



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

“A STUDY TO ASSESS THE EFFECTIVENESS OF KANGAROO MOTHER CARE LAPPET IN TERMS OF PHYSIOLOGICAL PARAMETERS OF LOW BIRTH WEIGHT NEWBORN ADMITTED IN SELECTED HOSPITALS OF MEERUT CITY.”

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ABSTRACT: Kangaroo Mother Care (KMC) is care of preterm or low birth infants carried skin-to-skin with the mother. KMC was initially conceived as an alternative to the usual minimal in-hospital care for stable low birth weight infants. Low birth weight, defined as weight at birth of less than 2500 g irrespective of gestational age, has an adverse effect on child survival and development. Effective counseling for the initiation of KMC is a prerequisite to overcome socio-cultural barriers and anxiety regarding handling a LBW infant both by the mother and other care providers. KMC can be provided by mothers, fathers and other adult family members. The KMC provider should be willing, in good health, free from serious illness and should maintain basic standards of hygiene such as hand washing, daily bath, clipped fingernails, tied up hair and clean clothes.

OBJECTIVE: 1. To design and validate the comfort device i.e. KMC Lappet for giving Kangaroo Mother Care. 2. To assess and evaluate the effectiveness of KMC Lappet on biophysiological parameters of low birth baby before and after giving KMC Lappet in experimental group as compared to control group. 3. To find the co-relation of mother's practice score using KMC Lappet with biophysiological parameters of Low Birth Weight babies in experimental group.

METHODS AND RESULT: A quasi-experimental study was done on 40 Low Birth weight Newborns, 20 in both control and experimental group selected by Non-Probability purposive sampling technique. Data was collected using Modified Checklist for Assessing Practice in Kangaroo Mother Care and Modified Newborn Physiological Parameters Assessment Chart. Pre test and post test was taken for both experimental and control group. KMC Lappet was only given to experimental group. The findings of the present study revealed that calculated t-value for physiological parameters in experimental group for temperature, pulse, O₂ Saturation and weight are higher than tabulated value (1.729) at Df 19 at 0.05 level of significance. Hence null hypothesis H₀ is rejected and accepted alternate hypothesis (H₁). As per unpaired t-test value, O₂ saturation was found to be significant. Findings related to correlation reveals that there is significant positive (moderately) relationship between newborns physiological parameters with mother's practice score which partially accepted alternate hypothesis (H₂) and O₂ saturation and weight is moderately negative correlation which depicts there is significant relationship. **CONCLUSION:** Kangaroo Mother Care (KMC) is care of preterm or low birth infants carried skin-to-skin with the mother. KMC was initially conceived as an alternative to the usual minimal in-hospital care for stable low birth weight infants. The study concluded that Low birth weight newborns have improved physiological parameters and also mothers have improved practice score. It is concluded that KMC Lappet was found effective method in terms of improving physiological parameters of Low Birth Weight Newborns.

KEYWORDS: Assess, Effectiveness, KMC Lappet, Physiological parameters, Low Birth Weight Newborn.

INTRODUCTION:-

Kangaroo Mother Care (KMC) is care of preterm or low birth infants carried skin-to-skin with the mother. KMC was initially conceived as an alternative to the usual minimal in-hospital care for stable low birth weight infants. Low birth weight, defined as weight at birth of less than 2500 g irrespective of gestational age, has an adverse effect on child survival and development.

The major components of KMC are: (1) skin-to-skin contact. Babies are kept, day and night, between the mother's breasts firmly attached to the chest in an upright position, (2) frequent and exclusive or nearly exclusive or nearly exclusive breast feeding and (3) early discharge from hospital regardless of weight or gestational age.

Effective counseling for the initiation of KMC is a prerequisite to overcome socio-cultural barriers and anxiety regarding handling a LBW infant both by the mother and other care providers. When the infant is ready for KMC, the first counseling session should be organized at a time convenient to the mother.

KMC can be provided by mothers, fathers and other adult family members. The KMC provider should be willing, in good health, free from serious illness and should maintain basic standards of hygiene such as hand washing, daily bath, clipped fingernails, tied up hair and clean clothes.

