

QUALITY OF LIFE AMONG POSTPARTUM WOMEN: A CROSS-SECTIONAL STUDY IN A TERTIARY CARE HOSPITAL

Community Medicine

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ABSTRACT

Background: Postpartum period is accompanied by many physical, emotional, and social changes in women's health. Early diagnosis, timely care and intervention can improve the health of mother and baby. Thus, this study aimed at assessment of quality of life (QoL) and associated factors among postpartum women. **Method:** A hospital-based cross-sectional study conducted among 106 postpartum women admitted in a tertiary care hospital during August 2023 to October 2023 using Maternal Postpartum Quality of Life-Instrument (MPQOL-I) to assess QoL among postpartum women. **Results:** The mean MPQOL-I score among postpartum women was 52.06, with approximately 49.06% of participants experiencing low QoL. Pearson correlation coefficient of -0.797 was observed between the MPQOL-I score and the EPDS score, indicating negative correlation). Additionally, factors such as the education and occupation of spouse, socioeconomic status, and the initiation of breastfeeding were significantly associated with the QoL. **Conclusion:** About 49.06% of postpartum women admitted in tertiary care hospital had lower QoL. EPDS score, education and occupation of the spouse, socioeconomic status and initiation of breastfeeding were the factors associated with QoL.

KEYWORDS

Postpartum women, quality of life, postpartum depression.

INTRODUCTION

Postpartum period is defined as the six-week period following childbirth during which the woman's body returns almost to its pre-pregnancy state. Postpartum is the fourth stage of labour and begins after giving birth and may extend to 6 months. This period consists of three stages namely; the acute phase or initial phase (6-12 hours after delivery); the subacute phase (2-6 weeks after delivery) and the delayed phase can last up to 6 months.¹

Postpartum women frequently face various challenges, including hormonal fluctuations, physical recovery from childbirth, and the demands of newborn care. These factors can lead to complications such as postpartum depression, anxiety, fatigue, genital infections, physical complaints, sleep problems, urinary incontinence and difficulties in resuming sexual activity.^{2,3} Sociodemographic variables such as maternal age, educational level, and reproductive history have been shown to be significant influencing factors across the postnatal period.³ The postpartum period can have a significant physical, emotional, and social impact on the QoL for new mothers due to these complications.² Health related quality of life (HRQoL) for maternity populations can be defined as a multidimensional concept referring to a woman's perception of the influence of her pregnancy, birth and postpartum condition, her care provision and any intervention and treatment on her physical, mental, emotional, and social functioning.⁴ Despite the recognition of the importance of maternal health during this period, research focusing specifically on the QoL among postpartum women remains limited. Most studies have predominantly addressed physical complications, overlooking the broader implications of maternal well-being in the postpartum context.³ Inadequate postpartum surveillance could adversely affect both the QoL of mothers and babies.¹ Understanding the predictors of QoL during this period is essential for developing targeted interventions that can enhance maternal health. Ultimately, early diagnosis and timely interventions can significantly improve both maternal and infant health outcomes during this vulnerable time.⁴

Given these insights, this study aims to assess the QoL among postpartum women in a tertiary care hospital setting while identifying associated factors that may predict their well-being.

OBJECTIVES

1. To assess the quality of life among postpartum women in a tertiary care hospital.
2. To study the associated factors related with quality of life among postpartum women in a tertiary care hospital.

MATERIALS AND METHODS

Study design and setting

This analytical cross-sectional study was conducted at Postnatal wards of a tertiary care hospital during August 2023 to October 2023. The study conducted among postpartum women admitted in postnatal wards of tertiary care hospital and willing to give consent.

Sample size was calculated according to Cochrane's formula, considering prevalence, $p = 50\%$, allowable error $= 10\%$, sample size, $n = 96$. Considering 10% non-responders, total sample size of 106 postpartum women. Study Population was randomly selected from the postnatal wards using table of random numbers.

Procedure Methodology

After written informed consent was obtained, a well-designed pretested and validated questionnaire was used to collect the data from the postpartum women who met the inclusion criteria. The part A of the questionnaire included socio-demographic characteristics such as age, gender, address, religion, socioeconomic status, parity, gestational complications and other comorbidities. Part B had assessment of QoL using Maternal Postpartum Quality of Life-Instrument (MPQOL-I). Part C consists of Edinburgh Postnatal Depression Scale (EPDS) to screen postnatal depression.

