

# An experimental study to assess the effectiveness of Structural teaching programme on the level of knowledge regarding Kangaroo mother care among Antenatal and Postnatal Mother in Shri Mahant Indiresht Hospital Dehradun

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**Abstract:** A study was conducted to assess the effectiveness of Structural teaching programme on the level of knowledge regarding Kangaroo mother care among Antenatal and Postnatal Mother in Shri Mahant Indiresht Hospital Dehradun. The study involved a sample of 30 mothers from SMI hospital Dehradun. The research employed a Convenience sampling technique (Pre-test and Post test design). The conceptual framework was based on General System Theory modified Ludwing Von Bertalanffy General Modeldenbachs model. The pretest showed that 66.6% mother had inadequate knowledge, 26.7% mother had adequate knowledge and 6.7% mother had adequate knowledge on Kangaroo mother care in pretest. The Post-test revealed that 43.3% mother had adequate knowledge and 17% had moderately adequate knowledge on Kangaroo mother care. The knowledge about Kangaroo mother care significantly Increase ( $p < 0.000$ ) after structured teaching Programme.

**Key Words:** Kangaroo Mother care, Structured teaching programme.

## 1. INTRODUCTION:

Kangaroo mother care is a method of care of preterm infants. The method involves infants being carried, usually by the mother, with skin-to-skin contact. This guide is intended for health professionals responsible for the care of low-birth-weight and preterm infants. It has many benefits for babies, especially those born early or with low birth weight. Kangaroo care can support baby's physical health, help with breastfeeding and nurture the bond between mother and baby<sup>1</sup>.

### 1.1. NEED AND SIGNIFICANCE OF STUDY:

The need of the small low birth weight requires careful management in order to maximize their potential, both in present and future. Some of the benefit reported in various research finding, related to Kangaroo mother care are improved such as increased breast feeding, increased weight gain, regulated body temperature. Importance of this study is that every year many neonates are born with low birth weight, due to this the cases of Infant mortality are raising so the Kangaroo mother care improve the health of low birth weight neonates.

## 2. LITERATURE REVIEW:

A quasi-experimental study was performed on 100 mothers of premature infants who were admitted to neonatal intensive care units. A questionnaire comprising demographic information and the Maternal Attachment Scale were used as data collection tools. All data analysis was performed using SPSS software version 25. Significant level is considered  $P < 0.05$ . After the intervention, the levels of maternal attachment of mothers in the intervention group were significantly higher than in the control group ( $47.7 \pm 2.9$  vs.  $40.4 \pm 5.4$ ,  $P = 0.003$ ). After the intervention, the infants in the intervention group has a significantly higher number of breastfeeding than the control group ( $10.6 \pm 1.8$  vs.  $8.2 \pm 1.6$ ,  $P = 0.000$ ). Moreover, the infant of the intervention group had a statistically significant higher weight at discharge time ( $2164.4 \pm 481.1$  vs.  $1965.2 \pm 372$ ,  $P = 0.042$ )<sup>2</sup>. **Shahrpkh mehriresh**

A study was conducted randomized, controlled trial in five hospitals in Ghana, India, Malawi, Nigeria, and Tanzania involving infants with a birth weight between 1.0 and 1.799 kg who were assigned to receive immediate kangaroo mother care (intervention) or conventional care in an incubator or a radiant warmer until their condition stabilized and kangaroo mother care thereafter (control). The primary outcomes were death in the neonatal period (the first 28 days of life) and in the first 72 hours of life.

A experimental study was performed on total of 3211 infants and their mothers were randomly assigned to the intervention group (1609 infants with their mothers) or the control group (1602 infants with their mothers). The median daily duration of skin-to-skin contact in the neonatal intensive care unit was 16.9 hours (interquartile range, 13.0 to 19.7) in the intervention group and 1.5 hours (interquartile range, 0.3 to 3.3) in the control group. Neonatal death occurred in the first 28 days in 191 infants in the intervention group (12.0%) and in 249 infants in the control group (15.7%) (relative risk of death, 0.75; 95% confidence interval [CI], 0.64 to 0.89; P=0.001); neonatal death in the first 72 hours of life occurred in 74 infants in the intervention group (4.6%) and in 92 infants in the control group (5.8%) (relative risk of death, 0.77; 95% CI, 0.58 to 1.04; P=0.09). The trial was stopped early on the recommendation of the data and safety monitoring board owing to the finding of reduced mortality among infants receiving immediate kangaroo mother care<sup>3</sup>. **Pratima anand , harish chellani**

