

Effectiveness Of Educational Teaching Program on Knowledge Regarding Recent Trends in Kangaroo Mother Care Among Final Year Students in Selected Nursing College: A Pre-Experimentalstudy

Mayuri G. Nimbulkar¹ Dr Rupa Verma² kamini pise³

¹Msc nursing II Year MKSSS, Sitabai Nargundkar College of Nursing for Women Nagpur

²professor cum principal dept.child health nursing,

MKSSS Sitabai Nargundkar College of Nursing for Women Nagpur

³Associate professor MKSSS Sitabai Nargundkar College of Nursing for Women Nagpur

Abstract—Background of the study Kangaroo Mother Care (KMC) is a revolutionary intervention that places mothers at the center of their own and newborn care, restoring power from health systems and providers to family. By prioritizing more human-centered care over high-tech interventions, KMC is improving maternal and newborn health and supporting those who most care for the infant. Apart from its direct effects, KMC is a catalyst for overall health system redesign and service delivery change for maternal and infant health. It reinforces the strategy of primary healthcare that aims to empower individuals, families, and communities to self-manage for health and well-being. As part of the foundation of universal health coverage, KMC provides essential health care to all newborns without financial burden. These health systems are applied under this model, and in fact, this makes them even stronger by putting them in context to their populations, where there is no emphasis on sick care anymore but on wellness and optimization of life quality. Worldwide, complications of prematurity are the leading cause of death among children under five years of age compared to any other individual cause. Those preterm babies who live their first month of life are at increased risk for illness and disability in infancy, childhood, and adulthood, placing families, communities, and healthcare systems with substantial social and economic costs. Kangaroo Mother Care (KMC) is an evidence-based intervention to improve preterm birth short- and long-term outcomes in various health care settings. Although extensively implemented, its quality remains poor. The International Network on KMC works to increase the coverage and improve the quality of KMC throughout the world through the organization of biennial congresses and workshops. This report is on

the outcome of the two-day workshop in November 2016, when 92 participants from 33 countries shared experiences by roundtable discussion, group, and plenary. Kangaroo Mother Care (KMC) is a low-technology, highly effective way of managing low-birth-weight infants. It entails early, prolonged, and continuous skin-to-skin contact with the mother (or other caregiver) and exclusive and frequent breastfeeding. This humane and natural approach regulates body temperature, helps with breastfeeding, and protects from infection. KMC starts at the hospital and is carried forward at home until the baby still requires it and will benefit from it. It should be distinguished from routine initial skin-to-skin contact upon birth. The World Health Organization advises skin-to-skin contact for every newborn at birth to prevent loss of body heat, initiate breastfeeding early, and transition newborns with low or high birth weight. The practice optimizes exclusive breastfeeding and neonatal well-being in general. Kangaroo Mother Care (KMC) is an extensively proven way to enhance the survival and health of preterm and low-birth-weight infants. As research continues, new developments and trends are emerging, like varying durations of KMC, family members' involvement, and utilization of technology for infant monitoring. Exploring recent advancements is critical to enhance knowledge and optimize neonatal care practice. This study will assist the health professionals and students in keeping current with the new developments in KMC, which will result in improved outcomes for the newborns. Final-year students of nursing are the most appropriate participants in this study because they are future professionals who will be entrusted with neonatal care,

including Kangaroo Mother Care (KMC) practice. They need to be evaluated to determine if gaps in their comprehension exist so they can be fully equipped to adopt KMC as a clinical practice. Though national guidelines have prioritized KMC, it is unevenly acknowledged and practiced among healthcare workers, and thus the requirement for targeted training. As trainees move into the working situation, reinforcing them with systematic packages of instruction will equip them to confidently teach mothers and caregivers, consequently achieving improved neonatal outcomes. Assessment of the impact of an education intervention on KMC among nursing students will improve their education and progress the global drive towards strengthening newborn care practices in health facilities. Objectives are to assess the effectiveness of educational teaching program on knowledge regarding recent trends in kangaroo mother care among Final year students in selected nursing colleges. To assess the existing (Pre-test) knowledge regarding recent trends in kangaroo mother care among final year student in selected nursing college. To assess the existing (Post-test) knowledge regarding recent trends in kangaroo mother care among final year student in selected nursing college. To evaluate the effectiveness of an educational teaching method on knowledge regarding recent trends of kangaroo mother care. To associate the level of knowledge on recent trends in kangaroo mother care among final year students in selected nursing college with selected demographic variable. Result The pre-test findings revealed that 74.3% of students had an average level of knowledge, 22.9% had good knowledge, and 2.9% had poor knowledge. The mean pre- test score was 12.10 ± 2.70 , reflecting moderate knowledge among the participants. These results indicate that while students had basic exposure to KMC, their understanding of recent trends was limited. This aligns with the demographic findings where 88.6% had no prior knowledge of recent trends, confirming the need for targeted educational intervention. After the educational teaching program, post-test results showed an improvement, with 82.9% of students scoring in the average category and 11.4% achieving a good score. However, 5.7% still remained in the low category, suggesting room for further reinforcement. The mean post-test knowledge score increased to 20.92 ± 2.49 , indicating substantial knowledge gain. This reflects that the teaching session helped students better understand the current evidence-based practices in KMC. The effectiveness was statistically measured using a paired t-test, which showed a significant improvement in knowledge scores between the pre-test and post-test. The calculated t-value was 19.307, and the p-value was < 0.001 , indicating the results were highly significant. This confirms that the

