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Original Research Article

Prevalence of postpartum depression in a tertiary care centre

Abinaya Radhakrishnan*

Trichy SRM Medical College Hospital and Research Center, Trichy, Tamil Nadu, India

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***Correspondence:**
Dr. Abinaya Radhakrishnan,
E-mail: abinayaradhakrishnank@gmail.com

ABSTRACT

Background: Postpartum depression (PPD) is characterized as a depressed episode that transpires during pregnancy or within four weeks following childbirth. Diagnosing postpartum depression is essential, since it can hinder normal maternal-infant attachment and adversely affect both the short-term and long-term development of children. Hence this study was conducted to determine the prevalence of postpartum depression in a tertiary care centre.
Methods: A prospective observational study was performed at a tertiary health care center for a period of 6 months. A total of 150 post-natal mothers were included in this study. After getting informed written consent, post-natal mothers were evaluated with the Edinburgh Postnatal Depression Scale (EPDS) at 24-48 hours and at 4 weeks postpartum. The threshold score for identifying severe depression is 13 or higher. All the data's recorded are entered in Microsoft Excel and analysed using SPSS version 21.0.
Results: The study comprised 150 women, of which 24 exhibited postpartum depression. The prevalence of postpartum depression in this study cohort is 16%. It was found that socio-demographic characteristics such as age and occupation together with social variables like pressure to have a male child, and obstetric factors including age at marriage and mode of delivery, were significant predictors of postpartum depression.
Conclusions: This study observed a 16% prevalence of postpartum depression among postnatal mothers. With the increasing trend in the prevalence of depression, it is essential to incorporate screening for postpartum depression in all women.

Keywords: postpartum depression, Postnatal mothers, Prevalence

INTRODUCTION

The WHO defines the postnatal period as "the period beginning immediately after the baby's birth and extending up to six weeks (42 days) after birth".[1] The postpartum period is characterized by three main periods. The initial or acute phase encompasses the first 6 to 12 hours following childbirth. This period is characterized by swift transformations, presenting the possibility of urgent emergencies such as postpartum haemorrhage, uterine inversion, and eclampsia. The second phase is the sub-acute postpartum period, lasting 2 to 6 weeks. In this phase, the body experiences significant alterations in hemodynamics, genitourinary recovery, metabolism, and emotional state. The postpartum period may extend for up to six months.[2]

Postpartum depression (PPD) is a discreet affliction wherein ladies contend with the condition and the apprehension of voicing their struggles. The Centre for Disease Control Research (CDC) indicates that approximately 1 in 8 women nationwide exhibit symptoms of postpartum depression. Estimates about the prevalence of postpartum depression among women vary according to age and race/ethnicity.[3] Postpartum depression is a distinct, often unacknowledged, yet profoundly debilitating condition. PPD refers to non-psychotic depression episodes characterized by anhedonia, sleeplessness, and fatigue occurring in women during the 4 to 6 weeks following childbirth.[4]

The WHO characterizes postpartum depression as "a specific type of mental health disorder and a variant of depression." The American Psychological Association (APA) characterizes PPD as “a significant mental health issue marked by an extended duration of emotional instability arising during a period of substantial life transition and increased responsibilities in newborn care.”[5,6]

Approximately 5-7 infants of women experiencing postpartum depression exhibit increased cognitive, behavioural, and interpersonal difficulties in comparison to offspring of non-depressed moms.[7] A meta-analysis in underdeveloped nations indicated that children of women experiencing postpartum depression are at an increased risk of being underweight and stunted.[8]

Postpartum affective disorders are often classified into three categories: postpartum blues, nonpsychotic postpartum depression, and puerperal psychosis. Symptoms may manifest from immediately after delivery to one year postpartum. In extreme instances, the anguish experienced by moms may be so profound that it could lead to suicide. Moreover, the impacted mothers are unable to operate effectively. Consequently, the children's growth and development may be adversely impacted.[9] Postpartum depression constitutes a substantial public health issue, profoundly influencing both the mother and infant, so impacting familial dynamics, mother-infant interactions, and ultimately affecting the emotional and cognitive development of the child in the long run. Annually, roughly 10-20% of new mothers are affected by this condition. Hence this study was conducted to determine the prevalence of postpartum depression among rural postnatal mothers.

Objective

To determine the prevalence of postpartum depression among postnatal mother in a tertiary care centre.

METHODS

A prospective cross-sectional study conducted at Department of Obstetrics and Gynaecology at SRM Medical college, Trichy. From six months (November 2024-April 2025). Post natal mothers were included in this study.

