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Research Article

Postpartum Depression; A Survey of Mothers Attending Paediatric Outpatient Department in A Tertiary Care Centre

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Abstract: Postpartum maternal depression (PPD) prevalence is around 15-20% in low- and middle-income group countries, and it harms the mother and child unit The aim of the study was to find the prevalence of Postpartum maternal depression in mothers attending Paediatric Out Patient Department OPD and to find if there is any correlation with Socio-Economic-Status SES, maternal health condition, pregnancy or obstetric complication, gender of the child, etc. with postpartum depression. A total of 200 mothers attending the pediatric OPD of a tertiary care hospital in a sub-urban area of South India were enrolled. They were interviewed with a semi-structured questionnaire. Details regarding demographic details, education level, employment, marital status, type of family, availability of help to look after the child and to do household chores, substance use in the family members, mental and physical abuse experienced by the mother, if any. Details of psychiatric illness in the family or history of previous postpartum depression were also collected. Screening for postpartum depression was done using Edinburgh postnatal depression scale. The prevalence of PPD was 9%, and interference with child rearing and perception of difficulty in daily activities were significantly associated with PPD. PPD is an underdiagnosed condition. Mothers can be easily screened for pediatric OPD, and treatment can be offered, leading to healthy mothers and children.

Key Words: Edinburgh questionnaire, post-partum depression, Post-Partum Depression screening

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1. INTRODUCTION

Depression is a common and serious medical illness that negatively affects how one feels, thinks, and acts. Perinatal depression is one of the common types of depression. It is defined as an episode of depression occurring either during pregnancy, within one year after delivery, or both. This type of depression can be caused due to mental illness in the mother, stress induced by medical conditions in the mother or baby, or financial or emotional problems within the family. The prevalence of perinatal depression is higher in low- and middle-income countries (LMIC), with a mean prevalence of 15.6% (95% CI 15.4 to 15.9) antenatally and 19.8% (95% CI 19.5 to 20.0) postnatally, particularly in poorer women with gender-based risks (including intimate partner violence, the bias against female babies, and role restrictions regarding housework and infant care) or psychiatric history.[1] The combination of this high prevalence of perinatal depression in LMIC as well as the woman's primary responsibility for childcare, means that, apart from its effect on maternal health, perinatal depression can have a substantial influence on child health outcomes. Postpartum depression (PPD) is one of the psychological complications of those who have experienced maternal morbidity, which can adversely affect the well-being of mothers, newborn infants, and other family members.[2] Perinatal depression has been described as a global threat to child development[3] and is recognized as a significant public health concern, especially in LMIC. [4,5] There are various ways in which PPD can affect the child. The first one is the direct pernicious effect of parental disorder on the child. Secondly, an indirect effect of PPD on children could be due to interpersonal behavior and parenting techniques of affected parents. Lastly, the effect on children could be due to social adversity commonly associated with psychiatric illness or due to genetic or constitutional factors. The infant is exceptionally dependent on the caretaker and is sensitive to interpersonal contact; in most cases, the mother's infant s the primary care, and her mental health could affect the child's development.[6] A recent systematic review of studies from LMIC reported that children of mothers with depression or depressive symptoms are more likely to be underweight (OR 1.5; 95% CI 1.2 to1.8) or stunted (OR 1.4; 95% CI 1.2 to1.7)[7]; the review estimated that between 23 and 29% fewer children would be underweight or stunted if the infant population were entirely unexposed to perinatal depressive symptoms. L. Murray found that infants of postnatally depressed mothers performed worse on object concept tasks were more insecurely attached to their mother, and had mild behavioral difficulties. Though PPD did not affect the general cognitive and language skills, it appeared to make infants more vulnerable to adverse effects of lower social class and male gender.[8] As there is a lack of literature on PPD from southern India and the various domino effect of PPD on children in particular and other family members, this study was undertaken to screen mothers of infants attending pediatric OPD for postpartum depression and find its prevalence and correlation if any with the socio-economic status, maternal health condition, pregnancy, and obstetric complication, gender of child and family dynamics.

2. MATERIALS AND METHODS

2.1. Study Design

After obtaining clearance from the Institutional Review Board, (SMC/IEC/2022/108), a prospective descriptive study was carried out from March 2022 to May 2022.

2.2. Study Setting

Pediatric OPD of a tertiary care center situated in the Suburbs.

2.3. Study Population

Mothers of children aged 0 to 1 year attending the pediatric OPD with their wards. A total of 200 mothers were recruited for the study.

2.4. Sampling method

A convenient sampling method was used. All eligible mothers accompanying their infants to pediatric OPD were enrolled in the study.

2.5. Inclusion criteria

Mothers of children aged 0-1 years attending the outpatient department (OPD) of Paediatrics in a tertiary care home.