Maternal Postpartum Quality of Life Instrument (MPQOL-I)⁵

The Maternal Postpartum Quality of Life Instrument (MPQOL-I) is a specialized tool developed to assess the QoL among postpartum women. The MPQOL-I aims to capture various dimensions of QoL specific to this transitional period.

The final version of the MPQOL-I comprises sixteen items that cover five critical factors identified through exploratory factor analysis:

Received Support - Evaluates the social and emotional support available to the mother.

Sexual Relations - Assesses changes and satisfaction regarding sexual health post-delivery.

Bonding with Newborn - Measures the emotional connection between the mother and her infant.

Breastfeeding and Newborn Care - Focuses on the mother's experiences and challenges with breastfeeding and caring for her newborn.

Transition Period - Looks at the overall adjustment to motherhood and

changes in lifestyle.

It consists of sixteen items that evaluate various aspects of postpartum life, and the scoring is based on a five-point Likert scale.

The scoring for the MPQOL-I is structured as follows:

- 1: None
- 2: Little
- 3: Moderate
- 4: Much
- 5: Very much

Certain items (specifically items 12, 25, and 28) are reversely scaled, meaning that higher scores on these items indicate poorer QoL. The total score for the MPQOL-I can range from 16 to 80, with higher scores indicating a better QoL.5

Edinburgh Postnatal Depression Scale⁶

The EPDS is a self-report tool widely used to screen for PPD. It consists of 10 items and addresses the intensity of depressive symptoms over the previous 7 days. Items are scored on a 4-point Likert scale ranging from 0 (no symptoms) to 3 (marked presence or change), resulting in a total score of 0–30. Each item has four response options, scored as follows:

- 0: Not at all
- 1: Hardly ever
- 2: Some of the time
- 3: Most of the time

Items 3, and 5 to 10 are reverse scored, meaning their scoring is inverted. The maximum possible score is 30 (if all responses indicate severe symptoms).

Interpretation of Scores

- 0-9: Low likelihood of depression
- 10-12: Moderate likelihood of depression
- 13 or more: High likelihood of depression.

Statistical Analysis

Data analysis was done using SPSS version 26. Chi square test and odds ratio was done to find association and strength of association of categorical variables. Pearson's correlation was done between MPQOL-I score and EPDS score. Linear regression analysis was done between MPQOL-I score and EPDS score. The level $P < 0.05$ was considered as the cutoff value or significance.

RESULTS

The present study was carried out to assess the quality of life and associated factors among postpartum women. Study was conducted among 106 postpartum women admitted in postnatal wards of a tertiary hospital. The results obtained are as follows: -

Table 1: Distribution Of Study Participants According To Sociodemographic Characteristics

Characteristics	N (%)
Age (Years)	
≤20	26 (24.5)
21-25	44 (41.5)
26-30	22 (20.8)
31-35	14 (13.2)
Residence	
Urban	52 (49.1)
Rural	54 (50.9)
Education	
Illiterate	8 (7.5)
Upto middle school	24 (22.6)
Highschool	41 (38.7)
Intermediate/ Diploma	22 (20.8)
Graduate	9 (8.5)
Professional	2 (1.9)
Occupation	
Unemployed	72 (67.9)
Unskilled worker	18 (17)
Semiskilled	2 (1.9)
Clerical/ shop/ farm	6 (5.7)
Semi professional	6 (5.7)
Professional	2 (1.9)
Socioeconomic status (modified BG Prasad socioeconomic class)	
Class 1	2 (1.9)
Class 2	13 (12.3)
Class 3	20 (18.9)
Class 4	57 (53.8)
Class 5	14 (13.2)

The study involved 107 participants with a mean age of 24.1 years, ranging from 18 to 35 years. Among these participants, 44 (41.5%) were in the age group of 21-25 years, 26 (24.5%) were aged 20 years or younger, and 22 (20.8%) fell within the age group of 26-30 years. Geographically, 54 (50.9%) resided in rural areas, while 52 (49.1%) lived in urban areas. In terms of education, 41 (38.7%) had completed high school, followed by 24 (22.6%) who had completed middle school. Employment status revealed that 72 (67.9%) were unemployed, and 18 (17%) were classified as unskilled workers. According to the modified BG Prasad Socioeconomic scale, 57 (53.8%) belonged to Class 4, while 14 (13.2%) were categorized in Class 5. (Table 1)

Table 2: Distribution Of Study Participants According To Characteristics Of Family (N=106)

