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Original Research Article

Unearthing the Enigma: Prevalence and Risk Factors of Post-Partum Depression in a Rural Tertiary Centre

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Abstract:

Background: Postpartum depression or PPD is defined as a "major depressive episode" and listed in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Women who experience PPD generally have their first symptoms during pregnancy or within 4 weeks after delivery of their infant.

Objective: In view of this, this study was undertaken to assess the prevalence of PPD at a rural tertiary care hospital.

Methods: A cross-sectional study was conducted among 250parturient women during May 2023 to July 2023 who delivered or came for follow-up visits to the Department of Obstetrics and Gynaecology at Adichunchanagiri Institute of Medical Sciences, Mandya. The prevalence of postpartum depression and anxiety was done by application of Edinburgh Postnatal Depression Scale (EPDS) which consists of 10 questions, evaluating the symptoms and their frequency on 3rd day, 2nd week and 6th week. Those who are found to have severe psychiatric morbidity or suicidal ideation during the course of the study were referred to the Department of Psychiatry.

Results: The mean age of the study participants was found to be 25.34±3.967. The mean EPDS score was found to be 7.07±3.380. The prevalence of post-partum depression in the present study was found to be 6.8%.

Conclusion: Postpartum depression screening is crucial for early detection and intervention and fostering a healthier environment for both mother and the child. Regular screenings after pregnancy can contribute to the overall mental health of new mothers, leading to improved outcomes and reduced long term effects on the family unit.

Keywords: EPDS, PPD, Pregnancy.

Introduction

The World Health Organization defines maternal health as a state of wellbeing in which a mother has the potential to work effectively and cope with normal stresses and contribute towards the community [1].

PPD is a significant global health concern, affecting millions of women worldwide. According to the WHO, it's estimated that about 10% to15% of women experience PPD after giving birth.

Childbirth represents for women a time of great vulnerability, with postpartum mood disorders representing the most frequent form of maternal mental health morbidity following delivery [2]. Postpartum period is defined as 6 weeks or 42 days after childbirth. The spectrum of post-partum psychiatric disorders are Post-partum Blues, Postpartum(or postnatal) Depression, and Post-partum Psychosis [4].

Symptoms of postpartum depression include

- Uncontrollable mood swings
- A fear of being alone
- Feelings of hopelessness or being over-whelmed.
- A fear of hurting oneself, one's partner, or the baby
- Loss of energy or motivation

- Withdrawal and isolation from friends and family
- Physical symptoms also may be present, including fatigue, sleep disruption, loss of appetite, tremors, chest pain, and headache.

Postpartum depression can predispose to chronic or recurrent depression, which may affect the mother–infant relationship and child growth and development. Children of mothers with postpartum depression have greater cognitive, behavioural and interpersonal problems compared with the children of non-depressed mothers [5-9].

India is experiencing a steady decline in maternal mortality, which means that the focus of care in the future will shift towards reducing maternal morbidity, including mental health disorders. Despite the growing number of empirical studies on postpartum depression in India, there is a lack of robust systematic evidence that looks not only at the overall burden of postpartum depression, but also its associated risk factors. Our current understanding of the epidemiology of postpartum depression is largely dependent on a few regional studies, with very few nationwide data. The current study was done to fill this gap, by providing an updated estimate of the burden of postpartum depression in India, to synthesize the important risk factors and to provide evidence-based data for prioritization of maternal mental health care.

Objective of the Study:

To estimate the prevalence and risk factors of PPD at a tertiary care hospital.

Materials and Methods:

Thiscross-sectional study was conducted Pregnant women more than 18 years of age who delivered at Department of Obstetrics and Gynaecology , Adichunchanagiri Institute of Medical Sciences, Mandya and further came for follow up on 2nd week and 6th week. Duration of study was 3 months (May 2023 to July 2023)

Inclusion Criteria:

All women who deliver either vaginally or caesarean at AIMS during study period and who are willing to participate in the study.

Exclusion Criteria

- Women with intrauterine fetal demise or previous bad obstetric history
- History of psychiatric illness/ or any anti psychiatric medications.