2.6. Exclusion criteria

Mothers who did not give consent for the interview

2.7. The instrument used to collect data Sociodemographic questionnaire

A semi-structured questionnaire was used to collect demographic data regarding age, education status, employment, type of family, and socioeconomic status (socioeconomic status (SES) was graded based on the Modified Kuppuswamy scale).[9] Details of pregnancy were collected concerning; marital status, number of children, age of index child, antenatal problems, type of delivery, and newborn problems. A social environment concerning taking care of the baby was also considered. Factors taken into account were ease of managing infants, presence of household help or relatives to look after the infant, marital discord, spousal abuse, etc. In addition, the presence of psychiatric issues and stressful events in the family were also enquired about. Edinburgh postnatal depression scale, Mothers were screened for postpartum depression using the Edinburgh Postnatal Depression Scale, a validated questionnaire for screening depression. The Edinburgh scale has ten self-administered questions with a maximum score of 30. If the score is above 10, the possibility of depression is present.

2.8. Statistical Analysis

The collected data were analyzed with IBM SPSS software version 23. Descriptive data are presented as statistics frequency analysis, percentage analysis was used for categorical variables, and the mean & SD was used for continuous variables. An unpaired sample t-test was used for bivariate samples, and for categorical data, the Chi-Square test was used. A *p*-value of <0.05 was considered a significant level.

2.9. Study Procedure

3. RESULTS

A total of 200 mothers were recruited for the study. The age of the mothers ranged from 21-35, with an average age of 25.64±3.04. The prevalence of postpartum depression was 9%. All of them were married, and no single parents were in the study group. Most of them were first-time mothers, 168 (84%). Out of the 200 mothers screened, 34% had children aged 0-3 months, 51% had babies in the age group of 3-6 months, and 15% had babies aged 6-12 months. Maternal factors such as age and medical problems and their association with postpartum depression are depicted in Table: 1.

Table 1: Maternal factors and postpartum depression

Maternal age	Edinburgh score <10	>10	P value
20-25	105	11	0.707
26-30	55	6	
30-35	22	1	
Medical problems			0.42
Nil	137	12	
GDM	2	0	
GDM, Hypothyroid	5	0	
PIH	7	0	
Hypothyroidism	31	6	

DM Diabetes mellitus, PIH: Pregnancy-induced Hypertension

Of the 200 mothers, only 34.5% had a college education; the rest, 65.5%, only had school-level education. However, none of our study population was employed; they were all homemakers. Therefore, socioeconomic status did not have any significance with postpartum depression. Table 2 depicts the same.

Table 2: SES of the study population and its significance with PPD

SES	Edinburgh score <10	>10	P value
Upper	3	0	0.705
Upper Middle	59	6	
Lower Middle	93	10	
Upper Lower	57	2	
Total	182	18	

A comparison of pregnancy-related variables like planned pregnancy, inter-pregnancy interval, mode of delivery, gestational age, and newborn complications with depression is depicted in Table 3.

Table 3: Pregnancy-related variables and postpartum depression

Planned Pregnancy	Edinburgh score <10	>10	P value
Yes	122	12	**0.975**
No	60	6	
Inter-pregnancy Interval			
0	154	14	**0.152**
<2 years	17	4	
>2 years	11	0	
Type of Delivery			
NVD	98	8	**0.46**
LSCS	84	10	
Gestational Age			
Term	165	18	**0.175**
Preterm	17	0	
NB complication			
Present	41	7	**0.246**
Absent	141	11	

The family dynamics, like the type of family, spousal abuse, and interference in child upbringing and its effect on postpartum depression, are presented in Table 4.

Table 4: Family-related attributes and postpartum depression

Type of Family	Edinburgh score <10	>10	P value
Nuclear	117	9	**0.231**
Joint	65	9	

Spousal Abuse			
Yes	2	0	
No	180	18	**0.655**
Interference in baby handling			
No	170	15	
MIL	1	1	**0.004**
FIL	9	0	
FIL & MIL	2	2	
Gender of Newborn			
Expected	35	2	
Not expected	36	3	**0.607**
No preference	111	13	

MIL: Mother-in-law, FIL: Father-in-law

Table 5 depicts the mother's perception of babies' disposition and how she feels about handling her daily activities, availability of help caring for the baby, and stressors in the last year.

Table 5: Mother's perception of baby handling and daily activities with postpartum depression

Baby temperament	Edinburgh score <10	>10	P value
Happy	149	15	**0.877**
Fussy	33	3	
Help to look after the baby.			
Yes	118	13	**0.529**
No	64	5	
Stressful events in the last 1 year			
Yes	8	1	**0.821**
No	174	17	
Day-to-day activity functioning			
No difficulty	168	10	
Some difficulty	12	5	**0**
Very difficult	2	3	

The association between antenatal medical problems and the development of PPD is depicted in Table 6. There was no significance found with these criteria.

Table 6: Association between antenatal medical problems and PPD

Medical issues in mother (Number)	Depression	No Depression	P value
No (137)	12	125	
DM (2)	0	2	
DM & HT (5)	0	5	0.42
PIH (7)	0	7	
HT (31)	6	25	

DM- Diabetes mellitus, HT-Hypothyroid, PIH-pregnancy-induced Hypertension

Of all the variables that were analysed mothers' perception of interference in child care by in laws and difficulty in doing day to day activities were the factors that were statistically significant.

