

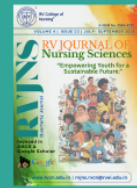


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rvjns.rvcn@rvei.edu.in | Email: rvjns.rvcn@rvei.edu.in



## A descriptive study to assess depression among postnatal mothers of newborn(s) hospitalized in NICU at selected hospital, Bangalore.

**Ms. Surekha S<sup>a1</sup>, Ms. Sumi Mathew<sup>a2</sup>, Ms. Abiya Elsa Ashish<sup>a3</sup>, Mr. Vishnu Prasad B<sup>a4</sup>, Mr. Alphin Biju<sup>a6</sup>, Ms. Chaithra C G<sup>b1</sup>, Dr. S R Gajendra Singh<sup>b2</sup>**

<sup>a4</sup>th Year BSc Nursing, RV College of Nursing, Bangalore. <sup>b1</sup>Lecturer, RV College of Nursing. <sup>b2</sup> Principal, RV College of Nursing.

Email id:surekha221002@gmail.com Mob No; 8147157984

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### ABSTRACT

Postpartum depression is a complex and debilitating mental health condition that affects women after childbirth. PPD can manifest differently in each woman with common warning signs like sadness, hopelessness, and despair. This descriptive study aimed to evaluate postpartum depression among postnatal mothers of newborn(s) hospitalized in NICU at selected hospital, Bangalore. The study's objectives included assessing level of postpartum depression and determining association between socio-demographic variables and depression scores. Study adopted a non-experimental descriptive research design. A total of 60 postnatal women whose new-born were admitted in NICU participated. Random sampling technique was used to select samples. Demographic data was collected through structured questionnaire and depression level using Edinburgh postpartum depression scale. The data was analyzed using descriptive and inferential statistics. After data analysis, it was found that 3.33% of mothers have no depression, 28.33% of mothers have mild depression, and majority of mothers (66.66%) have moderate depression and remaining 1.66% of mothers have severe depression. The results indicated mean depression score was 14.91 and SD was 3.01. The level of depression was significantly associated with term of delivery and type of feeding given to baby

### Introduction:

The birth of new-born is a life-changing event, expected to bring joy and happiness. However, in some cases new-born requires admission to NICU for providing prompt treatment to save life of new-born. In these situations mothers are separated from new-born which directly and indirectly has a profound impact on mental health of mother. The NICU environment, with its complex medical equipment, frequent alarms and uncertainty about baby's health, can be overwhelming and stressful to the mother.

Postnatal depression (PND) is a significant public health concern, affecting approximately 15-20% of mothers globally. And more significantly noticed in mothers whose new-born(s) are hospitalized in NICU. Postpartum depression affects 1 in 5 NICU mothers. This highlights need for increased awareness, screening, and support. Untreated PPD can disrupt the development of a healthy mother-infant bonding. By acknowledging increased risk of postpartum depression in NICU mothers and providing adequate support and resources, healthcare providers can help mitigate risk and promote a healthier postpartum experience.

### Need for the study:

Assessing postpartum depression among postnatal mothers whose new-borns are hospitalised in NICU is crucial due to the unique stressors and emotional challenges these mothers face. The NICU environment can be overwhelming, leading to increased stress and anxiety levels. Mothers may worry about their baby's health, the uncertainty of the NICU stay and the financial burden of extended hospitalization. Physical separation from the baby can disrupt bonding and increase feelings of guilt and inadequacy and this can have an ill effect on the mother as well as new-born. Assessing PPD helps identify the need for partner and family support, reduce the risk of suicidal ideation and behaviour, infant development and a long-term mental health. Hence early assessment and targeted support can help reduce the risk of PPD and promote positive mental health outcome.

### Objectives:

1. To assess level of depression among postnatal mothers of new-born(s) hospitalized in NICU
2. To determine association between selected socio-demographic variables with level of postpartum depression.

**Hypothesis:**

**H0:** There will not be a significant association between demographic variables and level of depression among postnatal mothers of new-born(s) hospitalized in NICU.

