

**A STUDY TO EVALUATE THE EFFECTIVENESS OF
KANGAROO MOTHER CARE ON PHYSIOLOGICAL
PARAMETERS AMONG PRETERM INFANTS IN SELECTED
HOSPITAL AT MADURAI**

BY

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A dissertation submitted to the Tamil Nadu DR. M.G.R. Medical
University,
Chennai.



In partial fulfillment of the requirements for the degree of Master of
Science in

Child Health Nursing

**UNDER THE GUIDANCE OF
MRS.V. GOMATHI M.Sc.(N) Ph.D**

Child Health Nursing,
C.S.I Jeyaraj Annapackiam College of Nursing and
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Madurai – 4

OCTOBER-2020

CERTIFICATE

This is to certify that the dissertation entitled **“A Study To Evaluate The Effectiveness Of Kangaroo Mother Care On Physiological Parameters Among Preterm Infants In Selected Hospital At Madurai 2020.”** is a bonafide work done by **Ms.W.JESINTHA JOSPHIN, C.S.I** Jeyaraj Annapackiam College of Nursing, Madurai, submitted in partial fulfillment for the degree of Master of Science in Nursing.

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ABSTRACT

Introduction

“Kangaroo mother care” is a method of care of preterm babies, weighing <1.500 kg. It includes exclusive and frequent breast feed in addition to skin to skin contact and has been shown to reduce mortality in hospital-based studies in low- and middle-income countries. So, the researcher conducted **“A study to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants in selected hospital at Madurai”**.

The objectives of the study were to determine the effectiveness of kangaroo mother care on physiological parameters among preterm infants between control and experimental group, to compare pretest and posttest level of physiological parameters among preterm infants in control and experimental group and to find out the association between physiological parameters among preterm infants and their selected demographical variables and clinical variables in control and experimental group.

Methodology

A quasi experimental pre-test post-test research design was adopted for this study. The conceptual framework for the study was based on the Child health promotion model And Wiedenbach’s prescriptive theory. The study was done at Rio Women and Children’s Hospital and Christian Mission Hospital in Madurai. 60 samples (30 experimental and 30 control) were selected through non probability purposive sampling technique. The tools used were the questionnaires’ examining demographic and clinical data, self-structured physiological parameter scale. The pretest was done to both control and experimental group. Kangaroo mother care intervention and routine hospital care was given to experimental group and only routine hospital care was given to control

group and post test was done to both control and experimental group. The collected data were tabulated and statistically analyzed.

Result

The findings revealed the effectiveness of kangaroo mother care on physiological parameters among preterm infants between control and experimental group. After the intervention the experimental group has good physiological parameter outcome than control group.

In experimental group, the weight gain 't' value was 4.47 and $P < 0.001$, the temperature 't' value was 16.87 and $P < 0.001$, whereas the respiratory rate 't' value was 31.16 and $P < 0.001$, in view of heart rate the 't' value was 47.1 and $P < 0.001$ and the oxygen saturation 't' value was 36.01 and $P < 0.001$. So, the 't' value was less than the tabulated value at $P < 0.05$ which indicated that there was a statistically significant difference between pre-test and post-test of experimental group due to kangaroo mother care.

Conclusion

The present study concludes that, the level of physiological parameters was low in control group, So the researcher planned for implementing the Kangaroo Mother Care. The results revealed that there was a significant difference in the level of physiological parameters among preterm infants in experimental group than the control group.

CHAPTER I
INTRODUCTION

CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

“To realize the value of one month, ask a mother who had a premature baby”

-Karen Moy

Babies are the most precious gifts on the earth and Child health is the foundation of the family and wealth of the nation. New born is the very important personality of the home. “A healthy child is a sure future” is the theme of WHO. New born period is the most crucial period in the child’s life. All family members give him or her warm welcome. The first touch of our new-born is one of the most precious moments of our life. The moment they are born brings the thrill of amazement. It brings a smile on our face which never fades away.

All infants with birth weights of 2.500 grams (5 pounds 8 ounces) or less, or a gestational age of less than 37 completed weeks are considered immature or premature. They are at risk for a number of potential health and developmental problems, including:

- Neurodevelopmental problems (e.g. cerebral palsy, cognitive delay).
- Congenital malformation, hearing and visual deficits, reactive airway disease, growth failure.

Among the main health challenges facing the world at the turn of the new millennium is the problem of high neonatal mortality. The global burden of the new born deaths is approximate to be a staggering five million per annum. Only 2% (0.1 million) of these deaths occurring in developed countries and the rest of 98% (4.9

million) take place in the developing countries. The highest neonatal mortality rates are seen in countries of South Asia result in almost 2 million new born deaths in the region each year, with India contributing 60% (1.2 million) of it.

In 2019, WHO and UNICEF published *Survive and thrive: transforming care for every small and sick newborn*. This report highlights how countries can strengthen care to support babies born too small or too soon, including through increased investment, round the clock care for newborns and better partnership with families.

Preterm infant is the birth of a baby at less than 37 weeks gestational age. These babies are known as preemies. Preterm causes of death together consider for 35% of all infant death in 2010, more than any single cause. Symptoms of preterm labor include uterine contraction which occur more often than every 10 min or leaking of fluid from the vagina. Preterm babies are at greater treat of cerebral palsy, delays in development, hearing problem and problems seeing. These risks are greater the earlier a baby's born.

Based on Maslow's hierarchical theory, the basic need of every individual love, security and affection. All of which can be expressed through the oldest fashioned and natural way cuddling. The baby throughout the 9-month period in the mother's womb recognize this sensation of being cuddled in environment of womb. The most profound physiologic change required of the neonate is transition from fetal or placental circulation to independent respiration. The immediate adjustments include respiratory system, circulatory system thermoregulation, fluid and electrolyte imbalance etc.

Kangaroo mother care (KMC) was first suggested in 1978 by Dr. Edgar Rey in Bogota, Colombia. The term kangaroo care is derived from practical similarities to marsupial care giving, i.e. low birth weight babies used to promote closeness between a baby and mother and involves placing the nappy-clad baby upright between the

maternal breasts for skin to skin contact. The mothers are used as “incubators” LBW babies, namely thermoregulation, effective breastfeeding and prevention of hypoglycemia. This method is applied only after the LBW infant has stabilized.

“Kangaroo mother care” is a method of care of preterm babies, weighing <2 kg. It includes exclusive and frequent breast feed in addition to skin to skin contact and support for the mother infant dyad, and has been shown to reduce mortality in hospital-based studies in low- and middle-income countries.

Low Birth Weight (LBW), especially in preterm birth, is due to the immaturity of the infant's organ system. Infant with low birth weight has a tendency toward increased infection and susceptible to complications. Infants with LBW are also highly susceptible to hypothermia, due to the thinness of the fatty reserves under the skin and the immature central heat regulator in the brain.¹ The problems often occur in the infants with LBW are respiratory disorder, hypothermia, hypoglycaemia, hyperglycaemia, brain haemorrhage, and immunologic disorders. LBW infant is also sensitive to new environments, which might cause them to be susceptible to illness such as developmental disorders, vision (retinopathy), hearing, chronic lung disease, increased morbidity and frequency of congenital abnormalities and frequent hospitalization.

Kangaroo Mother Care Benefits In baby: stabilizing your baby's heart rate. Improving your baby's breathing pattern and making the breathing more regular. Improving the oxygen saturation levels. Gaining in sleep time. Experiencing more rapid weight gain. Decreasing crying. Having more successful breast-feeding episodes. Having an earlier hospital discharge. In mother: improving bonding with your baby and feeling of closeness. Increasing your breast milk supply. Increasing your confidence in

the ability to care for your new baby. Increasing your confidence that your baby is well cared for. Increasing your sense of control.

According to WHO report (2019) every year, more than 20 million infants are born weighing less than 2.5kg – over 96% of them in developing countries. These low-birth-weight (LBW) infants are at increased risk of early growth retardation, infectious disease, developmental delay and death during infancy and childhood. Conventional neonatal care of LBW infants is expensive and needs both highly skilled personnel and permanent logistic support. Evidence suggests that kangaroo mother care is a safe and effective alternative to conventional neonatal care, especially in under-resourced settings and may reduce morbidity and mortality in LBW infants as well as increase breastfeeding.

Kangaroo mother care involves:

- Early, continuous and prolonged skin-to-skin contact between a mother and her new-born
- Frequent and exclusive breastfeeding
- Early discharge from hospital.

Kangaroo position:

The kangaroo position consists of skin-to-skin contact (SSC) between the mother and the infant in a strictly vertical position, between the mother's breasts and under her clothes. SSC should be started as early as possible after birth and can be of two types depending upon the duration: continuous or intermittent. The continuous modality is usually employed as an alternative to minimal care in an incubator for infants who have already overcome major problems while adapting to extra-uterine life, are able to suck and swallow properly and are thriving in neutral thermal environment.

To replace incubators the kangaroo position should be maintained as long as possible, ideally 24 hr. /day. The provider must sleep in a semi- reclining position to avoid the reflux in more preterm infants. The kangaroo position is maintained until the infant no longer tolerates it- he sweats and refuses the Kangaroo position. When continuous care is not possible, the kangaroo position can be used intermittently, providing the proven emotional and breastfeeding promotion benefits. The kangaroo position must be offered for as long as possible (1-2 hrs. at least), provided the infant tolerates it well. This 1-2hour span is important as it provides the stimulation that the mother needs to increase the milk volume and facilitate milk let-down. This is initiated in the hospital and continued at home.

Kangaroo nutrition:

Kangaroo nutrition is the delivery of nutrition to “kangarooed” infants as soon as oral feeding is possible. It is based on exclusive breastfeeding by direct sucking, whenever possible. Goal is to provide exclusive or nearly exclusive breastfeeding with fortification if needed. Breastfeeding is an integral component of KMC and it might contribute to significant gains in neurological development and IQ.

Kangaroo discharge and follow up:

Early home discharge in the kangaroo position from the neonatal unit is one of the original components of the KMC intervention. If not safely possible, the mother-infant dyad can room-in together in a minimal care facility (kangaroo wards) until safe discharge is possible. Mothers at home require adequate support and follow up hence a follow-up program and access to emergency services must be ensured. Finally, it is a gentle and effective method that avoids agitation routinely experienced in a busy ward with preterm infants.

Full-term infants with adequate weight for their gestational age may benefit from the Kangaroo Position (KP) for a limited period during the day and for a limited number of days (as long as the mother-baby accept the skin-to-skin contact), and there is evidence of the positive effect this position has in promoting breastfeeding and the mother–infant relationships. These effects are similar in terms of trend, not necessarily in magnitude to those observed in preterm and/or LBW infants.

SIGNIFICANCE AND NEED FOR THE STUDY

According to WHO it is estimated that 25 million LBW babies are born annually worldwide and 95% occur in developing countries. The WHO document “Kangaroo mother care” a practical guide provides guidance on how to organize services in health facilities and on what is needed to provide effective “Kangaroo mother care”. The “Kangaroo care” ensures people from all economic standards to give the needed care for the preterm babies. The preterm babies gain temperature slowly and prevent hypothermia. Therefore, the preterm babies become calm and relaxed. It also helps the baby to conserve energy and bring the organs to normal function.

Hypothermia in low birth weight babies, leads to increase in surfactant synthesis and surfactant efficacy, decrease PH, reduced partial pressure of oxygen (PO₂), hypoglycemia, less O₂ consumption. Diversion of cardiac output to brown fat, increased utilization of cardiac reserves, reduced weight gain infant and reduced blood coagulability, therefore, it increases neonatal mortality.

The educational offerings highlighting the knowledge and skills needed to prepare kangaroo mother care safely and effectively enable the student nurses to overcome barriers to the practice of kangaroo mother care. Structure teaching and

counselling of mothers of LBW babies by nurses may help the mother to get relieved of their worries and to join hands with the nurses in care of low birth weight neonates.

According to WHO, preterm birth is defined as babies born alive before 37 weeks of pregnancy are completed. It is the leading cause of death worldwide for children below 5 years of age. While many preterm babies survive in high-income countries, in low- and middle-income countries a lack of adequate new born care puts the lives of many preterm babies at risk. The new estimates show that preterm births during 2014 ranged from 13.4% in North Africa to 8.7% in Europe, though data on preterm birth in North Africa is very limited. The authors state that “Asian and sub-Saharan African countries accounted for 78.9% of livebirths and 81.1% of preterm births globally in 2014.”

Every year, more than a million babies die because they were born preterm, meaning before 37 weeks of gestation mostly in less developed countries. This represents 15.5% of all births. Of these low birth weight babies, 95.6% are born in developing countries.

In India according to the National Family Health survive Study, 25-35 percent of babies are born with low birth weight. Over 80 percent of neonatal deaths and 50 percent of infant deaths occur among low birth weight neonates. An LBW newborn may face problems like hypothermia, increased chance to acquire infection due to lack of immunity and LBW newborns are at high risk of having problem with feeding which later can lead to malnutrition. Hence it is important to educate the mother about the problem and how to manage the newborn with such problems. It is observed that infant mortality rate (IMR) for the State of Karnataka was around 200 per 1000 live births before 1950. The Bangalore State's infant mortality rate is

still unacceptably high, and an estimated seven per cent of children born die before their fifth birthday, according to Paolo Carlo Belli.

In India according to the report published recently, India has the highest number of deaths due to preterm births, and ranks 36 in the list of preterm birth globally. 27 million babies are born in India annually, 3.6 million are born pretermly, of which 303,600 don't survive due to complication. Nearly half of all child mortality is due to pre term births.

The newborn should maintain a temperature of 37° degree Celsius. Hypothermia in new born babies results in immature development of central nervous system, birth asphyxia, intracranial hemorrhage and failure to maintain an effective thermo neutral environment. In preterm and small for gestational age, infants heat loss is due to high surface area, reduced subcutaneous tissue, reduced brown fat, and reduced glycogen stores.

Pre term is the most common direct cause of newborn mortality. Pre term birth and being small for gestational age (SGA), which are the reasons for low birth weight (LBW) are also important indirect causes of neonatal deaths. LBW contributes to 60% - 80% of all neonatal deaths. The global prevalence of LBW is 15.5% which amounts to about 20 million LBW infants born each year, 96.5% of them in developing countries. Preterm birth is estimated to be the direct cause of 28% neonatal deaths worldwide.

The cause of preterm birth is often not known. Risk factors involve the diabetes, high BP, being pregnant with more than one baby, being either obese or underweight, a number of vaginal infections, tobacco smoking, under psychological stress among others. It is recommended that labor not be medically induced before 39 weeks unless required for other medical reasons. The same recommendation

applies to cesarean section. Medical reasons for early delivery include pre-eclampsia. It is also estimated that, in developing countries, LBW infants are approximately 13 times more likely to die than normal birth weight counterparts. Medical cost is also significantly higher in caring for preterm and other LBW babies. LBW occurs in about 20-30% of all live births in India. Kangaroo care helps in promoting exclusive breastfeeding, ensuring temperature maintenance, facilitating physiologic stability and decreasing neonatal morbidities, could result in improved physical and cognitive growth

In developing countries like use of incubators in the management of low birth weight babies exerts a heavy financial burden on parents of low weight babies. Incubators are not affordable by the family members of low-cost birth weight babies because of high cost. Hence equally effective and low cost methods to manage the low birth weight babies like kangaroo mother care not only prevents hyperthermia in low birth weight babies, but also improves bonding between baby and mother ,and nurses play a prime role in educating mothers of low birth weight babies, regarding kangaroo mother care as there are the one who interact more with parents than any other health team members.

A study to assess the effect of skin to skin contact (kangaroo mother care) shortly after birth on the neuro behavioural response of the term new-born by a randomised, control trial. Study subjects were 47 healthy mother infant pairs. Kangaroo care began at 15 to 20 minutes after delivery and lasted for one hour. Control group infants and kangaroo care infants were brought to the nursery 15 to 20 and 75 to 80 minutes after birth respectively. The result showed during an hour-long observation starting at 4 hours postnatal, the kangaroo care infants slept longer,

were mostly in a quiet sleep state, exhibited more flexor movements and postures and showed less extensor movement.

Hospitalization of the preterm infants undergone various therapeutic procedures such as heel stick lancing, frequent lab investigations are haemoglobin, haematocrit, bilirubin and electrolytes (Davidson 2012). These painful sensations produce physiological and behavioural disruptions. Kangaroo Mother Care reduced the painful response and its acts as a non-pharmacological analgesics effect on the preterm infants (Ludington-hoe 2010).

Hussein et.al (2011) conducted a study to assess the impact of KMC on the infant responses to the pain. He found that infants who were underwent KMC, infants enter into a state of deep sleep that time pain full stimulus produced. Infant responded to the painful stimulus, the heart rate and crying responses significantly decreased.

The literature surveys revealed that only a limited number of studies have been done of the kangaroo mother care on physiological parameters in both India and as well as in the as in western country.

Therefore, based upon literature review as well as during my clinical experience in NICU and neonatal ward, the researcher recognized importance and potential benefits of physiological parameters on the delicate features of the preterm infants. Hence the investigator decided the KMC as simple, cost-effective and motherly based care that effectively maintains the physiological parameters, and provides various opportunities for the growth of the preterm infants. Which motivates to proceed with this study.

STATEMENT OF THE PROBLEM:

A study to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants in selected hospital at Madurai.

OBJECTIVES:

1. To determine the effectiveness of kangaroo mother care on physiological parameters among preterm infants between control and experimental group.
2. To compare pretest and posttest level of physiological parameters among preterm infants in control and experimental group.
3. To find out the association between physiological parameters among preterm infants and their selected demographical variables and clinical variables in control and experimental group.

RESEARCH HYPOTHESIS:

- H₁** There will be significant difference between the physiological parameters of control and experimental group.
- H₂** The mean posttest scores of experimental group will be significantly higher than the mean pretest physiological parameters score of experimental group.
- H₃** There will be a significant association of physiological parameters among preterm infants with their demographic variables and clinical variables of control and experimental group.

OPERATIONAL DEFINITIONS:**KANGAROO MOTHER CARE:**

In this study, it refers to keeping the baby chest- to- chest and skin- to- skin contact with the mother, heat regulating, mother and baby bonding and weight increasing.

PHYSIOLOGICAL PARAMETERS:

In this study, it refers to the measure of five vital physiological parameters of the preterm baby, namely weight, temperature, respiratory rate, heart rate, oxygen saturation as measured by weight checked by calibrated infant weighing scale, temperature checked by omron digital thermometer, respiratory rate checked by observation, heart rate checked by stethoscope, oxygen saturation checked by calibrated portable pulse oximeter.

PRETERM INFANTS:

In this study, it refers to preterm baby is born before 37 weeks of gestational age and weighing less than <1.500kg at birth.

HOSPITAL:

In this study, hospital refers to a place where NICU is situated in which preterm infant were treated who need intensive care by means of advanced knowledge and trained health care professional.

ASSUMPTIONS:

- Kangaroo mother care is an effective to improve physiological parameters for the premature newborn.
- Kangaroo mother care improve the feeding and sleeping pattern for the premature newborn.
- Kangaroo mother care is more feasible to practice.