4. DISCUSSION

Coffman MJ et al. [10] did a study to find the feasibility of screening mothers in women, infants, and child services, and they found it was possible to do so, and the prevalence of PPD was 6.3% in their study. Of the identified mothers with possible PPD only 47% went for further care. Similarly in our study none of the mothers objected to getting screened for PPD. This reiterates that postnatal mothers can be easily screened for PPD at whichever clinic they present to, but easier in pediatric OPD as there is a higher chance of them accompanying their infant for vaccination. The COVID pandemic has created a lot of havoc concerning mental and physical health. A systematic review done by Sadia Usmani et al.[11] showed the prevalence of maternal PPD during the COVID times ranged from 7%-80.8%. The socioeconomic risk factors identified were low socioeconomic status and unemployment. Psychological factors associated with PPD were fear of contracting COVID, fear of the future, childbirth stress, social isolation, and pre-existing psychiatric illness and medical conditions antenatally. The present study done in the waning phase of the COVID pandemic showed a prevalence of maternal PPD to be 9%. The only significant risk factor found was interference with child-rearing. Chen. Q et al. [12] found the pooled prevalence of PPD to be 34% during the COVID pandemic in their meta-analysis. The present study had a lesser prevalence of PPD (9%) compared to the survey done in Gujarat by Modi VP et al.[7], in which PPD was 20.4%. In their study, age, financial dependence, history of psychiatric illness, sex of the child, perceived inadequacy of

relation with in-laws, abusive relationship, and obstetric complications were all significant factors for developing PPD. However, in the present study, interference in child rearing by family members was the only important risk factor for developing PPD. Rathod et al.[13], in their study in rural Madhya Pradesh, found the prevalence of PPD depression to be 8.8% in the community and 18.5% in the hospital facility-based population. Again, the majority of PPD is lower in the present study, which was facility-based. The authors found the mother's age, suicidal ideation, and disability score to be a significant risk factors for developing PPD. The present study compared with them disability scores where the p-value was 0. Gaikwad, Shruti, et al.[14] surveyed the prevalence of PPD in mothers attending pediatric OPD in Maharashtra. The majority was 22%, and significant risk factors for developing PPD in their research were domestic abuse, rural residence, and lack of family support to look after the newborn. The present study did not take the place of dwelling as a variable, and the other factors did not yield a significant p-value. A systematic review done by RP Upadhyay et al.[15] shows that the prevalence of PPD in the Indian population is 22%, and the risk factors are major stressful events in previous years, current girl baby, financial dependence, lack of family support, age of mother, marital harmony and medical problems in mothers and newborn. Abdollahpoura. S et al. [2] found that PPD was twice as common in Maternal near miss (MNM) than in women without MNM. However, we did not encounter any such case in the present study. Though there were 63 women with antenatal problems, and 10% of them (N=6) had PPD, it did not have any significance. All the studies discussed found the prevalence of PPD to be around 18-22%. The lower incidence of PPD in the present study could be because 84% of the study population were first-time mothers, and being a mother is perceived to be one of the most important landmarks in a woman's life in this part of the world. Moreover, most had help looking after their newborns though 63% were in a nuclear family. This aspect of the mother or the mother-in-law helping the new mother with child care reduces the stress of caring for the newborn. PPD was lower in women who were more than 30 years of age. This could be due to the inadequate representation in the present study or to increased maturity with aging and the ability to handle stress. The educational qualification of the mother aged >30 years was high school and above. This could also be one of the reasons for lower PPD in elderly mothers. Irrespective of their educational status, all the mothers in the study population were not employed. This might have reduced the prevalence of PPD as there was no stress involved in losing one's job or re-joining the workforce before one was ready.

5. CONCLUSION

Postpartum depression screening is feasible in pediatric OPD. The present study could identify Postpartum depression in 9% of mothers attending pediatric OPD. Postpartum depression is a reality and must be identified and the mothers counseled and treated. Women might not even know that they are depressed and might manifest with a vague physical disability. Therefore, it becomes the responsibility of the healthcare system to identify post-partum depression in mothers. This can be achieved by screening mothers with pre-validated questionnaires in the pediatric OPD when they accompany their children. The tests are easy to administer and less time-consuming. A small effort from the pediatric department would increase the mother's well-being and lead to a healthy child.

6. LIMITATION

The sample size is small to generalize the findings. However, a multicentre study with a larger sample size might help confirm the results.

7. IMPLICATION OF THE STUDY

The results of this study suggest that postnatal mothers can be easily screened for Postpartum depression in Paediatric OPD with the Edinburgh postnatal scale in 5 minutes. In addition, mothers identified with depression can be referred to the psychiatry department for further management. This would help the mother and the baby in turn.

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9. AUTHORS CONTRIBUTORS STATEMENT

Dr. Balamma Sujatha Study design and questionnaire preparation, preparing manuscript; Dr. Saraga: Preparing manuscript, statistical analysis, Interviewing the subjects, literature review; Dr. Melachuru SaiPadma Charan interviewing the subjects, literature review, statistical analysis; Dr. Ramachandran S Interviewing the subjects, literature review

10. CONFLICT OF INTEREST

Conflict of interest declared none.

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