and rose again to 10.2% at 9 months postpartum. Though the incidence was lower when compared to the present study due to the variation in the study population and the screening scale used, the trend of PPD was similar in both the studies.

SEVERITY OF PPD.

Postpartum depression manifests along a continuum, though most mothers may experience relatively mild or moderate symptoms some may present with a more severe form of depression, characterized by suicidal tendencies and marked impairment of functioning also. In the

present study, most of the mothers had mild depression (70.3%) and around 28% had moderate and only 1.4% had severe degree of depression at 2 weeks postpartum according to the HDRS. However mild depression tends to increase whereas moderate and severe depression tends to decrease at 2 and 6 months follow-up as compared to 2 weeks. Among the women diagnosed to have severe depression at 2 weeks, one had moderate depression at the end of 2 months and the other had mild depression at the end of 6 months.

The mothers with severe PPD may have delusional beliefs that relate to the infant or she may have auditory hallucinations that instruct her to harm herself or her infant. Risk of suicide is significant in this population and the rates of infanticide associated with untreated puerperal psychosis are as high as 4%13.

Careful and complete investigation of the psychopathology of any woman with a postpartum mood disorder may determine the presence of psychosis and prevent infanticide. Inquiry into the presence of bizarre delusions of influence or passivity, tactile or olfactory hallucinations, or cognitive impairment may detect an emerging psychosis. Despite the severity of their symptoms in the immediate postpartum period, women who have postpartum psychosis have a better overall prognosis compared with women who have non-puerperal psychosis, and they are less likely to have recurrent illness beyond the postpartum period.

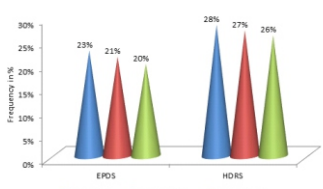
From the present study it is clear that screening for PPD at 2 weeks is useful and essential in women with high risk factors like nuclear family type, cesarean section, female baby, multiple pregnancy, single marital status and family history of depression.

TREND OF PPD INCIDENCE IN THE POSTPARTUM PERIOD

This was assessed by both EPDS and HDRSs initially at 2 weeks and at follow-ups at 2 months and 6 months and this is shown in Table 14.

Table 14

INCIDENCE OF PPD	AT 2 WEEKS	AT 2 MONTHS	AT 6 MONTHS
EPDS	22.54%	21.22%	19.7%
HDRS	28.03%	26.91%	25.85%



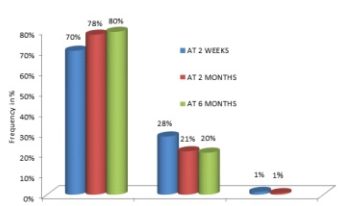
The above bar diagram shows the trend of PPD at different period postpartum. By both the scales incidence of PPD decreases uniformly by the end of 6 months and the decrease was slightly more with HDRS.

SEVERITY OF PPD BY HDRS

Apart from diagnosing PPD, HDRS also helps in determining the severity of depression and this is shown in Table 15.

Table 15

SEVERITY OF PPD	AT 2 WEEKS	AT 2 MONTHS	AT 6 MONTHS
Mild	104 (70.27%)	107 (78.10%)	97 (79.51%)
Moderate	42 (28.38%)	29 (21.17%)	25 (20.49%)
Severe	2 (1.35%)	1 (0.73%)	0 (0%)



Initially at diagnosis most women with PPD had milder form of depression (70.3%), around 28% had moderate and only 1.4% had severe degree of depression. However mild depression tends to increase whereas moderate and severe depression tends to decrease at 2 and 6 months follow-up as compared to 2 weeks. Among the women diagnosed to have severe depression at 2 weeks, one had moderate depression at the end of 2 months and the other had mild depression at the end of 6 months.

CONCLUSION

Summarizing the results it is seen that age, gravidity, educational status, husband's occupation and socio-economic status have no relation with PPD. Nuclear family type, cesarean section, female gender of the baby, multiple pregnancy, single marital status, mother in law as caretaker and family history of depression have a statistically significant risk of developing PPD.

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