

# Postnatal Depression among Teagarden Women Delivered in a Tertiary Care Centre - A Prospective Observational Study

Dr. Bina Tokbi<sup>1</sup>, Kallol Phukan<sup>2</sup>, Gunjan Jangid<sup>3</sup>

<sup>1</sup>Assistant Professor, Department of Obstetrics and Gynecology, Assam Medical College, Dibrugarh

<sup>2</sup>PGT 3<sup>rd</sup> year, Department of Obstetrics and Gynecology, Assam Medical College, Dibrugarh  
Corresponding Author Email: [kaph333\[at\]gmail.com](mailto:kaph333[at]gmail.com)

<sup>3</sup>PGT 3<sup>rd</sup> Year, Department of Obstetrics and Gynecology, Assam Medical College, Dibrugarh

**Abstract:** Postpartum depression is defined as non - psychotic depressive episodes of mild to major severity which occurs during pregnancy or postpartum. . It is similar to depression seen in non - pregnant state and is seen in 15 - 20% women and has deleterious and devastating effects on the perinatal outcome of both mother and infant. The aim of the study is to find the incidence of postpartum depression among the teagarden workers delivering in Assam Medical College. **Background:** This study aims to find out the incidence of postpartum depression in postnatal clinic at day 3 and week 6 after delivery using Edinburgh depression scale (EPDS) in a government tertiary health care centre and to enumerate the risk factors contributing to postpartum depression. **Methods:** It is a prospective observational study with a sample size of 100. Mothers were screened at our postnatal clinic at day 3 and week 6 postpartum using EPDS questionnaire. Women with EPDS score more than 13 were considered having postpartum depression. Various factors like age, socioeconomic factors, type of family etc were compared at day 3 and week 6 postpartum to find out various causes related to postpartum depression. **Results:** The Incidence of postpartum depression at day 3 was 34% and week 6 was 11%. The factors which were found to be statistically significant were mode of delivery, preterm birth/infant admission to nicu, breastfeeding problems and partner support. **Conclusion:** In my study done at AMCH, Dibrugarh the cumulative incidence of PPD was 34%. Delivery through caesarean section, preterm birth or baby admission to nicu, poor breastfeeding and lack of partner support was seen to be associated with the onset of PPD.

**Keywords:** Postpartum depression, Edinburgh postnatal depression score, Postnatal depression

## 1. Introduction

Depression, the commonest mood disorder affects women twice that of men with its initial onset peaking during the reproductive age years<sup>1</sup>. Postnatal or postpartum depression is similar to depression seen in non - pregnant state and is seen in 15 - 20% women<sup>2</sup> and has deleterious and devastating effects on the perinatal outcome of both mother and infant. Symptoms tend to occur usually within 4 weeks of delivery but can occur upto 3 months. The high risk factors includes history of depression or affective disorder in the past and antepartum period, smokers, drug users and various socioeconomic and demographic profile of the patient. Postpartum depression can cause significant long term effects on mother infant relationship and the development of the infant necessitating early diagnosis and treatment.

## 2. Materials and Methods

### 2.1 Study Design

Prospective observational study using a questionnaire (Edinburgh Postnatal Depression Score).

### 2.2 Place of Study

Department of Obstetrics and gynecology AMCH, Dibrugarh

### 2.3 Study Period

January 2022 - December 2022

### 2.4 Inclusion Criteria

All Postnatal mother belonging to tea garden areas willing to give consent with a live baby.

### 2.5 Exclusion Criteria

- 1) History of any psychiatric disorder before conception
- 2) Past history of postpartum depression.

### 2.6 Sample Size

Considering 7% precision, 80% power and 5% level of significance in our study and prevalence of 10% as per Shriram et al in 2019 study, the sample size of this study was calculated as 100. The formula used

$$n = \frac{z^2 \left(1 - \frac{\alpha^{1-p}}{2}\right)}{d^2}$$

where p = expected proportion

d= absolute precision

1 -  $\alpha/2$  = desired confidence level

2.7 Statistical Analysis

Mean (SD) and frequency (percentage) were used for representing continuous and categorical variables respectively. Chi - square test or Fisher’s exact test were used to difference in categorical data.

