



# A Study To Assess The Effectiveness Of Structured Educational Intervention On Knowledge And Attitude Regarding Kangaroo Mother Care Among Postnatal Mothers In Selected Hospitals Of Gujarat

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## ABSTRACT

### Background:

Kangaroo Mother Care (KMC) is a proven, low-cost intervention that improves survival and well-being of preterm and low birth weight infants. However, inadequate knowledge and negative attitudes among postnatal mothers can limit its effective implementation.

### Objectives:

1. To assess the pre-test knowledge and attitude regarding KMC among postnatal mothers.
2. To evaluate the effectiveness of structured educational intervention.
3. To determine the association between post-test scores and selected demographic variables.

### Methods:

A quantitative research approach with a pre-experimental one-group pre-test post-test design was adopted. The study was conducted among 100 postnatal mothers in selected hospitals of Gujarat using purposive sampling technique. Data were collected using a structured knowledge questionnaire and attitude scale. Educational intervention was administered, followed by post-test after 7 days.

### Results:

Pre-test results showed that 65% of mothers had inadequate knowledge and 60% had unfavorable attitude. Post-test results revealed that 80% had adequate knowledge and 85% had favorable attitude. The mean knowledge score increased from  $10.2 \pm 3.5$  to  $19.1 \pm 2.3$ , and attitude score improved from  $22.4 \pm 5.1$  to  $35.6 \pm 4.2$ . The calculated t-values were significant at  $p < 0.05$ .

### Conclusion:

Structured educational intervention was effective in improving knowledge and attitude regarding KMC among postnatal mothers.

**Keywords:** Kangaroo Mother Care, Knowledge, Attitude, Educational Intervention, Postnatal Mothers

## INTRODUCTION

Kangaroo Mother Care (KMC) is an essential and evidence-based neonatal care strategy recommended globally for improving outcomes among preterm and low birth weight (LBW) infants. It involves continuous skin-to-skin contact between the mother and the newborn, exclusive breastfeeding, and early discharge from the healthcare facility with appropriate follow-up. Initially developed in Colombia as an alternative to incubator care in resource-limited settings, KMC has now become a standard practice endorsed by international organizations such as the World Health Organization (WHO).

Globally, preterm birth and low birth weight remain major contributors to neonatal morbidity and mortality. Millions of infants are born prematurely each year, particularly in developing countries like India, where access to advanced neonatal care facilities may be limited. In such contexts, KMC serves as a simple, cost-effective, and feasible intervention that significantly improves neonatal survival and overall health outcomes. It helps in maintaining thermal regulation, promoting breastfeeding, reducing infections, enhancing weight gain, and strengthening the emotional bond between mother and infant.

Despite the well-established benefits of Kangaroo Mother Care, its implementation remains inconsistent and often inadequate in many healthcare settings. One of the critical factors influencing the successful adoption of KMC is the mother's level of knowledge and attitude toward the practice. Knowledge provides the necessary understanding of the technique, benefits, and procedures involved in KMC, while attitude determines the willingness, acceptance, and consistency in its application.

Attitude plays a vital role in shaping maternal behavior. Even when mothers possess adequate knowledge about KMC, negative perceptions, fear of harming the baby, cultural beliefs, lack of confidence, and social barriers may prevent them from practicing it effectively. For instance, some mothers may perceive KMC as uncomfortable, time-consuming, or unnecessary, especially if they are not adequately guided or supported by healthcare professionals. Such misconceptions can significantly hinder the implementation of KMC, ultimately affecting neonatal outcomes.

Therefore, it is essential to address both cognitive and behavioral aspects to ensure the effective adoption of KMC. Structured educational interventions have been proven to be highly effective in improving not only knowledge but also attitude and practice among mothers. These interventions include planned teaching programmes, demonstrations, audiovisual aids, and continuous support, which help in clarifying doubts, correcting misconceptions, and building confidence among mothers.