Inclusion criteria

All post-natal mothers irrespective of their age. Mode of delivery - normal delivery, assisted vaginal delivery and caesarean section.

Exclusion criteria

Post natal mothers with any psychiatric illness. Patients with previous history of postpartum depression

Patient not willing to give consent

Sampling technique

Convenient sampling

Sample size

According to a study conducted by Vanishree et al,10 considering the prevalence of 23% and relative precision 7% the sample size is calculated as

Sample size (N) = $Z^2 \times P \times Q/d^2$

$= 3.8416 \times 23 \times 77 / 49$

N = 145 which is rounded off to 150

The total sample size required is 150

Where Z: standard Normal distribution Proportion =1.96

P - Prevalence, Q = (1-P), d=relative precision, N=Sample size

Data collection

The present cross-sectional study was conducted at Department of O&G, Trichy SRM Medical college hospital and research centre for a period of 6 months. A total of 150 study participants were enrolled in this study. Informed written consent was obtained from all the study participants. A semi-structured validated questionnaire was used to collect the socio-demographic details like age, occupation, education, socio-economic status, obstetric history was collected and documented. EPDS (Edinburgh Postnatal Depression scale was administered to all post-natal mothers within 24-48 hrs of delivery. The cut-off score for detecting major depression is a score greater than or equal to 13. Women with EPDS score more than 13 are considered to have postpartum blues, counselling was given and they were reviewed after 4 weeks postpartum. All the 150 women including women at high risk, and those who had postpartum blues were screened again at week 4 when they came for follow-up.

Ethical issues

Participants were informed about the study and informed consent was obtained. This study was presented to Institutional Ethical Committee of SRM medical college, Trichy.

Data analysis

Data’s collected are entered in Microsoft excel 2019 and analysed using software SPSS (Statistical Package of Social Sciences) version 21. Continuous variables and categorical variables were interpreted using frequencies

(mean±SD) and proportions (%). To find the significance in categorical data, the Chi-square test was used. P<0.05 was considered as statistically significant.

RESULTS

Table 1 stated that majority around 55.3% belong to the age group of 20-24 years followed by 32% belong to 25-29 years. Around 71.4% of participants completed their studies up to 12th grade and majority belong to the socio-economic status of class III and most of the study participants are home maker living in nuclear family.

Table 1: Socio-demographic details of the study participants (n=150).

Variables	Number (n=150)	Percentage (%)
Age (Years)		
20-24	83	55.3
25-29	48	32
30-34	17	11.4
>35	2	1.3
Education		
6-10th	23	15.3
11-12th	107	71.4
Graduate and above	20	13.3
Occupation		
Homemaker	113	75.3
Employed	37	24.7
Socio –economic status		
Class I	12	8
Class II	35	23.3
Class III	98	65.4
Class IV	5	3.3
Type of family		
Nuclear	89	59.4
Joint	61	40.6

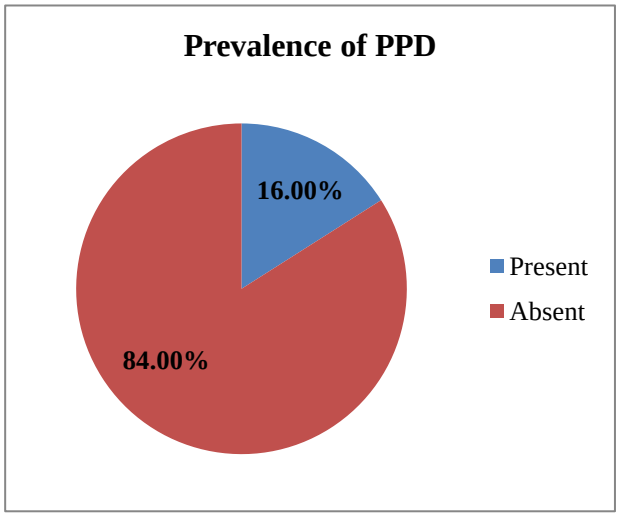

Figure 1: Prevalence of postpartum depression among study participants.

Figure 1 stated that the overall prevalence of postpartum depression in this study group is 16%.

Table 2: Obstetric characteristics of study participants (n=150).

Characteristics	Category	Number (n=150)	Percentage (%)
Age at marriage	20-24 years	107	71.3
	25-29 years	43	28.7
Number of children	One	73	48.7
	Two	56	37.3
	three	21	14
Mode of delivery	Normal vaginal delivery	93	62
	Caesarean delivery	57	38

Table 3: Prevalence of depression in various groups and its statistical significance.

