

Prevalence of Postpartum Depression in Postnatal Patients using Edinburgh Postnatal Depression Scale

Dr. Dhanashree P. Shinde¹ and Suravi R. Khude²

Associate Professor, Department of Cardiovascular and Respiratory Physiotherapy

TMV's Jayantrao Tilak College of Physiotherapy, Pune, India¹

Intern, TMV's Jayantrao Tilak College of Physiotherapy, Pune, India²

Abstract: *Background: Postpartum depression (PPD) is a common mood disorder that occurs after childbirth and may negatively affect the mother's emotional health, bonding with the infant, and overall quality of life. Early identification and management are crucial to prevent long-term consequences for both the mother and child. This study focused on assessing the prevalence of postpartum depressive symptoms among postnatal women using the Edinburgh Postnatal Depression Scale (EPDS).*

Methods: A cross-sectional study was conducted on 67 postnatal women using a convenient sampling technique. Participants were assessed using the EPDS, and their demographic and obstetric details were recorded. Data were analysed using descriptive statistics to determine the prevalence of postpartum depression.

Results: The mean age of participants was 29.97 ± 3.53 years, and the majority (61.19%) had delivered by Lower Segment Caesarean Section (LSCS). Based on EPDS scoring, 26.87% of women showed no depressive symptoms, whereas 32.84% exhibited probable mild depression and 40.30% showed probable depression. Overall 73.14% of the participants experienced some level of postpartum depressive symptoms.

Conclusion: The study demonstrates a high prevalence of postpartum depression among postnatal women. These findings highlight the importance of routine screening, increased awareness, and timely psychological support during the postnatal period to improve maternal mental health and ensure better mother-infant outcomes..

Keywords: Postpartum Depression, Edinburgh post natal depression scale(EPDS), Postnatal Women, Maternal Mental Health

I. INTRODUCTION

A major depressive episode within 4 weeks after delivery is classified as peripartum depression. This term encompasses both prenatal and postpartum depression. The DSM-5-TR does not recognize postpartum depression as a separate entity. Instead, postpartum depression is included within the broader diagnosis of perinatal depression⁽¹⁾ Postpartum depression has a negative effect on maternal-child bonding, breastfeeding, feelings of maternal competence, and is associated with increased difficulty caring for an infant. Specifically, having a history of depression prior to pregnancy significantly increases a person's risk of developing Postpartum depression.⁽²⁾ Postpartum depression has a negative effect on maternal-child bonding, breastfeeding, feelings of maternal competence, and is associated with increased difficulty caring for an infant. Specifically, having a history of depression prior to pregnancy significantly increases a person's risk of developing Postpartum depression.⁽²⁾ Postpartum depression (PPD) is the most common complication of childbearing, affecting approximately 10–22% of woman in childbearing age⁽³⁾. The World Health Organization (WHO) described that mental health problems such as depression and anxiety are common during pregnancy and after childbirth. While the cause of Postpartum depression remains unclear, social support has been shown to be effective in helping women cope with postpartum depression. Women experience various physical, mental, and emotional changes



during this postpartum period, which may interfere with their daily routine and caregiving for their infants. The warning signs of Postpartum depression in women include crying spells, mood swings, anxiety, loss of appetite, problems in sleeping, thoughts of hurting self or child, and a lack of interest in the baby. The characteristics of Postpartum depression, including anxiety, impaired concentration and depressed mood have adverse effects on maternal-child relationship.⁽⁵⁾ Nearly 50% to 80% of all postpartum women suffer from a mild form of emotional disturbance known as maternity blues. Several studies have found that, if not detected and treated early, postpartum depression could have long-term adverse impacts on the mothers, as well as the development of their children.⁽⁵⁾