structured teaching program was effective in enhancing knowledge regarding KMC. The findings support the alternative hypothesis (H1), affirming a significant impact of the intervention. Chi-square analysis was used to examine associations between post-test knowledge scores and demographic variables such as age, gender, type of family, previous knowledge of KMC, and source of information. The findings showed no significant association with most demographic factors ($p > 0.05$), except for prior knowledge about recent trends in KMC, which had a significant association ($p = 0.039$). This suggests that students with prior exposure were better positioned to benefit from the educational intervention. Conclusion it was concluded that the educational teaching program was an effective teaching strategy for enhancing knowledge on recent trends in KMC among final-year nursing students.

I. INTRODUCTION

“Children are the wealth of the Nation; take care of them, if you wish to have a strong India”

Low birth weight (LBW) is a significant public health problem globally, with an estimated 25 million LBW babies born each year, making up about 17% of all live births. They are mostly from developing countries, and they are at higher risk for complications unfortunately, a third of them might not make it past their first 12 hours. This is where Kangaroo Mother Care (KMC) comes in, a soothing and cost-effective form of infant care introduced for the first time in Colombia in 1978. KMC is all about skin-to-skin contact, exclusive breastfeeding, early discharge from the hospital, and follow-up in full. KMC avoids hypothermia, conserves energy, and facilitates normal organ function and is a cost-effective intervention for families across different economic strata. But despite all the benefits, KMC is far from being practiced in the everyday routine of most medical facilities. What this study wants to know is how neonatal wards can effectively apply KMC techniques, involve parents more, and finally achieve improved outcomes for LBW infants, paving the way for subsequent advancements in neonatal care policy and facilities. The new World Health Organization recommendations for Kangaroo Mother Care (KMC) focus on the initiation of KMC at birth in all preterm or low-birth-weight babies, regardless of whether they are born in a health facility or at home, except for those needing resuscitation or mechanical ventilation. The new guidelines encourage prolonged skin-to-skin

contact for as many hours as feasible, ideally 24 hours/day, with exclusive breastfeeding or breastmilk feeding. KMC has been demonstrated to significantly improve maternal confidence, decrease postpartum complications, and increase infant- father-family bonding. Though the advantages have been richly documented, uptake of KMC is still spasmodic, particularly in resource-poor contexts. This study will assess approaches to implementing updated KMC guidelines in neonatal practice, how they affect neonatal health outcomes, and their effect on family engagement and long-term well-being. Kangaroo Mother Care (KMC) is an extensively proven way to enhance the survival and health of preterm and low-birth-weight infants. As research continues, new developments and trends are emerging, like varying durations of KMC, family members' involvement, and utilization of technology for infant monitoring. Exploring recent advancements is critical to enhance knowledge and optimize neonatal care practice. This study will assist the health professionals and students in keeping current with the new developments in KMC, which will result in improved outcomes for the newborns. Final-year students of nursing are the most appropriate participants in this study because they are future professionals who will be entrusted with neonatal care, including Kangaroo Mother Care (KMC) practice. They need to be evaluated to determine if gaps in their comprehension exist so they can be fully equipped to adopt KMC as a clinical practice. Though national guidelines have prioritized KMC, it is unevenly acknowledged and practiced among healthcare workers, and thus the requirement for targeted training. As trainees move into the working situation, reinforcing them with systematic packages of instruction will equip them to confidently teach mothers and caregivers, consequently achieving improved neonatal outcomes. Assessment of the impact of an education intervention on KMC among nursing students will improve their education and progress the global drive towards strengthening newborn care practices in health facilities.