### 3. MATERIALS AND METHODS:

The research design selected for the study was a Pretest post-test design utilising Convenience sampling technique. The sample consisted of 30 Antenatal and postnatal mothers at Shri Mahant IndiresH Hospital Dehradun who are willing to participate in the study.

#### TOOLS AND TECHNIQUE:

Structured questionnaire method consisting of two part

##### Section A Demographic variables

Items on demographic variables like Age, Occupation, Education of mother, religion, education, occupation and source of information.

##### Section B consist of Structured interview questionnaire on knowledge

Structured questionnaire was prepared to assess the knowledge. The items were related to meaning of Kangaroo mother care, positions, types, benefits, components

#### SCORE INTERPETATION

The knowledge part consists of 30 questions

SCORE	INTERPETATION
< 14	Inadequate knowledge
15-22	Moderate knowledge
23-30	Adequate knowledge

Correct answer was given a score of 1 and wrong answer was scored as 0

Total Score = 30

#### VALIDITY AND RELIABILITY:

Content validity was done from 8 experts (2 doctors, 5 Nursing tutors, 1 statistician) and necessary correction were made in the tool based on the suggestion obtained. Reliability of the tool is the degree of consistency with which measures the attributes it is supposed to measure. It refers to the extent to which the same result is obtained after repeated administration of the instrument. The tool was administered on 10 samples and the reliability of the tool was found by using SPSS statistics 25 Cron Batch alpha. the reliability of the tool was found to be  $r = 0.95$  that is high positive correlation.

#### ETHICAL CONSIDERATION:

To conduct research study in Shri Mahant IndiresH Hospital Dehradun written permission was obtained from the Medical superident prior to data collection. Confidentially was assured to all subjects to get their co- operation. An informed consent was taken from the subjects before giving structured teaching programmed to them in Shri Mahant IndiresH Hospital Dehradun

## 5. ANALYSIS AND FINDINGS:

This chapter presents the analysis and interpretation of data collected from Antenatal and postnatal Mothers to assess the effectiveness of Structured teaching programme on the level of knowledge regarding Kangaroo mother care among Antenatal and Postnatal Mother in Shri Mahant Indires Hospital Dehradun the data were analyzed according to the objectives and hypothesis is formulated for study.

### Organization of the findings

**Section A:** Frequency and Percentage wise distribution of demographic variables of mother

**Section B:** Frequency distribution of knowledge level about kangaroo mother care among mother in pretest and post-test

**Section C:** Comparison of mean and standard deviation of knowledge about Kangaroo mother care between pretest and Post-test

**Section D:** Association of pretest knowledge with selected demographic variables such as age , religion , education status , occupation , income , type of family.

**Table 1: Frequency and Percentage Distribution of sample according to demographic variables.**

Characteristics	Category	Frequency	Percentage
Age Group (years)	21-25	11	37%
	26-30	13	43%
	31-35	2	7%
	Above 35	4	13%
Educational status	Primary	14	47%
	Secondary	8	27%
	Graduation	7	23%
	Post-graduation	1	3%
Occupation	Homemaker	18	60%
	Government	03	10%
	Private employed	9	30%

Majority of the respondents in relation to their age group 37% belongs to 21-25 years, 43% belongs to 26-30 years, 7% belongs to 31-35 years, 13% belongs to above 35 years. Majority of the respondents in relation to their education status 47% were in primary education, 27% were in secondary education, 23% were in graduation, 3% were in postgraduation. Majority of the respondents in relation to their occupation 18% were homemaker, 3% were government employed. 9% were private employed.