2.8 Methodology

All the mothers who were eligible for the study and were willing to participate in the study were enrolled. Written and informed consent of the patient was taken and demographic details and detailed obstetrics history was taken. EPDS questionnaire was given to them, at day3 of delivery in hospital and 6 weeks postpartum when they reviewed in postnatal clinic. If any of them failed to attend, they were asked to repond to the questions over the phone.

The results are interepted as:

Normal - EPDS score 1 - 9

Borderline - 10 - 12

Postpatyum Depression - >13

2.9 Ethical Considerations

A meeting of the ethics committee of Assam medical college, Dibrugarh was held in the college council room and after a detailed and careful scrutinization, discussion and assessment of the ethics committee arrived at a unanimous conclusion and resolution approving the study.

No interventions causing harm was done to the patient mentally, physically, or financially.

2.10 Objective

Primary Outcome:

To study the incidence of postpartum depression in postnatal clinic at day 3 and week 6 after delivery using edinburgh depression scale (EPDS) in a government tertiary health care centre.

Secondary Outcome:

To enumerate the risk factors contributing to postpartum depression.

3. Results

100 participants who were enrolled in the study were followed up and assessed for postpartum depression at day 3 and week 6 postpartum. A score of more than 13 was considered as postpartum depression and referred to a psychiatrist and EPDS score of 10 - 12 would be considered borderline and was further evaluated.

Table 1: Effect of mode of delivery on EPDS score at day3

Mode of Delivery	Below 13	Above 13	Total
Normal Vaginal	50 (78.12%)	14 (21.87%)	64
LSCS	16 (44.44%)	20 (55.55%)	36
Total	66	34	100
P Value - 0.0014			

On analyzing the mode of delivery and EPDS score at day 3 it was found that more women who delivered by ceaserean route (55.55%) had a EPDS score more than 13 as compared to that of vaginal delivery (21.87%). The difference of EPDS scores at day 3 between the two groups was statistically significant with a p value 0.0014.

Table 2: Effect of mode of delivery on EPDS score at week 6

Mode of Delivery	Below 13	Above 13	Total
Normal Vaginal	54 (84.37%)	10 (15.62%)	64
LSCS	32 (88.88%)	4 (11.11%)	36
Total	86	14	100
P VALUE - 0.7401			

On analyzing the mode of delivery and EPDS score at week 6 it was found that more women who delivered by vaginal route (15.62%) had a EPDS score more than 13 as compared to that of ceaserean route (11.11%). But the difference of EPDS scores at week 6 between the two groups was statistically not significant with a p value 0.7401.

Table 3: Effect of Preterm Birth/Infant Admission to NICU and EPDS Scores at Day 3

New Born Status	Below 13	Above 13	Total
Preterm/ NICU	11 (39.28%)	17 (60.71%)	28
Term/ Healthy	55 (76.38%)	17 (23.61%)	72
Total	66	34	100
P Value - 0.001			

On analyzing the New born status and EPDS score at day 3 it was found that more women whose baby was preterm or was admitted to NICU had a EPDS score more than 13 (60.71%) as compared to that of term healthy baby (23.61%). The difference of EPDS scores at day 3between the two groups was statistically significant with a p value 0.001.

Table 4: Effect of Preterm Birth/Infant Admission to NICU And EPDS Scores at Week6

New Born Status	Below 13	Above 13	Total
Preterm/ NICU	22 (78.57%)	6 (21.42%)	28
Term/ Healthy	64 (88.88%)	8 (11.11%)	72
Total	86	14	100
P Value - 0.3102			

On analyzing the New born status and EPDS score at week 6 it was found that more women whose baby was preterm or was admitted to NICU had a EPDS score more than 13 (21.42%) as compared to that of term healthy baby (11.11%). The difference of EPDS scores at WEEK 6 between the two groups was statistically not significant with a p value 0.3102.