**Methodology:**

**Research design:** Descriptive research design is adopted.

**Sample and sampling technique:** 60 postnatal mothers of new-born(s) hospitalized in NICU in selected hospital, Bengaluru selected by convenient sampling

**Inclusion Criteria:** Postnatal mothers of new-born(s) hospitalized in NICU unit who are available during period of data collection.

**Tool:** Self-administered structured questionnaire on. The tool consists of three sections:

**Section 1:** Maternal Socio-demographic data

**Section 2:** Neonatal variables (Birth weight, Gender, Duration of NICU stay)

**Section 3:** Edinburgh Postnatal Depression Scale.

**Data collection and data analysis:**

A prior permission was obtained from the in charge staff of the selected wards in the selected hospital, Bangalore. The data collection was carried out in the month of October 2024 among the postnatal mothers of newborn(s) hospitalized in neonatal intensive care unit.

The study was conducted as follows:

- 1) The purpose of the study was explained to the sample and informed consent was taken before starting the study.
- 2) The samples were administered with a structured questionnaire (EPDS) and data was collected accordingly.
- 3) This data was used for the study.

The data was analysed using descriptive and inferential statistics.

**Results and Interpretation:****Section 1: Maternal Socio-demographic data**

**Table 1: Frequency and percentage distribution of maternal socio-demographic data (N=60)**

Sl no	Maternal variables	Category	Frequency	Percentage
1	Age (Years)	21-30	44	73.3%
		31-40	16	26.7%
		41-50	0	0%
		>51	0	0%
		Primary	27	45%
		Secondary	16	26.7%
		Higher secondary	14	23.3%
2	Education	Graduate	1	1.6%
		Non Educated	2	3.33%
3	Occupation	Self employed	15	25%
		Housewife	42	70%
		Government Employee	2	3.33%
		Private	1	1.6%
4	Religion	Hindu	34	56.7%
		Muslim	21	35%
		Christian	5	8.3%
		Others	0	0%
5	Obstetric status	Primigravida	22	36.7%
		Multigravida	38	63.3%

6	Family Income(/ month)	<10,000	24	40%
		11,000-50,000	36	60%
		51,000-1,00,000	0	0%
		>1,00,000	0	0%
7	Family type	Nuclear	34	56.7%
		Joint	24	40%
		Extended	2	3.33%
8	Duration of Marriage(Years)	<1	7	11.7%
		2-5	45	75%
		6-10	6	10%
		>11	2	3.33%
9	History of miscarriage/stillbirth/neonatal death	Yes	17	28.3%
		No	43	71.7%
10	Any medications taken during pregnancy(IFA/Calcium supplements)	Yes	39	65%
		No	21	35%
11	Habit of alcoholism	Yes	0	0%
		No	60	100%
12	Habit of smoking	Yes	0	0%
		No	60	100%
13	Pre pregnancy depression	Yes	4	6.7%
		No	56	93.3%
14	Family history of postpartum depression	Yes	3	5%
		No	57	95%
15	Depression during pregnancy	Yes	5	8.3%
		No	55	91.7%
16	Was present pregnancy planned	Yes	17	28.3%
		No	43	71.7%
17	Any complications in present pregnancy	Yes	4	6.7%
		No	56	93.3%

The above table shows percentage wise distribution of postnatal mothers to their age reveals that majority of the postnatal mothers (73.3%) was in the age group of 21-30 years. Majority of mothers (45%) were educated up to primary level. Majority of mothers (70%) were housewives. Majority of mothers (56.7%) were Hindu. Majority of mothers (63.3%) were multigravida. Majority of mothers (60%) had a family income between 10,000 and 50,000. Majority of the mothers (56.7%) were in nuclear family. Majority of the mothers (75%) were in between 2-5 years as duration of marriage. Majority of the mothers (71.7%) had no history of miscarriage/stillbirth/neonatal death. Majority of the mothers (65%) were taking medications during pregnancy. All mothers (100%) had no habit of alcoholism and smoking. Majority of the mothers (93.3%) were not having pre pregnancy depression. Majority of the mothers (95%) were not having family history of postpartum depression. Majority of the mothers (91.7%) were not having depression during pregnancy. Majority of the mothers (71.7%) had not planned the present pregnancy. Majority of the mothers (93.3%) had no complications in the present pregnancy.