DELAMINATION:

- The study is delimited to the selected hospitals
- The study is limited to preterm infants who are less than 1500g
- The sample size is limited to only 60 subjects
- The study period is limited for only 6 weeks

PROJECTED OUTCOME:

The study findings will help to:

- identify the effectiveness of the kangaroo mother care
- create awareness among mother to practice kangaroo mother care to improve physiological parameters outcome of premature infants.

CHAPTER II
REVIEW OF
LITERATURE

CHAPTER II

REVIEW OF LITERATURE

**“A great literature is chiefly a product of inquiring minds in revolt against
the immovable certainties of nation”**

-Meeken H.C.

A review of literature is an extensive critical review of the extent literature on the research topic. It is an essential first step in those methodologies that require context to interpret and understand the research problem by locating it within the body of knowledge on the research topic (Worrall and Culley 1997)

Literature review serves a number of important functions in the research process. It helps the researcher to generate ideas or to focus on a research topic. It also can be useful in pointing out the research approach, methodology, instrument and even type of statistical analysis that might be productive in pursuing the research problem. Review of literature in the study is organized under the following headings.

- Reviews related to preterm infants
- Reviews related to kangaroo mother care
- Reviews related to physiological parameters among preterm infants

REVIEWS RELATED TO PRETERM INFANTS

Preterm infants are prone to serious illness or death during the neonatal period. Without appropriate treatment, those who survive are at increased risk of lifelong disability and poor quality of life. Complications of prematurity are the single largest cause of neonatal death and the second leading cause of deaths among children under

the age of 5 years. Global efforts to further reduce child mortality demand urgent action to address preterm birth.

In India Although available literature on vaccination in preterm infants supports timely vaccination without any correction for birth weight or gestation, a delay is still noted. Unfortunately, this group often suffers from various vaccine-preventable diseases with increased severity, especially in lower-middle-income countries. All this could be attributed to unavailability of robust evidence and clear guidelines related to vaccination. A current review article summarizes the available evidence on the use of these vaccines, their immune response, common myths and facts about vaccination in preterm infants in the Indian context. Authors conclude that the vaccines in preterm infants are equally safe, effective, and immunogenic as compared to full-term infants; hence, they should be vaccinated following the same schedule as of their counterparts who born full term. Only exception to this is hepatitis B vaccine, where additional doses should be administered to infants with weight <2000 g, apart from the birth dose.

Hong lu (2019) Chinese mothers of preterm infants often face obstacles to breastfeeding and commonly experience prolonged maternal-infant separation when their high-risk infants are hospitalized in a Neonatal Intensive Care Unit (NICU). This separation hinders mother-infant attachment and the establishment of breastfeeding. Currently, little is known about Chinese mothers' experiences breastfeeding their preterm infants, or their support needs. The aim of this study was to develop an understanding of mothers' experiences breastfeeding a hospitalized preterm infant and the support needed to establish a milk supply during the period separation from their infants. A qualitative descriptive study was conducted in Beijing in 2017. A total of 11 Chinese mothers were individually interviewed while separated from their infants. The interviews were audio-recorded and transcribed verbatim. A thematic analysis

involving a seven-step protocol identified key themes. Mothers of preterm infants reported physically and mentally challenging breastfeeding experiences during the period they were separated from their babies. They viewed expressing breast milk as integral to their maternal role, even though some found expressing breastmilk exhausting. With little professional support available, the mothers depended upon nonprofessionals to establish breastfeeding.

Rita V Seliveria (2018) Preterm infants are high risk for delayed neurodevelopment. The main goal is to develop a program of early intervention for very preterm infants that allows families to apply it continuously at home, and quantify the results of early parental stimulation on improvement of cognition and motor skills. Randomized clinical Trial including inborn preterm infants with gestational age less than 32 weeks or birth weight less than 1500 g at 48 h after birth. Eligible for begin the intervention up to 7 days after birth. Study Protocol approved by the Brazilian national Committee of ethics in Research and by the institutional ethics committee. Intervention group (IG): skin-to skin care by mother (kangaroo care) plus tactile-kinesthetic stimulation by mothers from randomization until hospital discharge when they receive a program of early intervention with 10 parents' orientation and a total of 10 home visits independently of the standard evaluation and care that will be performed. Systematic early intervention program will be according to developmental milestones, anticipating in a month evolutionary step acquisition of motor and / or cognitive expected for corrected age. Active comparator with a Conventional Group (CG): standard care according to the routine care of the NICU and their needs in the follow up program. Neurodevelopment outcome with blinded evaluations in both groups between 12 and 18 months by Bayley Scales of Infant and Toddler Development third edition and Alberta Motor Infant scale will be performed. All evaluations will be conducted in the

presence of parents or caregivers in a safe room for the child move around during the evaluation.

Augustinconde-agudelo and Jose I. Diaz Rossello (2016) conducted a experimental study to assess the reduction level of morbidity and mortality rate in the low birth weight infant receiving kangaroo mother care. 21 studies, including 3042 infants, fulfilled inclusion criteria. 19 studies evaluated kangaroo mother care in low birth weight infant after stabilization, 1 evaluated kangaroo mother care in low birth weight infant before stabilization and 1 compared early onset kangaroo mother care and late onset kangaroo mother care in relatively stable low birth weight infants. 16 studies evaluated intermittent kangaroo mother care and 5 evaluated continuous kangaroo mother care. Compared with conventional neonatal care, kangaroo mother care was found to reduce mortality at discharge, severe infection and illness, hypothermia. And found that there is an improvement in infants' growth, neurodevelopment and reduction of mortality rate.

Siva Priya, s, Jayagowari, S, (2015) conducted a study to assess the therapeutic effect of kangaroo mother care on preterm infants. Researcher identified the physiological and behavioural response of the preterm infants after one hour of kangaroo mother care. Researchers founded that kangaroo mother care act as a human incubator it is the easiest way to improve the physiological behavioural responses of the pre term infants.

According to World Health Organization (WHO) guidance on maternal interventions for preterm labour is available in the reference manual Managing complications of pregnancy and childbirth (11). This manual was published in 2000, and reprinted in 2013. In view of the changes to the WHO guideline development

process since 2007, it is imperative that the recommendations are reviewed and updated accordingly. Similarly, the latest WHO guidance on neonatal interventions for management of preterm infants can be found in the Pocket book of hospital care for children (12). The second edition of this manual was published in 2013, but only a limited number of controversial areas were revised in accordance with the current WHO guideline development procedures. Moreover, a substantial amount of new evidence has emerged in recent years on preterm new-born interventions, including the use of Kangaroo mother care (KMC) (13–16), plastic wraps (17, 18), continuous positive airway pressure (19) and surfactant therapy (20, 21). It is therefore necessary to review and update the recommendations using the current WHO guideline development procedures.

Malligamoorthijubulingam (2012) Anxiety in Mothers with Preterm Infants in the Neonatal Intensive Care Unit A systematic review of qualitative and quantitative research studies published between 1998 and 2011 was undertaken using the following databases: MEDLINE, PubMed, Cumulative Index to Nursing and Allied Health Literature, Ebscohost, Psychinfo, Science Direct, and OVID. Of the 18 studies reviewed, 12 (two mixed-methods, five qualitative, and five quantitative) described mothers' experiences when their preterm infants were in the NICU. Six studies (five quantitative and one qualitative) described nursing interventions to alleviate anxiety of the mothers while infants were in NICU. findings revealed that mothers of preterm infants reported guilt, stress, anxiety, depression, and loss of control during hospitalization of their infants in neonatal intensive care unit. Studies also noted varied nursing interventions to alleviate mothers' anxiety, including massaging, skin–skin contact, or communicating with nurses.

REVIEWS RELATED TO KANGAROO MOTHER CARE

WHO has developed new guidelines with recommendations for improving outcomes of preterm births. This set of key interventions can improve the chances of survival and health outcomes for preterm infants. The guidelines include interventions provided to the mother – for example steroid injections before birth, antibiotics when her water breaks before the onset of labour, and magnesium sulphate to prevent future neurological impairment of the child – as well as interventions for the new-born baby – for example thermal care, feeding support, kangaroo mother care, safe oxygen use, and other treatments to help babies breathe more easily.

MurtazaGhojazedha (2019) Effect of Kangaroo Mother Care on Successful Breastfeeding. In this systematic review and meta-analysis study, required data were collected by searching the following breastfeeding, Breast-Feeding, “skin-to-skin”, “Kangaroo Mother Care”, randomized clinical trial. Twenty articles were included. In the KMC and CNC groups, 1,432 and 1,410 neonates were examined. Breastfeeding success rate was higher in the KMC group within different time slots; however, this difference was not statistically significant $RR=1.11(95CI, 0.93-1.34)$ and $RR=1.13(95\%CI, 0.92-1.34)$ based on the time slot and birth weight, respectively). The inter-groups differences in the mean scores of Infant Breast-Feeding Assessment Tool (IBFAT) were statistically significant ($P<0.05$). Breastfeeding was initiated very sooner in the KMC group, suggesting a statistically significant inter-groups difference - $0.72(95\%CI, \text{from } -0.92 \text{ to } -0.53)$ ($P<0.05$). Majority of the studies had a high risk of bias.

Tondu m. Harrison (2018) conducted a longitudinal study to examine feasibility of a two weekly daily skin to contact intervention and to describe changes in

ANS function in response to their intervention, 18 infants and their mothers were recruited. 2 infants expired prior to intervention initiation 2 were too sick to complete intervention. 4 families withdrew after discharge home. Mother provided skin to skin contact for a minimum of 1 hour a day for 14 consecutive days, beginning immediately after a feeding. Feasibility was assessed from mother by questionnaire satisfaction level is higher for mother who provided kangaroo mother care to congenital congestive heart disease child. Reports that neuro development is improved in babies of congenital congestive heart disease babies receiving Kangaroo Mother Care.

Reta (2017) Community based kangaroo mother care for low birth weight babies. A community-based pilot study was carried out at three sites in the States of Odisha, Gujarat and Maharashtra covering rural, urban and rural tribal population, respectively. Trained health workers provided IEC (information, education and communication) on KMC during antenatal period along with essential newborn care messages. Outcome measures were the proportion of women accepting KMC, duration of KMC/day and total number of days continuing KMC. Focus group discussions and in-depth interviews were also carried out. KMC was provided to 101 infants weighing 1500-2000 g; 57.4 per cent were preterm. Overall, 80.2 per cent mothers received health education on KMC during antenatal period, family members (68.3%) also attended KMC sessions along with pregnant women and 55.4 per cent of the women initiated KMC within 72 h of birth. KMC was provided on an average for five hours per day. Qualitative survey data indicated that the method was acceptable to mothers and family members; living in nuclear family, household work, twin pregnancy, hot weather, etc., were cited as reasons for not being able to practice KMC for a longer duration.

Ellen o bounty (2016) Kangaroo mother care (KMC) is an intervention aimed at improving outcomes among preterm and low birth weight newborns. 1035 studies

were screened; 124 met inclusion criteria. Among LBW newborns, KMC compared to conventional care was associated with 36% lower mortality (RR 0.64; 95% [CI] 0.46, 0.89). KMC decreased risk of neonatal sepsis (RR 0.53, 95% CI 0.34, 0.83), hypothermia (RR 0.22; 95% CI 0.12, 0.41), hypoglycemia (RR 0.12; 95% CI 0.05, 0.32), and hospital readmission (RR 0.42; 95% CI 0.23, 0.76) and increased exclusive breastfeeding (RR 1.50; 95% CI 1.26, 1.78). Newborns receiving KMC had lower mean respiratory rate and pain measures, and higher oxygen saturation, temperature, and head circumference growth.

Sharadha (2015) Knowledge, Attitude, and Practice Study of Kangaroo Mother Care Practices in a Tertiary Care Center. A restructured open-ended questionnaire was used in an interview of mothers providing KMC at a tertiary care center. The mothers were divided into 2 groups of high and low knowledge based on an arbitrary cut off of 60% for the knowledge score. The mothers' response to these questions was marked according to a predetermined scoring system. The comparison of knowledge with attitude and knowledge with practice was performed using statistical analysis of the 59 mothers, who met the inclusion criteria, 72.8% had high knowledge and majority of the mothers had a positive attitude about KMC. However, knowledge regarding KMC did not have a statistically significant bearing on the attitude and practice.

Nashwa m. Samra (2013) Effect of Intermittent Kangaroo Mother Care on Weight Gain of Low Birth Weight Neonates with Delayed Weight Gain 40 LBW neonates were followed to see whether KMC with additional opportunities to breastfeed improved weight gain. In the KMC group, the mean age of regaining birth weight was significantly less (15.68 vs. 24.56 days) and the average daily weight gain was significantly higher (22.09 vs. 10.39 g, $p < .001$) than controls.

REVIEWS RELATED TO PHYSIOLOGICAL PARAMETERS AMONG PRETERM INFANTS

According to WHO 2019 premature infants are at higher risk of developmental problems and other biological vulnerabilities. Although premature births are impossible to predict with certainty, it is important to be aware of potential problems and the ways to mitigate these adverse effects. More than 60% of preterm births occur in Africa and South Asia, but preterm birth is truly a global problem. In the lower-income countries, on average, 12% of babies are born too early compared with 9% in higher-income countries. Within countries, poorer families are at higher risk. The 10 countries with the greatest number of preterm birth: India: 35,19,100, China: 11,72,300, Nigeria: 7,73,600, Pakistan: 7,48,100, Indonesia: 6,75,700, United States of America: 5,17,400, Bangladesh: 4,24,100, Philippines: 3,48,900, Democratic Republic of the Congo: 3,41,400, Brazil: 2,79,300.

Monty K Indra Selvam (2018) This study evaluated the effect of nesting on physiological parameters among preterm infants. This crossover clinical trial was performed at a tertiary neonatal intensive care unit (NICU). 21 preterm infants who met the inclusion criteria were enrolled. They were randomly assigned to two groups of nest and routine procedure. Physiological parameters such as Oxygen saturation, body temperature, heart rate and respiration were evaluated by using leads and probes connected to centralized monitor during each stages of sleep between inter epoch two feed were recorded and analyzed by using paired t-test. There was improvement in physiological parameters among preterm infants with nesting compared to routine care, which was tested by paired t test. With regard to oxygen saturation, there was a significant increase in active sleep ($p < 0.05$) and quiet sleep ($p < 0.005$), heart rate was

significantly decreased and maintained stable during quiet sleep ($p < 0.05$) respiratory rate was decreased and maintained stable but statistically not significant ($p > 0.05$) in all stages of sleep, There was increase in mean body temperature value in all stages of sleep, statistical significance exhibited only in indeterminate sleep ($p < 0.05$).

Iran (2018) The effect of kangaroo mother care on physiological parameters of premature infants in Hamadan City. This was a quasi-experimental study. One hundred newborns who were admitted to in neonatal intensive care unit of Fatemeh Hospital in Hamadan city, Iran were selected by convenience sampling. They were randomly divided into two groups (experimental group, $n = 50$ and control group, $n = 50$). In the experimental group, newborns were taken daily KMC for an hour during 7 days. In the control group, routine care was performed in the incubator. The data gathering tool was questionnaire of infants and mother characteristics, checklists of vital signs and oxygen saturation. Data analysis was performed by SPSS 19 software using descriptive and inferential statistics (Independent t -test, Paired t-test, Chi-square, ANOVA). Before intervention, there was no significant difference between the physiological parameters of the infants (heart rate, respiratory rate, arterial blood oxygen saturation and temperature) in experimental and control groups. However, after intervention, there was a significant difference between the two groups in terms of physiological indices ($p < 0.001$).

Chandra lekha (2017) Effectiveness of Kangaroo Mother Care on Level of Physiological Parameters among Preterm Infants at Selected Hospitals, Nagercoil. Quantitative approach, Quasi experimental pre and post-test research design was adopted to assess the effectiveness of Kangaroo Mother Care on level of physiological parameters among 60 preterm infants (30 in study and 30 in control group) who satisfied the inclusion and exclusion criteria in the Neonatal Intensive Care Unit

(NICU) at Dr. Jayasekara and Dr. Jayaraman Hospitals, Nagercoil. Non-probability purposive sampling technique was used to select the samples. Kangaroo Mother Care along with hospital routine (warmer care) was performed in the study group and hospital routine (only warmer care) was given to the control group. The pre and post-test level of physiological parameters was assessed by using World Health Organization (WHO) guidelines. The study findings revealed that there was no significant difference in the pretest level of physiological parameters among preterm infants between study and control group. The calculated unpaired 't' value of physiological parameters such as temperature, heart rate, respiratory rate, oxygen saturation and weight of preterm infants after providing KMC for 30 minutes for three consecutive days, was 11.29°C ; 13.48 beats per minute; 14.85 breath per minute; 8.59 % respectively which shows that there was a high statistically significant difference between the study and control group at $p < 0.001$ level.

Dilek (2017) Effect of maternal heart sounds on physiological parameters in preterm infants during aspiration. In both groups, the infants' physiologic parameters were evaluated during aspiration. In the study, it was determined that while there was an insignificant difference between the experimental group and the control group in terms of respiratory rate and heart rate averages before, during, and after the aspiration, there was a significant difference between them in terms of SO_2 averages before, during, and after the aspiration, and this significance arose from the experimental group.

Leela (2016) A Quasi experimental study to assess the effectiveness of music therapy on the physiological parameters, feeding and sleeping pattern among the premature newborns in NICU The research design used was a quasi-experimental design. The data collection tool was validated by two pediatricians and three nursing

experts. Reliability was established by inter-rater (0.64) and test-retest method (0.95). The samples for the study were chosen using purposive sampling technique, 25 were in experimental and 25 in control group. Data was collected by self-structured interview method by using Preterm Infant Breastfeeding Behavior Scale by Nyquist and a modified Brief Infant Sleep Questionnaire by Saadeh, to assess the physiological parameters, feeding and sleeping pattern and Music therapy was given for 15 minutes for three consecutive days for 4 weeks. The paired test 't' value for feeding pattern was 20 and for sleeping pattern was 12.28 at $P < 0.05$ revealed that there was a significant improvement in maintaining the physiological parameters, improved feeding and sleeping pattern after the music therapy.

Many researchers viewed KMC as a simple, non-invasive, non-pharmacological measure to comfort the preterm infants as mothers provides sensorial, vestibular and nocturnal stimulus, which also improves the vital parameters of the preterm infants.

Soukka H, Gronroos L, Leppasalo J, Lehtonen L, (2014) identified that Kangaroo Mother Care position (prone) it was an impact on the diaphragmatic electrical activity of the preterm infants after the episodes of respiratory distress syndrome. They found that after the 7 hours of Kangaroo Mother Care significantly lowering the diaphragmatic electrical activity and it has not associated with the neural activity. Thus, the above literatures show that the KMC has a positive effect on the preterm infants.

World Health Organization (WHO), (2014) reported for the guidelines of thermal control and states the body temperature of the preterm infants, normal body temperature (36.5°C – 37.5°C), mild hypothermia (36.4°C – 35.2°C), moderate hypothermia (32°C – 35.1°C), severe hypothermia ($<32^{\circ}\text{C}$), hyperthermia ($>37^{\circ}\text{C}$). Report shows above 36.5°C as a safest level of body temperature of the preterm infants.