Many of the cases go unreported because the focus shifts from the mother to the baby after delivery. Hence, even when mothers face physical exhaustion, weakness, and an overall lack of physical and mental well-being, it tends to go unnoticed not only by the family members but even by the mothers themselves. Mental disorders are said to be of postpartum onset if the onset is within 6 weeks of delivery, according to the International Classification of Disease-10, Classification of Mental and Behavioral Disorders-Research and Diagnostic Criteria. Diagnostic and Statistical Manual of Mental Disorders-5th Edition states that the onset must occur within 4 weeks of delivery and symptoms must last at least 2 weeks to qualify as a depressive episode.⁽⁶⁾ Depression is the most frequently occurring psychiatric condition among women of childbearing age, with more than 8% being affected at any given time. Depression occurring amongst women specifically in the postnatal period has been the focus of a great deal of research.⁽⁷⁾ The Postnatal depression is considered to be 4th among all the depressive disorders by the World Health organization. The untreated cases proceed to chronic depression and interferences between the mother and child bonding can result in suicide and even Infanticide in rare occurrence.⁽⁸⁾ The rapid drop of estrogen and progesterone levels after delivery. Coupled with stress and sleep deprivation that often accompany caring of a newborn, can trigger depressive episodes in susceptible people.

II. METHODOLOGY

- Study Design: Cross-sectional study.
- Target Population: Post partum woman
- Sample Size: 67.
- Sampling Method: Convenient Sampling
- Sampling Duration: 6 months.
- Study Setup: Hospitals in Pune.

2.1 MATERIALS

- Pen
- Paper
- Consent Form
- Edinburgh Postnatal depression scale.

2.2 INCLUSION CRITERIA

1. Women with Full term Normal Delivery (FTND)⁽¹²⁾.
2. Women with Lower Segment Caesarian Section (LSCS)⁽¹²⁾.
3. Women aged between 21- 45 years⁽¹²⁾.

2.3 EXCLUSION CRITERIA:

1. Who have undergone still births⁽¹²⁾
2. Who have undergone miscarriage.⁽¹²⁾



2.4 OUTCOME MEASURES⁽¹⁰⁾

- **Edinburgh Postnatal depression scale (EPDS)**
- VALIDITY: 0.90
- RELIABILITY: 0.75
- SENSITIVITY: 86%
- SPECIFICITY: 76%

III. LITERATURE REVIEW

Karen Carlson, et al, 2024; conducted a study on **Post partum depression**, The result of this study enhance patient-centered care, outcomes, patient safety, and team performance related to post partum depression. This study evaluates that The American College of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), and the American Academy of Family Medicine (AAFP) all recommend screening every patient for perinatal depression using the EPDS. Several screening tools are available, including the Patient Health Questionnaire-9 (PHQ-9) and the Generalized Anxiety Scale (GAD-7). However, the most frequently used is the EPDS, a 10-item questionnaire completed by patients within a few minutes.

Elise G Valdes, et al, 2023; conducted a study on **Improving maternal mental health: assessing the extent of screening and training about peripartum**. Data was collected from an online self-report survey of care team members from behavioral health and acute care settings in the US. A total of 794 care team members in behavioral health and acute care responded to the survey between December 2021 and May 2022. Nearly, all (96.7%) reported having a specific protocol for screening for PPD when they know a patient is pregnant; however, only 69.6% of respondents routinely screen regardless of symptoms being reported by the patient. It was concluded that high rates of self-reported PPD screening and training indicate that care team members in both behavioral health and acute care are aware of the importance of maternal mental health issues.

Xueyan Liu, et al, 2022; conducted a study on **Prevalence and risk factors of postpartum depression in women: A systematic review and meta-analysis**. This study estimated prevalence and risk factors of Postpartum depression. Meta-analyses were performed to identify postpartum depression prevalence and risk factors using a random-effects model. Which resulted 33 citations evaluated, 27 reported the prevalence of postpartum depression in 33 separate study populations containing 133,313. It was concluded that the prevalence of postpartum depression seems to be high, especially in developing countries. Gestational diabetes mellitus, depression during pregnancy, pregnant women give birth to boys, history of depression during pregnancy, history of depression, epidural anaesthesia during delivery were identified as risk factors for postpartum depression.