Characteristics	N (%)
Education of spouse	
Illiterate	14 (13.2)
Primary school	6 (5.7)
Middle school	24 (22.6)
Highschool	35 (33.0)
Intermediate/ Diploma	14 (13.2)
Graduate	11 (10.4)
Professional	2 (1.9)
Occupation of spouse	
Unskilled worker	33 (31.1)
Semiskilled	32 (30.2)
Clerical/ shop/ farm	23 (21.7)
Semi professional	16 (15.1)
Professional	2 (1.9)
Type of family	
Nuclear	21 (19.8)
Three generation	30 (28.3)
Joint	55 (51.9)

A significant proportion of the spouses, specifically 35 (33%), had completed high school, followed by 24 (22.6%) who attained middle school education. However, there remains a considerable number of spouses, totalling 14 (13.2%), who were illiterate. In terms of occupation, the majority of spouses were engaged in unskilled (33 or 31.1%) or semi-skilled (32 or 30.2%) labours. Regarding family structure, the predominant type was joint families, comprising 55 (51.9%), followed by 30 (28.3%) belonging to three-generation families. (Table 2)

Table 3: Distribution Of Study Participants According To Obstetric Characteristics (N=106)

Characteristics	N (%)
Parity	
Primiparous	56 (52.8)
Multiparous	44 (41.5)
Grand multipara	6 (5.7)
Type of delivery	
Normal Vaginal delivery	56 (52.8)
LSCS	50 (47.2)
Gender of baby	
Male	63 (49.4)
Female	43 (40.6)
Birth weight	
Normal (≥ 2.5 Kg)	74 (69.8)
Low Birthweight (<2.5 Kg)	32 (30.2)
NICU admission	
Yes	10 (9.4)
No	96 (90.6)

Out of 106 study participants, 56 (52.8%) were first-time mothers (primiparous), 44 (41.5%) were multiparous (with parity ≥ 2), and 6 (5.7%) were grand multiparous (with parity ≥ 5). Among the deliveries, 56 (52.8%) were normal vaginal deliveries, while 50 (47.2%) were Caesarean sections. In terms of gender, 63 (49.4%) of the babies were male and 43 (40.6%) were female. Regarding birth weight, 74 (69.8%) of the babies had a normal birth weight, whereas 32 (30.2%) had low birth weight. Additionally, only 10 (9.4%) of the babies required admission to the NICU. (Table 3)

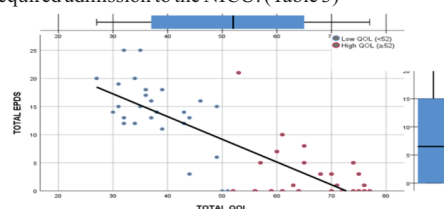


Figure 1: Scatter Plot Showing Correlation Between Total EPDS And MPQOL-I Score

Mean MPQOL-I score was 52.06 with range 27 to 77 and mean EPDS score was 8.34 with range 0 to 25. Among study participants, 49.06% had MPQOL-I < 52 (Low QoL) and 50.94% had MPQOL-I score ≥52 (High QoL). MPQOL-I score and EPDS score was negatively correlated with Pearson correlation coefficient -0.797. (Figure 1)

Table 4: Factors Associated With Quality Of Life Among Postpartum Women

Variable		Quality of Life (QoL)			p value	Odds ratio (95% CI)
		Low QoL (score <52)	High QoL (score ≥52)	Total		
Age	≤ 24 years	34	34	68	0.795	1.11 (0.50-2.46)
	>24 years	18	20	38		
Education	Upto high school	39	34	73	0.181	1.77 (0.77-4.07)
	Intermediate or more	13	20	33		
Occupation	Unemployed	38	34	72	0.265	1.60 (0.70-3.64)
	Employed	14	20	34		
Education of spouse	Upto high school	45	34	79	0.005	3.782 (1.44-9.97)
	Intermediate or more	7	20	27		
Occupation of spouse	Un skilled labourer	31	2	33	0.001	38.38 (8.42-74.97)
	Semi-skilled or more	21	52	73		
Socioeconomic status	Class 4 & 5	41	30	71	0.011	2.98 (1.27-7.01)
	Class 1,2 & 3	11	24	35		
Breast-feeding	Not initiated	16	4	20	0.002	5.56 (1.71-18.02)
	Initiated	36	50	86		