Alabamiabera (2013) Effect of Kangaroo Mother Care on Vital Physiological Parameters of the Low Birth Weight Newborn. Study cohort comprised in-born LBW babies and their mothers - 300 mother-baby pairs were selected through purposive sampling. Initially, KMC was started for 1-hour duration (at a stretch) on first day and then increased by 1 hour each day for next 2 days. Axillary temperature, respiration rate (RR/ min), heart rate (HR/ min), and oxygen saturation (SpO₂) were assessed for 3 consecutive days, immediately before and after KMC. Data from 265 mother-baby pairs were analyzed. Improvements occurred in all 4 recorded physiological parameters during the KMC sessions. Mean temperature rose by about 0.4°C, RR by 3 per minute, HR by 5 bpm, and SpO₂ by 5% following KMC sessions. Although modest, these changes were statistically significant on all 3 days. Individual abnormalities (e.g. hypothermia, bradycardia, tachycardia, low SpO₂) were often corrected during the KMC sessions.

Sneha pitter (2012) done a study on the Effect of Massage on Physiological and Behavioral Parameters among Low Birth Weight Babies Quasi experimental pre-test posttest control group design. Neonates with birth weight 1200 -1500gms. stable without any complication. Total 150 eligible babies were assigned alternately to experimental or control group. Massage was given with sesame oil daily for 15 days by investigator continued by care taker or mother. Physiological parameters like Weight, oxygen saturation, Heart rate, temperature, skin color was recorded daily before and after massage for 15 days and again on 21st day. Behavior was assessed by using Brazelton's Neurobehavioral scale on 1st and 14th day. Results: Significant difference in weight gain was observed among experimental and control group on 14th and 21st day of the study. Massage has not shown any change in physiological parameters. In relation to behavior massage had made the babies more interactive, less irritable, better

adaptable to noxious stimuli and maintain autonomic stability. Mothers of experimental group babies appreciated the need and beneficial effects of massage and took active part in administration

CONCEPTUAL FRAMEWORK – GENERAL CONCEPTS

CHILD HEALTH PROMOTION MODEL AND

WIEDENBACH'S PRESCRIPTIVE THEORY

According to Wiedenbach nursing is nurturing and caring for someone in a motherly fashion that care is given in the immediate, present and care can be given by caring person. Nursing wisdom is acquired through meaningful experience. Nursing is a helping service that is rendered with compassion, skill and understanding to those in need of care, counsel and confidence in the area of health. Sensitivity alerts the nurse to an awareness of inconsistencies in a situation that might signify a problem, it is a key factor 34 in assisting the nurse to identify patients need for help. The nurse's beliefs and values regarding reverence for the gift of life, worth of the individual and the aspirations of each human being determines the quality of nursing care. Wiedenbach states that the characteristics of a professional person that are essential for the professional nurse include the following.

The Central Purpose

The central purpose of this conception frame work is to identify the needs and do the nursing action as well as to evaluate the administered action.

In this study, the investigator identifies the preterm infants and administrating kangaroo mother care and to evaluate the physiological parameters.

Step: I- Identification of the need for help

In identification component there are four distinct steps. First, the nurse observes the patient looking for an inconsistency between the expected behaviour of the patient and the apparent behaviour. Second, attempts to clarify what the inconsistency means.

Third, determines the cause of the inconsistency. Finally validates with the patient that her help is needed.

In this study, the investigator perceives assess the preterm infants by using physiological parameters and selected for experimental and control group whose need for help is identified by assessing demographic variable and clinical variables.

Step: II- Ministering the needed help

According to the theorist in ministering to the patient may be of the following. The nurse may give advice or information, make a referral, apply a comfort measures or carry out a therapeutic procedure. The nurse will need to identify the cause and if necessary, make an adjustment in the plan of action.

Ministering of the needed help it have three components.

- a) Prescription
- b) Realities
- c) Validation

a) Prescription:

According to the theorist prescription is directive to activity. It specifies both the nature of an action that will most likely lead to fulfilment to the nurse's central purpose and thinking process that determines it.

In this study, the investigator prescription is kangaroo mother care to achieve the purpose. This includes in the experimental group, administration of kangaroo mother care for a duration of 30 minutes for three consecutive days.

b) Realities:

According to the theorist, the realities of the situation in which the nurse is to provide nursing care. Realities consists of all factors physical, physiological, emotional and spiritual that are at play in a situation in which nursing sections occur at any given moment,

Wiedenbach's defines the five realities as

- Agent
- Recipient
- Goal
- Means
- Frame work

1) Agent

According to the theorist, the agent is the practising nurse who engage in reconcile her assumption towards central purpose, objectives of her practise in terms of behavioural outcome that is realistically attainable, practise nursing in accordance with her objective

In this study the investigator is the agent who creates a relationship with the assumption towards a central purpose that with mothers and preterm infants aimed to improve the quality of life

2) Recipient

According to the theorist the recipient is the patient characterised by the personal attributes, problem, capabilities and most important the ability to cope with the concerns or problem being experienced.

In this study the investigator perceives preterm infants who had assessed by using physiological parameters as the recipient as a result of preterm infants.

3) Goal

According to the theorist the goal is the desired outcome the nurse wishes to achieve. The goal is the end result to be attained by nursing action

In this study the goal is to improve the physiological parameters of the preterm infants.

4) Means

According to the theorist the means comprise the activities and device through the practitioner is enabled to attain her goal. The means include skills, techniques, procedures, and devices that may used to facilitate nursing practise.

In this study, the investigator administering kangaroo mother care in the experimental group for the duration of 30 minutes for three consecutive days.

5) Frame work

According to the theorist the frame work consist of professional and organisational facilities.

In this study it refers to the administration of kangaroo mother care for selected Rio women and children's hospital in Madurai.

Step: III- Validation of needed help environmental and control group

According to the theorist it refers to after help was administered, the nurse validates the action were indeed helpful, by analysing the attainment of central purpose

In this study the validation is done by evaluating the effectiveness of kangaroo mother care by means of post-test with physiological parameters.

Widen Bach's theory have 3 main components of identification, ministering, and validation were easy to be adopted in experimental design as pre

test, intervention and post test. So, the investigator interrelated this theory in the present study and formulated as a conceptual frame work in order to achieve the objectives.

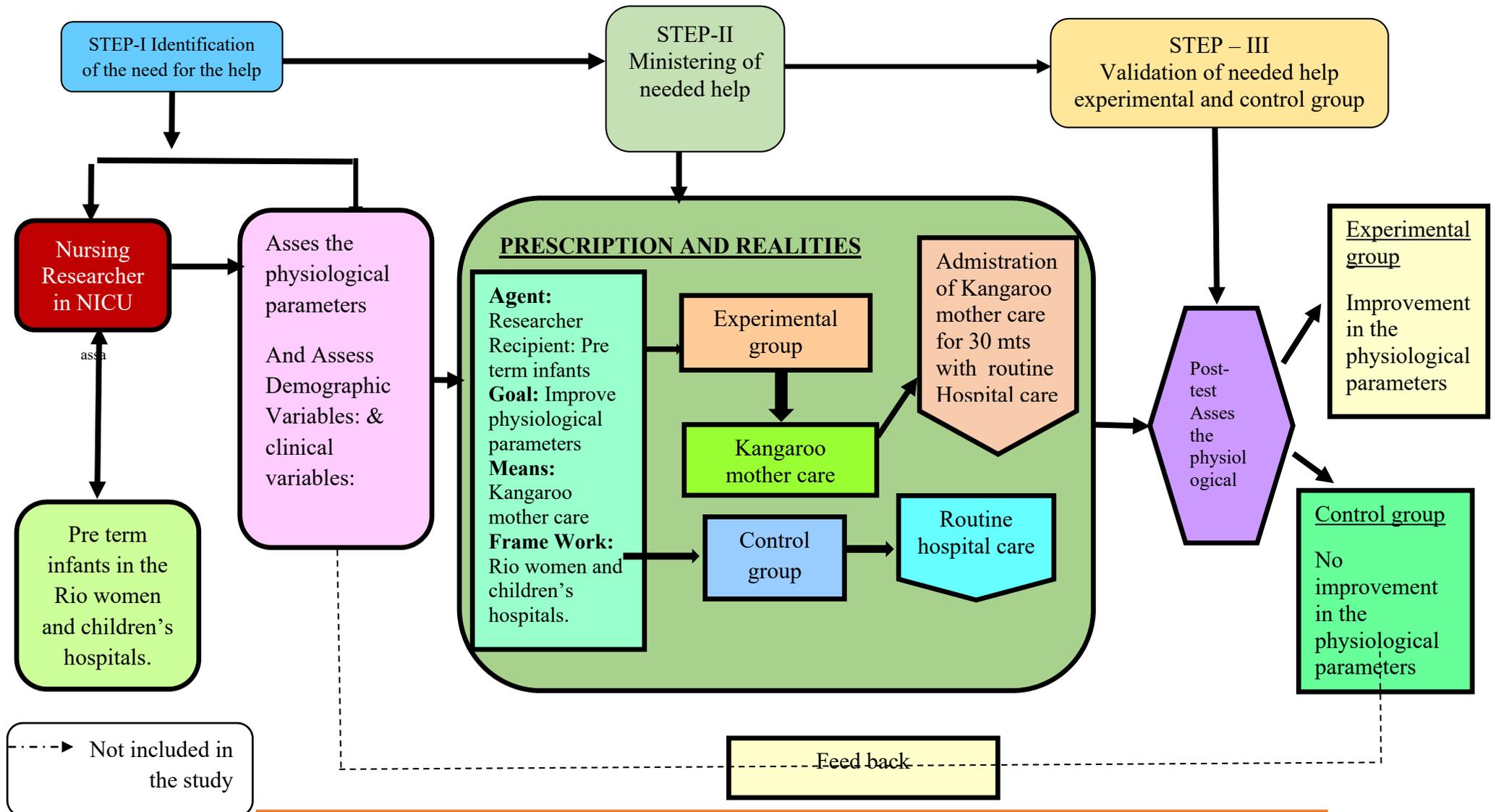


Figure:1. CONCEPTUAL FRAME WORK BASED ON GENERAL CONCEPTS CHILD HEALTH PROMOTION MODEL AND WIEDENBACH'S PRESCRIPTIVE THEORY

CHAPTER III
RESEARCH
METHODOLOGY

CHAPTER III

METHODOLOGY

The methodology is the systematic and theoretical analysis of any research study, which will empower the researcher to project a blue print of the research.

In this chapter deals with the research design, variables, settings of the study, population, sample, inclusive and exclusive criteria for sample selection, sample size, sampling technique, development and description of the tool, description about the intervention and data collection procedure.

RESEARCH APPROACH

Quantitative approach

RESEARCH DESIGN

In this present study, research design was quasi experimental pretest posttest research design.

THE SCHEMATIC REPRESENTATION OF THE QUASI EXPERIMENTAL

STUDY WAS AS FOLLOWS RESEARCH:

GROUPS	PRE-TEST	INTERVENTION	POST-TEST
Study group	Assess the pretest level of physiological parameters among preterm infant by assessing the temperature, heart rate, respiratory rate, oxygen saturation and weight based on WHO guidelines.	<p>A Researcher prepare the preterm term infant & mother to perform kangaroo mother care.</p> <ul style="list-style-type: none"> • Placing the preterm infant in an upright position between the mother’s breasts. • The baby’s head is turned to one side and in a slightly upturned position. • The preterm abdomen at the level of mother’s epigastrium, the hands or kept above the mother breasts. • Hips flexed abducted, legs beneath in a frog like position. • The babies bottom supported by the using of cotton sheet for 30 minutes for three consecutive days along with hospital routine. 	Assess the posttest level of physiological parameters among preterm infant by assessing the temperature, heart rate, respiratory rate, oxygen saturation and weight based on WHO guidelines
Control group		Routine activity in Christian mission hospital	

VARIABLES

Independent variable

The independent variable of the study was Kangaroo Mother Care.

Dependent variable

The dependent variable of the study was physiological parameters weight, temperature, heart rate, respiration rate, oxygen saturation among preterm infants.

Extraneous variables

It consists of demographic variable for mother which includes age of the mother, type of marriage religion, residential area, educational status of the mother, occupation, income, previous information of KMC.

The clinical variables for preterm infants which includes Gravida, Gestational Age, Type of Delivery, Indication of Pre mature Birth, Weeks and month of the Baby, Birth Weight, Breast feeding Habits, when did the Breast feeding Started.

SETTING OF THE STUDY

The study was conducted in Rio hospital for women and children at Madurai. It is a private one total of 100 beds, in which 40 were allotted for four level of NICU. The average number of neonates was 35. Out of 35 neonate, 27 neonates will be of preterm infants. Among 27 neonate 13-15 infants were admitted with their mothers and the remaining will be admitted in their absence of mother. Hence infants with mother attending kangaroo mother care regularly in daily basis was selected.

POPULATION

TARGET POPULATION

The target population includes the all Preterm infant born <37 weeks of gestation, weighing <1500gms in Rio women and children's hospital and Christian mission hospital

ACCESSIBLE POPULATION

The accessible population in this study was Preterm infant born <37weeks of gestation, weighing <1500grams admitted in preterm unit at Rio women and children's hospital and Christian mission hospital at Madurai.

SAMPLE

Preterm infants born <37weeks of gestation weighing <1500grams who fulfils the inclusive criteria was selected at Rio women and children's hospital and Christian mission hospital (both study and control group) as the samples.

SAMPLE SIZE

The Total Sample size consisted of 60 preterm infants in which 30 samples were allotted experimental group and 30 samples in control group

SAMPLING TECHNIQUE

In this study the investigator purposefully studied the effectiveness of kangaroo mother care on level of physiological parameters among preterm infants; therefore, Non-probability purposive sampling was used.

CRITERIA FOR SAMPLE SELECTION

Inclusive criteria

- Preterm infant with gestational age of <37weeks.
- Preterm infant whose birth weight <1500grams and admitted in NICU at Rio women and children's hospital and Christian mission hospital Madurai.
- Preterm infant those who are hemodynamically stable.

Exclusive Criteria

- Mother of preterm infants who are not willing to provide Kangaroo Mother Care.
- Preterm infants whose mothers are affected with contagious disease

DEVELOPMENT AND DESCRIPTION OF THE TOOL

The instrument designed for the study consist of two parts

PART-I

It includes the demographic variables of the mother and preterm infants

PART-II

Assessment of physiological parameters based on WHO guild lines

DATA COLLECTION TOOL

PART A:

SECTION A: Assessment of demographic variables

- It consists of demographic variables for mother which includes age of the mother, type of marriage, religion, residential area, educational status of the mother, occupation, income, previous information of KMC
- The clinical variables for preterm infants includes gravida, gestational age, type of delivery, indications of premature birth, weeks and month of the baby, birth weight, breast feeding habits, when did breast feeding started.

SECTION B: Assessment of physiological parameters based on WHO guild lines

PARAMETERS	INFERENCE	RANGE
Temperature (degree Celsius)	Normal	36.6-37.6° Celsius
	Mild hypothermia	36.4-35.2° Celsius
	Moderate hypothermia	32-35.2° Celsius
	Severe hypothermia	<32° Celusis
Heart rate(beats/min)	Tachycardia	>170 beats/mint
	Normal	120-170 beats/mint
	Bradycardia	<120 beats/mint
Respiratory rate (breaths/min)	Tachypnoea	>70 breaths/mint
	Normal	40-70 breaths/mint
	Bradycardia	<40 breaths/mint
Oxygen saturation (%)	Normal	92-94 %
	Mild desaturation	90-91 %
	Moderate desaturation	88-89 %
	Severe desaturation	<88%
Weight (g/kg/day)	Normal	>15 g
	Mild under weight	14-10 g
	Moderate under weight	9-5 g
	Severe under weight	<4 g

VALIDITY AND RELIABILITY OF THE TOOL

CONTENT VALIDITY

The tool was validated by 8 Nursing experts, 1 Medical expert in the field of pediatrician, 1 clinical pediatrician. The tool will be evaluated by the experts for appropriateness, adequacy, relevance, completeness and comments.

RELIABILITY

The reliability obtained was 0.8. The 'r' value indicated positive correlation, which showed that the tool was reliable for the investigator to conduct the main study.

PILOT STUDY

The pilot study was conducted Nava Mani children's hospital among Pre term infants of 1500g after obtaining formal permission from authorities.

The samples were selected from pre term infants using Non probability purposive sampling technique and allotted to experimental and control group. The purpose of the study was explained to the mothers of pre mature infants and consent was obtained from them. Demographic profile and clinical variables to assess the physiological parameters. KMC was taught to the mothers of pre mature infants around 30 min for a period of 3 days to improve the physiological parameters. The post-test was conducted after 3 days of the intervention. The pilot finding reveals that pilot was feasible and practicable to conduct the main study.

DATA COLLECTION PROCEDURE

The data was collected among 60 preterm infants of <1.500g in which 30 from Rio women and children's hospital and 30 from Christian mission hospital at Madurai. The official permission was obtained for conducting study.

The investigator initially established rapport with mothers of pre mature infants. The samples were selected among Pre mature infants, using non probability purposive sampling technique and allotted to experimental group and control group. The purpose of the study was explained to the subjects and consent was obtained from them. Demographic profile and clinical parameters were used to assess the Physiological Parameters' KMC was taught to the mothers of the pre mature infants for 30 minutes for a period of 3 consecutive days. The post-test was conduct after 14 days of the intervention.

PLAN FOR DATA ANALYSIS

The data collected were analysed using both descriptive and inferential statistics

Descriptive Statistics

- Frequency and percentage distribution were used to analyse the demographic data of preterm infant undergoing Kangaroo Mother Care.
- Mean and standard deviation was used to assess the level of physiological parameters among preterm infant undergoing Kangaroo Mother Care.

Inferential Statistics

- Paired “t” test was used to compare the data within the study and the control group.
- Unpaired “t” test was used to compare the data between the study and the control group.
- Chi-square was used to associate the selected demographic variables with the mean differed score of physiological parameters among preterm infants in study and control group.

ETHICAL CONSIDERATION

This study was approved by our college ethical committee [ECR/ 1325/ Inst / TN / 2020 under rule 122 DD] on 05/02/2019.

BENEFICENCE

The study participants prevented from unnecessary risk of harm and discomfort during the study period.

Mothers of the preterm infant assured that participation of their preterm infant or information provided by them would not be used against them.