Hahyeon Cho, et al, 2022, conducted a study on **Association between social support and postpartum depression**. This cross-sectional study was based on the Korean Study of Women's Health-Related Issues (K-Stori) in 2016. A total of 1,654 postpartum women were included in the analysis, of which 266 (16.1%) had PPD and 1,388 (83.9%) did not. Statistically significant differences were observed between social support and having PPD. There were a greater number of women with PPD in groups with low social support. The main outcome variable of this study was PPD, which was evaluated using the Edinburgh Postnatal Depression Scale (EPDS). It concluded that a threshold score of ≥ 10 was used to classify postpartum women with a probable major depression who needed further medical examination based on the Korean version of the EPDS.

Shraddha Lanjewar, et al, 2021; conducted a study on **Depressed motherhood: Prevalence and covariates of maternal postpartum depression among urban mothers in India**, was a cross-sectional hospital-based study to examine prevalence and covariates of postpartum depression among urban mothers in Pune, India. Of the 240 mothers surveyed, 63 (26.3%) mothers scored ≥ 13 on EPDS and thus, were categorised as depressed. A strong statistical association was found between social support with postpartum depression. It concluded that higher levels of postpartum depression in urban mothers affect the women and their children's health. Screening of expecting mothers for possible symptoms of depression during antenatal care could reduce the chances of depression during postpartum period. Considering its prevalence, depression should be addressed in national mental health programs.



Dubey, et al; 2021, conducted a study on **Risk factors of postpartum depression**. This cross-sectional observational study was done on a sample of 295 mothers who delivered and were followed up at a tertiary care hospital. The mothers were administered Edinburgh Postnatal Depression Scale, and demographic, psychosocial, and clinical data were collected. It concluded that Postpartum depression is a common mental health problem in the postpartum period. Sociodemographic factors such as low educational status of mothers, rural population, and low monthly family income were found to be associated with Postpartum depression.

Shifa Junaidi, et al, 2021; conducted a study on **A comparative study to assess the prevalence of depression among postnatal mothers undergoing normal versus caesarean delivery**. This comparative study was done at a tertiary care centre from December 2019 to February 2020. Study subjects were divided into two groups (Normal delivery and caesarean delivery) and a total of 40 study subjects were included in each group for the purpose of the study. It concluded that the post natal depression was more among the subjects who underwent caesarean section when compared to those who underwent normal delivery.

Meenakshi Khapre; et.al, 2017, **Validity and Reliability of Marathi Version of Edinburgh Postnatal Depression Scale as a Screening Tool for Post Natal Depression**, is the study of prevalence of post natal depression in India ranges from 12-23%. This study was conducted to validate the marathi version of EPDS where it resulted a total mean score of 10.3 ± 4.1 .

Crystal Edler Schiller, et al, 2016; conducted a study on **The Role of Reproductive Hormones in Postpartum Depression**. To assess the role of reproductive hormones in PPD directly, it concluded that the cross-species role of reproductive hormones in depressive behavior suggests a neuroendocrine pathophysiology for PPD. Studies are underway to disentangle the complex interplay of fluctuating reproductive hormones, neurosteroids, HPA axis reactivity, neural dysfunction, and genetics with a specific focus on identifying genomic, brain, and behavior relationships that contribute to affective dysfunction in the context of specific reproductive states.

Ahmad et al. (2015); conducted a study on postpartum depression in urban settings reported that PPD is highly prevalent in urban settings, influenced by lifestyle changes, limited family support, and increased psychosocial stress. This highlights the need for routine screening during postnatal care.

IV. PROCEDURE

Ethical committee clearance and permission was obtained from Institutional ethical committee. Participants were included according to the inclusion and exclusion criteria and consent was taken from the subjects by signing the consent form. Procedure was explained to the subjects. After filling the consent form the assessment proforma was filled. The data collected was statistically evaluated.