Characteristics	Category	Frequency	Percentage
Types of Family	Nuclear	13	43%
	Joint	9	30%
	Extended	8	27%
Have you heard about KMC	Yes	13	43%
	No	17	57%

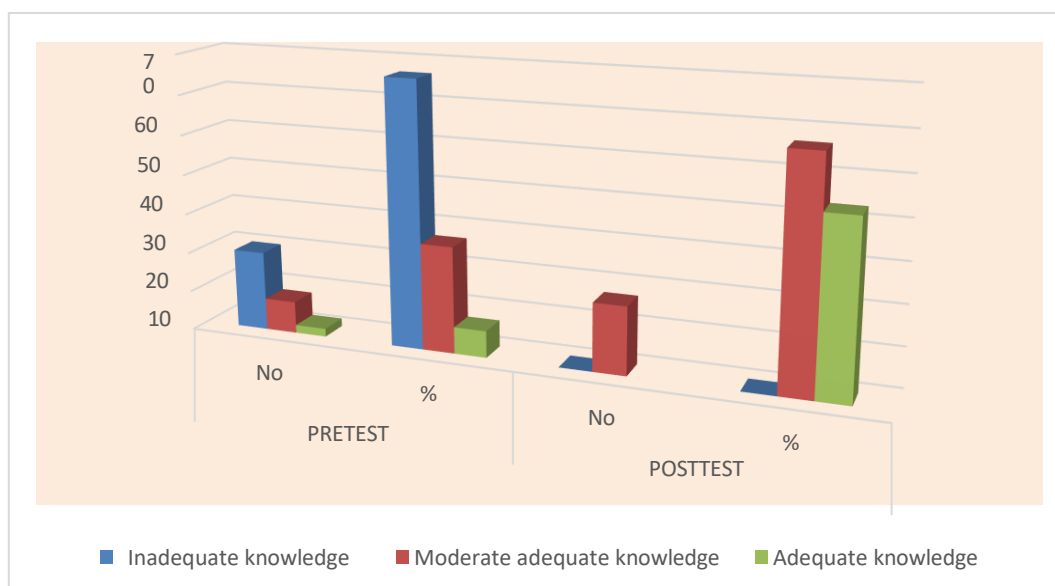
If Yes	Books	05	17%
	T.V	05	17%
	Newspaper	02	06%
	Friends	01	03%

Majority of respondent in relation to their Types of family 43% were Nuclear, 30% were Joint ,27% were Extended. Majority of respondents Heard about KMC 43% has heard about KMC, 17% belong have no hearing about KMC.

**SECTION – B: FREQUENCY AND PERCENTAGE DISTRIBUTION OF KNOWLEDGE LEVEL ABOUT KANGAROO MOTHER CARE AMONG MOTHER’S IN PRETEST AND POST TEST**

S.NO	LEVEL OF KNOWLEDGE	PRETEST		POSTTEST	
		No	%	No	%
1.	Inadequate knowledge	20	66.6	-	-
2.	Moderate adequate knowledge	8	26.7	17	56.7
3.	Adequate knowledge	2	6.7		43.3

The above table shows that 20 (66.6%) mothers had inadequate knowledge, 8(26.7%) mothers had moderate adequate knowledge and 2(6.7%) mothers had adequate knowledge on kangaroo mother care in pretest. After giving structured-teaching programme the post test showed that 13(43.3%) mothers had adequate knowledge and 17(56.7%) mothers had moderately adequate knowledge and on kangaroo mother care This shows that the structured-teaching programme was very effective and improved the knowledge level of the students.



**FIG 8. PERCENTAGE DISTRIBUTION OF KNOWLEDGE LEVEL ABOUT KANGAROO MOTHER CARE AMONG MOTHERS IN PRE AND POST TEST**

**SECTION C TABLE 3  
 COMPARISON OF MEAN AND STANDARD DEVIATION OF KNOWLEDGE ABOUT KANGAROO MOTHER CARE BETWEEN PRE AND POSTTEST**

N=30

S. NO.	GROUP	MEAN	SD	PAIRED 't' VALUE	P VALUE
1.	Pretest	11.4	4.36	14.96	<0.0000 (S)
2.	Post test	19.1	2.92		

S- Significant

The above table shows the pretest mean knowledge score was 11.4 with a standard deviation of 4.36 and posttest mean knowledge score was 19.1 with a standard deviation of 2.92. The paired 't' test was applied to compare pretest and posttest mean knowledge score. The result indicated that there is a statistically significant increase in posttest knowledge (P<0:000). This finding indicated that the structured-teaching programme was effective.