Women whose spouses had education levels up to high school reported a significantly lower QoL, with a p-value of 0.005 and an odds ratio of 3.782 (95% CI: 1.44-9.97). This suggests that higher educational attainment in spouses was associated with improved QoL for postpartum women. The occupation of the spouse also showed a significant association with QoL. Women whose spouses were unskilled labourers had a notably lower QoL (p = 0.001) with an odds ratio of 38.38 (95% CI: 8.42-74.97). This indicates that having a spouse in a more skilled occupation was likely linked to better QoL outcomes for women. Socioeconomic status was found to be significant, with women from lower socioeconomic classes (Class 4 & 5) experiencing poorer QoL (p value= 0.011) and an odds ratio of 2.98 (95% CI: 1.27-7.01). This highlights the impact of economic conditions on the health and well-being of postpartum women. The results show that women who did not initiate breastfeeding had a notably lower QoL, with a significant p-value of 0.002 and an odds ratio of 5.56 (95% CI: 1.71-18.02). This suggests that not initiating breastfeeding was associated with a higher likelihood of experiencing low QoL.

Table 5: Linear Regression Analysis Of MPQOL-I Score Based On EPDS Score

	R	Adjusted R Square	Std. Error of the Estimate	F statistic	p value	Predicted value Mean+/-SD (range)
Total EPDS	-0.797	.632	9.354	181.436	.000	52.06+/-12.96 (25.83-65.18)

The correlation coefficient (R = -0.797) indicates a strong negative relationship between the EPDS score and MPQOL-I score. This suggests that higher levels of postpartum depression symptoms (indicated by higher EPDS scores) are associated with lower quality of life (indicated by lower QOL scores). The adjusted R square value of 0.632 implies that approximately 63.2% of the variance in MPQOL-I score can be explained by the EPDS score. The p-value (.000) indicates that there is a statistically significant relationship between EPDS and MPQOL-I score. The mean predicted value for MPQOL-I is 52.06 with a standard deviation of ±12.96, indicating variability in expected quality of life scores among postpartum women. The range of predicted values spans from 25.83 to 65.18, reflecting a broad spectrum of QOL outcomes based on varying levels of depression symptoms.

DISCUSSION

The present study highlighted negative relationship between postpartum depression (PPD) and QoL among women. Pearson correlation coefficient -0.797 indicates a strong negative relationship between the Edinburgh Postnatal Depression Scale (EPDS) score and MPQOL-I score. This suggests that as depression scores increase, quality of life decreases significantly. In a study conducted by Al Rehaili et al., in Madinah, a Pearson correlation -0.556 was found between EPDS and overall QoL, supporting the notion that higher levels of postpartum depression are associated with lower quality of life.³ Similar associations were observed in studies by Nagpal et al., in Delhi and Jeong et al., in South Korea, where high EPDS score was linked to diminished quality of life, aligning with the findings of the current study.^{7,8}

The findings of this study highlight the significant impact of socioeconomic status (SES) on the quality of life (QOL) among postpartum women. Specifically, women from lower socioeconomic classes (Class 4 & 5) reported poorer QoL, as indicated by a p-value of 0.011 and an odds ratio of 2.98 (95% CI: 1.27-7.01). This suggests that women in these classes are 2.98 times more likely to experience low QoL compared to their counterparts in higher socioeconomic strata. The association between lower SES and diminished QoL is consistent with existing literature, including findings from the study by Nagpal et al., which observed a trend towards lower QoL scores among individuals in lower socioeconomic strata.⁷

The initiation of breastfeeding was also found to be a significant determinant of maternal QoL. Women who did not initiate breastfeeding had a notably lower QoL (p = 0.002; odds ratio = 5.56). This suggests that breastfeeding may play a protective role in enhancing maternal well-being. The benefits of breastfeeding extend beyond infant health; they include emotional bonding and increased confidence in maternal roles, which can contribute positively to a mother's self-esteem and mental health.

CONCLUSION

The study revealed that the mean MPQOL-I score among postpartum women was 52.06 with approximately 49.06% of participants experiencing low QoL. The mean EPDS score was 8.34. A strong negative correlation was observed between the MPQOL-I score and the EPDS score. Higher scores on the Edinburgh Postnatal Depression Scale (EPDS), which indicate more severe depression symptoms, are associated with lower Maternal Postpartum Quality of Life Instrument (MPQOL-I) scores, which indicate a lower quality of life. Additionally, factors such as the education and occupation of spouses, socioeconomic status, and the initiation of breastfeeding were significantly associated with the quality of life among postpartum women.

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