1. Recruitment of Participants:

Population: The study was conducted on postnatal women.

Sample Size: 67

2. Administering the EPDS:

- Timing: The EPDS is often administered during a postpartum visit, typically around 4-6 weeks after delivery, although it can be used at any point during the first postpartum year.
- The EPDS is a self-administered questionnaire where women were asked to rate the frequency of 10 symptoms they have experienced over the past 7 days. Each question is scored from 0 to 3, giving a total score between 0 and 30.

Scoring:

Scores above 12 or 13 are likely to be suffering from depression.

Score 10 may indicate mild depression.

Lower scores may indicate no or minimal risk of depression.

3. Data Collection:

- Collecting Responses: After administering the EPDS, responses was collected, and total scores were calculated for each participant.



- Categorizing Scores: Based on the EPDS cut-off scores (often ≥ 10 or ≥ 13), women were categorized as either at risk for PPD or not.



The participants are filling out the EPDS form shown in the image above.

V. DATA ANALYSIS AND INTERPRETATION

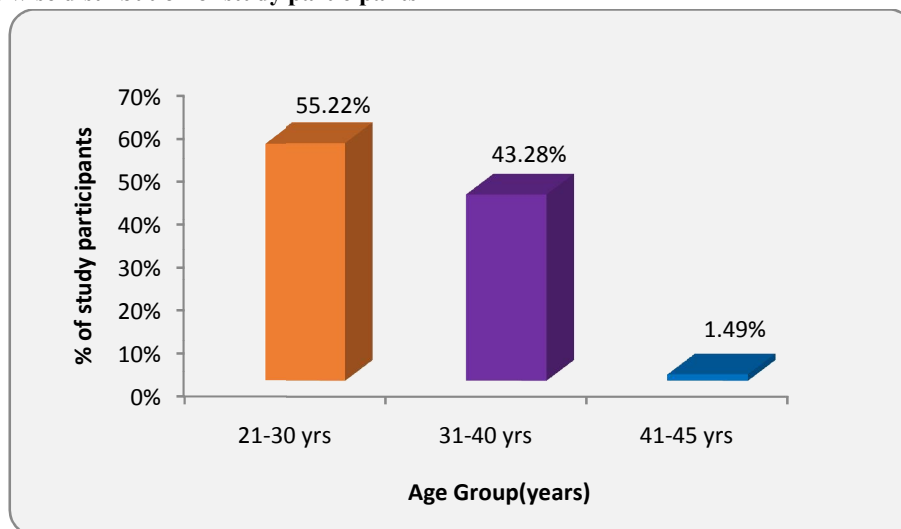
Statistical analysis was carried out using descriptive and frequency methods using Unpaired t-test and software used in analysis SPSS 22.0 version and $p < 0.05$ is considered as level of significance.

Table 1: Age wise distribution of study participants

Age Group(yrs)	No of study participants	Percentage
21-30 yrs	37	55.22
31-40 yrs	29	43.28
41-45 yrs	1	1.49
Total	67	100
Mean $\pm$ SD	29.97 $\pm$ 3.53(22-42 years)	



Graph 1: Age wise distribution of study participants

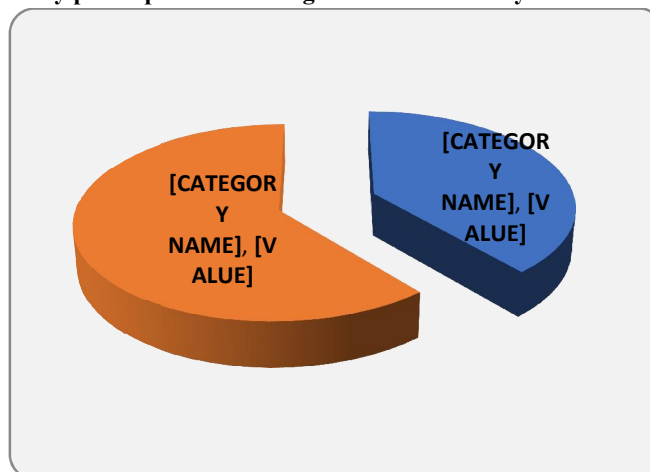


Interpretation: Mean age of the study participants was 29.97 ± 3.53 years (age 21-42 years). Majority of the participants belonged to the age group of 21-30 years (55.22%), followed by 31-40 years (43.28%). Only 1.49% of participants were in age group of 41-45 years. Hence, most of the participants in the study were young adults.