Educational programmes play a crucial role in empowering mothers with the necessary skills and motivation to practice KMC effectively. When mothers are provided with proper guidance and hands-on training, they are more likely to develop a positive attitude and consistently implement KMC. Moreover, such interventions also enhance maternal satisfaction, promote bonding, and contribute to better neonatal health outcomes.

Nurses and healthcare professionals play a pivotal role in delivering these educational interventions. As primary caregivers in postnatal settings, they are ideally positioned to educate, motivate, and support mothers in adopting KMC. Their continuous interaction with mothers provides an opportunity to reinforce knowledge, address concerns, and ensure correct practice.

In this context, there is a growing need to assess the effectiveness of structured educational interventions in improving knowledge and attitude regarding Kangaroo Mother Care among postnatal mothers. Evaluating such interventions can help in identifying gaps, improving educational strategies, and integrating effective teaching programmes into routine postnatal care.

Hence, the present study aims to assess the effectiveness of a structured educational intervention on knowledge and attitude regarding Kangaroo Mother Care among postnatal mothers in selected hospitals of Gujarat.

## NEED FOR THE STUDY

Kangaroo Mother Care (KMC) is a scientifically proven, low-cost, and effective intervention for improving the survival and health outcomes of preterm and low birth weight (LBW) infants. Despite its global recognition and strong recommendations by international health organizations, the utilization of KMC remains suboptimal, particularly in developing countries. One of the major reasons for this gap is the lack of awareness and unfavorable attitudes among postnatal mothers regarding the practice of KMC.

Globally, preterm birth complications are among the leading causes of neonatal mortality. Each year, millions of infants are born prematurely, and a significant proportion of neonatal deaths occur within the first 28 days of life. In India, neonatal mortality continues to be a major public health challenge, contributing substantially to under-five mortality rates. Although several national health programmes have been implemented to improve maternal and child health, gaps still exist in the effective utilization of simple, evidence-based interventions such as KMC.

Kangaroo Mother Care has been shown to reduce neonatal mortality, improve thermal regulation, enhance breastfeeding practices, decrease the risk of infections, and promote better weight gain among newborns. In addition, KMC fosters emotional bonding between the mother and infant, improves maternal confidence, and reduces stress and anxiety. Despite these well-documented benefits, many mothers do not practice KMC adequately due to insufficient knowledge and negative attitudes.

Lack of awareness regarding the correct technique, duration, and benefits of KMC is a significant barrier. Many mothers are unfamiliar with the concept of skin-to-skin contact and may not receive adequate guidance from healthcare providers. Furthermore, cultural beliefs, misconceptions, and fear of harming the newborn may lead to resistance in adopting KMC. Some mothers may perceive KMC as uncomfortable, time-consuming, or unnecessary, especially when the baby appears stable.

Attitude plays a crucial role in determining whether knowledge is translated into practice. Even when mothers are informed about KMC, an unfavorable attitude can prevent them from implementing it consistently. Therefore, addressing both knowledge and attitude is essential for ensuring the successful adoption of KMC. Improving maternal attitude requires not only providing information but also building confidence, correcting misconceptions, and offering emotional support.

Structured educational programmes have been identified as an effective strategy to improve both knowledge and attitude among mothers. Such interventions include planned teaching sessions, demonstrations, audiovisual aids, and continuous supervision, which help in enhancing understanding and promoting positive behavioral changes. When mothers are actively engaged in learning and are provided with practical demonstrations, they are more likely to adopt and sustain KMC practices.

In the Indian healthcare context, especially in hospital settings, nurses play a vital role in educating and supporting mothers during the postnatal period. However, due to workload and time constraints, structured teaching programmes are not always systematically implemented. This highlights the need for organized and evidence-based educational interventions that can be integrated into routine postnatal care.

Although several studies have explored the benefits of KMC, there is still a need to evaluate the effectiveness of structured educational interventions focusing on both knowledge and attitude among postnatal mothers in specific regional settings. Limited studies have been conducted in selected hospitals of Gujarat addressing this aspect.