NEED FOR THE STUDY

Kangaroo Mother Care is a method of taking care of preterm infants. This method involves infants who are being carried, usually by the mother, with skin-to-skin contact. Kangaroo Mother Care helps to reduce morbidity and mortality in low birth weight babies. It also protects babies against infections. Holding the baby near the breast stimulates milk production. KMC lappet helps in holding the baby near to the mother while doing slight work also. Also mother will need not make much effort to hold the baby closer to her and will not have fear of fall of baby. As KMC may be required for as much as for longer time depending upon the condition of the baby, KMC lappet is more suitable for holding the baby in a comfortable position. It also helps in forming good bonding between the mother and the baby.

Kangaroo Mother Care helps in improving physiological indices in normal levels, thus it might positively influence the premature infant's physical health. This study is needed to determine the long-term outcomes of KMC in low birth weight and premature infants in terms of improving their physiological parameters it is reported that kangaroo mother care promotes stability of physiological function.

STATEMENT OF THE PROBLEM

“A study to assess the effectiveness of Kangaroo Mother Care Lappet in terms of physiological parameters of low birth weight newborn admitted in selected hospitals of Meerut city.

OBJECTIVES

- 1) To design and validate the comfort device i.e. KMC Lappet for giving Kangaroo Mother Care.
- 2) To assess and evaluate the effectiveness of KMC Lappet on biophysiological parameters of low birth baby before and after giving KMC Lappet in experimental group as compared to control group.
- 3) To find the co-relation of mother's practice score using KMC Lappet with biophysiological parameters of Low Birth Weight babies in experimental group.

OPERATIONAL DEFINITIONS

- **Effectiveness** refers to the power of comfort device to check for physiological parameters.
- **Kangaroo Mother Care Lappet** refers to a device which the researcher designed, which helps the mother to hold her baby and keeping baby warm by providing skin to skin touch.
- **Low birth weight new born** refers to an absolute weight of more than 1800 gms and less than 2500 g regardless of gestational age. Small for gestational age (SGA) refers to newborns whose birth weight is less than the 10th percentile for gestational age.
- **Physiological parameters** refers to the **parameters** such as body temperature, pulse respiration, O₂ saturation clinical cyanosis and weight.

HYPOTHESIS (p<0.05 level of significance)

- **H1:** There will be significant changes in biophysiological parameters after administration of KMC Lappet of Low Birth Weight Newborns in experimental group.
- **H2:** There will be significant correlation between the post-test mother's practice score with the biophysiological parameters of Low Birth Weight baby in experimental group.

ASSUMPTIONS

- KMC Lappet may be effective in terms of improving physiological parameters.

DELIMITATIONS OF THE STUDY

The study is limited to 40 low birth weight new-born admitted in selected hospitals of Meerut.

REVIEW OF LITERATURE

Review of related literature is essential part of any study of research of the research project. It enhances the knowledge and inspires a clear insight into the problem. Literature review throws light on the studies and their findings reported about the problem under study.

In this chapter the researcher presents the review of literature under following headings:

Section 1- Literature related to Kangaroo Mother Care and Low Birth Weight Newborns.

Section 2- Literature Related to Effect of Kangaroo Mother Care Lappet on physiological parameters among Low Birth Weight Newborns.

Section 3- Literature related to mothers practice for giving Kangaroo Mother care.