Method of Collection of Data:

Pregnant women more than 18 years of age who delivered orcame for follow-up visits to the Department of Obstetrics and Gynaecology at Adichunchanagiri Institute of Medical Sciences, Mandy were included in the study. Clearance from the institutional ethical committee was taken before starting the study. Study participants were included in the study by Purposive Sampling technique. Written informed consent was taken from the study participants before collecting the data. A pre-tested, semi-structured questionnaire was used to collect information on socio-demographic variables and obstetric history by interview method. The prevalence of postpartum depression and anxiety was done by application of Edinburgh Postnatal Depression Scale (EPDS) which consists of 10 questions, evaluating the symptoms and their frequency on 3rd day, 2nd week and 6th week. An EPDS cut-off score equal to or greater than 13 is required to determine if patients are at risk for developing PPD.Those who are found to have severe psychiatric morbidity or suicidal ideation during the course of the study were referred to the department of Psychiatry.

Statistical Analysis:

The data was collected and compiled in MS Excel. Descriptive statistics has been used to present the data. To analyse the data SPSS (Version 26.0) was used. Significance level was fixed as 5% (α = 0.05). Qualitative variables are expressed as frequency and percentages and Quantitative variables are expressed as Mean and Standard Deviation.

Results:

Among 250 mothers, majority i.e., 115 (46%) belonged to 21-25 years age group and 83 (33.q%) belonged to 26-30 years of age. The mean age of the mothers was found to be 25.34+3.967 years of age. 149 (59.6%) belonged to rural area and 101 (40.4%) belonged to urban area. 55.2% of the mothers belonged to lower middle class and only 29.2% of the mothers were employed. 42.8% of the mothers were degree holders and 42% had completed their high school education. 64.8% of the mothers were living in a joint family (Table 1).

Table 1: Socio-demographic variables

Socio-demographic variables		Frequency	Percentage
AGE	**18-20 years**	26	10.4
	21-25 years	115	46.0
	26-30 years	83	33.2
	31-35 years	22	8.8
	36-40 years	4	1.6

MEAN+SD		25.34+3.967	
Residence	**Urban**	101	40.4
	Rural	149	59.6
Socio-economic status	**Upper**	16	6.4
	Upper middle	57	22.8
	Upper lower	39	15.6
	Lower middle	138	55.2
Occupation	**Employed**	73	29.2
	Home maker	177	70.8
Literacy	**Primary education**	20	8.0
	High school	105	42.0
	Degree	107	42.8
	PG	18	7.2
Family structure	**Joint**	162	64.8
	Nuclear	88	35.2

64.4% of the mothers were multigravida. 59.6% of the mothers underwent vaginal delivery and 22% of the mothers underwent emergency LSCS; about 130(52%) males and 120(48%) were females. NICU admission among them was about 50(20%).Only 8.8% of the mothers had pre-term delivery (Table 2).

Table 2: Obstetric variables

Obstetric variables		**Frequency**	**Percentage**
Gravida	**Primigravida**	89	35.6
	Multigravida	161	64.4
Mode of delivery	**Assisted VD**	8	3.2
	VD	149	59.6
	Elective LSCS	38	15.2
	Emergency LSCS	55	22.0
Term/ Preterm	**Preterm**	22	8.8
	Term	228	91.2

Domestic violence and stressful events were experienced by 2(0.8%) parturient.The overall EPDS score of the mothers was found to be 7.07+3.380 (Table 3, Figure 2).

Table 3: EPDS Score

EPDS SCORE	**PPD**		**Overall**	**P Value**
	Yes	**No**		
MEAN	11.76	6.73	7.07	<0.001
SD	5.333	2.927	3.380	