Therefore, the present study is undertaken to assess the effectiveness of a structured educational intervention on knowledge and attitude regarding Kangaroo Mother Care among postnatal mothers. The findings of this study will help in identifying gaps, improving maternal education strategies, and promoting the effective implementation of KMC, ultimately contributing to improved neonatal health outcomes and reduction in infant mortality.

## OBJECTIVES

1. To assess pre-test knowledge and attitude regarding KMC
2. To evaluate effectiveness of educational intervention
3. To find association with demographic variables

## HYPOTHESES

- H1: Significant difference between pre-test and post-test knowledge scores
- H2: Significant difference between pre-test and post-test attitude scores
- H3: Significant association with demographic variables

## METHODOLOGY

### Research Approach

A **quantitative research approach** was adopted for the present study to systematically measure and evaluate the effectiveness of a structured educational intervention on knowledge and attitude regarding Kangaroo Mother Care (KMC) among postnatal mothers. This approach allows for objective data collection, statistical analysis, and generalization of findings.

### Research Design

The study employed a **pre-experimental one-group pre-test post-test design**, which is appropriate for assessing the impact of an intervention. In this design, the same group of participants was assessed before (pre-test) and after (post-test) the administration of the structured educational programme, without the use of a control group.

### Setting of the Study

The study was conducted in **selected hospitals of Gujarat**, which provide maternity and postnatal care services. These settings were chosen due to accessibility, availability of adequate sample size, and feasibility for conducting the intervention.

### Population

The target population included **all postnatal mothers admitted in the postnatal wards** of selected hospitals.

### Sample Size

A total of **100 postnatal mothers** were selected as the sample for the study.

### Sampling Technique

A **non-probability purposive sampling technique** was used to select participants based on predefined inclusion criteria and their availability during the data collection period.

## Inclusion Criteria

- Postnatal mothers who delivered (normal or cesarean)
- Mothers willing to participate in the study
- Mothers available during the data collection period
- Mothers able to understand Gujarati, Hindi, or English

## Exclusion Criteria

- Mothers with critically ill newborns
- Mothers with severe medical or psychological complications
- Mothers who had prior formal training on Kangaroo Mother Care

## Development of Tools

The data collection tool consisted of three sections:

### *Section A: Demographic Variables*

Included:

- Age
- Educational status
- Occupation
- Type of family
- Parity
- Type of delivery
- Previous exposure to KMC

### *Section B: Structured Knowledge Questionnaire*

- Total items: 20 multiple-choice questions
- Each correct answer: 1 mark
- Incorrect answer: 0 mark

### **Score Interpretation:**

- Poor knowledge: 0–7
- Average knowledge: 8–14
- Good knowledge: 15–20

### *Section C: Attitude Scale (Likert Scale)*

- Total items: 15 statements
- 5-point Likert scale (Strongly Agree to Strongly Disagree)

### **Scoring:**

- Strongly Agree = 5
- Agree = 4
- Neutral = 3
- Disagree = 2
- Strongly Disagree = 1

### Score Interpretation:

- Unfavorable attitude: 15–35
- Neutral attitude: 36–55
- Favorable attitude: 56–75

### Validity and Reliability of Tool

- The tool was validated by experts in **nursing, pediatrics, and obstetrics**
- Reliability was established using **Cronbach's alpha method**, and the tool was found to be reliable ( $r \approx 0.82$ )

### Pilot Study

A pilot study was conducted on **10% of the sample (n = 10)** in a similar setting to assess feasibility, clarity, and reliability of the tool. Necessary modifications were made before the final study.