II. OBJECTIVE OF THE STUDY

To assess the Effectiveness of educational teaching program on knowledge regarding recent trends in kangaroo mother care among Final year students in selected nursing colleges.S

Secondary Objective

1. To assess the existing (Pre-test) knowledge regarding recent trends in kangaroo mother care among final year student in selected nursing college.
2. To assess the existing (Post-test) knowledge regarding recent trends in kangaroo mother care among final year student in selected nursing college.
3. To evaluate the effectiveness of an educational teaching method on knowledge regarding recent trends of kangaroo mother care.
4. To associate the level of knowledge on recent trends in kangaroo mother care among final year students in selected nursing college with selected demographic variable.

III. MATERIAL AND METHOD

In this study a quantitative research approach will be used to assess the effectiveness of educational teaching program on knowledge regarding recent trends in kangaroo mother care among final year students in selected nursing college. In this study the design used is one group pre -test and post-test research design with the objective of assessing the effectiveness of educational teaching programme on knowledge regarding recent trends in kangaroo mother care. Among final year B.Sc. nursing students. Pre-test was administered by means of self-reported structured questionnaire and is depicted as 'O1', and then the educational teaching programme was given and is depicted as 'X', later post test was conducted using the same Self-reported structured questionnaire depicted as 'O2'. Population of present study comprises of all final year B.Sc. nursing students. In this study non-probability convenience sampling technique (the sample which appear convenience to the investigator) was used in which a sample is choice of investigator with regard to the characteristic required under investigation. In this study, the sample consists of 70 final-year B.Sc. Nursing students, determined based on the calculation of power analysis. In this study, the reliability of the tool was determined by administering the questionnaire to 10 samples. Karl Pearson correlation coefficient formula was used for reliability. The questionnaire was said to be reliable if the correlation coefficient was more than 0.810.

IV. RESULT

Distribution Of Kangaroo Mother Care Among Final Year Students in Selected Nursing College Regards to Demographic Variables.

Sr. No.	Demographic Variables	(Frequency =f)	Percent%
1.	Age (yrs)		
	21 years	1	1.4
	22 years	46	65.7
	23 years	15	21.4
	24 Above	8	11.4
2.	Gender		
	Male	11	15.7
	Female	59	84.3
3.	Type of Family		
	Nuclear	62	88.6
	Joint	8	11.4
4.	Previous knowledge (KMC)		
	Yes	70	100.0
	No	0	0.0
5.	Source of Information (KMC)		
	Curriculum	14	20.0
	Friends, teachers, health professional	44	62.9
	workshop, conference, seminar	12	17.1
6.	Previous knowledge (KMC) in recent trends		
	Yes	8	11.4
	No	62	88.6
7.	Source of Information (KMC) in recent trends		
	Friends, Teachers, Health professional	5	7.1
	Mass Media	3	4.3
	None	62	88.6

Table IV.2: Table showing frequency and percentage wise distribution of pretest knowledge score of final year students regarding recent trends in kangaroo mother care n = 70

Level of pretest Knowledge	Score Range (in %)	Level of pretest Knowledge Score	
		Frequency (f)	Percentage (%)
Low Score	0 to 50	2	2.9
Average Score	51 to 75	52	74.3
Good Score	76 to 100	16	22.9
Minimum Score		6	
Maximum Score		19	
Mean Knowledge Score		12.100± 2.7034	
Mean % Knowledge Score		63.38%	

Table IV.3: Table showing frequency and percentage wise distribution of post-test knowledge score of final year students regarding recent trends in kangaroo mother care n=70

Level of post-test Knowledge	Score Range (in %)	Level of post-test Knowledge Score	
		Frequency (f)	Percentage (%)
Low Score	0 to 50	4	5.7
Average Score	51 to 75	58	82.9
Good Score	76 to 100	8	11.4
Minimum Score		16	
Maximum Score		27	
Mean Knowledge Score		20.92± 2.4982	
Mean % knowledge score		44.73%	

Significance Of Difference Between Pre-Test and Post-Test Knowledge Score Regarding Recent Trends in Kangaroo Mother Care Among Final Year Students in Selected Nursing College.

