

# Effectiveness of Video-Assisted Childbirth Education on prevention of Postpartum Blues among Mothers: A Quasi-Experimental Study

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## ABSTRACT

**Objective:** To assess the effectiveness of video-assisted childbirth education on prevention of postpartum blues among mothers.

**Design:** Quantitative quasi-experimental study using a post-test only control group design.

**Setting:** Selected tertiary care hospital.

**Population:** Antenatal mothers who completed 37 weeks of gestation and were at high risk for postpartum blues. A total of 60 mothers were selected (30 control group, 30 experimental group) using non-probability purposive sampling.

**Methods:** Out of 164 mothers screened, 60 at-risk mothers were selected. The experimental group received a 45-minute video-assisted childbirth education session, while the control group received routine care. Postpartum blues was assessed on the 3rd–5th day using the modified Stein Maternity Blues Assessment Scale. Data were analyzed using descriptive and inferential statistics (Chi-square and Mann Whitney U test).

**Main Outcome Measures:** Severity of postpartum blues measured using the modified Stein Maternity Blues Assessment Scale.

**Results:** Among screened mothers, 36.4% were at risk. Mild postpartum blues was observed in 26.67% of the control group and 10% of the experimental group. A significant reduction in postpartum blues was observed in the experimental group. Significant associations were found with selected socio-demographic and clinical variables.

**Conclusions:** Video-assisted childbirth education is effective in reducing postpartum blues among at-risk mothers and can be incorporated into routine antenatal care.

**Relevance to Clinical Practice:** Video-assisted childbirth education can be easily integrated into routine antenatal care to reduce postpartum blues among at-risk mothers

**No Patient or Public Contribution:** Patients were not involved in the design or analysis; informed consent was obtained, and feedback ensured acceptability.

**Funding:** All expenses related to the study were borne by the investigator.

## Summary

### What does this paper contribute to the wider global clinical community?

- Highlights the importance of early antenatal screening and targeted education in preventing maternal mental health issues in the immediate postnatal period.
- Provides evidence for integrating structured educational interventions into routine antenatal care, especially in resource-limited settings, to improve maternal psychological outcomes.

- Demonstrates that a simple, low-cost video-assisted childbirth education intervention significantly reduces postpartum blues among at-risk mothers.

**Keywords:** Effectiveness, video assisted childbirth education, postpartum blues.

## INTRODUCTION

Childbirth is a complex life event that imposes significant physiological, hormonal, and psychosocial stress on women. The postpartum period is characterized by sleep deprivation, physical exhaustion, and dramatic hormonal shifts, making mothers vulnerable to mood disturbances. Among these, postpartum blues is the most frequently observed, affecting 30–75% of mothers in the early postnatal period. Postpartum blues is a transient psychological disturbance commonly experienced by mothers in the early postnatal period, typically within the first week after delivery. It is characterized by mood swings, tearfulness, irritability, anxiety, sleep disturbances, and difficulty in concentration. Although usually self-limiting, generally mild and transient, postpartum blues may negatively impact maternal-infant bonding and if unrecognized, it may progress to more severe conditions such as postpartum depression, thereby affecting maternal well-being and infant care.

Globally, prevalence estimates vary due to differences in definitions and measurement tools. In Western countries, postpartum blues occurs in approximately 12–67% of mothers, while prevalence in Japan ranges from 9–25%. Various biological, psychological, and socio-cultural factors contribute to the development of postpartum blues, including maternal age, family support, mode of delivery, and neonatal health status. Despite its high incidence, postpartum blues remains under-recognized, partly because mothers often perceive it as a normal part of the postnatal experience.

Childbirth education has been recognized as an effective approach to prepare mothers for labour, delivery, and postnatal adjustments. With advancements in technology, video-assisted teaching has emerged as a promising educational tool that enhances understanding, retention, and engagement. It provides standardized, visual, and comprehensive information and is accessible approach to prepare mothers for the postpartum period, potentially mitigating the risk of postpartum blues. Nurses, as primary caregivers during hospitalization, play a key role in delivering such interventions, providing reassurance, and monitoring maternal psychological well-being.

Despite the potential benefits, limited studies have explored the role of video-assisted childbirth education in reducing postpartum blues, particularly among high-risk mothers. Hence, this study was undertaken to assess the effectiveness of video-assisted childbirth education on postpartum blues among mothers admitted in selected tertiary care hospital.

## METHODS

A quantitative quasi-experimental approach with a post-test only control group design was adopted. The study was conducted among antenatal mothers who had completed 37 weeks of gestation and were admitted for safe confinement.

A total of 164 mothers were screened using a structured rating scale to identify those at risk for postpartum blues. Based on the inclusion criteria, 60 mothers who are at risk for postpartum blues were selected through non-probability purposive sampling and allocated into control (n=30) and experimental (n=30) groups.