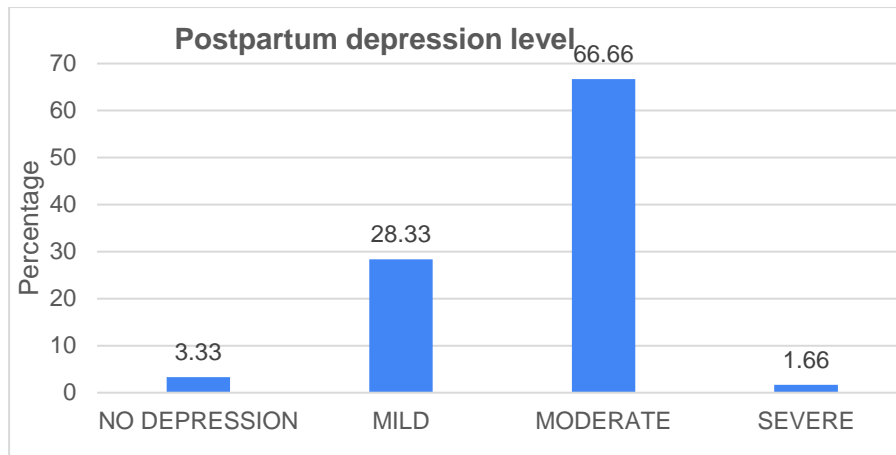
**Section 2: Neonatal variables****Table 2: Frequency and percentage distribution of neonatal variables (N=60)**

Sl no	Neonate variables	Category	Frequency	Percentage
1	Term	Preterm	24	40%
		Full term	36	60%
2	Birth weight	Low birth weight	29	48.3%
		Normal weight	30	50%
		High birth weight	1	1.7%
3	Gender	Male	27	45%
		Female	33	55%
		Ambiguous	0	0%
4	Mode of delivery	Vaginal	43	71.7%
		Caesarean section	17	28.3%
		Assisted vaginal delivery	0	0%
5	Duration of NICU stay(days)	0-10	31	51.7%
		11-20	24	40%
		21-30	5	8.3%
		>31	0	0%
6	Type of feeding	Breastfeeding	5	8.3%
		Formula feeding	13	21.7%
		Expressed breastfeeding	42	70%

The above table shows percentage wise distribution of new-borns to their age reveals that majority of the new-borns (60%) were full term. Majority of the new-borns (50%) were normal weight. Majority of the new-borns (55%) were female. Majority of the new-borns (71.7%) were born by vaginal delivery. Majority of the new-borns (51.7%) were between 0-10 days in NICU. Majority of the new-borns (70%) were given expressed breast milk

**Section 3: Level of postpartum depression****Table 3: Level of postpartum depression (N=60)**

Level of postpartum depression	Frequency	Percentage
No depression	2	3.33%
Mild depression	17	28.33%
Moderate depression	40	66.66%
Severe depression	1	1.66%
Total	60	100%



**Figure 1: Represents level of postpartum depression**

The above figure shows 3.33% have no depression, 28.33% have mild depression, majority (66.66%) have moderate level of depression and 1.66% have severe depression.