Table IV.4: Table showing comparison of pre-test and post-test grading score.n=70

Knowledge	Overall	Mean	N	Standard	Degrees	T-test	P-value
				deviation	of		
					freedom		
Pre	12.1000	70	2.70346	0.32313	69	19.307	<0.001
Post	20.9286	70	2.49824	0.29860			S
							P<
							0.05

Section D

Association Level of Post-Test Knowledge Regarding Recent Trends in Kangaroo Mother Care Among Final Year Students in Selected Nursing College with Their Selected Demographic Variables

	Age in years	Knowledge Category			Total	Chi Sq	P-value
		Poor	Average	Good			
Age	21 years	0	1	0	1	4.763	0.575 N.S. P> 0.05
	22 years	4	35	7	46		
	23 years	0	14	1	15		
	24 years	0	8	0	8		
	Above						
	Total		4	58	8		

Table IV.6: - Association of knowledge score regarding recent trends in kangaroo mother care in relation to Gender n = 70

		Knowledge Category			Total	Chi Sq	P-value
		Poor	Average	Good			
Gender	Male	1	9	1	11	0.325	0.85 N.S.P
	Female	3	49	7	59		
Total		4	58	8	70		> 0.05

Table IV.7: - Association of knowledge score regarding recent trends in kangaroo mother care in relation to type of family n = 70

		Knowledge Category			Total	Chi Sq	P-value
		Poor	Average	Good			
Type of Family	Nuclear	3	52	7	62	0.804	0.669 N.S.P > 0.05
	Joint	1	6	1	8		
Total		4	58	8	70		

Table IV.8: - Association of knowledge score regarding kangaroo mother care in relation to previous knowledge (KMC). n = 70

		Knowledge Category			Total	Chi Sq	P-value
		Poor	Average	Good			
Previous knowledge (KMC)	Yes	4	58	8	70	0	0 N.S.P < 0.05
	No	0	0	0	0		
Total		4	58	8	70		

Table IV.9: - Association of knowledge score regarding kangaroo mother care in relation to source of information (KMC). n=70

		Knowledge Category			Total	Chi Sq	P-value
		Poor	Average	Good			
Source of Information (KMC)	Curriculum	1	13	0	14	3.13	0.53 6 N.S.P > 0.05
	Friends, teachers, health professional	3	35	6	44		
	workshop, conference	0	10	2	12		
	seminar						
Total		4	58	8	70		

Table IV.10: - Association of knowledge score regarding recent trends in kangaroo mother care in relation to previous knowledge (KMC) in recent trends. n = 70

		Knowledge Category			Total	Chi Sq	P-value	
		Poor	Average	Good				
Previous knowledge (KMC) in recent trends	Yes	Frequency	0	8	0	8	1.869	0.039 S.P< 0.05
	No	Frequency	4	50	8	62		
Total		Frequency	4	58	8	70		

Table IV.11: - Association of knowledge score regarding recent trends in kangaroo mother care in relation to source of information (KMC).n = 70

		Knowledge Category			Total	Chi Sq	P-value
		Poor	Average	Good			
Source of Information (KMC) in recent trends	Curriculum	0	5	0	5	1.869	0.76 N.S. P > 0.05
	Friends, teachers, health professional	0	3	0	3		
	workshop, conference, seminar	4	50	8	62		
	Total	4	58	8	70		

V. RELIABILITY ANALYSIS

Person's Correlation Coefficient	0.806
Reliability	0.810

VI. CONCLUSION

The study reveals, mean pretest knowledge score was which indicates, the educational teaching programmed on knowledge regarding recent trends in kangaroo mother care among final year B.Sc. nursing students of selected Nursing colleges of the city was effective. Analysis reveals that there is no association of knowledge score with Age, Gender, Type of family, Previous knowledge about kangaroo mother care, Source of information, Previous knowledge about recent trends in kangaroo mother care, Source of information.

VII. DISCUSSION

The findings of the study were discussed with reference to the objectives stated in chapter I and with the findings of the other studies in this section. The present study was undertaken as, "A pre- experimental study to assess effectiveness of educational teaching programme on knowledge regarding recent trends in kangaroo mother care among final year B.Sc. Nursing students in selected Nursing college."

The major findings of the study shows that the pretest

score of final year B.Sc. students was 20.92 and the post test score was 20.9286 after administering educational teaching programme. The statistical analysis was done by 't' test where the overall calculated 't' value was 19.307 when compared to the tabulated 't' value with degree of freedom 2 at the level of 0.05 significance making the conclusion that educational teaching programme is effective in improving the knowledge of final year B.Sc. students regarding recent trends in kangaroo mother care.

