Effectiveness of a Postpartum Training Intervention in Improving Knowledge of Postpartum Depression and Perceived Social Support among postpartum women

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Abstract

Background: Postpartum depression (PPD) is a significant maternal mental health condition affecting women during the postnatal period, with substantial implications for maternal well-being, infant care, and family functioning. Despite its public health importance, PPD remains under-recognized, particularly in community settings. Maternal knowledge and perceived social support are key factors influencing early identification and prevention.

Objective: To evaluate the effectiveness of a structured postpartum training programme on knowledge of PPD and perceived social support among postpartum women in Delhi NCR.

Methods: A pre-experimental one-group pre-test–post-test study was conducted among 36 postpartum women from selected rural areas of Delhi NCR using non-probability convenience sampling. Knowledge regarding postpartum depression was assessed using a validated self-structured questionnaire before and after a video-assisted training programme. Data were analyzed using descriptive statistics and paired t-test to evaluate effectiveness, while the Chi-square test examined associations between post-test knowledge scores and selected demographic variables.

Results: The pre-test mean knowledge score was 7.08 (SD = 2.91), which increased to 19.25 (SD = 4.48) post-intervention (t = 12.17, df = 35, $p < 0.05$). Inadequate knowledge reduced from 88.9% to 11.1%, while adequate knowledge increased to 36.1%. Significant associations were found between post-test knowledge and variables such as age, education, parity, newborn gender, delivery mode, and income ($p < 0.05$).

Conclusions: Postpartum depression remains a significant public health issue among postnatal women. Video-assisted postpartum training was found to be effective in enhancing maternal knowledge, highlighting the need to strengthen nurse-led educational interventions within routine maternal health services for early identification and prevention.

Keywords: postpartum depression, social support, maternal mental health, educational intervention.

Introduction

Postpartum depression (PPD) is one of the most prevalent maternal mental health disorders worldwide and constitutes a significant public health concern due to its adverse effects on maternal functioning, infant development, and family well-being.[1,2] Unlike the transient emotional disturbances commonly referred to as "baby blues," PPD is characterized by persistent depressive symptoms such as low mood, fatigue, irritability, sleep disturbances, and impaired mother–infant bonding, which may continue for several months if left untreated.[3] Globally, the pooled prevalence of PPD is estimated to be approximately 17%, with marked variation across regions, reflecting differences in sociocultural, economic, and healthcare-related factors.[4] The burden of PPD is disproportionately higher in low- and middle-income countries, particularly in Asian and Middle Eastern regions, where prevalence estimates range from 16% to 26%, compared to lower rates reported in Europe.[5] In India, reported prevalence ranges from 15% to 26%, indicating substantial regional heterogeneity influenced by socioeconomic conditions, obstetric practices, family structures, and access to maternal mental health services.[6,7] Postnatal women residing in community and rural settings remain especially vulnerable due to limited awareness, inadequate screening, and persistent stigma associated with mental health disorders.

Evidence suggests that multiple determinants—including lack of spousal and family support, intimate partner violence, low socioeconomic status, obstetric complications, unplanned pregnancies, and a prior history of depression—contribute significantly to the development of PPD.[8,9] Among these, perceived social support has been consistently identified as a protective factor that mitigates maternal stress, facilitates emotional adjustment to motherhood, and promotes psycho logical resilience during the postpartum period.[10]

Despite growing recognition of PPD as a public health issue, awareness regarding its symptoms, risk factors, and management remains inadequate among postpartum women in many Indian communities.[11] Limited maternal knowledge, coupled with stigma and insufficient community-based screening mechanisms, often results in delayed identification and underdiagnosis of the condition.[12]

With this background, the present study was undertaken to assess the effectiveness of a structured video-assisted training programme in improving knowledge regarding postpartum depression and perceived social support among postpartum women residing in selected areas of Delhi NCR.

METHODS

A community-based pre-experimental one-group pre-test–post-test study was conducted over a period of four months in selected rural and peri-urban areas of Delhi, (NCR). The target population comprised postpartum women within six months of childbirth residing in the selected study areas. All eligible women available during the data collection period formed the

accessible population. Participants were included if they were able to understand Hindi or English, were willing to participate, and did not have any previously diagnosed severe psychiatric illness. Women with a known history of major mental disorders requiring ongoing psychiatric treatment were excluded to ensure the reliability of knowledge assessment and intervention outcomes.