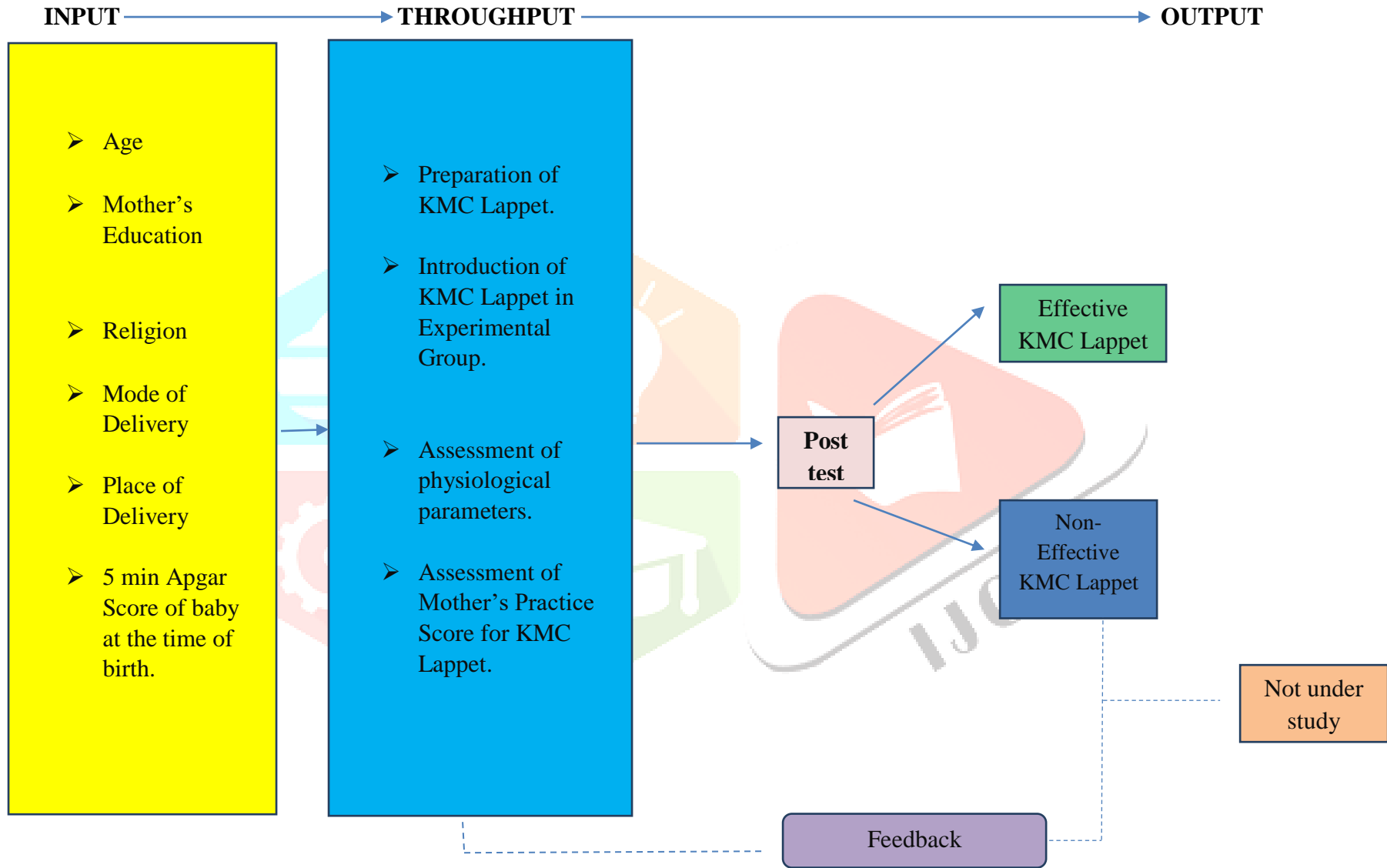


FIG NO I. CONCEPTUAL FRAMEWORK BASED ON GENERAL SYSTEM MODEL OF VON BERTALANFFY

SETTING OF THE STUDY

The present study was conducted in Chhatrapati Shivaji Subharti Hospital and Lokpriya Hospital, Meerut.

SCHEMATIC PRESENTATION OF RESEARCH

Target Population

Low Birth Weight newborns

SAMPLING

Sample

Low birth weight newborns who met the inclusion criteria.

Sample size

Sample size was 40 low birth weight newborns out of which 20 are included in Experimental group and 20 are included in Control group.

Sampling Technique

Non probability Purposive sampling technique was used in this study.

CRITERIA FOR SAMPLE SELECTION

The samples were selected based on the following inclusion and exclusion criteria:

Inclusion Criteria

The study includes low birth weight newborns

- Who will be available at the time of study.
- Whose mothers are willing to participate in the study.

Exclusion Criteria

The study excludes the low birth weight newborns

- Who are not on breastfeed.
- Whose mothers are not willing to participate.

DEVELOPMENT OF TOOL**PART I****SECTION A: DEMOGRAPHIC DATA OF THE SAMPLE**

It includes questions related to mother's age in years, mother's education, religion, mode of delivery, place of delivery, 5 min. Apgar Score of baby at time of the birth.

