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Postpartum Depression among Mothers Attending the Postnatal Ward in a Tertiary Care Centre: A Descriptive Cross-sectional Study

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ABSTRACT

Introduction: Postpartum depression remains a common and often overlooked issue, especially in low-resource settings like Nepal, and should be detected to address it early to prevent deterioration of maternal mental health further. The aim of this study was to find out the prevalence of postpartum depression among mothers attending the postnatal ward in a tertiary care centre.

Methods: A descriptive cross-sectional study was conducted in the postnatal ward of a tertiary care centre from 1 March to 30 April 2020 after obtaining ethical approval from the Institutional Review Committee (Reference number: CMC-IRC/078/079-036). Postnatal mothers who could read and write, were included in this study. Women who were admitted to the hospital after home delivery, had intrauterine fetal death, were severely ill, and were not willing to participate in the study were excluded. A convenience sampling method was used. The Edinburgh Postnatal Depression Scale was used to collect the data. Point estimate and 95% Confidence Interval were calculated.

Results: Among 274 postnatal mothers, the prevalence of depression was found to be 71 (25.91%) (20.72-31.10, 95% Confidence Interval).

Conclusions: The prevalence of postpartum depression among postnatal mothers in this study was similar to similar studies done in similar settings.

Keywords: *mental health; mothers; postpartum depression; prevalence.*

INTRODUCTION

The postpartum period is a crucial phase in a woman's life and is very critical to the survival of both neonates and postpartum women; thus, effective postnatal care services are the only way to promote the health of both the mother and the newborn.[1] However, mental health issues, particularly among women of reproductive age, are responsible for almost 7% of the worldwide burden of disorders among women.[2] In Asia, the prevalence of postpartum depression varied from 3.5% to 63.3%, with Pakistan and Malaysia having the highest and lowest rates, respectively.[3]

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Postpartum depression (PPD) can have a detrimental impact on a baby's cognition and maternal parenting skills; hence, it is critical to diagnose.[4] There is very little information on PPD and underlying factors in underdeveloped nations such as Nepal, which increases the risk of depression in new mothers.[5]

The aim of this study was to find out the prevalence of postpartum depression among mothers attending the postnatal ward in a tertiary care centre.

METHODS

A descriptive cross-sectional study design was used to assess the prevalence of postpartum depression among and its associated factors among postnatal women. The study was carried out in the postnatal ward of Chitwan Medical College, Bharatpur, Chitwan, from 1 March to 30 April 2020 after obtaining ethical approval from the Institutional Review Committee of Chitwan Medical College (Reference number: CMC-IRC/078/079-036). The

study population comprised postnatal mothers who delivered at Chitwan Medical College within the last six weeks. Women who gave birth at the hospital and were about to be discharged, and those who could read and write, were included in this study. Women who were admitted to the hospital after home delivery, had intrauterine fetal death, were severely ill mothers, and were not willing to participate in the study were excluded. A convenience sampling technique was used. The sample size was calculated using the following formula:

$n = Z^2 \times p \times q / e^2$

$= 1.96^2 \times 0.5 \times 0.5 / (0.07)^2$

$= 196$

Where,

n = minimum required sample size

Z = 1.96 at 95% Confidence Interval (CI)

p = prevalence taken as 50% for maximum sample size calculation

q=1-p

e= margin of error, 7%

The calculated sample size was 196. However, the final sample size taken was 274.

Data were collected using a structured questionnaire covering socio-demographic and obstetric details and the validated Edinburgh Postnatal Depression Scale (EPDS). The EPDS is a 10-item self-rating questionnaire that was developed in Edinburgh by Cox and colleagues to screen for depression in the postnatal period.[6,7] Each question has four alternative answers, scoring 0-3, giving a maximum total score of 30. The questionnaire has subsequently been validated and used in many cultures and languages, including Nepal.[8,9] The cut-off scores for detecting major depression varied from 9 or 10 to 12 or 13.

Data entry and statistical analysis were performed using IBM SPSS statistics version 20.0. Point estimate and 95% Confidence Interval were calculated.

RESULTS

Among 274 postnatal mothers, the prevalence of depression was found to be 71 (25.91%) (20.72-31.10, 95% CI). The mean EPDS score was 9.02±4.62 (Table 1).

Table 1. Categorization of EPDS (n= 274).

Category of EPDS	n (%)
No Depression (<12)	203 (74.09)
Depression (≥12)	71 (25.91)

The majority of the patients diagnosed with PPD were less than 24 years of age, 70 (98.59%) (Table 2).

Table 2. Socio-demographic variables among patients diagnosed with depression (n= 71).

Variables	n (%)
Age	
Less than 24	70 (98.59)
More than 24	1 (1.41)
Religion	
Hindu	63 (88.73)
Non-Hindu	8 (11.27)
Ethnicity	
Brahmin/ Chhetri	1 (1.41)
Janajati	4 (5.63)
Dalit	66 (92.96)
Education level	
Secondary and Below	66 (92.96)
Higher Secondary and Above	5 (7.04)
Occupation	
Agriculture	62 (87.32)
Paid Service	5 (7.04)
Unpaid Service	4 (5.63)
Family type	
Nuclear	5 (7.04)
Joint	66 (92.96)
Monthly family income (NPR)	
<30000	67 (94.37)
>30000	4 (5.63)

Among the study participants, the depressive symptoms were mostly observed among primiparous postnatal mothers, 66 (92.96%), mothers whose current baby's gender was not as per their expectation, 66 (92.96%), and among those who had a girl child in the last pregnancy, 71 (100%) (Table 3).