Variables	Number (n=24)	Percentage (%)	P value
Age (Years)			
20-24	7	29.2	<0.01*
25-29	12	50	
30-34	3	12.5	
>35	2	8.3	
Education			
11-12th class	15	62.5	0.221
Graduate and above	9	37.5	
Occupation			
Homemaker	18	75	<0.01*
Employed	6	25	
Socio –economic status			
Class II	3	12.5	<0.01*
Class III	18	75	
Class IV	3	12.5	
Age at marriage			
20-24 years	14	58.3	0.414
25-29 years	10	41.7	
No. of children			
One	12	50	<0.01*
Two	10	41.7	
Three	2	8.3	
Mode of delivery			
Normal delivery	19	79.1	<0.01*
Caesarean delivery	5	20.9	

***: statistically significant**

Table 2 stated that majority of the study participants got married at the age of 20-24 years and almost 62% have undergone normal vaginal delivery.

Table 3 stated that socio-demographic factors like age, occupation and socio-economic status showed significant association with postpartum depression. Similarly obstetric factors like number of children and mode of delivery also showed significant association with P value <0.01.

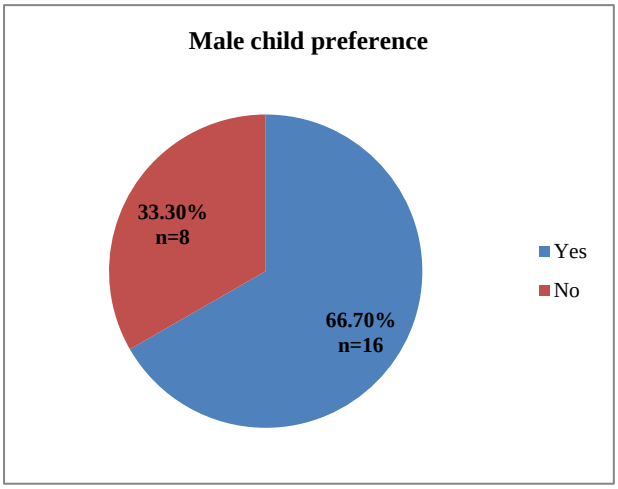

Figure 2: Male child preference with PPD.

Figure 2 stated that almost 66.70% prefer male child birth and this also shows a significant association with PPD.

DISCUSSION

This study was conducted at a tertiary healthcare center in Trichy, involving 150 postnatal mothers. Postpartum depression was assessed utilizing the Edinburgh Postnatal Depression Scale. The prevalence of postpartum depression was shown to be 16%. Our study report is analogous to the research conducted by Kruthika et al (13.6%), Gupta et al (15.8%), Abulaiti et al (14.2%), and Lanjewar S et al (15.2%).[11-14]

Recent research by Chen et al (34%) and Paswan et al (34%) indicated a greater prevalence rate, potentially attributable to socio-cultural factors.[9,15] The present study revealed that the highest frequency of depression, at 50%, was observed among women aged 24-29 years. A study conducted by Lakshmi Bhuvana G et al at a maternity care center in Andhra Pradesh revealed a frequency of 31.4% among women aged 25 to 27 years.[16]

Our study revealed that women from lower socioeconomic backgrounds and who were unemployed experienced depression. Comparable results are observed in the study by Vanishree et al which likewise indicated a strong relationship between lower socio-economic position and postpartum depression.[10] The current study demonstrates a correlation with the gravidity of women, aligning with several studies indicating that postpartum depression (PPD) is more prevalent among primiparous women compared to multipara.

In the current study, 66.7% of moms exhibit signs of sadness primarily owing to the pressure to bear a male kid. Patel V et al and Chandran M et al observed that the birth of a female child may result in the mother experiencing aversion, criticism, and hostility from her spouse and extended family, potentially leading to significant depression.[17,18]

CONCLUSION

This study observed a 16% prevalence of postpartum depression among postnatal mothers. Postpartum depression is a significant public health concern. A significant number of women experience this type of depression yet fail to seek the necessary assistance. This study demonstrated that socio-demographic characteristics such as age and occupation together with social variables like pressure to have a male child, and obstetric factors including age at marriage and mode of delivery, were significant predictors of postpartum depression.

Prompt diagnosis of women at elevated risk for developing postpartum depression (PPD) and the timely implementation of therapeutic interventions, including pharmaceutical and psychotherapy techniques, are crucial for effective PPD care.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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