SECTION B: MODIFIED CHECKLIST FOR ASSESSING PRACTICE IN KANGAROO MOTHER CARE

This checklist evaluates for the practice of post natal mothers regarding the practice of Kangaroo Mother Care. It consists of two subsections, Section A (Safe Positioning) and Section B (Emotional Bonding).

Table II Interpretations are:

RATING	LEVEL OF PRACTICE
0-4	Poor
5-8	Average
9-12	Good
13-16	Excellent

PART II**Modified Newborn Physiological Parameters Assessment Chart**

This chart assesses the newborn's physiological parameters like temperature, pulse, respiration, O₂ saturation, Clinical cyanosis, Weight in grams.

DATA ANALYSIS AND INTERPRETATION**1. Description of the demographic variable of sample**

- The data shows that 30% of the low birth weight newborns are in the age group of 1 day for experimental group and 30% are in the age group of 2 days for control group.
- As per educational status of mother's among experimental group 7(35%) mothers were having no formal education, 4(20%) having primary education, 5(25%) having secondary education, 3(15%) having higher secondary education and 1(5%) graduate and above. In control group 4(20%) having no formal education, 8(40%) having primary education, 3(15%) having secondary education, 4(20%) having higher secondary education and 1(5%) graduate and above.

- As per religion, in the experimental group, 6(30%) were Hindu, 10(50%) Muslim, 3(15%) Christian and 1(5%) were others. In the control group, 10(50%) Hindu, 8(40%) Muslim and 2(10%) Christian.
- As per Mode of delivery, in experimental group, 7(35%) had normal delivery and 13(65%) LSCS. In control group, 10(50%) had normal delivery and 10(50%) had LSCS.
- As per place of delivery, in experimental group, 17(85%) had institutional delivery and 3(15%) had home delivery. In control group, 19(95%) had institutional delivery and 1(5%) had home delivery.
- With regard to 5 min apgar score of the baby at the time of birth, in experimental group 14(70%) had apgar score 7-10 (Reassuring), 4(20%) had 4-6 (Moderately abnormal) and 2(10%) had 0-3 (Concerning). In control group, 9(45%) had 7-10 (Reassuring), 9(45%) had 4-6 (Moderately abnormal) and 2(10%) had 0-3 (Concerning).

2. Effectiveness of KMC Lappet

- It is statistically interpreted that the KMC Lappet was effective in improving some physiological parameters (Temperature, Pulse, O₂ Saturation and weight).

3. Correlation of KMC Lappet with physiological parameters

- It depicts that there is significant positive (moderately) relationship between physiological parameters (Temperature, pulse, respiration) of newborn with mother's practice score which partially accepted alternate hypothesis (H₂) and the physiological parameters O₂ Saturation (%) and Weight (in gms) is moderately negative correlation which depicts that there is significant relationship between physiological parameters with mother's practice score.

IMPLICATIONS OF THE STUDY

The findings of the present study have implication for Nursing Education, Nursing Administration, Nursing Practice, and Nursing Research.

NURSING EDUCATION

- The Nurse Educator must know how to use Kangaroo Mother Care Lappet .
- Nurse Educator can improve the importance of Lappet used for Low birth weight newborns.
- The clinical instructor can use research findings in clinical teaching.
- Nurse educator can teach the importance of Lappet to improve the knowledge to their students.

NURSING ADMINISTRATION

- A Nurse administrator can conduct a workshop and make students and staff nurse to participate in it.
- The nurse should prepare clinical presentation in importance of use of Lappet among mothers.

NURSING PRACTICE

- An obstetric and gynaecologic nurse should know the importance and use of Lappet among low Birth Weight Newborns.
- When a nurse maintain with mother, there will be higher chance of Lappet to be more effective among Low birth weight newborns.

NURSING RESEARCH

- Nurse researcher should conduct more studies on particular topic among various parents.
- This study will motivate the health professional and researchers to understand deeply about the use and effectiveness of Kangaroo Mother Care Lappet which helps to increase the practice score of mothers.
- Nurse researcher can conduct this study in large sample.

LIMITATIONS

- The sample size of present study was small which limit the generalization of the findings.
- The data collection period due to covid-19 was limited to 3 days as the Low Birth Weight Newborns were discharged early.

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