**SECTION 4: ASSOCIATION OF MEAN AND STANDARD DEVIATION OF THE MOTHERS KNOWLEDGE SCORE WITH RESPECT TO AGE**

N=30

S.NO	GROUP	F	MEAN	SD	CHI-SQUARE	P VALUE
1.	AGE a)21-25 b)26-30 c)31-35 d)Above 35	11 13 2 4	9.90 12.69 18 8	3.50 4.32 2.82 2.49	8.87	0.031 (S)

Table 4 Shows that the mean score for age 21-25 was 9.90 with a Standard deviation of 3.50 and the mean score for age 26 to 30 was 12.69 with a standard deviation of 4.32 and the mean score for age 31 to 35 was 18 with a standard deviation of 2.82 and mean score for age above 35 was eight with a standard deviation of 2.49 the kruskal Wallis Test result indicated that there is a statistically significant association between the knowledge and age (p=0.031)

**TABLE 5: ASSOCIATION OF MEAN AND STANDARD DEVIATION OF THE MOTHERS KNOWLEDGE SCORE WITH RESPECT TO RELIGIONN=30**

S.NO	GROUP	F	MEAN	SD	CHI- SQUARE	P VALUE
1.	Religion a)Hindu b)Christian c)Muslim	21 02 07	12.09 11.00 9.42	4.26 0.00 5.02	3.081	0.214 (NS)

Table 5 Shows that the Hindu religion Mothers mean score was 12.09 with a Standard deviation of 4.26 and the Christian religion mothers mean score was 11.00 with a standard deviation of 0.00 and the Muslim mother mean score was 9.42 with a standard deviation of 5.02 The Kruskal Wallis Test result indicated that there is a No statistically significant association between the knowledge and Religion (p=0.214)

**TABLE 6: ASSOCIATION OF MEAN AND STANDARD DEVIATION OF THE MOTHERS KNOWLEDGE SCORE WITH RESPECT TO EDUCATIONAL STATUS**

S.NO	GROUP	F	MEAN	SD	CHI- SQUARE	P VALUE
1.	EDUCATIONAL STATUS a)Uneducated b)Primary c)high school d)secondary	06 08 08 08	10.83 10.87 13.00 10.75	2.31 5.59 3.89 4.97	2.470	0.481 (NS)

NS – Non significant

Table 6 shows that the educational status with higher secondary mean score was 10.75 with a standard deviation of 4.97 and the educational status with high school main score was 13.00 with a standard deviation of 3.89 and the educational status with primary school mean score was 10.87 with a standard deviation of 5.59 and the educational status with uneducated mean score was 10.83 with a standard deviation of 2.31 the Kruskal Wallis test result indicated that there is no statistically significant association between the knowledge and educational status (p = 0.481)

**Table 7 ASSOCIATION OF MEAN AND STANDARD DEVIATION OF THE MOTHERS KNOWLEDGE SCORE WITH RESPECT TO OCCUPATION**

S.NO	GROUP	F	MEAN	SD	CHI- SQUARE	P VALUE
1.	OCCUPATION					
	Housewife	18	11.05	2.94		
	Daily Wages	09	9.77	5.33		
	Government	03	18.33	2.08	8.735	0.013 (S)

S – Significant

Table 7 shows that the Occupation of the house wife mother mean score was 11.05 with a standard deviation of 2.94, occupation of the mother with daily wages mean score was 9.77 with a standard deviation of 5.33 and the occupation of mother with Government mean score was 18.33 with a standard deviation of 2.08 .the KruskalWallis test result indicated that there is statistically significant association between the knowledge and occupation status of mothers (p = 0.013)

## 6. DISCUSSION:

This chapter deals with the discussion of the study with appropriate literature review, statistical analysis and findings of the study based on objectives of the study.