Data collection was carried out using a validated self-structured questionnaire developed to assess maternal knowledge regarding postpartum depression. The tools were organized into two sections. Section one captured selected sociodemographic variables, including age, educational status, occupation, type of family, parity, and mode of delivery. Section two comprised items related to knowledge on postpartum depression, including its definition, symptoms, risk factors, complications, prevention, and management. The instrument demonstrated high internal consistency, with a reliability coefficient of $r = 0.97$.

A total of 36 postnatal mothers were selected using a non-probability convenience sampling technique. The sample size was statistically determined using G*Power 3.1.9.7 software with an alpha level of 0.05 and a power of 0.80. This cohort size is consistent with the methodology employed by Thamizhilakkiya and Dash (2019), who assessed postnatal depression levels in similar maternal populations.[13]

The intervention consisted of a structured video-assisted postpartum training programme, selected due to its suitability for community-based settings with varied literacy levels. Video-assisted education enables standardized delivery of information, enhances comprehension through audiovisual reinforcement, and improves participant engagement compared to conventional didactic methods. The training content included the definition of postpartum depression, symptoms and risk factors, complications and consequences, importance of early recognition and treatment-seeking, role of family and social support, and basic coping strategies and self-care techniques. The duration of the video session was approximately 45 minutes.

Baseline data on sociodemographic characteristics and pre-intervention knowledge were collected prior to the intervention. Following administration of the video-assisted training programme, participants were allowed to clarify doubts through brief interaction with the investigator to reinforce key messages. Post-test assessment was conducted using the same knowledge questionnaire after an interval of seven days to allow adequate assimilation of information while minimizing recall bias.

Statistical analysis

The collected data were initially entered into Microsoft Excel for data cleaning, coding, and verification, and were subsequently transferred to IBM SPSS Statistics version 25 for statistical analysis. Descriptive statistics, including frequency distributions, percentages, means, and standard deviations, were used to summarize the sociodemographic characteristics of the participants and to describe pre-test and post-test knowledge scores.

Inferential analysis was performed using paired *t*-test to evaluate the effectiveness of the video-assisted postpartum training programme by comparing mean pre-intervention and post-

intervention knowledge scores. Effect size was calculated using Cohen's *d* to determine the magnitude of the intervention effect. Chi-square test was used to examine associations between post-test knowledge levels and selected sociodemographic variables; however, the results of these analyses were interpreted cautiously due to the small sample size. A *p*-value of less than 0.05 was considered statistically significant. This analytical approach facilitated a comprehensive assessment of knowledge improvement following the intervention.

Results

A total of 36 postpartum women participated in the present study. The mean age of the participants was predominantly within the 20–30-year age group, accounting for 80.6% of the study population, while the remaining 19.4% were aged between 31 and 40 years. All participants were married. With regard to educational status, more than half of the women had primary-level education (52.8%), followed by secondary education (22.2%), whereas a smaller proportion had completed senior secondary (11.1%) or graduate-level education (13.9%). The majority of participants were homemakers (66.7%), and most had undergone vaginal delivery (77.8%) **(Table 1)**.

Baseline assessment demonstrated predominantly inadequate knowledge among participants prior to the intervention. Following the video-assisted training programme, a clear improvement in knowledge levels was observed, with a marked shift from inadequate to moderate and adequate categories. This change in knowledge distribution before and after the intervention is illustrated in (**Figure 1**), indicating the effectiveness of the training programme. Comparison of mean knowledge scores further confirmed the effectiveness of the training programme. The mean pre-test knowledge score was 7.08 (SD = 2.91), which increased significantly to 19.25 (SD = 4.48) in the post-test assessment. This improvement was statistically significant ($t = 12.17$, df = 35, $p < 0.05$), reflecting a substantial gain in maternal knowledge following exposure to the video-assisted educational intervention **(Table 3)**.

Analysis of associations between post-test knowledge levels and selected socio-demographic variables demonstrated statistically significant relationships with age, educational status of the woman, number of children, newborn's gender, mode of delivery, and monthly family income ($p < 0.05$ for all). These findings suggest that selected maternal and obstetric characteristics may influence knowledge acquisition following educational interventions; however, the results should be interpreted cautiously due to the small sample size and exploratory design of the study **(Table 4).**

Table 1. Socio-demographic characteristics of participants

(n = 36)

Variable	Categories	F	%
1. Age in years	20-30	80.6%	29
	31-40	19.4%	7
	>40	0%	0
2. Marital status	Married women	100%	36
	widow	0%	0