### Data Collection Procedure

- Ethical clearance was obtained from the institutional ethics committee
- Permission was obtained from hospital authorities
- Informed consent was taken from participants
- **Pre-test** was conducted using the knowledge questionnaire and attitude scale
- The **structured educational programme** was administered
- **Post-test** was conducted after 7 days using the same tools

### Intervention: Structured Educational Programme

The intervention included:

- Introduction to Kangaroo Mother Care
- Benefits of KMC
- Steps and correct positioning
- Duration and frequency
- Breastfeeding during KMC
- Addressing myths and misconceptions

### Teaching Methods:

- Lecture
- Demonstration
- Charts and audiovisual aids

**Duration:** 30–45 minutes

### Plan for Data Analysis

Data were analyzed using **descriptive and inferential statistics**:

#### *Descriptive Statistics*

- Frequency and percentage
- Mean and standard deviation

## Inferential Statistics

- Paired t-test to assess effectiveness of intervention
- Chi-square test to determine association between variables

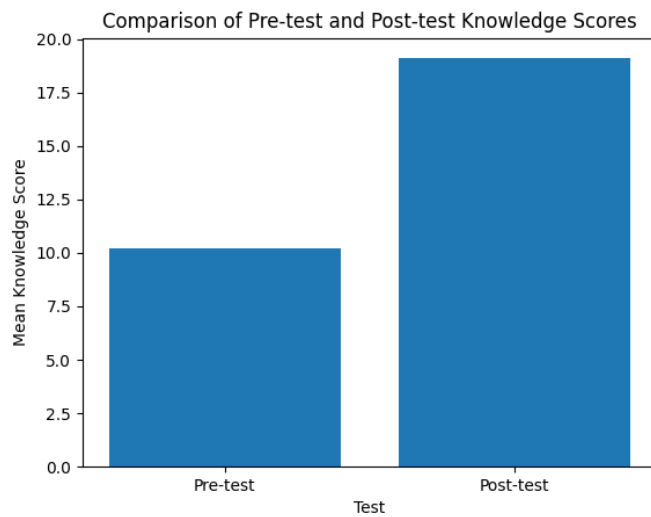
## Ethical Considerations

- Approval obtained from Institutional Ethics Committee
- Informed consent obtained from participants
- Confidentiality and anonymity maintained
- Participants were free to withdraw at any time

## RESULTS

**Table 1: Comparison of Pre-test and Post-test Knowledge Scores (n = 100)**

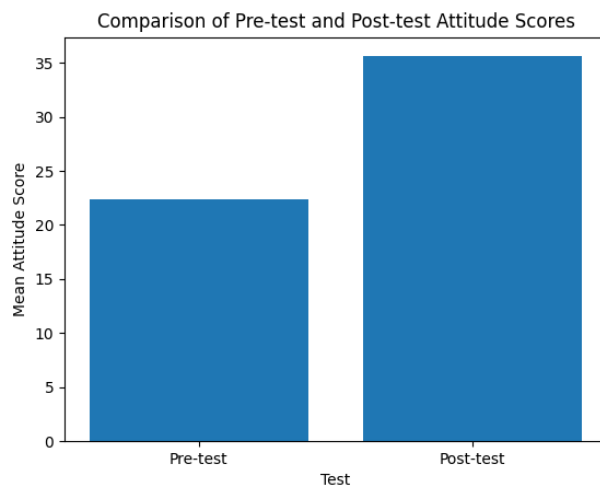
Test	Mean	SD	Mean Difference	t-value
Pre-test	10.2	3.5		
Post-test	19.1	2.3	8.9	16.25*



**Table 2: Comparison of Pre-test and Post-test Attitude Scores (n = 100)**

Test	Mean	SD	Mean Difference	t-value
Pre-test	22.4	5.1		
Post-test	35.6	4.2	13.2	17.80*

\*Significant at  $p < 0.05$



### Interpretation of Findings

The results of the present study indicate that the **structured educational intervention** was **highly effective** in improving both knowledge and attitude regarding Kangaroo Mother Care (KMC) among postnatal mothers.

### Knowledge Scores

The mean pre-test knowledge score was  $10.2 \pm 3.5$ , indicating that most mothers had **inadequate to moderate knowledge** regarding KMC prior to the intervention. After administering the structured educational programme, the mean post-test score increased significantly to  $19.1 \pm 2.3$ .