Table 3. Obstetric variables and Level of depression among patients diagnosed with depression (n= 71).

Variables	n (%)
Parity	
Primi	66 (92.96)
Multi	5 (7.04)
Gender of the last child	
Male	-
Female	71 (100)
As per expectation	
Yes	5 (7.04)
No	66 (92.96)
Complications during pregnancy	
Yes	49 (69.01)
No	22 (69.01)
Medical diseases history	
Yes	-
No	71 (100)
Pregnancy planned	
Yes	4 (5.63)
No	67 (94.37)
ANC visit during the last pregnancy	
More than Four Times	-
Four Times	9 (12.68)
Less than Four Times	62 (87.32)
Type of delivery	
Normal	8 (11.27)
Caesarean	26 (36.62)
Vacuum/Forceps	37 (52.11)
Complications after delivery	
Yes	62 (87.32)
No	9 (12.68)
Breastfeeding process of a child	
Poor	67 (94.37)
Satisfactory	4 (5.63)
Good	-
Number of sleep per day after delivery (in hrs)	
4-5	67 (94.37)
6-8	4 (5.63)

DISCUSSION

The prevalence of depression (EPDS score≥12) was found to be 71 (25.91%) among postpartum mothers in this study. The findings of the present study is consistent with studies undertaken in different areas where the prevalence of PPD among mothers were 30.3% in Paropakar Maternity and Women's Hospital (PMWH), Kathmandu,[10] 29% at Dhulikhel University Hospital.[11] The prevalence of depression among postnatal mothers are also in line with another cross-sectional study conducted in Nepal in 2014, which found that between 5.0 and 22.2% of mothers experience postpartum depression.[9] These study results are similar to this study because a similar study methodology was used, i.e., the descriptive cross-sectional study was used to determine the status of postpartum depression among the postnatal mothers.

However, there are contradictory findings related to the prevalence of postpartum depression in various studies conducted in hospital settings throughout Nepal. The prevalence was 17.1% in Tribhuvan University Teaching Hospital,[12] 20.2% in Universal College of Medical Sciences and Teaching Hospital in Bhairahawa, Rupandehi district, Nepal.[13] A research in Kathmandu that included 100 cases and 40 controls also revealed a lower prevalence of postpartum depression than the present study, which was 12%.[9] The diverse methodology and periods employed to perform these studies may be the cause of this discrepancy in the research. Whereas, a hospital based study conducted in the terai region of Nepal shows higher prevalence of PPD which is 33.7% than current study and few recent studies conducted to study prevalence of PPD in Nepal.[14] The higher rate in our study may be due to its hospital-based design and the timing of data collection during the COVID-19 pandemic period, which may have increased emotional distress.

Though minor discrepancies lie in the findings within Nepal, the prevalence of PPD is much lower in developed countries including Norway 10.1,[15] Sweden 12.5%,[16] Canada 8.46%,[17] which shows maternal mental health should be integrated within the maternal and child health care system in the country.

In present study, depressive symptoms are observed in primiparous mothers (92.96%), who had ANC visits less than recommended i.e less than 4 times. Primiparous mothers can be vulnerable to mental health issues due to lack of experience in child rearing and unanticipated trauma and events during the pregnancy and labor. Mothers who have less ANC visits than recommended might be deprived

of important counselling sessions on overall care during pregnancy and postpartum. In this study depressive symptoms were seen in mothers whose current child is female (71%), gender of the newborn not as per the expectation (92.96%). This might be because there is still gender preference in many parts of rural Nepal as well as in urban settings. Mothers whose pregnancy was not planned (67%), who had complications during pregnancy (69.01%) presented depressive symptoms in the study.

Depressive symptoms were also observed in mothers who had some type of complications during the postpartum period (87.32%). Complications during the postpartum period is one of the leading causes of postnatal blues and depression as it puts mothers in psychological and physical trauma. Mothers who experienced breastfeeding difficulties (94.37%) and did not have proper rest (94.37%) experienced PPD. Breastfeeding is a bonding opportunity for mother and baby duo which reduces stress during postnatal period. Difficulties in breastfeeding might cause a new mother to feel less confident and not competent as a role of mother that can trigger stress, whereas improper rest can cause physical as well as mental stress to the new mother.

This study highlights the need for targeted mental health screening and counselling during the postnatal period. There is a need to integrate mental health services into maternal care, and special attention should be paid to the socio-cultural dynamics, such as family structure.

Being a single-centre, hospital-based cross-sectional study it is not generalizable to all the post-partum women in Nepal. The exclusion of non-literate mothers could have introduced selection bias. Future research should consider longitudinal designs to assess the progression and long-term impact to determine the effectiveness of targeted intervention in both hospital and community settings across Nepal.

CONCLUSIONS

The prevalence of postpartum depression among postnatal mothers in this study was similar to similar studies done in similar settings. The implication indicates the need to improve mental health literacy among healthcare providers and enhance community support systems.

Conflict of Interest: None

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