	Single mother	0%	0
	Divorced	0%	0
3. Educational level of women	Primary education	52.8%	19
	Secondary education	22.2%	8
	Senior secondary education	11.1%	4
	Graduate	13.9%	5
	Postgraduate	0%	0
4. Educational level of Husband	Primary education	19.4%	7
	Secondary education	16.7%	6
	Senior secondary education	36.1%	13
	Graduate	22.2%	8
5. Occupation of Husband	Unemployed	2.8%	1
	Private job	77.8%	28
	Government job	5.6%	2
	Self-employed	13.9%	5
6. Monthly income of family per month	10,000-30,000/-	13.9%	5
	30,000-50,000/-	50.0%	18
	50,000-70,000/-	25.0%	9
	>70,000/-	11.1%	4
7. Mode of Delivery	Vaginal delivery	77.8%	28
	Caesarean Section	19.4%	7
	Instrumental delivery	2.8%	1
8. Number of children	1-2 children	66.7%	24
	3-4 children	27.8%	10
	>4 children	5.6%	2
9. Number of Daughters	0 daughter	22.2%	8
	1-3 daughter	72.2%	26
	>4 daughter	5.6%	2
10. Number of sons	0 son	13.9%	5
	1-3 sons	83.3%	30
	>4 sons	2.8%	1
11. Newborn gender	Male	55.6%	20
	Female	44.4%	16

Figure 1: Comparison of Pre-test and Post-test Knowledge Level Distribution among postpartum women   (n = 36)
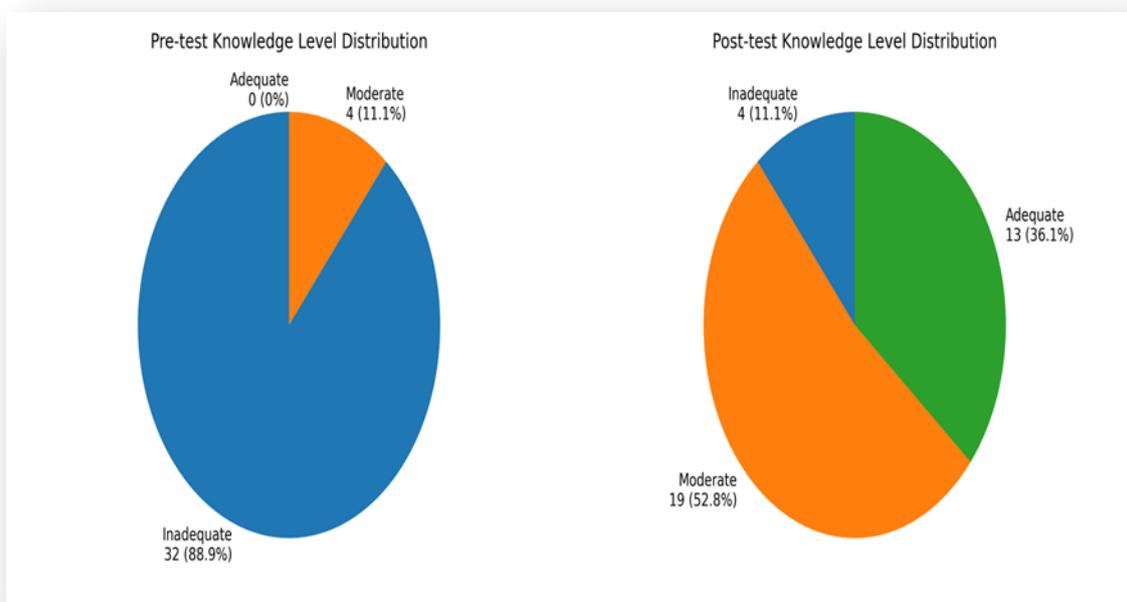
Table 3. Comparison of mean knowledge scores among postpartum women

Test	Mean (X̄)	SD	t-value	p-value
Pre-test	7.08	2.91		
Post-test	19.25	4.48	12.17	<0.05*

*significant - (p≤0.05)

Table 4. Association of post-test knowledge score with socio-demographic variables among post-partum women   (n=36)

Sociodemographic Variables	Categories	ADEQUATE	MODERATE	INADEQUATE	Chi Test	P Value	df
Age in years	20-30	11	17	1	8.98	0.011[S]	2
	31-40	2	2	3			
	>40	0	0	0			
Monthly income of family per month	10,000-30,000/-	0	2	3	17.11	0.009[S]	6

	30,000-50,000/-	8	10	0			
	50,000-70,000/-	4	5	0			
	>70,000/-	1	2	1			
Mode of Delivery	Vaginal delivery	8	17	3	12.75	0.013[S]	4
	Caesarean Section	5	2	0			
	Instrumental delivery	0	0	1			
Number of Daughters	0 daughter	4	1	3	11.319	0.023[S]	4
	1-3 daughter	9	16	1			
	>4 daughter	0	2	0			
	No	13	17	3			