The experimental group received a 45-minute video-assisted childbirth education session covering antenatal care, intrapartum management, and postnatal care of the mother and newborn. The control group received routine care.

Data were collected using:

1. A structured rating scale developed by the investigator to screen mothers at risk for postpartum blues.
2. A socio-personal and clinical data sheet.
3. The Modified Stein Maternity Blues Assessment Scale, consisting of 13 items assessing symptoms such as depression, anxiety, irritability, and sleep disturbances. Scores ranged from 0 to 26, with higher scores indicating greater severity.

### **Validity and reliability**

Content validity of the tools was established by a panel of experts in obstetrics and gynecology, nursing, and psychiatry. The Modified Stein Maternity Blues Assessment Scale demonstrated good internal consistency (Cronbach's  $\alpha = 0.8$ ). The screening tool showed high reliability (test-retest reliability = 0.90).

### **Data collection procedure**

Data collection was carried out over a 6-week period. After obtaining informed consent, eligible antenatal mothers were screened for risk of postpartum blues. Selected participants were assigned to control and experimental groups. The intervention was administered during the antenatal period for the experimental group. Postpartum blues were assessed in both groups on the third postnatal day using the Modified Stein Maternity Blues Assessment Scale. Clinical data were recorded following assessment.

### **Statistical analysis**

Data were analyzed using descriptive and inferential statistics. Group differences were assessed using the Mann-Whitney U test. Associations between postpartum blues and selected variables were analyzed using the chi-square test. A p-value  $<0.05$  was considered statistically significant.

**Core Outcome Sets:** The primary outcome measured was the severity of postpartum blues, assessed using a standardized and validated tool. This aligns with core maternal mental health outcomes commonly used in postnatal research, ensuring comparability and relevance.

**Patient and Public Involvement:** Participants were informed about the study objectives and procedures, and informed consent was obtained. Although patients were not involved in the design of the study, their feedback was considered during implementation to ensure clarity and acceptability of the intervention.

## **RESULTS**

A total of 164 antenatal mothers were screened for risk of postpartum blues, of whom 60 (36.4%) were identified as at risk and included in the study. These participants were equally allocated into control ( $n=30$ ) and experimental ( $n=30$ ) groups.

On the third postnatal day, the majority of mothers in both groups did not exhibit postpartum blues; however, a higher proportion was observed in the experimental group (83.3%) compared to the control group (63.3%). Mild postpartum blues were reported in 26.7% of mothers in the control group and 10% in the experimental group, while moderate blues were observed in 10% and 6.7% of mothers, respectively. No cases of severe postpartum blues were identified in either group.

The socio-demographic and clinical characteristics of participants in both groups were comparable, with no statistically significant differences ( $p>0.05$ ), indicating baseline homogeneity. Most mothers were aged 21–25 years, had secondary-level education, and were homemakers. The majority belonged to nuclear families and reported adequate family support.

With regard to clinical characteristics, most mothers in both groups had normal vaginal delivery (control: 90%; experimental: 96.7%), and the majority of newborns were male. Breastfeeding problems were more common in the control group (26.7%) compared to the experimental group (13.3%), while most newborns in both groups had no significant health problems.

The effectiveness of the intervention was assessed using the Mann–Whitney U test. The median postpartum blues score was lower in the experimental group (median=1; interquartile range [IQR]=2–3) compared to the control group (median=2; IQR=2–4). A statistically significant difference was observed between the groups ( $U=286$ ,  $p<0.01$ ), indicating that video-assisted childbirth education significantly reduced postpartum blues among mothers.

Further analysis revealed significant associations between postpartum blues and selected variables, including maternal age ( $\chi^2=16.71$ ), area of residence ( $\chi^2=12.7$ ), type of family ( $\chi^2=6.83$ ), support system ( $\chi^2=12.69$ ), mode of delivery ( $\chi^2=9.22$ ), gender of the newborn ( $\chi^2=11.16$ ), postnatal health problems of the mother ( $\chi^2=15.21$ ), and health status of the newborn ( $\chi^2=48.93$ ) ( $p<0.05$ ). No significant association was found with maternal education or occupation ( $p>0.05$ ).

## DISCUSSION

### Main Findings

The study demonstrated that video-assisted childbirth education significantly reduced postpartum blues among at-risk mothers. The study identified that 36.4% of antenatal mothers were at risk for postpartum blues. This finding aligns with previous research reporting similar prevalence rates, suggesting that a substantial proportion of women remain vulnerable to early postpartum mood disturbances. Such consistency supports the need for early screening during the antenatal period.

With regard to severity, the present study observed that postpartum blues were predominantly mild to moderate, with no cases of severe blues reported. A lower proportion of mothers in the experimental group experienced mild and moderate symptoms compared to the control group. These findings are consistent with earlier studies indicating that postpartum blues are generally transient and mild in nature but may vary depending on psychosocial and clinical factors.