Table 2: Distribution of study participants according to mode of delivery

Mode of delivery	No of study participants	Percentage
Normal	26	38.81
LSCS	41	61.19
Total	67	100

Graph 2: Distribution of study participants according to mode of delivery



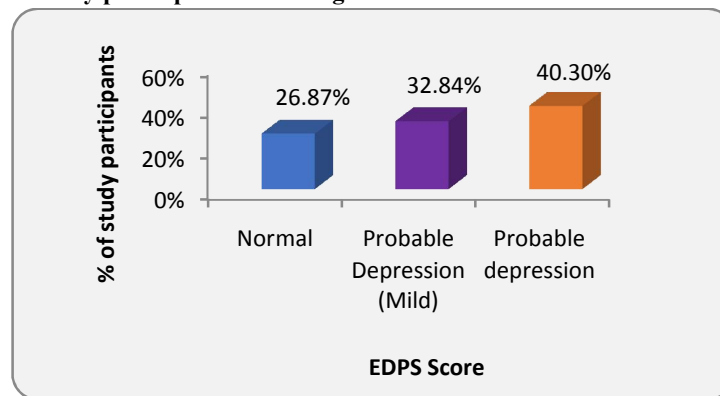
Interpretation: Majority of the study participants had undergone Lower Segment Caesarean Section (LSCS), accounting for 61.9% of the total sample. The remaining 38% of participants had a normal delivery. This indicates that a higher proportion of participants in the study delivered by caesarean section as compared to normal vaginal delivery.



Table 3: Distribution of study participants according to EPDS Score

EPDS Score	No of study participants	Percentage
Normal	18	26.87
Probable Depression (Mild)	22	32.84
Probable Depression	27	40.30
Total	67	100
Mean±SD	12.14±4.64(2-26)	

Graph 3: Distribution of study participants according to EPDS Score



Interpretation: The study findings based on the Edinburgh Postnatal Depression Scale (EPDS) revealed that 73.14% of postnatal participants exhibited some degree of depressive symptoms, with 32.84% showing probable mild depression and 40.30% showing probable depression. Only 26.87% of participants had normal scores. This indicates a high prevalence of postpartum depression in the study population, highlighting the need for routine screening and timely intervention to promote maternal mental health.

VI. RESULT AND DISCUSSION

6.1 RESULT

In the present study conducted among 67 postnatal participants, the mean EPDS score was 12.14 ± 4.64 , with scores ranging from 2 to 26. Based on the Edinburgh Postnatal Depression Scale (EPDS) classification, 18 (26.87%) participants were found to have normal scores, indicating the absence of depressive symptoms. A total of 22 (32.84%) participants exhibited scores suggestive of probable mild depression, while 27 (40.30%) were categorized as having probable depression. Overall, 73.14% of the study population demonstrated some degree of depressive symptoms. These findings indicate a high prevalence of postpartum depression among the participants, underscoring the need for routine screening, early detection, and appropriate psychological support for postnatal mothers.