Objective 1: To assess the existing (Pre-test) knowledge regarding recent trends in Kangaroo Mother Care (KMC) among final year students

The pre-test findings revealed that 74.3% of students had an average level of knowledge, 22.9% had good knowledge, and 2.9% had poor knowledge. The mean pre- test score was 12.10 ± 2.70 , reflecting moderate knowledge among the participants. These results indicate that while students had basic exposure to KMC, their understanding of recent trends was limited. This aligns with the demographic findings where 88.6% had no prior knowledge of recent trends, confirming the need for targeted educational intervention.

Objective 2: To assess the (Post-test) knowledge regarding recent trends in KMC among final year students

After the educational teaching program, post-test results showed an improvement, with 82.9% of students scoring in the average category and 11.4% achieving a good score. However, 5.7% still remained in the low category, suggesting room for further reinforcement. The mean post-test knowledge score increased to 20.92 ± 2.49 , indicating substantial knowledge gain. This reflects that the teaching session helped students better understand the current evidence-based practices in KMC.

Objective 3: To evaluate the effectiveness of an educational teaching method on knowledge regarding recent trends of KMC

The effectiveness was statistically measured using a paired t-test, which showed a significant improvement in knowledge scores between the pre-test and post-test. The calculated t-value was 19.307, and the p-

value was < 0.001 , indicating the results were highly significant. This confirms that the structured teaching program was effective in enhancing knowledge regarding KMC. The findings support the alternative hypothesis (H1), affirming a significant impact of the intervention. Objective 4: To associate the level of knowledge regarding recent trends in KMC with selected demographic variables

Chi-square analysis was used to examine associations between post-test knowledge scores and demographic variables such as age, gender, type of family, previous knowledge of KMC, and source of information. The findings showed no significant association with most demographic factors ($p > 0.05$), except for prior knowledge about recent trends in KMC, which had a significant association ($p = 0.039$). This suggests that students with prior exposure were better positioned to benefit from the educational intervention.

VIII. ACKNOWLEDGEMENT

At the very outset, I would like to express my heartfelt gratitude and sincere thanks to Dr. Rupa Verma, Principal of MKSSS, Nagpur, and my esteemed guide, for her invaluable support, timely guidance, and constant encouragement throughout this research work. Her unwavering inspiration, insightful feedback, and academic mentorship have not only enriched the quality of this study but have also motivated me to strive for excellence at every stage. I am deeply grateful for her profound influence on my academic journey, which will remain a guiding light in my future endeavors. I would also like to extend my heartfelt gratitude to Mrs. Kamini Pise, Associate Professor and Head of the Department of Child Health Nursing, for her unwavering support, insightful suggestions, and continuous motivation throughout this journey. I am deeply indebted to my beloved family, whose unwavering moral support and encouragement have been the cornerstone of my success. I would especially like to thank my husband, Mr. Ashutosh Jadhav, and my daughter, Pranavi Jadhav, for their patience, love, and unwavering support throughout this demanding process. My heartfelt thanks also go to my parents, Mr. Ganeshrao Nimbulkar and Mrs. Shalini Nimbulkar, as well as my in-laws, Mr. Vilas Jadhav and Mrs. Maya Jadhav, for their love, prayers, and steadfast belief in me.

REFERENCES

- [1] Sathyabama.ac.in. [cited 2025 Feb 11]. Available from: https://sist.sathyabama.ac.in/sist_naac/aqar_2022_2023/documents/1.3.4/B.Sc.-Nursing_Batch%20No.12.pdf
- [2] JETIR2307079.pdf. [cited 2025 Feb 11]. Available from: <http://JETIR2307079.pdf>
- [3] Darmstadt GL, Kirkwood B, Gupta S, WHO Strategic and Technical Advisory Group of Experts for Maternal, Newborn, Child, and Adolescent Health and Nutrition KMC Working Group. WHO Global Position Paper and Implementation Strategy on kangaroo mother care call for fundamental reorganization of maternal-infant care. *Lancet* [Internet]. 2023;401(10390):1751–3. Available from: [http://dx.doi.org/10.1016/S0140-6736\(23\)01000-0](http://dx.doi.org/10.1016/S0140-6736(23)01000-0)
- [4] New resources released to help more preterm and low birthweight babies benefit from kangaroo mother care [Internet]. Who.int. [cited 2025 Feb 11]. Available from: <https://www.who.int/news/item/16-05-2023-new-resources-released-to-help-more-preterm-and-low-birthweight-babies-benefit-from-kangaroo-mother-care>