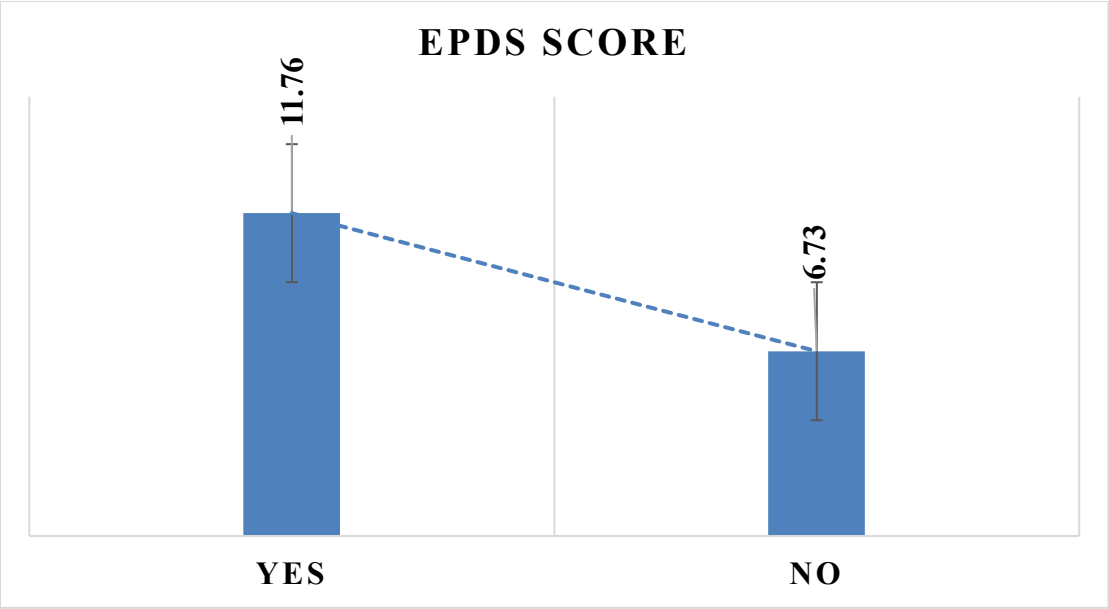

Figure 2: EPDS scores among the mothers:

17(6.8%) of the mothers were found to have post-natal depression by EPDS score (Figure 1).

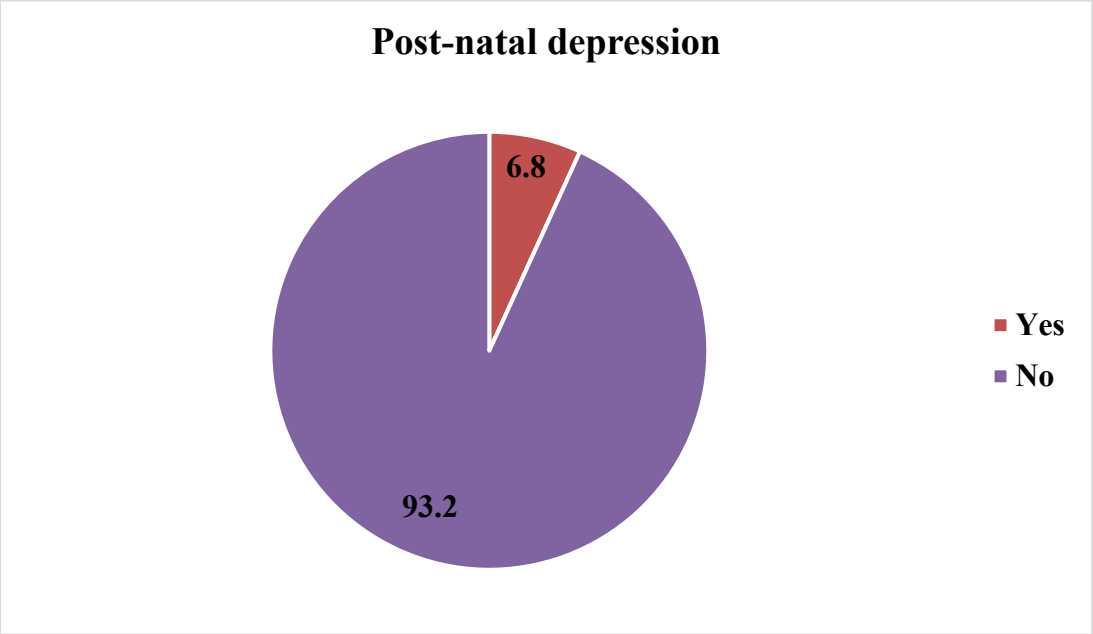

Figure 1: prevalence of Post-natal depression:

On day 14 , 233 parturient (EPDS<13) none of them turned positive and 8 parturient still scored EPDS>13. On 6th week 2 still scored EPDS >13 and remaining 233 none of them turned positive. When the risk factors of post-natal depression were analysed, it was found that mothers who had complications during delivery and who had emergency LSCS, assisted vaginal delivery were found to have depression in a higher proportion. The association of post-natal depression was found to be statistically significant with Complications like Postpartum haemorrhage and seizures and mode of delivery(Assisted vaginal delivery) in the present study (Table 4).

Table 4: Association of Risk factors with depression

Association of Risk factors with post-natal depression	P Value
Age	0.435
Address	0.109
Gravida	0.581
Complications	**0.002**
Mode of delivery(Assisted vaginal delivery)	**0.037**
Term/preterm	0.660
Socio economic status	0.396
Occupation	0.594
Literacy	0.310
Family structure	0.993

Discussion

Postpartum depression can predispose to chronic or recurrent depression, which may affect the mother–infant relationship and child growth and development [5–7]. Children of mothers with postpartum depression have greater cognitive, behavioural and interpersonal problems compared with the children of non-depressed mothers [5, 6]. A meta-analysis in developing countries showed that the children of mothers with postpartum depression are at greater risk of being underweight and stunted [6]. Moreover, mothers who are depressed are more likely not to breastfeed their babies and not seek health care appropriately [5]. A longitudinal study in a low- and middle-income country documented that maternal postpartum depression is associated with adverse psychological outcomes in children up to 10 years later [8]. While postpartum depression is a considerable health issue for many women, the disorder often remains undiagnosed and hence untreated [9].

The age group of the mothers in the present study was found to be similar to the study by Kaya L et al. [10], in which majority i.e., 44.5% belonged to age group of 21-25 years. In the present study, 64.4% of the mothers were multigravida. This was

found to be similar to the study by Asaye MM et al. [11]. The employment status of the present study was found to be similar to the study by Kaya L et al. [10], in which majority i.e., 91.3% subjects were homemakers. In the present study, 59.6% of the mothers underwent vaginal delivery and 22% of the mothers underwent emergency LSCS. In a study by Kaya L et al. [10], majority i.e., 67.2% had vaginal delivery and 32.8% had c-section which was similar to this study. In a study by Asaye MM et al. [11], 58.5% subjects had spontaneous delivery, 35.4% had c-section and 6.1% had assisted delivery which was almost similar to this study. In a study by Chalise A et al. [12], 67.2% subjects had vaginal delivery and 32.8% had c-section which was similar to this study. In the present study, only 8.8% of the mothers had pre-term delivery. In a study by Chalise A et al. [12], 6.2% of the subjects had preterm deliveries, which was similar to the findings of the present study.

In the present study, 6.8% of the mothers were found to have post-natal depression by EPDS score. In a study by Asaye MM et al. [11], Al Nasr RS et al. [13], Fantahun A et al. [14], Oztora S et al. [15] and Do TKL et al. [16], 38.5%, 25%, 23.3%, 24% and 27.6% of the subjects had depression respectively. In the present study,the association of post-natal depression was found to be statistically significant with Complications like postpartum haemorrhage and seizures and mode of delivery in the present study. This is similar to a study done by Chalise A et al. [12] and Meky HK et al. [17], where significant association was found between mode of delivery, complications and depression.

Conclusion

India is experiencing a steady decline in maternal mortality which means that the focus of care in the future will shift towards reducing maternal morbidity, including mental health disorders. Postpartum depression screening is crucial for early detection and intervention and fostering a healthier environment for both mother and the child. EPDS is a most reliable screening tool for PPD. Regular screenings after pregnancy can contribute to the overall mental health of new mothers, leading to improved outcomes and reduced long term effects on the family unit.

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