RESPECT FOR HUMAN DIGNITY

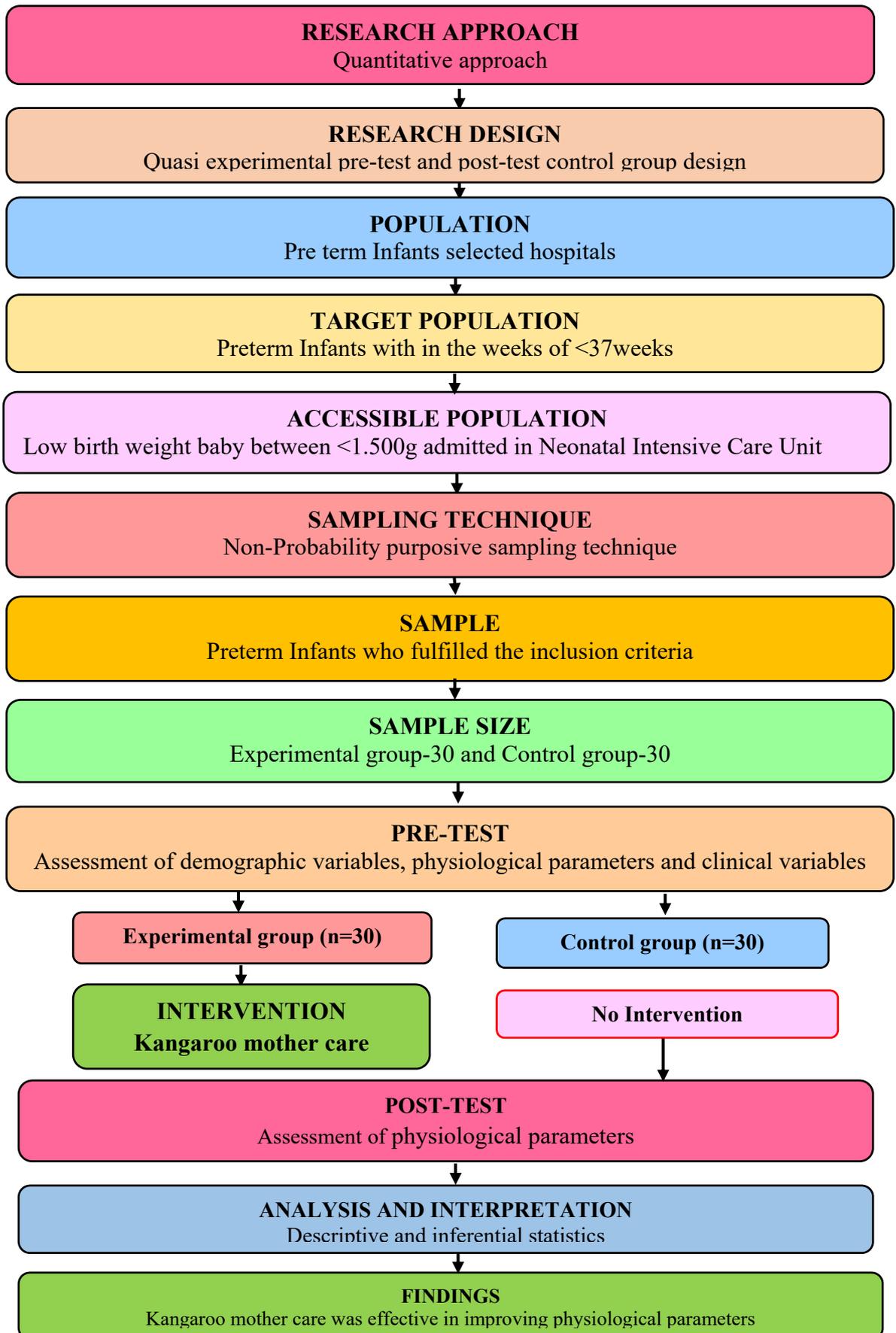
The investigator had provided full freedom to the mothers of the preterm infants to decide voluntarily about the participation of their preterm infants in the study and the right to ask any question during the course of the study.

The investigator had fully described the nature of the study; the mother's right to refuse participation and written informed consent were obtained from the parents.

JUSTICE

The investigator selected the study samples based on the inclusion and exclusion criteria and divided them into study and control group. Both the groups were given equal.

FIGURE 2: THE SCHEMATIC REPRESENTATION DIAGRAM



CHAPTER IV
DATA ANALYSIS AND
INTERPRETATION

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of the data collected from 60 preterm infants (30 in study and 30 in control group) to study the effectiveness of kangaroo mother care on physiological parameters among preterm infants at selected hospitals, Madurai. The data collected was organized, tabulated and analyzed according to the objectives. The findings based on the descriptive and inferential statistical analysis presented under the following sections.

OBJECTIVES OF THE STUDY

1. To determine the effectiveness of kangaroo mother care on physiological parameters among preterm infants between control and experimental group.
2. To compare pretest and posttest level of physiological parameters among preterm infants in control and experimental group.
3. To find out the association between physiological parameters among preterm infants and their selected demographical variables and clinical variables in control and experimental group.

ORGANIZATION OF DATA

- **Section A:** Description of demographic variables and clinical variables among the preterm infants in control and experimental group.
- **Section B:** Assessment on physiological parameters among the pre term infants in experimental and control group.
- **Section C:** Comparison on effectiveness of kangaroo mother care on level of physiological parameters between control and experimental group of the preterm infants
- **Section D:** Association between the pre-test level of physiological parameters among the preterm infants in control group and experimental group with their selected demographic variables.

SECTION A: DESCRIPTION OF DEMOGRAPHIC VARIABLES AND CLINICAL VARIABLES AMONG THE PRETERM INFANTS IN EXPERIMENTAL AND CONTROL GROUP.

Table 1.A.1: Frequency and percentage distribution of demographic variables

N=60

DEMOGRAPHIC VARIABLES	CONTROL GROUP (n=30)		EXPERIMENTAL GROUP (n=30)	
	f	%	f	%
1. Age of the mother:				
a) 18-23 years	12	40	7	23.3
b) 24-29 years	18	60	23	76.7
c) 30-34 years	0	0	0	0
d) Above 35 years	0	0	0	0
2. Type of marriage:				
a) Consanguineous	13	43.33	11	36.67
b) Non-Consanguineous	17	56.67	19	63.33
3. Religion:				
a) Hindu	23	76.67	17	56.67
b) Muslim	5	16.67	6	20
c) Christian	2	6.67	7	23.33
d) Others	0	0	0	0
4. Residential Area:				
a) Rural	20	66.67	12	40
b) Urban	9	30	18	60
c) Slum	1	3.37	0	0
5. Educational status of mother:				
a) Illiterate	0	0	0	0
b) Primary	17	56.67	4	13.3
c) Secondary	6	20	16	53.33
d) Graduation and above	7	23.33	10	33.33
6. Occupation:				
a) House wife	0	0	0	0
b) Private job	23	76.67	20	66.67
c) Govt.Job	0	0	10	33.33
d) Others	7	23.33	0	0
7. Income:				
a) Rs.>5000	0	0	0	0
b) 5001-10000	20	66.67	7	23.33
c) 10001-20000	7	10	13	43.33
d) Above 20000	3	23.33	10	33.33
8. Previous information:				
a) Health personnel	6	20	5	16.67
b) Mass media	1	3.33	3	10
c) Friends	20	66.67	14	46.67
d) Family members	3	10	8	26.67

Table 1.A.1 describes the frequency and percentage distribution of demographic variables of mother with respect to age of the mother, type of marriage, religion, residential area, educational status of mother, occupation, income, previous information KMC in control and experimental group.

With regard to the age of the mother in control group, out of 30 samples 18(60%) of the mother were between the age group of 24 to 29 years Whereas in experimental group, out of 30 samples 23(76.7%) of the mother were between the age group of 24 to 29 years

With respect to the type of marriage in the control group, out of 30 samples, 17(56.67%) of them were non consanguineous. Whereas In experimental group, out of 30 samples 19(63.33%) of them were non consanguineous.

With respect to religion in the control group, out of 30 samples 23 (76.67%) of them were Hindus. Whereas In experimental group, out of 30 samples 17 (56.67%) of them were Hindus.

With respect to residential area in the control group out of 30 samples, 20 (66.67%) of them were living in rural area. Whereas in the experimental group, out of 30 samples 18 (60%) of them were living in urban area.

With respect to the educational status In the control group out of 30 samples 17 (56.67%) of them had primary education, where as In the experimental group out of 30 samples 16 (53.33%) of them had secondary education.

With respect to the occupation in the control group out of 30 samples 23(76.67%) of them holds private job. Whereas in the experimental group out of 30 samples 20(66.67%) of them holds private job.

With respect to the income in the control group out of 30 samples 20(66.67%) of them earns income between Rs.5001 to 10000, Whereas in the experimental group, out of 30 samples 13(43.33%) of them earns between Rs.10001 to 20000.

With respect to the previous information of KMC in the control group, out of 30 samples 20(66.67%) of them known about KMC through friends, whereas in the experimental group, out of 30 samples 14(46.67%) of them known about KMC through friends.

Table 1.A.2: Frequency and percentage distribution of clinical variables

N=60

DEMOGRAPHIC VARIABLES	CONTROL GROUP (n=30)		EXPERIMENTAL GROUP (n=30)	
	f	%	f	%
1. Gravida				
a) Primipara	5	16.67	17	56.67
b) Multipara	25	83.33	13	43.33
2. Gestational age				
a) 34-36 weeks	0	0	0	0
b) 32-34 weeks	18	60	19	63.33
c) 28-32 weeks	10	40	11	36.67
d) <28 weeks	0	0	0	0
3. Type of delivery				
a) Normal vaginal delivery	17	56.67	16	53.33
b) Caesarean section	11	36.67	14	46.67
c) Forceps delivery	2	6.67	0	0
d) Ventouse delivery	0	0	0	0
4. Indication of premature birth				
a) Premature rupture of membrane	0	0	5	16.67
b) Pre eclamptic toxemia eclampsia	18	60	12	40
c) Multiple Pregnancy	0	0	0	0
d) Placenta previa	12	40	13	43.33
5. Weeks and Month of the baby				
a) 1-3 weeks	17	56.67	17	56.67
b) 4-6weeks	13	43.33	13	43.33
c) 7-8weeks	0	0	0	0
d) More than two weeks	0	0	0	0
6. Birth weight				
a) 2.5kg	0	0	0	0
b) 1.500g	30	100	30	100
c) 1000g	0	0	0	0
7. Breast feeding habit				
a) Breast feeding	0	0	13	43.33
b) Formula feeding	20	66.67	17	56.67
c) Combination	10	33.33	0	0
8. Breast feeding started				
a) Immediately	13	43.33	18	60
b) Within one hour of delivery	17	56.67	12	40
c) After 3hours	0	0	0	0
d) Not yet	0	0	0	0

Table 1.A.2 Describes the frequency and percentage distribution of clinical variables of preterm infants such as gravida, gestational age, type of delivery, indication of premature birth, weeks and month of the baby, birth weight, breast feeding habit, when did breast feeding started in control and experimental group.

With regard to the gravida in control group, out of 30 samples 25(83.33%) of the mother belongs to multipara. Whereas in experimental group, out of 30 samples 17(56.67%) of the mother belongs primipara.

With respect to the gestational age in the control group, out of 30 samples, 18(60%) of the mothers were between 32 to 34 weeks. Whereas In experimental group, out of 30 samples 19(63.33%) of them were between 32 to 34 weeks.

With respect to type of delivery in the control group, out of 30 samples 17 (56.67%) of them were undergone normal vaginal delivery. Whereas In experimental group, out of 30 samples 16 (53.33%) of them were undergone normal vaginal delivery.

With respect to indication of premature birth in the control group out of 30 samples, 18 (60%) of them had pre-eclamptic toxemia eclampsia. Whereas in the experimental group, out of 30 samples 13 (43.33%) of them bleeding.

With respect to the weeks and month of the baby In the control group out of 30 samples 17 (56.67%) of them were between 1 to 3 weeks. In the experimental group out of 30 samples 17 (56.67%) of them were between 1 to 3 weeks.

With respect to the birth weight in the control group out of 30 samples 30(100%) of them were in 1.500g. Whereas in the experimental group out of 30 samples 30(100%) of them were in 1.500g.

With respect to the breast-feeding habit in the control group out of 30 samples 20(66.67%) of them had formula feeding. Whereas in the experimental group, out of 30 samples 17(56.67%) of them had formula feeding.

With respect to when did breast feeding started in the control group, out of 30 samples 17(56.67%) of them had breast feeding within one hour of delivery. Whereas in the experimental group, out of 30 samples 18(60%) of them had breast feeding immediately after delivery.

SECTION B: ASSESSMENT ON PHYSIOLOGICAL PARAMETERS AMONG THE PRETERM INFANTS IN EXPERIMENTAL AND CONTROL GROUP.

Table 2.B.1. Frequency and percentage distribution of weight, Temperature, Respiration Rate, Heart rate, oxygen saturation

N = 60

GROUP	CONTROL GROUP				EXPERIMENTAL GROUP			
	PRETEST		POSTTEST		PRETEST		POSTTEST	
	f	%	f	%	f	%	f	%
1. Weight								
Normal	11	36.7	10	33.3	11	36.7	16	53.3
Mild under weight	5	16.7	3	10	7	23.3	5	16.7
Moderate under weight	14	46.7	17	56.7	12	40	9	30
Severe under weight	0	0	0	0	0	0	0	0
2. Temperature								
Normal	26	86.7	16	53.3	28	93.3	30	100
Mild hypothermia	4	13.3	14	46.7	2	6.7	0	0
moderate hypothermia	0	0	0	0	0	0	0	0
severe hypothermia	0	0	0	0	0	0	0	0
3. Respiration rate								
Tachypnoea	0	0	0	0	0	0	0	0
Normal	0	0	0	0	0	0	30	100
bradypnoea	30	100	30	100	30	100	0	0
4. Heart rate								
Tachycardia	0	0	0	0	0	0	0	0
Normal	0	0	0	0	0	0	30	100
Bradycardia	30	100	30	100	30	100	0	0
5. Oxygen saturation								
Normal	0	0	0	0	0	0	30	100
Mild desaturation	21	7	18	60	25	83.3	0	0
Moderate desaturation	7	23.3	8	26.7	5	16.7	0	0
Severe desaturation	2	6.7	4	13.3	0	0	0	0
TOTAL	30	100	30	100	30	100	30	100

The findings revealed the effectiveness of kangaroo mother care on physiological parameters among preterm infants for weight gain in control and experimental group majority posttest were 56.7% and 53.3% successively the temperature maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 53.3% and 100% successively the respiratory rate maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 100% and 100% successively the heart rate maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 100% and 100% successively the oxygen saturation maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 60% and 100%.

SECTION C: COMPARISON ON EFFECTIVENESS OF KANGAROO MOTHER CARE ON LEVEL OF PHYSIOLOGICAL PARAMETERS BETWEEN CONTROL AND EXPERIMENTAL GROUP OF PRETERM INFANTS.

Figure: 3 Comparison of pre-test and post-test difference in Mean and SD on level of physiological parameters among preterm infants in control group.

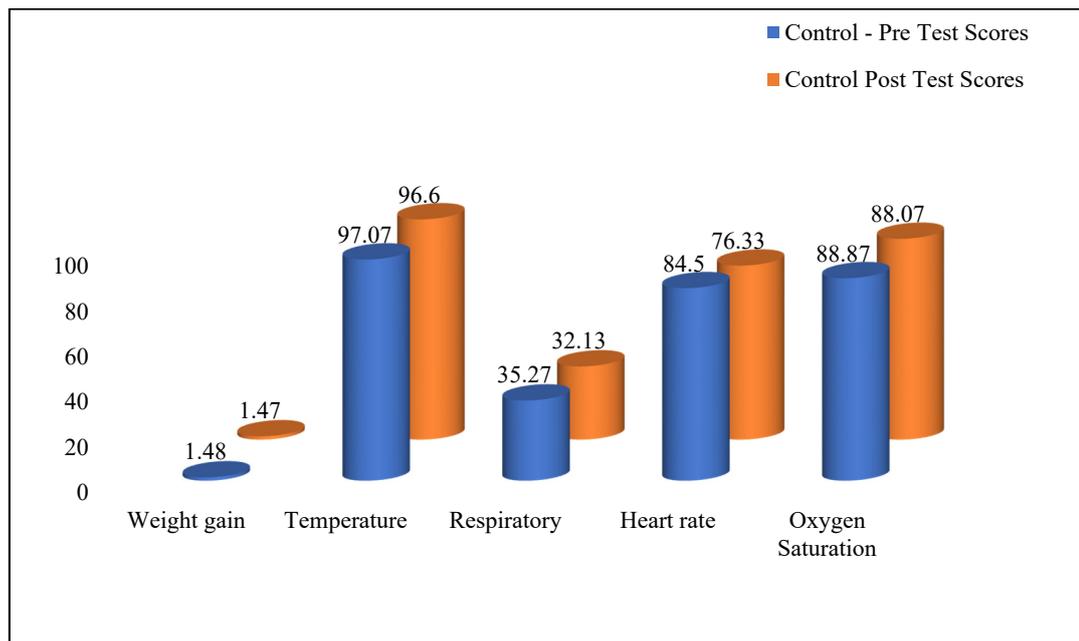


Figure 3 shows that the control group pretest & posttest mean scores. The weight gain mean score of pretest (1.48 ± 0.21) almost equals posttest mean score (1.47 ± 0.22), whereas the temperature pretest mean (97.7 ± 0.52) was slightly higher than the posttest mean (96.6 ± 0.05). The respiratory rate pretest mean (35.27 ± 1.91) was higher than the posttest mean (32.13 ± 0.89), in regards of heart rate, the pretest mean score (84.5 ± 6.25) was greatly high than the posttest (76.33 ± 5.33) and the oxygen saturation pretest mean score (88.87 ± 1.79) which was slightly higher than the posttest mean score (88.07 ± 2.65).

Figure: 4 Comparison of pre-test and post-test difference in Mean and SD on level of physiological parameters among preterm infants in experimental group.

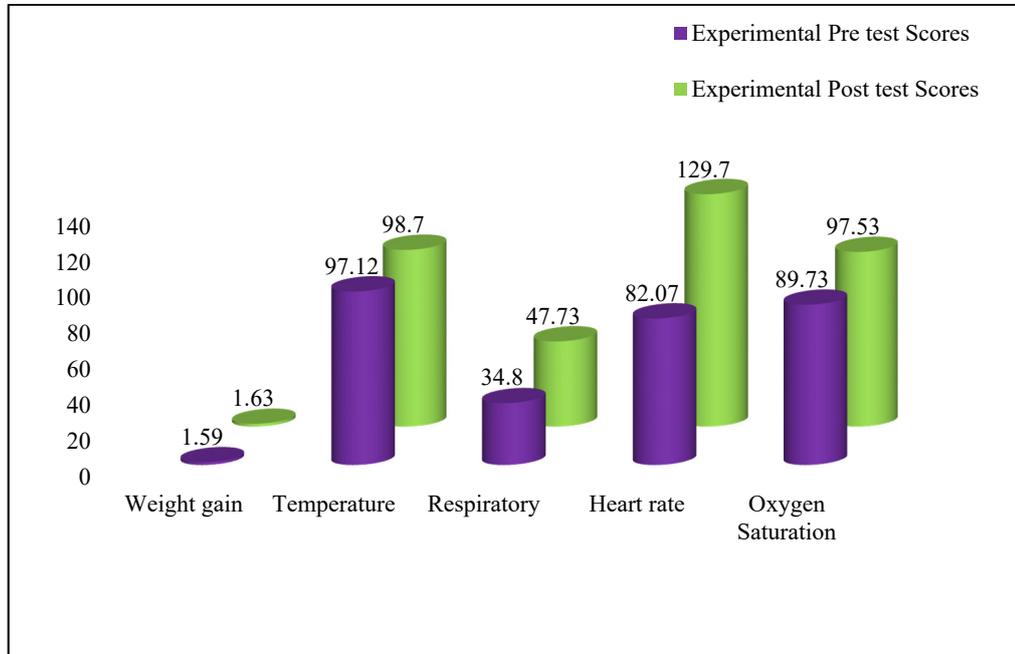


Figure 4 shows that the experimental group pretest & posttest mean scores. The weight gain mean score of pretest (1.59 ± 0.22) was slightly lower than the posttest mean score (1.63 ± 0.20), whereas the temperature pretest mean (97.12 ± 0.51) was lower than the posttest mean (98.7 ± 0). The respiratory rate pretest mean (34.8 ± 2.13) was greatly lower than the posttest mean (47.73 ± 0.69), in regards of heart rate, the pretest mean score (82.07 ± 3.94) was greatly lower than the posttest (129.7 ± 1.01) and the oxygen saturation pretest mean score (89.73 ± 0.69) which was lower than the posttest mean score (97.53 ± 0.81).