Table 5: Effect of breastfeeding problems with EPDS score at day3

Breast Feeding Problems	Below 13	Above 13	Total
Yes	16 (47.05%)	18 (52.94%)	34
No	50 (75.75%)	16 (24.24%)	66
Total	66	34	100
P Value - 0.0081			

On analyzing the Breastfeeding problems and EPDS score at day 3 it was found that more women with this problems EPDS score more than 13 (52.94%) as compared to that of

no breastfeeding problems (24.24%). The difference of EPDS scores at day 3 between the two groups was statistically significant with a p value 0.0081.

**Table 6:** Effect of Breastfeeding Problems with EPDS Score at Week 6

Breast Feeding Problems	Below 13	Above 13	Total
Yes	30 (88.23%)	4 (11.76%)	34
No	56 (84.84%)	10 (15.15%)	66
Total	86	14	100
P Value - 0.8625			

On analyzing the Breastfeeding problems and EPDS score at week 6 it was found that more women without this problems EPDS score was more than 13 (15.15%) as compared to that of mothers with breastfeeding problems (11.76%). The difference of EPDS scores at week 6 between the two groups was statistically not significant with a p value 0.8625.

**Table 7:** Effect of Partner Support on EPDS Score at Day 3

Partner Support	Below 13	Above 13	Total
Poor	12 (35.29%)	22 (64.70%)	34
Average	54 (81.81%)	12 (18.18%)	66
Total	66	34	100
P Value - <0.0001			

On analyzing the Partner support and EPDS score at day 3 it was found that more women with this poor partner support had EPDS score more than 13 (64.70%) as compared to that of average partner support (18.18%). The difference of EPDS scores at day 3 between the two groups was statistically significant with a p value <0.0001.

**Table 8:** Effect of Partner Support on EPDS Score at Week 6

Partner Support	Below 13	Above 13	Total
Poor	30 (88.23%)	4 (11.76%)	34
Average	56 (84.84%)	10 (15.15%)	66
Total	86	14	100
P Value - 0.8625			

On analyzing the Partner support and EPDS score at week 6 it was found that more women with average partner support had EPDS score more than 13 (15.15%) as compared to that of poor partner support (11.76%). The difference of EPDS scores at week 6 between the two groups was statistically not significant with a p value 0.8625.

In our study out of 34 women who were indicative of PPD, in day 3, 11 had similar EPDS scores at week 6 and 3 patients developed PPD at week 6 after having EPDS score below 13 at day 3. So the cumulative incidence in my study was 37%.

In our study, factors like age of the patient, sex of the baby, relationship with in laws, employment status, type of family, socioeconomic factors planning for delivery did not have any association with postpartum depression.

#### 4. Discussion

In this prospective observational study, we screened mothers for postpartum depression and its various risk factors.

In a study by Bhuvna Preethi et al<sup>3</sup>, it was found that the incidence of PPD at week one was 40% and week 4 was 27%. Menstrual history, mode of delivery, relationship with in laws, lack of partner support was their significant factors associated. The findings were similar with my study but with a lesser incidence.

The ACOG now recommends that obstetrician – gynecologist and other obstetric care providers to screen patients at least once during the perinatal period for depression and anxiety symptoms using a standardized, validated tool.

#### 5. Conclusion

In my study postpartum depression was screened at day 3 and week 6 in postnatal period using EPDS scale. The cumulative incidence in my study was 37%.

The factors which were found to be statistically significant were mode of delivery, preterm birth/infant admission to nicu, breastfeeding problems and partner support.

The EPDS scale is a self questionnaire which contains 10 questions and a score of 13 or above is indicative of PPD. The sensitivity of this scale range from 59 - 100 % and specificity of 49 - 100%.

Conflict of interest: None

Disclaimer: Nil

#### References

- [1] Weissman MM, Olfson M. Depression in women: implications for health care research. *Science* 1995; 269: 799 - 801
- [2] J B Sharma: Textbook of obstetrics 3<sup>rd</sup> edition 2022 page 430
- [3] Bhuvana Preethi, Mala Vijayakrishnan, Prasanth Nagarajan: A study of postnatal depression in a tertiary health care centre. *Indian Journal of obstetrics and Gynecology Research* 2022; 9 (4): 501 - 505