**Table 4: Mean, mean percentage and standard deviations for level of postpartum depression scores (N=60)**

SL No	Level of postpartum depression	No of items	Max scores	Mean	SD	Mean %
1	EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)	10	30	14.91	3.010	49.72%

**Table 5: Association between maternal socio-demographic variables with level of postpartum depression (N=60)**

SL NO	MATERNAL VARIABLES	CATEGORY	RESPONDENTS		CHI-SQUARE VALUE
			<=16	>16	
1	Age(Years)	21-30	31	13	0.1194 NS
		31-40	12	4	
		41-50	0	0	
		>51	0	0	
2	Education	Primary	16	11	6.0218 NS
		Secondary	12	4	
		Higher secondary	13	1	
		Graduate	1	0	
		Non Educated	1	1	
3	Occupation	Self employed	11	4	1.346 NS
		Housewife	29	13	
		Government Employee	2	0	
		Private	1	0	
4	Religion	Hindu	24	10	2.285 NS
		Muslim	14	7	
		Christian	5	0	
		Others	0	0	
5	Obstetric status	Primigravida	16	6	0.0065 NS
		Multigravida	28	10	

6	Income(/month)	<10,000	14	10	3.502 NS
		11,000-50,000	29	7	
		50,000-1,00,000	0	0	
		>1,00,000	0	0	
7	Family type	Nuclear	28	6	5.774 NS
		Joint	13	11	
		Extended	2	0	
8	Duration of Marriage(years)	<1	3	4	5.867 NS
		2-5	35	10	
		6-10	3	3	
		>11	2	0	
9	History of miscarriage/stillbirth/neonatal death	Yes	11	6	0.566 NS
		No	32	11	
10	Any medications taken during pregnancy(IFA/Calcium supplements)	Yes	26	13	1.371 NS
		No	17	4	
11	Habit of alcoholism	Yes	0	0	00 NS
		No	43	17	
12	Habit of smoking	Yes	0	0	00 NS
		No	43	17	
13	Pre pregnancy depression	Yes	3	1	0.0235 NS
		No	40	16	
14	Family history of postpartum depression	Yes	2	1	0.0389 NS
		No	41	16	
15	Depression during pregnancy	Yes	4	1	0.1865 NS
		No	39	16	
16	Was present pregnancy planned	Yes	12	5	0.0136 NS
		No	31	12	
17	Any complications in present pregnancy	Yes	3	1	0.0235 NS
		No	40	16	

Table 6: Association between neonatal variables with level of postpartum depression (N=60)

SL NO	NEONATAL VARIABLES	CATEGORY	RESPONDENTS		CHI-SQUARE VALUE
			</=16	>16	
1	Term	Preterm	21	3	4.938 S
		Full term	22	14	
2	Birth weight	Low birth weight	23	6	2.254 NS
		Normal weight	19	11	
		High birth weight	1	0	
3	Gender	Male	18	9	0,6044 NS
		Female	25	8	
		Ambiguous	0	0	
4	Mode of delivery	Vaginal	29	14	1,334 NS
		Caesarean section	14	3	
		Assisted vaginal delivery	0	0	

5	Duration of NICU stay(days)	0-10	24	7	1.1359 NS
		11-20	16	8	
		21-30	3	2	
		>31	0	0	
6	Type of feeding	Breastfeeding	4	1	19.368 S
		Formula feeding	3	10	
		Expressed breastfeeding	36	6	

**Interpretation:**

The level of PND was significantly associated with term and type of feeding given to baby at 5% ( $P < 0.05$ ).

**Recommendations:**

A study to investigate PPD in diverse and larger populations of NICU mothers, including those from different cultural backgrounds.

Developing and evaluating interventions aimed at preventing or reducing PPD symptoms in NICU mothers

**Conclusion:**

The study findings indicated hospitalization of new-born in NICU could exert a negative impact on maternal mental well-being. Every mother is at risk for postpartum depression, but those carrying the burden of hospitalization of their new-born to the NICU are at the greatest risk and should be screened. The study findings revealed majority of postnatal mothers suffered from depression due to their new-born hospitalization in NICU. Hence, all mothers have to be screened and given prompt treatment to prevent complications. A multidisciplinary approach involving healthcare providers, mental health professionals, and social support services is essential to address the complex needs of NICU mothers. By prioritizing the mental health needs of NICU mothers, we can improve their overall well-being, enhance their ability to care for their new-borns and promote positive outcomes for the entire family

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