Figure 5: Comparison of pre-test difference in Mean and SD on level of physiological parameters among preterm infants between control and experimental group

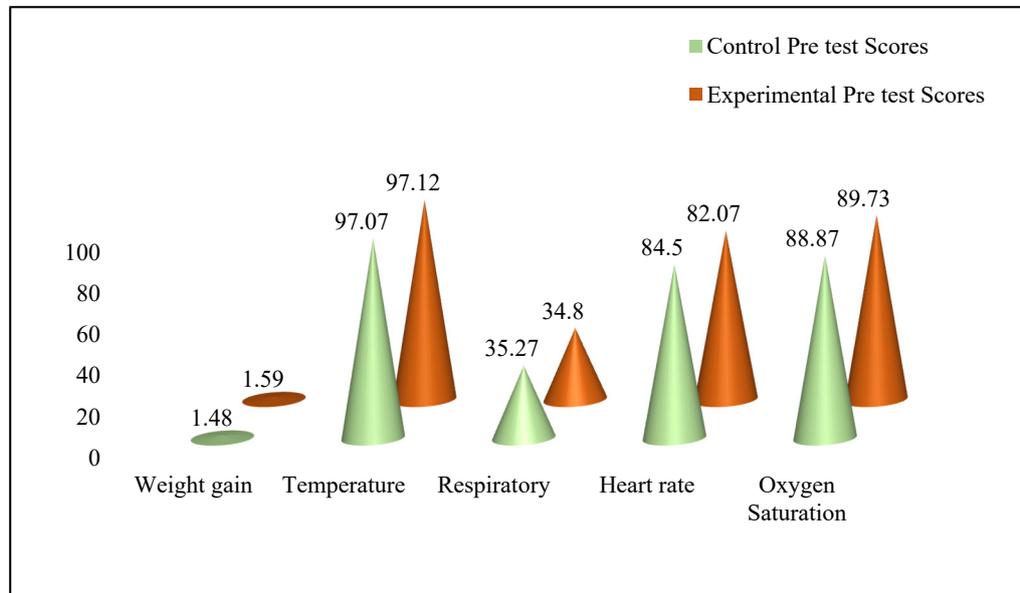


Figure 5 reveals that both control and experimental group pre-test mean score. The weight gain of control group (1.48 ± 0.21) was slightly lower than the experimental group (1.59 ± 0.22), the temperature of control group (97.07 ± 0.52) equals the experimental group (97.12 ± 0.51), the respiratory rate of control group (35.27 ± 1.91) almost equal experimental group (34.8 ± 2.13). In case of heart rate the control group (84.5 ± 6.25) was higher than the experimental group (82.07 ± 3.97) and the oxygen saturation mean score of control group (88.87 ± 1.79) was slightly lower than the experimental group (89.73 ± 0.69). The overall findings showed that, both group pre-test mean score was almost equal.

Figure 6: Comparison of post-test difference in Mean and SD on level of physiological parameters among preterm infants between control and experimental group.

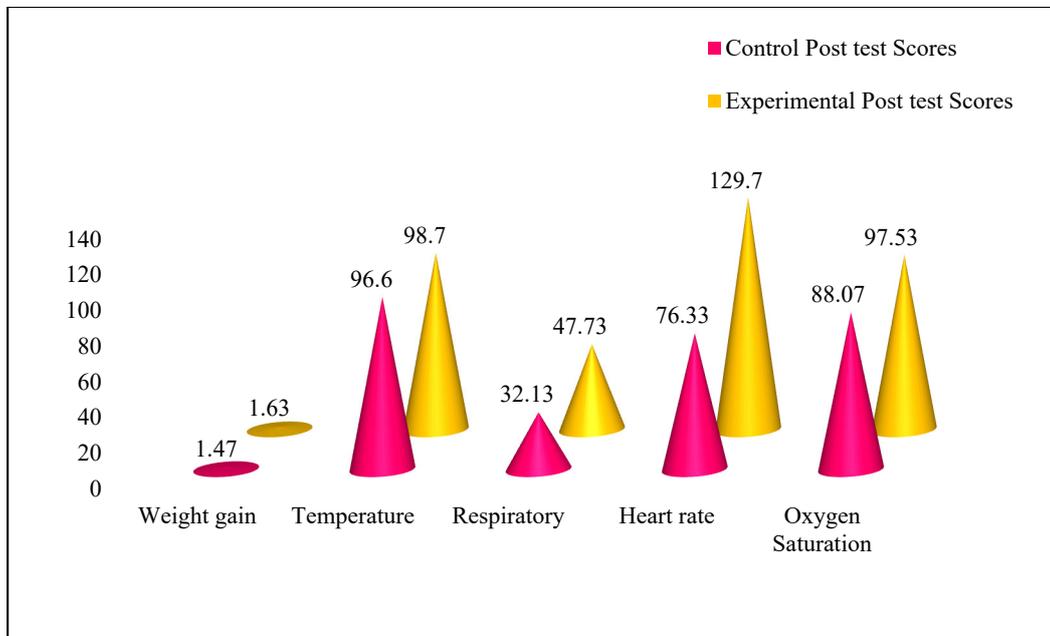


Figure 6 reveals that both control and experimental group post-test mean score. The weight gain of control group (1.47 ± 0.22) was slightly lower than the experimental group (1.63 ± 0.20), the temperature of control group (96.6 ± 0.05) was lower than the experimental group (98.7 ± 0), the respiratory rate of control group (32.13 ± 0.89) was greatly lower than the experimental group (47.73 ± 0.69). In case of heart rate the control group (76.33 ± 5.33) was lower than the experimental group (129.7 ± 1.01) and the oxygen saturation mean score of control group (88.07 ± 2.65) was slightly lower than the experimental group (97.53 ± 0.81). Overall findings elucidated that the kangaroo mother care showed marked effectiveness in improving the physiological parameters of preterm infants in experimental group than the control group.

Table-3.C.1: Paired “t”-test to evaluate the difference between the pre and post-test on level of physiological parameters among preterm infants in control group.

n=30

LEVEL OF PHYSIOLOGICAL PARAMETERS	CONTROL - PRE TEST SCORES		CONTROL POST TEST SCORES		MEAN DIFFERENCE	‘t’- VALUE	p- VALUE
	Mean	SD	Mean	SD			
Weight gain	1.48	0.21	1.47	0.22	0.01	2.33	0.03*
Temperature	97.07	0.52	96.6	0.05	0.42	4.47	P<0.001***
Respiratory	35.27	1.91	32.13	0.89	3.13	7.61	P<0.001***
Heart rate	84.5	6.25	76.33	5.33	8.2	15.58	P<0.001***
Oxygen Saturation	88.87	1.79	88.07	2.65	0.8	3.52	0.001**

The above table findings depicts pre-test and post-test ‘t’ value of control group. The weight gain ‘t’ value was 2.33 and P<0.03, the temperature ‘t’ value was 4.47 and P<0.001, whereas the respiratory rate ‘t’ value was 7.61 and P<0.001, in view of heart rate the ‘t’ value was 15.58 and P <0.001 and the oxygen saturation ‘t’ value was 3.52 and P=0.001. So the ‘t’ value was less than the tabulated value at P<0.05 which indicated that there was a statistical significant difference in pre-test and post-test of control group due to routine hospital care.

Table-3.C.2: Paired “t”-test to evaluate the difference between the pre and post-test on level of physiological parameters among preterm infants in experimental group.

n=30

LEVEL OF PHYSIOLOGICAL PARAMETERS	EXPERIMENTAL PRE TEST SCORES		EXPERIMENTAL POST TEST SCORES		MEAN DIFFERENCE	‘t’-VALUE	p-VALUE
	Mean	SD	Mean	SD			
Weight gain	1.59	0.22	1.63	0.20	0.04	4.47	P<0.001***
Temperature	97.12	0.51	98.7	0	1.57	16.87	P<0.001***
Respiratory	34.8	2.13	47.73	0.69	12.93	31.16	P<0.001***
Heart rate	82.07	3.94	129.7	1.01	47.07	47.1	P<0.001***
Oxygen Saturation	89.73	0.69	97.53	0.81	7.8	36.01	P<0.001***

The above table findings depicts pre-test and post-test ‘t’ value of experimental group. The weight gain ‘t’ value was 4.47 and P<0.001, the temperature ‘t’ value was 16.87 and P<0.001, whereas the respiratory rate ‘t’ value was 31.16 and P<0.001, in view of heart rate the ‘t’ value was 47.1 and P <0.001 and the oxygen saturation ‘t’ value was 36.01 and P<0.001. So the ‘t’ value was less than the tabulated value at P<0.05 which indicated that there was a statistical significant difference between pre-test and post-test of experimental group due to kangaroo mother care.

Table-3.C.3 Unpaired ‘t’ test to evaluate the difference between pre-test on level of physiological parameters among preterm infants in control and experimental group.

N=60

LEVEL OF PHYSIOLOGICAL PARAMETERS	CONTROL PRE TEST		EXPERIMENTAL PRE TEST		MEAN DIFFERENCE	‘t’-VALUE	p-VALUE
	Mean	SD	Mean	SD			
Weight gain	1.48	0.21	1.59	0.22	0.12	2.15	0.03*
Temperature	97.07	0.52	97.12	0.51	0.05	0.40	0.691
Respiratory	35.27	1.91	34.8	2.13	0.47	0.891	0.376
Heart rate	84.5	6.25	82.07	3.94	2.46	1.827	0.073
Oxygen Saturation	88.87	1.79	89.73	0.69	0.87	2.467	0.017*

*-P<0.05, significant and **-P<0.01 &***-P<0.001, Highly significant

The above table findings depicts pre-test ‘t’ value of control and experimental group. The weight gain ‘t’ value was 2.15 and P<0.03, the temperature ‘t’ value was 0.40 , the respiratory rate ‘t’ value 0.891, the heart rate the ‘t’ value was 1,827 and the oxygen saturation ‘t’ value 2.467 and P<0.017. So the ‘t’ value of temperature, respiratory rate and heart rate are more than the tabulated value at P<0.05 which indicated that there was no statistical significant difference between pre-test of control and experimental group.

Table-3.C.4: Unpaired ‘t’ test to evaluate the difference between post-test on level of physiological parameters among preterm infants in control and experimental group.

N=60

LEVEL OF PHYSIOLOGICAL PARAMETERS	CONTROL POST TEST SCORES		EXPERIMENTAL - POST TEST SCORES		MEAN DIFFERENCE	‘t’- VALUE	p- VALUE
	Mean	SD	Mean	SD			
Weight gain	1.47	0.22	1.63	0.20	0.17	3.05	0.003**
Temperature	96.6	0.05	98.7	0	2.05	220.9	P<0.001***
Respiratory	32.13	0.89	47.73	0.69	15.6	75.3	P<0.001***
Heart rate	76.33	5.33	129.7	1.01	52.8	50.81	P<0.001***
Oxygen Saturation	88.07	2.65	97.53	0.81	9.47	18.68	P<0.001***

The above table findings depicts post-test ‘t’ value of control and experimental group. The weight gain ‘t’ value was 3.05 and P<0.003, the temperature ‘t’ value was 220.9 and P<0.001, whereas the respiratory rate ‘t’ value was 75.3 and P<0.001, in view of heart rate the ‘t’ value was 50.81 and P <0.001 and the oxygen saturation ‘t’ value was 18.68 and P<0.001. So the ‘t’ value was less than the tabulated value at P<0.05 which indicated that there was a statistical significant difference between post-test of control and experimental group due to kangaroo mother care.

SECTION D: ASSOCIATION BETWEEN THE PRE-TEST LEVEL OF PHYSIOLOGICAL PARAMETERS AMONG THE PRETERM INFANTS IN CONTROL GROUP AND EXPERIMENTAL GROUP WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

Table No 4.D.1 : Association between the pre-test level of weight gain in physiological parameter and demographic variable of Preterm infants in control group.

DEMOGRAPHIC VARIABLES	n=30				X ² (DF)	P-VALUE (N/NS)
	<=MEDIAN		>MEDIAN			
	f	%	f	%		
1.Previous information:						
a) Health personnel	6	20	0	0	6.59 (df=3)	0.086 NS
b) Mass media	0	0	1	3.33		
c) Friends	11	36.67	9	30		
d) Family members	1	3.33	2	6.67		
2.Gestational age :						
a) 34-36 weeks	0	0	0	0	4.54 (df=1)	0.033* NS
b) 32-34 weeks	8	26.67	10	33.33		
c) 28-32 weeks	10	33.33	2	6.67		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	11	36.67	6	20	0.36 (df=1)	0.547 NS
b) 4-6weeks	7	23.33	6	20		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	18	60	12	40		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	0	0	0	0	5.62 (df=1)	0.018* S
b) Formula feeding	15	50	5	16.67		
c) Combination of both	3	10	7	23.33		
6.breast feeding started :						
a) Immediately	9	30	4	13.3	0.814 (df=1)	0.367 NS
b) Within one hour of delivery	9	30	8	26.67		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table revealed that there was a significant association between the demographic variable of breast-feeding habits (χ^2 table value 0.018*) and weight gain in physiological parameter of control group.

Table No 4.D.2: Association between the pre-test level of temperature in physiological parameter and demographic variable of Preterm infants in control group.

DEMOGRAPHIC VARIABLES	n=30				χ^2 (df)	P-VALUE (N/NS)
	<=MEDIAN		>MEDIAN			
	f	%	f	%		
1.Previous information :						
a) Health personnel	4	13.3	2	6.67	1.67 (df=3)	0.644 NS
b) Mass media	0	0	1	3.33		
c) Friends	12	40	8	26.67		
d) Family members	2	6.67	1	3.33		
2.Gestational age :						
a) 34-36 weeks	0	0	7	23.33	0.02 (df=1)	0.879 NS
b) 32-34 weeks	11	36.67	5	16.67		
c) 28-32 weeks	7	23.33	0	0		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	5	16.67	12	40	15.29 (df=1)	P<0.001*** S
b) 4-6weeks	13	43.33	0	0		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	18	60	12	40		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	0	0	0	0	0.625 (df=1)	0.429 NS
b) Formula feeding	11	36.67	9	30		
c) Combination of both	7	23.33	3	10		
6.breast feeding started :						
a) Immediately	8	26.67	5	16.67	0.22 (df=1)	0.889 NS
b) Within one hour of delivery	10	33.33	7	23.33		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table revealed that there was a significant association between the demographic variable of weeks and month of the baby (χ^2 table value 0.001*) and temperature in physiological parameter of control group.

Table No 4.D.3: Association between the pre-test level of respiratory rate in physiological parameter and demographic variable of Preterm infants in control group.

DEMOGRAPHIC VARIABLES	<=MEDIAN		>MEDIAN		χ^2 (df)	P-VALUE (N/NS)
	f	%	f	%		
n=30						
1.Previous information :						
a) Health personnel	0	0	6	20	6.38 (df=3)	0.094 NS
b) Mass media	1	3.33	0	0		
c) Friends	10	33.33	10	33.3		
d) Family members	1	3.33	2	6.67		
2.Gestational age :						
a) 34-36 weeks	0	0	0	0	1.87 (df=1)	0.171 NS
b) 32-34 weeks	9	30	9	30		
c) 28-32 weeks	3	10	9	30		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	9	30	8	26.67	2.73 (df=1)	0.098 NS
b) 4-6weeks	3	10	10	33.33		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	12	40	18	60		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	0	0	0	0	2.50 (df=1)	0.114 NS
b) Formula feeding	6	20	14	46.67		
c) Combination of both	6	20	4	13.33		
6.breast feeding started :						
a) Immediately	3	10	10	33.33	2.74 (df=1)	0.098 NS
b) Within one hour of delivery	9	30	8	26.67		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table expound that there was an insignificant association between the demographic variable and respiratory rate in physiological parameter of control group.

Table No 4.D.4: Association between the pre-test level of heart rate in physiological parameter and demographic variable of Preterm infants in control group.

DEMOGRAPHIC VARIABLES	n=30				χ^2 (df)	P- VALUE (N/NS)
	<=MEDIAN		>MEDIAN			
	f	%	f	%		
1.Previous information :						
a) Health personnel	2	6.7	4	13.33	1.49 (df=3)	0.684 NS
b) Mass media	0	0	1	3.33		
c) Friends	10	33.3	10	33.33		
d) Family members	1	3.33	2	6.67		
2.Gestational age :						
a) 34-36 weeks	0	0	0	0	5.79 (df=1)	0.01* S
b) 32-34 weeks	11	36.67	7	23.33		
c) 28-32 weeks	2	6.67	10	33.33		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	9	30	8	26.67	1.47 (df=1)	0.2225 NS
b) 4-6weeks	4	13.33	9	30		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	13	43.33	17	56.67		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	0	0	0	0	0.272 (df=1)	0.602 NS
b) Formula feeding	8	26.67	12	40		
c) Combination of both	5	16.67	5	16.67		
	0	0	0	0		
6.breast feeding started :						
a) Immediately	8	26.67	5	16.67	3.09 (df=1)	0.078 NS
b) Within one hour of delivery	5	16.67	12	40		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table revealed that there was a significant association between the demographic variable of gestational age (χ^2 table value 0.01*) and heart rate in physiological parameter of control group.

Table No 4.D.5: Association between the pre-test level of oxygen saturation in physiological parameter and demographic variable of Preterm infants in control group.

DEMOGRAPHIC VARIABLES	<=MEDIAN		>MEDIAN		χ^2 (df)	P-VALUE (N/NS)
	f	%	f	%		
n=30						
1.Previous information :						
a) Health personnel	4	13.33	2	6.67	6.17 (df=3)	0.104 NS
b) Mass media	1	3.33	0	0		
c) Friends	6	6.67	14	46.67		
d) Family members	0	0	3	10		
2.Gestational age :						
a) 34-36 weeks	0	0	0	0	0.215 (df=1)	0.643 NS
b) 32-34 weeks	6	20	12	40		
c) 28-32 weeks	5	16.67	7	23.33		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	8	26.67	9	30	1.82 (df=1)	0.177 NS
b) 4-6weeks	3	10	10	33.33		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	11	36.67	19	63.33		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	0	0	0	0	1.79 (df=1)	0.180 NS
b) Formula feeding	9	30	11	36.67		
c) Combination of both	2	6.67	8	26.67		
6.breast feeding started :						
a) Immediately	6	20	7	23.33	0.88 (df=1)	0.346 NS
b) Within one hour of delivery	5	16.67	12	40		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table expound that there was an insignificant association between the demographic variable and oxygen saturation in physiological parameter of control group.