The aim of the study was to assess the effectiveness of structured-teaching programme on knowledge about kangaroo mother among antenatal and postnatal mothers in a Shri Mahant Indresh Hospital.

**The first objective was to assess the existing knowledge regarding kangaroo mother among antenatal and postnatal mothers.**

Table 2 results showed shows that 20 (66.6%) mothers had inadequate knowledge, 8(26.7%) mothers had moderate adequate knowledge and 2(6.7%) mothers had adequate knowledge on kangaroo mother care in pretest. The results were supported by the following studies,

**The second objective of this study was to evaluate the effectiveness of the structured teaching programme on kangaroo mother among antenatal** and length gain in cm/week was 1.03 in the kangaroo mother care group compared to 0.74 in the control group. The mean occipital frontal circumference gain in cm/week was 0.59 in the kangaroo mother care group compared to 0.47 in the control group. The exclusive breast-feeding rate at end of three months was 88% in the KMC group compared to 72% in the control group. Overall study shows that kangaroo 33mother care improve physical growth, breastfeeding rates and was well accepted by both mothers and nursing staff. 51

**The third objective of this study was to associate knowledge on kangaroo mother among antenatal and postnatal mothers with selected demographic variables.**

Table 5,6,8,9 shows the mean and standard deviation of knowledge score, which was compared with selected demographic variables such as education status, income, type of family, religion. It showed that there are no statistically significant associations between knowledge and education status, income, type of family, religion.

Table 4, 7 shows that there is statistically significant association between knowledge and age, occupation. The results were supported by the following studies,

Tessier R. (2009) a study conducted on "Kangaroo Mother Care, home environment and father involvement in the first year of life: study tested the hypothesis that Kangaroo Mother Care has a positive impact on home environment" The result shows that both parents should be involved as direct caregivers in the KangarooMother Care procedure and secondly, that this intervention should be directed more specifically at infants who are more at risk at both The Kangaroo Mother Care intervention could be an excellent means to ensure parents' mature involvement in the future of their children. 52

Dr. Suman Rao (2006) To compare the effect of Kangaroo mother care (KAMC) and conventional methods of care (CMC) on growth in LBW babies (2000 Study Design: Randomized controlled trial Setting: Level III NICU of a teaching institution in western India. Subjects: 206 neonates with birth weight <2000 Intervention: The subjects were randomized into two groups: the intervention group (KMC-103) received Kangaroo mother care. The control group (CMC: 103) received conventional care. Outcome Measures: Growth, as measured by average daily weight gain and by other anthropometrical parameters at 40 weeks postmenstrual age in preterm babies and at 2500 g in term SGA infants was assessed. Results: The KMC babies had better average weight gain per day (KMC: 23.99 g vs CMC: 15.58 g, P<0.0001). The weekly increments in head circumference (KMC: 0.75 cm vs CMC: 0.49 cm, P=0.02) and length (KMC: 0.99 cm vs CMC 0.7 cm, P 0.008) were higher in the KMC group. A significantly higher number of babies in the CMC group suffered from hypothermia, hypoglycaemia, and sepsis. There was no effect on time to discharge. More

KMC babies were exclusively breastfed at the end of the study (98% vs 76%). KMC was acceptable to most mothers and families at home. Conclusions: Kangaroo mother care improves growth and reduces morbidities in low birthweight infants. It is simple, acceptable to mothers and can be continued at home.

## **7. RECOMMENDATION**

On the basis of the study that has been conducted certain suggestion are given for the studies a similar study can be done on a larger population in hospital setting.

- A future study would be conducted on mothers using control and experimental group
- The mother should educated about the effectiveness of KMC. A future study could be conducted on mothers.
- The government should provide awareness campaign advertisement through mass media to aware the mothers about the KMC

## **8. CONCLUSION:**

The structured teaching programme on Kangaroo Mother Care wars carried out and the study has improved the knowledge of the mother regarding the benefit component position such teaching programme can be carried out in the hospital and community to improve the health of children and thereby reducing the morbidity and mortality among the children of all age group.

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