The primary finding of this study demonstrated that video-assisted childbirth education significantly reduced postpartum blues among mothers. Mothers who received the intervention showed lower median scores compared to those receiving routine care alone. This is consistent with previous studies evaluating structured educational and psychosocial interventions, which have shown improvements in maternal psychological outcomes, including reduced depressive symptoms, enhanced coping, and better maternal role adaptation.

The effectiveness of the intervention may be explained by improved maternal preparedness, enhanced coping strategies, and increased awareness regarding physiological and psychological changes during the postpartum period. Educational interventions may also reduce anxiety, correct misconceptions, and strengthen maternal confidence, thereby minimizing emotional distress.

The study further identified significant associations between postpartum blues and several socio-demographic and clinical variables. Younger maternal age was associated with higher prevalence of postpartum blues, which is supported by literature indicating increased vulnerability among younger and less experienced mothers.

Family-related factors such as type of family and support system also showed significant associations. Mothers with limited support were more likely to experience postpartum blues, emphasizing the critical

role of family involvement and emotional support during the perinatal period. Similarly, area of residence was significantly associated, suggesting that environmental and social factors influence maternal mental health.

Clinical variables, including mode of delivery, gender of the newborn, postnatal health problems of the mother, and health status of the newborn, were also significantly associated with postpartum blues. These findings are in agreement with previous studies highlighting the psychological impact of childbirth experiences and neonatal outcomes on maternal well-being. In particular, complications during delivery and neonatal illness may increase maternal stress and emotional vulnerability.

Overall, the findings reinforce that postpartum blues are multifactorial in origin and can be effectively reduced through early, structured educational interventions.

### **Strengths and Limitations**

A key strength of the study is its focus on high-risk antenatal mothers and the use of a structured educational intervention. The use of a standardized assessment tool enhances the reliability of findings. However, the study has certain limitations, including a relatively small sample size and the use of non-probability sampling, which may limit generalizability. The absence of a pre-test assessment is another limitation.

### **Interpretation (considering other evidence)**

The findings are consistent with previous studies suggesting that antenatal education can improve maternal psychological outcomes. Video-assisted teaching enhances understanding and reduces anxiety by providing visual and structured information. The reduction in postpartum blues observed in this study supports the growing evidence that educational interventions can play a preventive role in maternal mental health. The associations found with socio-demographic factors also align with existing literature emphasizing the role of social support and environmental factors.

## **CONCLUSION**

The study concludes that video-assisted childbirth education is an effective intervention in reducing postpartum blues among at-risk mothers. Integrating such educational programs into routine antenatal care can promote maternal mental well-being and improve postnatal outcomes.

### **• Practical Recommendations:**

**Nurse Midwifery Practice:** Nurses and midwives play a crucial role in early identification of mothers at risk for postpartum blues. Incorporating structured childbirth education into routine antenatal care can enhance maternal preparedness and reduce emotional distress. Nurses can also facilitate family involvement to strengthen support systems.

**Nursing Education:** The findings emphasize the need to integrate maternal mental health, particularly postpartum blues, into nursing curricula. Training programs should focus on early screening, prevention strategies, and educational interventions.

**Nursing Administration:** Healthcare administrators should develop policies and protocols for routine screening and educational programs addressing postpartum mental health. Implementation of structured antenatal education sessions should be promoted in clinical settings.

### **Research Recommendations:**

- Conduct studies with larger sample sizes and randomized designs.
- Explore long-term effects of educational interventions on maternal mental health.

### Relevance to Clinical Practice

The findings of this study have important implications for clinical practice, particularly in maternal and newborn care settings. Postpartum blues, although often transient, can adversely affect maternal well-being and mother–infant bonding if not addressed early. The study demonstrates that video-assisted childbirth education is an effective, practical, and feasible intervention that can be incorporated into routine antenatal services.

Nurses and midwives play a crucial role in identifying mothers at risk and delivering structured educational interventions. The use of video-assisted teaching ensures standardized information delivery, enhances understanding, and improves retention among mothers. It also helps reduce anxiety by preparing women for labour, delivery, and postpartum changes.

In resource-limited settings, where access to specialized mental health services may be constrained, such low-cost and scalable interventions can significantly contribute to improving maternal psychological outcomes. Incorporating this approach into antenatal clinics, maternity wards, and community health programs can strengthen preventive mental health care.

Furthermore, involving family members during educational sessions may enhance support systems, which has been shown to influence postpartum mental health. Overall, integrating video-assisted childbirth education into routine care can promote holistic maternal care, improve psychological well-being, and contribute to better maternal and neonatal outcomes.

### Disclosure of Interests

The author declare that they have no financial, personal, political, intellectual, or religious conflicts of interest related to this study

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