Table No 4.D.6: Association between the pre-test level of weight gain in physiological parameter and demographic variable of Preterm infants in experimental group.

n=30						
DEMOGRAPHIC VARIABLES	<=MEDIAN		>MEDIAN		χ^2 (df)	P-VALUE (N/NS)
	f	%	f	%		
1.Previous information :						
a) Health personnel	0	0	5	16.67	6.75 (df=3)	0.080 NS
b) Mass media	2	6.67	1	3.33		
c) Friends	4	13.33	10	33.33		
d) Family members	5	16.67	3	10		
2.Gestational age :						
a) 34-36 weeks	0	0	0	0	0.66 (df=1)	0.417 NS
b) 32-34 weeks	8	26.7	11	36.67		
c) 28-32 weeks	3	10	8	26.67		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	6	20	11	36.67	0.03 (df=1)	0.858 NS
b) 4-6weeks	5	16.67	8	26.67		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	11	36.67	19	63.33		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	4	13.3	9	30	0.343 (df=1)	0.558 NS
b) Formula feeding	7	23.3	10	33.3		
c) Combination of both	0	0	0	0		
6.breast feeding started :						
a) Immediately	5	16.67	13	43.33	1.53 (df=1)	0.216 NS
b) Within one hour of delivery	6	20	6	20		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table expound that there was an insignificant association between the demographic variable and weight gain in physiological parameter of experimental group.

Table No 4.D.7: Association between the pre-test level of temperature in physiological parameter and demographic variable of Preterm infants in experimental group.

DEMOGRAPHIC VARIABLES	n=30				X ² (DF)	P-VALUE (N/NS)
	<=MEDIAN		>MEDIAN			
	f	%	f	%		
1.Previous information :						
a) Health personnel	3	10	2	6.67	5.91 (df=3)	0.116 NS
b) Mass media	3	10	0	0		
c) Friends	9	30	5	16.67		
d) Family members	2	6.7	6	20		
2.Gestational age :						
a) 34-36 weeks	0	0	0	0	0.343 (df=1)	0.558 NS
b) 32-34 weeks	10	33.33	9	30		
c) 28-32 weeks	7	23.33	4	13.3		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	7	23.3	10	33.3	3.87 (df=1)	0.04* S
b) 4-6weeks	10	33.3	3	10		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	17	56.7	13	43.3		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	8	26.7	5	16.67	0.22 (df=1)	0.638 NS
b) Formula feeding	9	30	8	26.67		
c) Combination of both	0	0	0	0		
6.breast feeding started :						
a) Immediately	7	23.3	11	36.67	5.79 (df=1)	0.016* S
b) Within one hour of delivery	10	33.3	2	6.67		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table revealed that there was a significant association between the demographic variable of weeks and month of the baby (χ^2 table value 0.04*), breast feeding started (χ^2 table value 0.016*) and temperature in physiological parameter of experimental group.

Table No 4.D.8: Association between the pre-test level of respiratory rate in physiological parameter and demographic variable of Preterm infants in experimental group.

DEMOGRAPHIC VARIABLES	<=MEDIAN		>MEDIAN		X ² (DF)	P-VALUE (N/NS)
	f	%	f	%		
n=30						
1.Previous information :						
a) Health personnel	5	16.7	0	0	8.77 (df=3)	0.032* S
b) Mass media	0	0	3	10		
c) Friends	8	26.7	6	20		
d) Family members	6	20	2	6.7		
2.Gestational age :						
a) 34-36 weeks	10	33.3	9	30	2.56 (df=1)	0.110 NS
b) 32-34 weeks	9	30	2	6.67		
c) 28-32 weeks	0	0	0	0		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	11	36.67	6	20	0.03 (df=1)	0.858 NS
b) 4-6weeks	8	26.67	5	16.67		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	19	63.3	11	36.7		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	6	20	7	23.3	2.915 (df=1)	0.088 NS
b) Formula feeding	13	43.3	4	13.3		
c) Combination of both	0	0	0	0		
6.breast feeding started:						
a) Immediately	14	46.67	4	13.3	4.04 (df=1)	0.044* S
b) Within one hour of delivery	5	16.67	7	23.3		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table revealed that there was a significant association between the demographic variable of previous information (χ^2 table value 0.032*), breast feeding started (χ^2 table value 0.044*) and respiratory rate in physiological parameter of experimental group.

Table No 4.D.9: Association between the pre-test level of heart rate in physiological parameter and demographic variable of Preterm infants in experimental group.

DEMOGRAPHIC VARIABLES	<=MEDIAN		>MEDIAN		X ² (DF)	P-VALUE (N/NS)
	f	%	f	%		
n=30						
1.Previous information :						
a) Health personnel	2	6.67	3	10	11.74 (df=3)	0.008** S
b) Mass media	0	0	3	10		
c) Friends	10	33.3	4	13.3		
d) Family members	8	26.67	0	0		
2.Gestational age :						
a) 34-36 weeks	13	43.3	6	20	0.07 (df=1)	0.789 NS
b) 32-34 weeks	7	23.3	4	13.33		
c) 28-32 weeks	0	0	0	0		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	15	50	2	6.67	8.21 (df=1)	0.004*** S
b) 4-6weeks	5	16.67	8	26.67		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	20	66.7	10	33.3		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	8	26.7	5	16.67	0.272 (df=1)	0.602 NS
b) Formula feeding	12	40	5	16.67		
c) Combination of both	0	0	0	0		
6.breast feeding started :						
a) Immediately	13	43.3	5	16.67	0.625 (df=1)	0.429 NS
b) Within one hour of delivery	7	23.3	5	16.67		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table revealed that there was a significant association between the demographic variable of previous information (χ^2 table value 0.008*), weeks and month of the baby (χ^2 table value 0.004*) and heart rate in physiological parameter of experimental group.

Table No 4.D.10: Association between the pre-test level of oxygen saturation in physiological parameter and demographic variable of Preterm infants in experimental group.

DEMOGRAPHIC VARIABLES	n=30				X ² (DF)	P-VALUE (N/NS)
	<=MEDIAN		>MEDIAN			
	f	%	f	%		
1.Previous information :						
a) Health personnel	2	6.67	3	10	0.509 (df=3)	0.917 NS
b) Mass media	1	3.3	2	6.67		
c) Friends	7	23.3	7	23.3		
d) Family members	3	10	5	16.7		
2.Gestational age :						
a) 34-36 weeks	0	0	0	0	0.34 (df=1)	0.558 NS
b) 32-34 weeks	9	30	10	33.3		
c) 28-32 weeks	4	13.3	7	23.3		
d) <28 weeks	0	0	0	0		
3.Weeks and Month of the baby:						
a) 1-3 weeks	9	30	8	26.67	1.47 (df=1)	0.225 NS
b) 4-6weeks	4	13.3	9	30		
c) 7-8weeks	0	0	0	0		
d) More than two weeks	0	0	0	0		
4.Birth weight :						
a) 2.5kg	0	0	0	0	0 (df=1)	1 NS
b) 1.500g	13	43.3	17	56.7		
c) 1000g	0	0	0	0		
5.breast feeding habit:						
a) Breast feeding	6	20	7	23.3	0.07 (df=1)	0.785 NS
b) Formula feeding	7	23.3	10	33.3		
c) Combination of both	0	0	0	0		
6.breast feeding started :						
a) Immediately	8	26.67	10	33.3	0.022 (df=1)	0.880 NS
b) Within one hour of delivery	5	16.67	7	23.3		
c) After 3hours	0	0	0	0		
d) Not yet	0	0	0	0		

The above table expound that there was an insignificant association between the demographic variable and oxygen saturation in physiological parameter of experimental group.

CHAPTER V
DISCUSSION

CHAPTER – V

DISCUSSION

This chapter deals with the discussion of the statistical data analyzed based on the objectives and hypothesis of the study. The purposes of the study were to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants at Selected hospitals in Madurai.

OBJECTIVES OF THE STUDY

1. To determine the effectiveness of kangaroo mother care on physiological parameters among preterm infants between control and experimental group.
2. To compare pretest and posttest level of physiological parameters among preterm infants in control and experimental group
3. To find out the association between physiological parameters among preterm infants and their selected demographical variables and clinical variables in control and experimental group.

HYPOTHESIS

- H₁** There will be significant difference between the physiological parameters of control and experimental group.
- H₂** The mean posttest scores of experimental group will be significantly higher than the mean pretest physiological parameters score of experimental group.
- H₃** There will be a significant association of physiological parameters among preterm infants with their demographic variables and clinical variables of control and experimental group.

The first objective was to determine the effectiveness of kangaroo mother care on physiological parameters among preterm infants between control and experimental group.

The findings revealed the effectiveness of kangaroo mother care on physiological parameters among preterm infants for weight gain in control and experimental group majority posttest were 56.7% and 53.3% successively the temperature maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 53.3% and 100% successively the respiratory rate maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 100% and 100% successively the heart rate maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 100% and 100% successively the oxygen saturation maintenance for preterm by kangaroo mother care in control and experimental group majority posttest were 60% and 100% Hence H_1 research hypothesis was accepted.

This result was supported by the study conducted by Murtaza Ghøjzedha (2019) Effect of Kangaroo Mother Care on Successful Breastfeeding. In this systematic review and meta-analysis study, required data were collected by searching the following breast feeding, Breast-Feeding, “skin-to-skin”, “Kangaroo Mother Care”, randomized clinical trial. Twenty articles were included. In the KMC and CNC groups, 1,432 and 1,410 neonates were examined. Breastfeeding success rate was higher in the KMC group within different time slots; however, this difference was not statistically significant ($RR=1.11(95CI, 0.93-1.34)$ and $RR=1.13(95\%CI, 0.92-1.34)$ based on the time slot and birth weight, respectively). The inter-groups differences in the mean scores of Infant Breast-Feeding Assessment Tool (IBFAT) were statistically significant ($P<0.05$). Breastfeeding was initiated very sooner in the KMC group, suggesting a

statistically significant inter-groups difference -0.72(95%CI, from -0.92 to -0.53) (P<0.05). Majority of the studies had a high risk of bias.

The second objective was to compare pretest and posttest level of physiological parameters among preterm infants in control and experimental group

The findings revealed the comparison of pretest and posttest level of physiological parameters was done among preterm infants in control and experimental group highly significant for paired test in temperature, respiratory rate, heart rate control pretest and posttest were $p<0.001$ and highly significant for paired test in weight gain, temperature, respiratory rate, heart rate, oxygen saturation experimental pretest and posttest were $p<0.001$ and significant for unpaired test in weight gain, oxygen saturation control pretest and experimental pretest were 0.03 and 0.017 highly significant for unpaired test in weight gain, temperature, respiratory rate, heart rate, oxygen saturation control posttest and experimental posttest were $p<0.001$. Hence H_2 research hypothesis was accepted.

This result was supported by the study conducted by Monty K Indra Selvam (2018) This study evaluated the effect of nesting on physiological parameters among preterm infants This crossover clinical trial was performed at a tertiary neonatal intensive care unit (NICU). 21 preterm infants who met the inclusion criteria were enrolled. They were randomly assigned to two groups of nest and routine procedure. Physiological parameters such as Oxygen saturation, body temperature, heart rate and respiration were evaluated by using leads and probes connected to centralized monitor during each stages of sleep between inter epoch two feed were recorded and analyzed by using paired t-test. There was improvement in physiological parameters among preterm infants with nesting compared to routine care ,which was tested by paired t test .With regard to oxygen saturation, there was a significant increase in active sleep

($p < 0.05$) and quiet sleep ($p < 0.005$), heart rate was significantly decreased and maintained stable during quiet sleep ($p < 0.05$) respiratory rate was decreased and maintained stable but statistically not significant ($p > 0.05$) in all stages of sleep, There was increase in mean body temperature value in all stages of sleep, statistical significance exhibited only in indeterminate sleep ($p < 0.05$).

The third objective was to find out the association between physiological parameters among preterm infants and their selected demographical variables and clinical variables in control and experimental group.

The findings revealed that the association between physiological parameters among preterm infants and their selected demographical variables and clinical variables in control and experimental group. In control group there was a significant association between the demographic variable of breast-feeding habits (χ^2 table value 0.018*) and weight gain in physiological parameter, weeks and month of the baby (χ^2 table value 0.001*) and temperature in physiological parameter, gestational age (χ^2 table value 0.01*) and heart rate in physiological parameter. In experimental group there was a significant association between the demographic variable of weeks and month of the baby (χ^2 table value 0.04*), breast feeding started (χ^2 table value 0.016*) and temperature in physiological parameter, previous information (χ^2 table value 0.032*), breast feeding started (χ^2 table value 0.044*) and respiratory rate in physiological parameter, previous information (χ^2 table value 0.008*), weeks and month of the baby (χ^2 table value 0.004*) and heart rate in physiological parameter. H_3 research hypothesis was accepted.

This result was supported by the study conducted by Chandra lekha (2016). Effectiveness of Kangaroo Mother Care on Level of Physiological Parameters among Preterm Infants at Selected Hospitals, Nagercoil. Quantitative approach, Quasi

experimental pre and post-test research design was adopted to assess the effectiveness of Kangaroo Mother Care on level of physiological parameters among 60 preterm infants (30 in study and 30 in control group) who satisfied the inclusion and exclusion criteria in the Neonatal Intensive Care Unit (NICU) at Dr. Jayasekara and Dr. Jayaraman Hospitals, Nagercoil. Non-probability purposive sampling technique was used to select the samples. Kangaroo Mother Care along with hospital routine (warmer care) was performed in the study group and hospital routine (only warmer care) was given to the control group. The pre and post-test level of physiological parameters was assessed by using World Health Organization (WHO) guidelines. The study findings revealed that there was no significant difference in the pretest level of physiological parameters among preterm infants between study and control group. The calculated unpaired 't' value of physiological parameters such as temperature, heart rate, respiratory rate, oxygen saturation and weight of preterm infants after providing KMC for 30 minutes for three consecutive days, was 11.29°C ; 13.48 beats per minute; 14.85 breath per minute; 8.59 % respectively which shows that there was a high statistically significant difference between the study and control group at $p < 0.001$ level.

CHAPTER VI
SUMMARY AND
RECOMMENDATIONS

CHAPTER-VI

SUMMARY AND RECOMMENDATIONS

The essence of any research project lies in the reporting of the findings. This chapter gives a brief account of the pre-study, along with the conclusion drawn from the findings, nursing implications and recommendations for further studies.

SUMMARY

India has the highest number of Neonatal Mortality Rate due to prematurity and preterm birth. Many of the infant's loss their life in the first 28 days due to prematurity. Preterm infants are unable to sustain in their external uterine environment. Even though many advanced technologies and sophisticated environment presents in the NICU to saving the life of the preterm infants but various consequences such as interruption in the maternal and infant bonding, poor sucking, lacking in the neuro behavioral development, psychological interruption arises in their post-natal life. Pre term infants are difficult to maintain the physiological parameters in their postnatal life as a consequences preterm infant under gone various potential complication. Though there are various intervention are used to treat and stabilize the preterm infants in their post-natal life, like mummification ,nesting, swaddling, facilitated tucking, therapeutic massage, kangaroo mother care for more than 24 hours,12,hours,8 hours,6 hours, etc., 30 minutes of KMC for three consecutive days being proved to be easy ,cost effective ,motherly based treatment to maintain the physiological parameters of the preterm infants . In order to minimize the incidence of complication, promotes the early recovery and reduce the length of hospital stays the research investigator decided to adopt this intervention for this study. The researcher conducted this study to assess the effectiveness of Kangaroo Mother Care on (30 minutes for three consecutive days)

physiological parameters among preterm infants in selected Rio women and children's hospital at Madurai. The findings of this study proved that 30 minutes for three days of KMC effectively maintained the physiological parameters of the preterm infants.

THE OBJECTIVES OF THE STUDY WERE

1. To determine the effectiveness of kangaroo mother care on physiological parameters among preterm infants between control and experimental group.
2. To compare pretest and posttest level of physiological parameters among preterm infants in control and experimental group.
3. To find out the association between physiological parameters among preterm infants and their selected demographical variables and clinical variables in control and experimental group.

THE RESEARCH HYPOTHESES STATED WERE

- H₁** There will be significant difference between the physiological parameters of control and experimental group.
- H₂** The mean posttest scores of experimental group will be significantly higher than the mean pretest physiological parameters score of experimental group.
- H₃** There will be a significant association of physiological parameters among pre term infants with their demographic variables and clinical variables of control and experimental group.

THE ASSUMPTIONS WERE

- Kangaroo mother care is a effective method to improve physiological parameters for the preterm newborn.
- Kangaroo mother care improve the feeding and sleeping pattern for the preterm newborn.

- Kangaroo mother care is more feasible to practice

The extensive review of literature and expert's guidance enabled the researcher to design the Conceptual framework, methodology, and kangaroo mother care.

The conceptual frame work for this study was based on child health promotion model and wiedenbach's prescriptive theory. The Design used for the study was quasi experimental in nature. A Non probability purposive sampling technique was used to collect the data from the study participants. Demographic variables, clinical variables and physiological parameters was used for data collection after confirming the validity and reliability. The pilot study was conducted among preterm infants in Navamani children's hospital at Madurai. The study findings were found to be feasible and practicable to continue the main study

The main study was conducted in Rio women and children's hospital and Christian mission hospital. Sixty preterm infants who fulfilled the inclusive criteria were selected for the study, out of which 30 preterm infants from Rio women and children's hospital were allotted to experimental group and 30 preterm infants from the Christian mission hospital were allotted to the control group. Demographic variables, clinical variables and physiological parameters were administered to assess the level of physiological parameters. Kangaroo mother care was taught to the mothers of the preterm infants for 30 minutes in three consecutive days, to improve the physiological parameters for 6 weeks. The post-test was conducted after the intervention in three consecutive days. Data collected were analyzed and interpreted using descriptive and inferential statistics.

Major findings of the study were:

- With regard to the pre-test level of weight gain on physiological parameters among the preterm infants in control group, out of 30 samples, 14(46.7%) were moderate underweight,
- With regard to the post -test level of weight gain on physiological parameters among the preterm infants in control group, out of 30 samples, 17(56.7%) were moderate underweight.
- With regard to the pre-test level of weight gain on physiological parameters among the preterm infants in experimental group, out of 30 samples, 12(40%) were moderate underweight.
- With regard to the post -test level of weight gain on physiological parameters among the preterm infants in experimental group, out of 30 samples, 16(53.3%) were normal weight.
- With regard to the pre-test level of temperature on physiological parameters among the preterm infants in control group, out of 30 samples, 26(86.7%) were had normal temperature.
- With regard to the post-test level of temperature on physiological parameters among the preterm infants in control group, out of 30 samples, 16(53.3%) were had normal temperature.
- With regard to the pre-test level of temperature on physiological parameters among the preterm infants in experimental group, out of 30 samples, 28(93.3%) were had normal temperature.
- With regard to the post-test level of temperature on physiological parameters among the preterm infants in experimental group, out of 30 samples, 30(100%) were had normal temperature.