*significant - (p≤0.05)

Discussion

In the present community-based pre-experimental study among postpartum women residing in rural and peri-urban areas of Delhi NCR, a significant improvement in maternal knowledge regarding postpartum depression (PPD) was observed following the video-assisted training programme. The marked increase in post-test knowledge scores indicates that structured educational interventions delivered through audiovisual media can be effective in enhancing awareness of maternal mental health conditions in community settings. Similar improvements in knowledge following educational interventions have been reported in studies conducted in both low- and middle-income countries, highlighting the potential of targeted health education strategies in addressing gaps in maternal mental health literacy[14,15]

The effectiveness of the video-assisted educational approach observed in the present study may be attributed to several factors. Audiovisual learning facilitates better comprehension and retention of information by engaging multiple sensory modalities simultaneously.[16] In settings where literacy levels vary, video-based education helps overcome barriers associated with text-heavy or lecture-based methods by simplifying complex concepts through visual demonstrations and culturally relatable narratives.[17] Furthermore, standardized video content ensures uniformity in information delivery, reducing variability that may arise from interpersonal teaching methods. Previous studies have similarly reported that video-assisted interventions are particularly effective in improving health-related knowledge among women in community and rural settings.[18]

Despite the observed improvement in knowledge, it is important to explicitly differentiate between enhanced awareness and actual prevention or reduction of postpartum depression. The present study assessed only knowledge acquisition and perceived understanding following the intervention; it did not measure clinical outcomes such as reduction in depressive symptoms, incidence of PPD, or long-term behavioral changes. Evidence suggests that while improved knowledge is a crucial first step, prevention and effective management of PPD require sustained psychosocial support, routine screening, and access to mental health services.[19] Therefore, the findings should be interpreted as indicative of improved readiness for early recognition and help-seeking rather than direct evidence of PPD prevention.

Sociodemographic and obstetric variables demonstrated significant associations with post-test knowledge levels in the present study. Younger maternal age and higher educational status were associated with better knowledge acquisition, findings that are consistent with earlier studies indicating that education and age influence receptivity to health information.[20] Parity and mode of delivery were also significantly associated, possibly reflecting differences in healthcare exposure, time availability, and prior interaction with health professionals. However, given the small sample size and exploratory nature of the study, these associations should be interpreted cautiously and not viewed as definitive predictors.

Cultural and family dynamics play a critical role in shaping awareness and perceptions of postpartum depression in Indian settings. Traditional family structures, gender roles, and societal expectations often prioritize physical recovery after childbirth while psychological distress remains under-recognized.[21] In many communities, emotional symptoms are normalized or attributed to weakness, resulting in stigma and delayed help-seeking. Family members, particularly spouses and elders, significantly influence women's health-related decisions, underscoring the importance of involving family and social support systems in maternal mental health education.[22] Educational interventions that acknowledge cultural contexts and emphasize family involvement may therefore enhance acceptance and effectiveness.

The findings of the present study align with previous Indian and international studies that emphasize the need for community-based maternal mental health education. Patel et al highlighted that lack of awareness and stigma are major contributors to the treatment gap in perinatal mental disorders in low-resource settings.[23] Similarly, Dennis and Dowswell emphasized that psychosocial and educational interventions are effective in improving maternal understanding and coping, particularly when delivered in accessible formats.[24]

Overall, the study demonstrates that video-assisted postpartum education is a feasible and effective strategy for improving maternal knowledge regarding PPD in community settings. However, further research employing larger samples, control groups, and longitudinal follow-up is required to evaluate the sustained impact of such interventions on maternal mental health outcomes and to establish their role in preventing or reducing the burden of postpartum depression.

CONCLUSION

Postpartum depression remains a significant maternal mental health concern among women in rural and peri-urban areas of Delhi NCR. The video-assisted postpartum training programme effectively enhanced maternal knowledge regarding postpartum depression. Post-intervention knowledge was significantly associated with age, education, parity, newborn's gender, mode of delivery, and family income, while marital and occupational status showed no association. These findings highlight the importance of integrating structured, nurse-led, video-based educational interventions into routine maternal health services to promote early awareness and recognition of postpartum depression at the community level.

Conflict of Interest

The authors declare no conflict of interest.

Authors Contributions

AS: conception, data collection, manuscript drafting; PA: supervision, critical review; RK: data analysis, editing.

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