6.2 DISCUSSION

The present cross-sectional study was done to find out how common postpartum depression (PPD) is among postnatal women, using the Edinburgh Postnatal Depression Scale (EPDS). A total of 67 women took part in the study, and their average age was about 30 years (29.97 ± 3.53). Most of the women (55.22%) were between 21–30 years old, followed by 43.28% in the 31–40 years age group. This shows that most participants were in their main childbearing age, which is similar to the study by Lanjewar et al. (2021), where most PPD cases were also found in women aged 20–35 years.⁽⁵⁾ In terms of delivery, 61.19% of the women had a Lower Segment Caesarean Section (LSCS), while 38.81% had a normal vaginal delivery. The higher number of LSCS deliveries might be due to the increasing trend of caesarean births in urban hospitals. Women who delivered by LSCS also showed a higher rate of postpartum depression, possibly



because of pain after surgery, difficulty in early movement, delayed bonding with the baby, and more dependence on others for daily activities. This finding is similar to the observations made by Junaidi et al. (2021).⁽⁷⁾ According to the EPDS scores, 26.87% of women had no or minimal depression, 32.84% had mild depressive symptoms, and 40.29% had probable depression. Therefore, the overall prevalence of postpartum depression in this study was around 40.29%. This is higher than the global average (10–20%) and also higher than the Indian studies by Khapre et al. (2017) and Lanjewar et al. (2021), who reported rates between 22–26%.

Reasons for higher Prevalence of Postpartum Depression in this study

1. More Caesarean Deliveries:

In this study, a large number of mothers (61.19%) had a caesarean delivery. After a caesarean, recovery usually takes longer and mothers often experience more pain and discomfort. Because of this, they may find it difficult to move around, take care of their baby on their own, and depend more on others for help. These things can make them feel low or emotionally stressed.

2. Less Social and Family Support:

Most of the participants were from urban areas or nuclear families where they do not have much family support after delivery. When a new mother doesn't get enough emotional or practical help from family, she may feel lonely, tired, and overburdened, which can increase the chances of developing depression.

3. Hormonal and Physical Changes:

After childbirth, there is a sudden drop in hormones like estrogen and progesterone. Along with this, many mothers don't get proper sleep and feel constantly tired while taking care of their newborn. These changes together can affect mood and lead to sadness or anxiety.

4. Lack of Awareness About Mental Health:

In our culture, most of the attention after delivery goes to the baby's health, and the mother's emotions are often ignored. Many women don't even realize that what they are feeling could be depression, or they hesitate to talk about it due to social stigma.⁽¹⁾ As a result, their emotional problems remain untreated and gradually become more serious. This increased percentage in our findings may be due to multiple socioeconomic, psychological, and healthcare-related factors. Many participants expressed concerns like lack of family support, financial stress, anxiety regarding newborn health, hormonal changes after childbirth, sleep disturbances, and challenges associated with first-time motherhood. These factors collectively act as significant triggers for emotional imbalance in the postpartum period. Addressing postpartum depression effectively not only benefits the mother but also contributes to healthier child development and stronger family relationships.

Since this study found a higher number of mothers with postpartum depression, it shows that this condition is more common than often expected. It highlights the importance of including mental health check-ups in routine postnatal care. It can also help future researchers to explore the causes, prevention, and management of postpartum depression in different settings. This study can motivate health professionals to give equal attention to the mother's emotional health along with physical recovery. The results can be useful for community health programs to educate families and reduce stigma related to mental health after childbirth. This study draws attention to the emotional side of motherhood, which is often ignored in postnatal care. Ultimately, my research helps promote healthier mothers, better bonding with babies, and stronger families. The study can inspire further research on factors affecting mother's mental health such as sleep, nutrition, or social pressure. It provides supportive evidence that postpartum depression can occur in any mother, regardless of age, education, or delivery type.

VII. CONCLUSION

The present study concludes that postpartum depression is prevalent in a significant proportion (40.29%) in postnatal women. Therefore, increased attention toward mental health screening, enhanced awareness and education for mothers and families are essential to ensure better maternal well-being and promote healthier mother–infant bonding.



VIII. LIMITATIONS OF THE STUDY

1. Small sample size (n=67) limits the applicability of results.
2. Limited time and resources restrict the sample size and depth of data analysis.