- With regard to the pre-test level of respiratory rate on physiological parameters among the preterm infants in control group, out of 30 samples, 30(100%) were bradypnoea.
- With regard to the post-test level of respiratory rate on physiological parameters among the preterm infants in control group, out of 30 samples, 30(100%) were bradypnoea.
- With regard to the pre-test level of respiratory rate on physiological parameters among the preterm infants in experimental group, out of 30 samples, 30(100%) were bradypnoea.
- With regard to the post-test level of respiratory rate on physiological parameters among the preterm infants in experimental group, out of 30 samples, 30(100%) were had normal respiratory rate.
- With regard to the pre-test level of heart rate on physiological parameters among the preterm infants in control group, out of 30 samples, 30(100%) were bradycardia.
- With regard to the post-test level of heart rate on physiological parameters among the preterm infants in control group, out of 30 samples, 30(100%) were bradycardia.
- With regard to the pre-test level of heart rate on physiological parameters among the preterm infants in experimental group, out of 30 samples, 30(100%) were bradycardia.
- With regard to the post-test level of heart rate on physiological parameters among the preterm infants in experimental group, out of 30 samples, 30(100%) were normal heart rate.

- With regard to the pre-test level of oxygen saturation on physiological parameters among the preterm infants in control group, out of 30 samples, 21(70%) were mild desaturation.
- With regard to the post-test level of oxygen saturation on physiological parameters among the preterm infants in control group, out of 30 samples, 18(60%) were mild desaturation.
- With regard to the pre-test level of oxygen saturation on physiological parameters among the preterm infants in experimental group, out of 30 samples, 25(83.3%) were mild desaturation.
- With regard to the post-test level of oxygen saturation on physiological parameters among the preterm infants in experimental group, out of 30 samples, 30(100%) were had normal oxygen saturation
- The study findings depicts pre-test and post-test 't' value of control group. The weight gain 't' value was 2.33 and $P < 0.03$, the temperature 't' value was 4.47 and $P < 0.001$, whereas the respiratory rate 't' value was 7.61 and $P < 0.001$, in view of heart rate the 't' value was 15.58 and $P < 0.001$ and the oxygen saturation 't' value was 3.52 and $P = 0.001$. So the 't' value was less than the tabulated value at $P < 0.05$ which indicated that there was a statistical significant difference in pre-test and post-test of control group due to routine hospital care.
- The study findings depicts pre-test and post-test 't' value of experimental group. The weight gain 't' value was 4.47 and $P < 0.001$, the temperature 't' value was 16.87 and $P < 0.001$, whereas the respiratory rate 't' value was 31.16 and $P < 0.001$, in view of heart rate the 't' value was 47.1 and $P < 0.001$ and the oxygen saturation 't' value was 36.01 and $P < 0.001$. So the 't' value was less than the tabulated value at $P < 0.05$ which indicated that there was a statistical

significant difference between pre-test and post-test of experimental group due to kangaroo mother care.

- The study findings depicts pre-test 't' value of control and experimental group. The weight gain 't' value was 2.15 and $P < 0.03$, the temperature 't' value was 0.40, the respiratory rate 't' value 0.891, the heart rate the 't' value was 1,827 and the oxygen saturation 't' value 2.467 and $P < 0.017$. So the 't' value of temperature, respiratory rate and heart rate are more than the tabulated value at $P < 0.05$ which indicated that there was no statistical significant difference between pre-test of control and experimental group.
- The study findings depicts post-test 't' value of control and experimental group. The weight gain 't' value was 3.05 and $P < 0.003$, the temperature 't' value was 220.9 and $P < 0.001$, whereas the respiratory rate 't' value was 75.3 and $P < 0.001$, in view of heart rate the 't' value was 50.81 and $P < 0.001$ and the oxygen saturation 't' value was 18.68 and $P < 0.001$. So the 't' value was less than the tabulated value at $P < 0.05$ which indicated that there was a statistical significant difference between post-test of control and experimental group due to kangaroo mother care.
- This study revealed that there was a significant association between the demographic variable of breast-feeding habits (χ^2 table value 0.018*) and weight gain in physiological parameter of control group.
- This study revealed that there was a significant association between the demographic variable of weeks and month of the baby (χ^2 table value 0.001*) and temperature in physiological parameter of control group.

- This study revealed that there was a significant association between the demographic variable of gestational age (χ^2 table value 0.01*) and heart rate in physiological parameter of control group.
- This study revealed that there was a significant association between the demographic variable of weeks and month of the baby (χ^2 table value 0.04*), breast feeding started (χ^2 table value 0.016*) and temperature in physiological parameter of experimental group.
- This study revealed that there was a significant association between the demographic variable of previous information (χ^2 table value 0.032*), breast feeding started (χ^2 table value 0.044*) and respiratory rate in physiological parameter of experimental group.
- This study revealed that there was a significant association between the demographic variable of previous information (χ^2 table value 0.008*), weeks and month of the baby (χ^2 table value 0.004*) and heart rate in physiological parameter of experimental group.

IMPLICATIONS

The researcher has derived the following implications from the study which are of vital importance in the field of nursing service, nursing administration, nursing education and nursing research.

Nursing Practice

- The pediatric nurses can adopt Kangaroo Mother Care for 30 minutes for three consecutive days as simple, cost-effective, non-pharmacological, motherly based nursing measures in care of preterm infants at their clinical practice.

- The pediatric nurse has a great opportunity and plays an important role in maintaining the physiological parameters of the preterm infants through KMC for 30 minutes for three consecutive days.
- The pediatric nurse practitioners can develop a protocol for KMC for 30 minutes for three consecutive days in their daily routine.
- KMC can be taught and practiced by the mothers of all preterm infants and term infants, primary health care workers in the primary health care centers as part of their routine care.
- The pediatric nurse should disseminate the information about Kangaroo Mother Care to the mothers of all preterm infants admitted in the Neonatal Intensive Care Units.

Nursing Education

- The pediatric nurse as a nurse educator can integrate the major study findings in the nursing curriculum at various levels to build up and train the students to assess the level of physiological parameters among preterm infants by using WHO guidelines and to prevent the long-term consequences of the preterm infants.
- The nurse educator must promote the student nurses to gain skills required to practice Kangaroo Mother Care for 30 minutes for three consecutive days to improve the physiological parameters of the preterm infants.
- The educational institutions must offer opportunities for the nursing students to be exposed to such training programmes

Nursing Administration

- The pediatric nurse administrator along with the governing bodies and other health care agencies can formulate a program to focus on the nursing measures of KMC.
- This study can be utilized as policy to train the nursing students.
- The nurse administrator within the institution should motivate and train the staff to carry out periodical surveillance and present an updated incidence on level of physiological parameters of preterm infants.
- The nurse administrator should take initiation to conduct the CNE, conferences and workshop on various trends of Kangaroo Mother Care.
- The nurse administrator can allot separate budget for in-service education to disseminate the research findings to all neonatal nurses and pediatric nurses.

Nursing Research

- The findings of the study can be disseminated to the nurses working in Neonatal Intensive Care Units (NICU) and student nurses through various media.
- The generalization of the study results can be made further replication of the study in various settings and larger population.
- More research can be done conducted to assess the effectiveness of Kangaroo Mother Care for 30 minutes for twice a day or thrice a day for three days and more than three days on level of physiological parameters among preterm infants.

LIMITATION

The investigator found difficulty in getting setting permission and number of samples within the scheduled time and it was rectified by selecting samples from two Hospitals.

RECOMMENDATIONS

The following studies can be undertaken to strengthen kangaroo mother care as a good remedy for improving physiological parameters in preterm infants.

- A similar study can be conducted with larger samples.
- A study can be conducted to assess the effectiveness of Kangaroo Mother Care for 30 minutes for three days physiological parameters among preterm infants.

CONCLUSION

- The level of physiological parameters were found to be higher in the experimental group and whereas control group has no Improvement
- After the intervention the level of physiological parameters was improved in the experimental group.
- The kangaroo mother care is effective in improving the level of physiological parameters.
- There is no significant association between the level of physiological parameters with selected demographic variables in control and also experimental group

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APPENDIX

APPENDIX -I

LETTER SEEKING PERMISSION FOR CONTENT VALIDITY

From:

Ms. Jesintha Josphin. W

M.SC. Nursing IInd year

CSI.JACON

Madurai.

TO:

Forwarded Through,

The principal

CSI. JACON

Pasumalai, Madurai.

Respected sir /Madam,

Sub: requisition for content validity of the tool

I am **W. Jesintha Josphin** doing M.Sc., Nursing in CSI Jeyaraj Annapackiam college of nursing, under the Tamil Nadu DR. MGR. Medical University Chennai. As a partial fulfilment of my M.SC Nursing Degree Program, I am planning to do research on **“A study to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants in selected hospital at Madurai”**. I humbly request you to do the content validity of described tools and give your expert and valuable opinion.

I will very thank full for your kind consideration. Kindly return it to the undersigned

Thanking you in anticipation

Date:

Yours sincerely,

Place: Madurai

(W. JESINTHA JOSPHIN)

APPENDIX -II

CERTIFICATE FOR VALIDATION

This is to certify that the tool developed by Ms. Jesintha Josphin M.Sc. Nursing II Year Student of C.S.I Jeyaraj Annapackiam College of Nursing, Madurai(affiliated to the Dr.M.G.R MEDICAL UNIVERSITY,CHENNAI) is validated by the undersigned, can proceed with this tool and can conduct the main study for dissertation entitled, **“A study to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants in selected hospital at Madurai”**.

Place:

Name:

Date:

Designation:

Signature

APPENDIX -III

LETTER SEEKING PERMISSION FOR CONDUCTING PILOT STUDY

From:

Ms. W. Jesintha Josphin,
M.Sc., Nursing IInd year,
CSI. JACON,
Madurai.

TO:

The Medical Director,
Christian mission hospital,
Madurai.

Forwarded Through,

The principal,
CSI. JACON,
Pasumalai, Madurai.

Respected sir /Madam,

Sub: Seeking permission to conduct the pilot study for research-reg

With due regards bring to your notice that I am post graduate student of C.S.I Jeyaraj Annapackiam College of Nursing, Madurai. I selected the below mentioned topic for dissertation to be submitted to the Tamil Nadu Dr.M.G.R Medical University, Chennai as a part of partial fulfilment of Degree of Master of science in Nursing. My dissertation topic is as follows; **“A study to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants in selected hospital at Madurai”**. I would like to conduct my pilot study in your esteemed institution. Hence, I request your kind permission for the same.

Thanking you

Date:

Yours Sincerely,

Place: Madurai

(W. JESINTHAJOSPHIN)

APPENDIX -IV

LETTER SEEKING PERMISSION FOR CONDUCTING RESEARCH STUDY

From

Ms.W. Jesintha Josphin,
M.Sc., Nursing IInd year,
CSI JACON,
Madurai.

To

The Medical Director
Rio women and children's Hospital
Madurai

Forwarded Through,

The principal,
CSI JACON,
Pasumalai, Madurai.

Respected sir /Madam,

Sub: Seeking permission to conduct the research study.

With due regards bring to your notice that I am post graduate student of C.S.I Jeyaraj Annapackiam college of Nursing, Madurai. I selected the below mentioned topic for dissertation to be submitted to the Tamil Nadu Dr.M.G.R Medical University, Chennai as a part of partial fulfilment of Degree of Master of science in Nursing. My dissertation topic is as follows;“**A study to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants in selected hospital at Madurai**”. I would like to conduct my research study in your esteemed institution. Hence, I request your kind permission for the same.

Thanking you,

Date:

Yours sincerely,

Place: Madurai

(W. JESINTHA JOSPHIN)

APPENDIX-V

LIST OF EXPERTS FOR THE CONTENT VALIDITY OF THE TOOL

1. **Dr. SARAVANAN MBBS., DCH., MR**
Director,
Rio Women and Children's Hospital
Madurai
2. **Prof. Dr. JANCY RACHEL DAISY, M.SC(N)., Ph.D.,**
HOD of Mental Health Nursing,
C.S.I Jeyaraj Annapackiam College of Nursing,
Madurai.
3. **Prof. Dr. JEYA GRUBB, M.SC (N)., Ph.D.,**
HOD of Medical Surgical Nursing,
C.S.I Jeyaraj Annapackiam College of Nursing,
Madurai.
4. **Prof. Dr. JESSIE METILDA M.SC(N)., Ph.D.,**
Vice principal,
Velammal College of Nursing
Madurai.
5. **Prof. Dr. SHANTHI M.SC(N)., Ph.D.,**
Vice principal,
Meenakshi mission college of Nursing
Madurai.
6. **Mrs. GRACE BALAMMAL M.SC(N)**
Assoriate professor
C.S.I Jeyaraj Annapackiam College of Nursing,
Madurai.
7. **Mrs. JEBARANI M.SC(N)**
Assistant professor
C.S.I Jeyaraj Annapackiam College of Nursing,
Madurai.
8. **Mrs. VIJAYA M.SC(N)**
Government Kelppakkam Medical College Hospital,
Chennai
9. **Mr. MANIVEL SAMY, M.Sc., M.Phil,**
Statistician.

APPENDIX –VI

PART:1 STRUCTURED INTERVIEW QUESTIONNAIRE

DEMOGRAPHIC VARIABLES

INSTRUCTIONS

I assure that your answer and response will be kept strictly confidential.
carefully please mark (✓) your information in the given space.

1. Age of the mother
 - a) 18 -23 years
 - b) 24 – 29 years
 - c) 30 – 34 years
 - d) Above 35 years

2. Type of marriage
 - a) Consanguineous
 - b) Non consanguineous

3. Religion
 - a) Hindu
 - b) Muslim
 - c) Christian
 - d) Others

4. Residential area
 - a) Rural
 - b) Urban
 - c) Slum

5. Educational status of the mother
 - a) Illiterate
 - b) Primary education
 - c) Secondary education
 - d) Graduation and above

6. Occupation
 - a) House wife
 - b) Private job
 - c) Govt. job
 - d) Other

7. Income
 - a) Rs>5000
 - b) Rs5001-10,000
 - c) Rs10,001-20,000
 - d) Above 20,000

8. Previous information of KMC
 - a) Health personnel
 - b) Mass media
 - c) Friends
 - d) Family members

PART II

CLINICAL VARIABLES

1. Gravida
 - a) Primipara
 - b) Multipara
2. Gestational age
 - a) Late preterm 34 weeks to 36 weeks
 - b) Moderate to late preterm of 32 weeks to 34 weeks
 - c) Very preterm of 28 weeks to 32 weeks
 - d) Extreme preterm of <28 weeks
3. Type of delivery
 - a) Normal vaginal delivery
 - b) Caesarean section
 - c) Forceps delivery
 - d) Ventouse delivery
4. Indication of premature birth
 - a) Premature rupture of membrane
 - b) Pre eclamptic toxemia eclampsia
 - c) Multiple pregnancy
 - d) Bleeding
5. Weeks and month of the baby
 - a) 1 weeks to 3 weeks
 - b) 4 weeks to 6 weeks
 - c) 7 weeks to 8 weeks
 - d) More than two months

6. Birth weight
 - a) Low birth weight 2.5g
 - b) Very low birth weight 1.500g
 - c) Extreme low birth weight 1000g
7. Breast feeding habits
 - a) Brest feeding
 - b) Formula feeding
 - c) Combination
8. When did the breast feeding started?
 - a) Immediately
 - b) Within one hour of delivery
 - c) After 1-3 hour
 - d) Not yet

PHYSIOLOGICAL PARAMETERS

NAME OF THE BABY:

PHYSIOLOGICAL PARAMETERS	RANGE	DAY - 1		DAY - 3		DAY - 5	
		BEFORE	AFTER	BEFORE	AFTER	BEFORE	AFTER
Weight							
Temperature							
Respiration rate							
Heart Rate							
Oxygen Saturation							

INTERPRETATION

PARAMETERS	INFERENCE	RANGE
Temperature(degree Celsius)	Normal	36.6-37.6° Celsius
	Mild hypothermia	36.4-35.2° Celsius
	Moderate hypothermia	32-35.1° Celsius
	Severe hypothermia	<32° Celsius
Heart rate(beats/min)	Tachycardia	>170 beats / min
	Normal	120-170 beats / min
	Bradycardia	<120 beats / min
Respiratoryrate(breaths/min)	Tachypnoea	>70 breath / min
	Normal	40-70 breath / min
	Bradycardia	<40 breath / min
Oxygen saturation (%)	Normal	92-94 %
	Mild desaturation	90-91%
	Moderate desaturation	88-89%
	Severe desaturation	<88%
Weight (g/kg/day)	Normal	>15 g
	Mild under weight	14-10 g
	Moderate under weight	9-5 g
	Severe under weight	<4 g

பகுதி -I

கட்டமைக்கப்பட்ட நேர்காணல் கேள்வித்தாள்

சமுதாயக்காரணிகள்

1. தாயின் வயது

அ) 18-23 ஆண்டுகள்

ஆ) 24-29 ஆண்டுகள்

இ) 30-34 ஆண்டுகள்

ஈ) 35 ஆண்டுகளுக்கு மேல்

2. எந்த வகைத் திருமணம்

அ) நெருங்கிய உறவின் முறையில் திருமணம்

ஆ) அந்நிய முறையில் திருமணம்

3. மதம்

அ) ஹிந்து

ஆ) முஸ்லிம்

இ) கிறித்துவர்

ஈ) மற்றவைகள்

4. குடியிருப்புப் பகுதி

அ) கிராமப் பகுதி

ஆ) நகர்ப் பகுதி

இ) சேரிப் பகுதி

5. தாய்வழிக் கல்வி நிலை

அ) படிப்பறில்லாதவர்

ஆ)முதல் நிலை கல்வி

இ)இடைநிலை கல்வி

ஈ) பட்டதாரி

6. தொழில்

அ) இல்லத்தரசி

ஆ) தனியார் வேலை

இ) அரசு வேலை

ஈ) மற்றவை

7. வருமானம்

அ) >5000

ஆ) 5001-10,000

இ) 10,001-20,000

ஈ)20,000 மேல்

8. கங்காரு தாய் பராமரிப்பு பற்றிய முந்தய தகவல்

அ) சுகாதாரப் பணியாளர்கள் மூலம்

ஆ) ஊடகங்களின் மூலம்

இ) நண்பர்கள் மூலம்

ஈ) குடும்ப உறுப்பினர்கள் மூலம்

பகுதி -II

மருத்துவக் காரணிகள்

1. தாய்மை அடைவு

அ) ஒரு குழந்தையைப் பெற்றவர்

ஆ) இரண்டாம் முறையாக கருத்தரித்த பெண்

2. கர்ப்ப கால வயது

அ) 34 வாரங்கள் முதல் 36 வாரங்களுக்குள் பிறந்த குறை பிரசவக் குழந்தை

ஆ) 32 வாரங்கள் முதல் 34 வாரங்களுக்குள் பிறந்த குறை பிரசவக் குழந்தை

இ) 28 முதல் 32 வாரங்களுக்கு முன் பிறந்த குறை பிரசவக் குழந்தை

ஈ) 28 வாரங்களுக்கு முன் பிறந்த குறை பிரசவக் குழந்தை

3. குழந்தை பிரசவ வகை

அ) சுக பிரசவம்

ஆ) அறுவைச் சிகிச்சை பிரசவம்

இ) ஆயுதம் மூலம் பிரசவம்

ஈ) உறிஞ்சும் கோப்பை மூலம்

4. குறைப்பிரசவத்தின் அறிகுறிகள்

அ) முன்கூட்டியே பனிக்குடம் உடைத்தல்

ஆ) முன்கூல்வல்லிப்பு நச்சுக் குருதி

இ) அதிக முறை கருவுற்ற தாய்

ஈ) ரத்தக் கசிவு(PLACENTA PREVIA)

5. குழந்தை பிறப்பின் வாரம் மற்றும் மாதம்

அ) 1 வாரம் முதல் 3 வாரம்

ஆ) 4 வாரம் முதல் 6 வாரம்

இ) 7 வாரம் முதல் 8 வாரம்

ஈ) 2 மாதங்களுக்கு மேலாக

6. குழந்தையின் பிறந்த எடை

அ) குறைந்த பிறப்பு எடை 2.5 கிராம்

ஆ) மிகவும் குறைந்த பிறப்பு எடை 1.5 கிராம்

இ) தீவிரமான குறைந்த பிறப்பு எடை 1 கிராம்

7. தாய்ப் பால் கொடுக்கும் படிக்க முறை

அ) பிரத்யயோகமாக தாய்ப் பால் மட்டும்

ஆ) தாய்ப் பால் மற்றும் பவுடர் பால்

இ) கிட்டத்தட்ட பிரத்யயோகமாக தாய்ப் பால் ஊட்டம்

ஈ) சேர்க்கை

8. தாய்ப் பால் கொடுப்பது தொடங்கியது எப்பொழுது

அ) உடனடியாக

ஆ) ஒரு மணி நேரம் பிரசவத்திற்குப் பின்

இ) 1-3 மணி நேரம் பிரசவத்திற்குப் பின்

ஈ) இதுவரை இல்லை

ஓப்புதல் அறிக்கை

பெயர் :

தேதி :

எனக்கு இந்த ஆய்வை பற்றிய முழு விவரம் விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்கு பெறுவதில் உள்ள நன்மைகள் மற்றும் தீமைகள் பற்றி நான் புரிந்துகொண்டேன். இந்த ஆய்வில் தானாகவே முன் வந்து பங்கு பெறுகிறேன். மேலும் எனக்கு இந்த ஆய்வில் இருந்து எந்த நேரமும் விலகிக்கொள்ள முழு அனுமதி வழங்கப்பட்டுள்ளது. என்னுடைய பெயர் மற்றும் அடையாளங்கள் ரகசியமாக வைத்துக்கொள்ளப்படும் என்றும் எனக்கு உறுதியளிக்கப்பட்டுள்ளது.