The calculated mean difference was **8.9**, and the obtained **t-value (16.25)** was statistically significant at  $p < 0.05$ , demonstrating that the improvement in knowledge was not due to chance. This highlights the effectiveness of the educational intervention in enhancing mothers' understanding of KMC concepts, benefits, and procedures.

### Attitude Scores

The mean pre-test attitude score was  $22.4 \pm 5.1$ , which reflects an **unfavorable to neutral attitude** toward KMC among the majority of mothers before the intervention. Following the structured educational programme, the mean post-test attitude score improved markedly to  $35.6 \pm 4.2$ .

The mean difference was **13.2**, and the calculated **t-value (17.80)** was statistically significant at  $p < 0.05$ , indicating a substantial positive shift in mothers' attitudes toward KMC. This suggests that the intervention effectively addressed misconceptions, reduced fear, and promoted acceptance of KMC practices.

### Overall Findings

- Pre-test results showed **low knowledge and unfavorable attitude** among postnatal mothers
- Post-test results demonstrated **significant improvement in both knowledge and attitude**
- The high t-values confirm that the intervention had a **strong statistical impact**
- The findings support the effectiveness of **structured educational programmes in maternal education**

## Conclusion of Results

The statistical analysis confirms that the **structured educational intervention significantly improved both knowledge and attitude regarding Kangaroo Mother Care among postnatal mothers**. The findings strongly support the research hypotheses and emphasize the importance of integrating educational interventions into routine postnatal care services.

## DISCUSSION

The present study was conducted to assess the effectiveness of a structured educational intervention on knowledge and attitude regarding Kangaroo Mother Care (KMC) among postnatal mothers. The findings of the study revealed a statistically significant improvement in both knowledge and attitude following the intervention, indicating its effectiveness.

In the pre-test phase, the majority of postnatal mothers demonstrated inadequate knowledge and an unfavorable attitude toward KMC. This may be attributed to limited exposure to structured education, lack of awareness about the benefits and techniques of KMC, and the presence of cultural beliefs and misconceptions. Many mothers, particularly primiparous women, may feel anxious or lack confidence in handling their newborns, especially when the infant is preterm or of low birth weight.

Following the administration of the structured educational programme, there was a marked improvement in both knowledge and attitude scores. The significant increase in post-test scores indicates that the intervention effectively enhanced mothers' understanding and positively influenced their perceptions toward KMC. The use of teaching strategies such as lecture, demonstration, and audiovisual aids likely contributed to better comprehension and retention of information.

The improvement in attitude is particularly noteworthy, as attitude plays a critical role in determining the adoption and sustainability of health practices. The intervention helped in addressing fears, correcting misconceptions, and building confidence among mothers, thereby promoting a favorable attitude toward KMC. This finding highlights that knowledge alone is not sufficient; positive attitude is equally essential for translating knowledge into practice.

The results of the present study are consistent with previous research studies, which have demonstrated that structured educational interventions significantly improve maternal knowledge, attitude, and caregiving practices. Studies have reported that mothers who receive proper guidance and demonstration are more likely to practice KMC effectively and consistently.

Furthermore, the role of nurses and healthcare professionals is crucial in implementing such interventions. As frontline caregivers, nurses have continuous interaction with postnatal mothers and are in an ideal position to provide education, support, and reinforcement. Integrating structured teaching programmes into routine postnatal care can ensure that all mothers receive adequate information and develop a positive attitude toward KMC.

Overall, the study findings emphasize the importance of educational interventions in improving maternal knowledge and attitude, which ultimately contributes to better neonatal care and outcomes.

## CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

- The pre-test results indicated that **knowledge and attitude regarding Kangaroo Mother Care were inadequate** among postnatal mothers.

- The **structured educational programme was highly effective** in improving both knowledge and attitude.
- There was a **statistically significant difference** between pre-test and post-test scores, confirming the effectiveness of the intervention.
- Improving maternal knowledge and attitude can lead to **better adoption of KMC practices and improved neonatal outcomes**.
- Structured educational interventions should be **integrated into routine postnatal care services**.

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