IX. FUTURE SCOPE OF THE STUDY

1. Conduct large scale, multicentric studies including diverse populations across rural and urban regions.
2. Introduce routine EPDS screening in all postnatal clinics as a standard physiotherapy or obstetric care.

X. CLINICAL IMPLICATIONS

1. The study highlights the need for early screening of all postnatal mothers for signs of depression.
2. Timely identification and management can improve both the mother's and the baby's health outcomes.
3. Postnatal depression should be seen as a normal health issue that needs medical attention, not something to be hidden or ignored.
4. Teaching simple relaxation, breathing, or stress management exercises can help reduce anxiety and improve mood.

XI. ACKNOWLEDGMENT

I would like to take this opportunity to acknowledge my heartfelt gratitude to my college principal, Dr. Gajanan Bhalerao (PT) for granting me the permission to carry out this project. I have had the privilege to complete this project under the supervision of Dr. Dhanashree Shinde (PT) who has reviewed my project constantly and extended her unconditional support, encouragement and guidance towards the timely completion of my project.

I would like to thank all the participants who gave their consent to be a part of this study and co-operated for the data collection. Very special thanks to my parents for creating a friendly working atmosphere for successful completion of my project. I am thankful to and fortunate enough to get constant encouragement support and guidance from all teaching staff at TMV's Jayantrao Tilak College of Physiotherapy, Pune who helped me in successfully completing my project work.

REFERENCES

- [1]. Book of Perinatal depression: Postpartum Depression. In: StatPearls, Publishing; 2024, PMID: 30085612
- [2]. Valdes EG, Sparkman L, Aamar R, Steiner L, Gorman JM, Ittel V, et al. Improving maternal mental health: assessing the extent of screening and training about peripartum depression. *J Matern Fetal Neonatal Med.* 2023;36 (1)
- [3]. Liu X, Wang S, Wang G. Prevalence and risk factors of postpartum depression in women: A systematic review and meta-analysis. *J Clin Nurs.* 2022;31 (19-20)
- [4]. Cho H, Lee K, Choi E, Cho HN, Park B, Suh M, et al. Association between social support and postpartum depression. *Sci Rep.* 2022;12 (1-6)
- [5]. Lanjewar S, Nimkar S, Jungari S. Depressed motherhood: Prevalence and covariates of maternal postpartum depression among urban mothers in India. 2021;57:102567. *mothers in India.* (1-7).
- [6]. Sharma R, Dangi A, Adhvaryu A. Risk factors of postpartum depression. *Ind Psychiatry J.* 2021;30 (1):127-133
- [7]. Junaidi S, Rajarathnam A. A comparative study to assess the prevalence of depression among postnatal mothers undergoing normal versus caesarean delivery. *Indian J Obstet Gynecol Res.* 2021;8(1): 23-25
- [8]. Khapre M, Dhande N, Mudey A. Validity and reliability of Marathi version of Edinburgh Postnatal Depression Scale as a screening tool for postnatal depression. *Natl J Community Med.* 2017;8(3):116-121.
- [9]. Schiller CE, Meltzer-Brody S, Rubiow DR. The role of reproductive hormones in postpartum depression. *CNS Spectr.* 2016 ;20(1): 48-59.
- [10]. Shrestha SD, Pradhan R, Tran TD, Gualano RC, Fisher JR. Reliability and validity of the Edinburgh Postnatal Depression Scale (EPDS) for detecting perinatal common mental disorders (PCMDs) among women in low- and lower-middle-income countries: a systematic review. *BMC Pregnancy Childbirth.* 2016;02-19.



- [11]. Weobong B, Akpalu B, Doku V, Owusu-Agyei S, Hurt L. The comparative validity of screening scales for postnatal common mental disorder in Kintampo, Ghana. *J Affect Disord.* 2009;113(1-2):109-117.
- [12]. Ahmad M, Butt MS, Umar B. Prevalence of postpartum depression in an urban setting. 2015;765–770