இப்படிக்கு

APPENDIX VII

INTERVENTION TOOL

KANGAROO MOTHER CARE

Time: 30 minutes

Venue: Neonatal Intensive Care Unit.

Pre-procedure

- The researcher established rapport with the mother.
- The researcher explained and demonstrates the procedure, importance and the benefits of Kangaroo Mother Care (KMC) in order to create awareness and alleviate the fear and anxiety through power point presentation for 10-20minutes.
- The researcher obtained the informed written consent and assesses the demographic variables from the mother and the medical records.

Preparation of the articles:

ARTICLES	NUMBER	RATIONAL
A CLEAN TRAY CONTAINING		
Omron Digital Thermometer	1	To check the temperature of the preterm infants before and after KMC
Calibrated Portable pulse Oximeter	1	To check the oxygen saturation and heart rate of the preterm infants before and after KMC
Cotton balls in a container	2	To wipe the axilla and digital thermometer.
Calibrated Infant weighing scale	1	To check the weight of the preterm infant before and after KMC
Kidney tray	1	To collect the waste
Autoclaved cotton sheet	1	To wrap and support the mother and the baby

Preparation of the environment:

- The researcher arranged all the necessary articles and switch off the fan, maintains privacy and maintains the room temperature.

Preparation of the researcher:

- The researcher arranges all the necessary articles at bedside and performs hand hygiene, wore cap, mask and apron.
- The researcher checked the preterm infant's physiological parameters such as Temperature, Heart rate, Respiration, Oxygen saturation, Weight immediately.

Preparation of the mother:

- The researcher asked the mother to perform maternal hygiene such as bath/sponge, change of clothes, hand washing, and cut short the fingernails.
- The researcher asked the mother to wear front-open light dress as per the local culture.
- The researcher assisted the mother in a comfortable sitting position.

Preparation of the preterm infant:

- The researcher undressed the preterm infant and the preterm infants worn only diaper during the KMC.

During the procedure:

- A Researcher prepares the preterm term infant & mother to perform kangaroo mother care. Placing the preterm infant in an upright position between the mother's breasts. The baby's head is turned to one side and in a slightly upturned position. the preterm abdomen at the level of mother's epigastrium, the hands

or kept above the mother breasts. Hips flexed abducted, legs beneath in a frog like position. The babies bottom supported by the using of cotton sheet for 30 minutes for three consecutive days

After the procedure:

- The researcher placed the preterm in a comfortable position. The investigator checked and documented the physiological parameters after the procedure for three consecutive days. Preterm infants allowed performing their routine activities.

APPENDIX VIII

LESSON PLAN

ON

KANGAROO MOTHER CARE



KANGAROO MOTHER CARE

TOPIC	:	Kangaroo Mother Care
GROUP	:	Mothers of the Preterm Infants
PLACE	:	Selected Hospitals
DURATION	:	30 Minutes
TEACHING METHOD	:	Lecture Cum Discussion and Demonstration
SEATING ARRANGEMENT	:	NICU WARD
INSTRUCTOR	:	RESEARCHER

GENERAL OBJESCTIVES:

At the end of the teaching and demonstration the mothers will be able to gain adequate knowledge regarding kangaroo mother care and its purposes, types, components, types, benefits, indication and contraindications, procedure, danger sign, nursing care.

SPECIFIC OBJECTIVES:

At the end of the class the mothers will be able to

- ❖ define kangaroo mother care
- ❖ know the purposes of kangaroo mother care
- ❖ identify the components of kangaroo mother care
- ❖ discuss about the types of kangaroo mother care
- ❖ explain the benefits of kangaroo mother care
- ❖ list down the indication and contraindication for kangaroo mother care
- ❖ demonstrate the procedure of kangaroo mother care
- ❖ point out the danger signs of kangaroo mother care
- ❖ elaborate the nursing care for kangaroo mother care

S. No	SPECIFIC OBJETIVES	CONTENT	TEACHER'S ACTIVITY	LEARNER'S ACTIVITY	EVALUATION
1	Mothers will be able to define kangaroo mother care	<p>INTRODUCTION</p> <p>In 1983 Edgar Rey and Hector Martinez in Colombia has first implemented Kangaroo mother care, due to increasing mortality and morbidity rate in the institute of maternal and infantile NICU in Bogota. Caring low birth weight baby is a great challenge for the neonatal care unit and family. Number of low birth baby is still far beyond the expected target in our country. The cost of quality management of these babies is increasing day by day. Kangaroo mother care is a low cost approach for the care of low birth weight baby and other healthy neonates.</p> <p>DEFINITION</p> <p>Kangaroo mother care is a technique practiced on newborn where the newborn is held skin to skin contact with parents (Both mother and father).</p>	Individual group discussion	Listening And discussing	Define kangaroo mother care

2	Mothers will be able to enlist the purposes of kangaroo mother care	<p>PURPOSES OF KANGAROO MOTHER CARE</p> <ul style="list-style-type: none"> ○ Kangaroo Mother Care reduces neonate and infant mortality. ○ Kangaroo Mother Care lowers the rate of infection and sepsis, nosocomial infection, hypothermia and lower respiratory tract infection. ○ Kangaroo Mother Care resulted in increased improved weight gain, increased in length and head circumference, improved breast feeding, mother infant bonding and maternal satisfaction. ○ There is reduced response to painful stimuli. ○ It promotes their health and wellbeing by effective ○ Thermal control, breast feeding, and bonding. <p>Kangaroo mother care is initiated in hospital and continued at home.</p>	Individual group discussion	Listening and discussing	Known the purposes of kangaroo mother care
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3	Mothers will be able to identify the components of kangaroo mother care	<p>COMPONENTS OF KMC</p> <ul style="list-style-type: none"> ○ Skin to skin contact ○ Kangaroo nutrition ○ Kangaroo support ○ Skin-To-Skin Contact: Kangaroo position involves the infant coming in skin-to-skin contact with the mother. The infant is placed on the mother's chest, between her breasts. The basic feature of KMC is early, prolonged and continuous contact between the mother and her baby. ○ Kangaroo Nutrition: Kangaroo nutrition involves exclusive breastfeeding for the baby. The direct skin-to-skin contact helps in the production of breast milk, and it also helps the baby to suckle better, because of easy accessibility to the mother's breasts. However, in some cases, the baby may be 	Individual group discussion	Listening and discussing	Identify the components of kangaroo mother care
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4	Mothers will be able to discuss about the types of kangaroo mother care	<p>fed expressed breast milk. The direct skin contact helps to strengthen the bond between the mother and her baby.</p> <ul style="list-style-type: none"> ○ Kangaroo Support: Kangaroo support involves providing medical, physical or emotional support to the mother and the baby without separating them. <p>TYPES:</p> <p>INTERMITTENT:</p> <ul style="list-style-type: none"> ○ Intermittent KMC is practiced with infants ○ Where incubators or warm rooms are available ○ Who are very small and still need incubator care ○ Who are not on full oral feeds ○ Who are receiving oxygen therapy ○ Intermittent KMC can range from many times per day to only once every few days 	Individual group discussion	Listening and discussing	Discuss about the types of kangaroo mother care
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		<ul style="list-style-type: none">○ The time period can vary from minutes to hours at a time○ The duration of intermittent KMC depends on the condition of the infant and the availability of the mother○ It encourages the mother to take part in care of her infant while still in the nursery <p>CONTINUES:</p> <ul style="list-style-type: none">○ It is KMC that is given continually, both day night○ KMC may discontinue for very short periods when the mother has to bathe or attend to other personal needs○ It can be practiced in hospital or when doing KMCat home			
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5	Mothers will be able to explain the benefits of kangaroo mother care	<ul style="list-style-type: none"> ○ It should always be used where there are no incubators ○ It requires support from the family members, including the husband ○ It is the ideal type of KMC for LBW infants <p>BENEFITS OF KMC</p> <ul style="list-style-type: none"> ○ To Baby <ul style="list-style-type: none"> ● Promote extra uterine adaptation ● Physiological stability ● Promotion of exclusive breast feeding ● Warmth ● Reduce infection ● Better and early growth and development ● Multimodal stimulation ● Quiet sleep ● Reduce apnea and oxygen requirement 	Individual group discussion	Listening and discussing	Explain the benefits of kangaroo mother care
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6	Mothers will be able to list down the indication and contraindication for kangaroo mother care	<ul style="list-style-type: none"> • Increase weight gain ○ To Mother <ul style="list-style-type: none"> • Develop self confidence • Improving parent child interaction and attachment • Better bonding • Mental satisfaction • Successful breast feeding • Economical • Reduced hospital stays <p>INDICATIONS:</p> <ul style="list-style-type: none"> ○ Normal newborn baby ○ Premature baby (less than 37 weeks) ○ Low birth weight babies ○ Unstable respiratory status 	Individual group discussion	Listening and discussing	List down the indication and contraindication for kangaroo mother care
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7	<p>Mothers will be able to demonstrate the procedure of kangaroo mother care</p>	<p>CONTRAINDICATION:</p> <ul style="list-style-type: none"> ○ Prolonged or severe apnea ○ Indwelling chest tubes, any drainage ○ Peripheral arterial lines ○ Severely jaundiced babies or phototherapy ○ Mother is unhealthy and not co-operative ○ Mother have any communicable disease (TB, Malaria, Chickenpox, AIDS) <p>PROCEDURE</p> <ul style="list-style-type: none"> • Placing the preterm infant in an upright position between the mother's breasts. 	<p>Individual group discussion</p>	<p>Listening and discussing</p>	<p>Demonstrate the procedure of kangaroo mother care</p>
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- The babies head is turned to one side and in a slightly upturned position.



- the preterm abdomen at the level of mother's epigastrium, the hands or kept above the mother breasts.



- Hips flexed abducted, legs beneath in a frog like position.



- The babies bottom supported by the using of cotton sheet

**Feeding**

- Holding the baby near the breast stimulates milk production.
- Mother should express milk while the baby is still in KMC position.
- The baby could be fed with paladai, cup, spoon or tube, depending on the condition of the baby.

Privacy

- KMC requires some exposure on the part of the mother. This can make her nervous and could be de-motivating. So mother should be provided some privacy for practicing KMC.

Duration for which KMC should be practiced

- To begin with, it may not be possible for the mother to provide KMC for a prolonged period of time.

But each session of KMC should last at least an hour. The aim should be to provide KMC as long as possible preferably 24 hours a day

Can the mother continue KMC during sleep and resting

- Using a comfortable chair or several pillows on an ordinary bed KMC can be provided during sleep and rest.

When should KMC be discontinued

- Babies love receiving KMC after going home. When the mother and baby are comfortable, KMC continues for as long as possible, first at the hospital then at home until the weight is 2500 g. By this time, the baby starts wriggling to show that she is uncomfortable, pulls her limbs out, cries and fusses every time the mother tries to put her back skin to skin.

Post-discharge follow-up

- After discharge baby should be taken to the hospital as and when advised by doctor/nurse.

8	mothers will be able to point out the danger signs of kangaroo mother care	DANGER SIGNS: <ul style="list-style-type: none"> ○ Breathing difficulty ○ Apnea ○ Cold ○ Convulsions ○ Diarrhea ○ Yellow skin 	Individual group discussion	Listening and discussing	Point out the danger signs of kangaroo mother care
9	Mothers will be able elaborate the nursing care for kangaroo mother care	NURSING CAREFOR MOTHER AND CARE GIVER: <ul style="list-style-type: none"> ○ Give education about the benefits and importance of KMC ○ Provide comfortable position and environment ○ Assist mother when feeding ○ Educate mother about exclusive breast feeding in between KMC ○ Reassure and support the mother and the caregiver 	Individual group discussion	Listening and discussing	Elaborate the nursing care for kangaroo mother care

		<p>CONCLUSION</p> <p>Kangaroo Mother Care is an indigenous technique used to prevent and manage hypothermia which is very simple and easy and does not require any expertise or expensive equipment's.</p> <p>SUMMARY:</p> <p>In this class we have learnt about the definition, Components, Prerequisites, Benefits, and Eligibility Criteria for baby and Mother, Preparation of Mother and Child and Procedure, and follow up advices of Kangaroo Mother Care</p>			
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கங்காரு தாய் அரவணைப்பு



தலையீட்டுக் கருவி

தலைப்பு	:	கங்காரு தாய் பராமரிப்பு
குழு	:	குறைப்பிரசவக் குழந்தைகளின் தாய்மார்கள்
இடம்	:	ரியோ மற்றும் கிறித்தவ மின் மருத்துவமனை
காலம்	:	25 -35 நிமிடங்கள்
கற்பிக்கும் முறை	:	கங்காரு தாய் பராமரிப்பின் விரிவுரை மற்றும் கலந்துரையாடல்
இருக்கை ஏற்பாடு	:	குழந்தைகளுக்கானத் தீவிர சிகிச்சை பிரிவு – நிலை 3
கல்வியாளர்	:	ஜெசிந்தா ஜோஸ்பின்

பொது நோக்கங்கள் :

கற்பித்தல் மற்றும் செய்முறையின் முடிவில் தாய்மார்கள் கங்காரு தாய் பராமரிப்பு குறித்து போதுமான அறிவைப் பெற முடியும் மற்றும் அதன் நோக்கங்கள் வகைகள் கூறுகள் நன்மைகள் அறிகுறிகள் முரண்பாடு நடைமுறைகள் மற்றும் செவிலியர் பராமரிப்பு ஆகியவற்றை அறிந்துகொள்ள முடியும்.

குறிப்பிட்ட நோக்கங்கள் :

வகுப்பின் முடிவில் தாய்மார்கள் :

- கங்காரு தாய் பராமரிப்பை வகையறுக்கவும்
- கங்காரு தாய் பராமரிப்பின் நோக்கங்களை அறிந்துகொள்ளுதல்
- கங்காரு தாய் பராமரிப்பின் கூறுகள்
- கங்காரு தாய் பராமரிப்பின் வகைகள்
- கங்காரு தாய் பராமரிப்பின் நன்மைகள்
- கங்காரு தாய் பராமரிப்பின் அறிகுறிகள் மற்றும் முரண்பாடுகள்
- கங்காரு தாய் பராமரிப்பின் பராமரிப்பு முறைகள்
- கங்காரு தாய் பராமரிப்பின் ஆபத்து அறிகுறிகளைக் கண்டறியவும்

புறநிறை	உள்ளடக்கம்	கற்பித்தல் செயல்பாடு	கற்றல் செயல்பாடு	மதிப்பீடு
	<p>முன்னுரை:</p> <p>1983 ஆம் ஆண்டு கொலம்பியாவில் அகர்கோய் மற்றும் வெக்டர் பாய் போதுமான அளவு கங்காரு தாய் பராமரிப்பை முதன்முதலில் செயற்படுத்தினார்கள். ஏனெனில் தாய் மற்றும் குழந்தை நிறுவனத்தில் இறப்பு மற்றும் நோயுற்ற வீதம் அதிகரித்து வருவதால் குறைந்த பிறப்பு எடை கொண்ட குழந்தையைச் சுமந்து செல்வது ஒற்றையாட்சி கேர் யூனிட்டிற்கும் குடும்பத்தின் குறைந்த பிறப்புக்கும் ஒரு பெரிய சவாலாகும் குழந்தை நம்மில் எதிர்பார்த்த இலக்கை எதிர்பார்த்த இலக்கைத் தாண்டி உள்ளது.</p> <p>இந்தக் குழந்தைகளின் தர நிர்வகிப்புக்கான செலவு நாளுக்கு நாள் அதிகரித்து வருகிறது கங்கை தாய் குறைந்த பிறப்பு எடை கொண்ட குழந்தை மற்றும் பிற</p>	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	

<p>கங்காரு தாய் பராமரிப்பை வகையறுக்கவும்</p>	<p>ஆரோக்கியத்தை பராமரிப்பதற்காக குறைந்த விலை அணுகுமுறைகளை மேற்கொள்கிறார்.</p> <p>வரையறை :-</p> <p>கங்காரு தாய் பராமரிப்பு என்பது புதிதாகப் பிறந்த குழந்தையின் மீது நடைமுறையில் உள்ள ஒரு நுட்பமாகும் புதிதாகப் பிறந்தவர் தாய் மற்றும் தந்தை இருவருடனும் பெற்றோருடன் தோலிற்குத் - தோல் தொடர்பு வைத்திருக்கிறார்.</p>	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	<p>கங்காரு தாய் பராமரிப்பை வகையறுக்கவும்</p>
<p>கங்காரு தாய் பராமரிப்பின் நோக்கங்களை அறிந்துகொள்ளுதல்</p>	<p>கங்காரு தாய் பராமரிப்பின் நோக்கங்கள்</p> <ol style="list-style-type: none"> 1. கங்காரு தாய் பராமரிப்பு அலகு மற்றும் குழந்தை இறப்பைக் குறைக்கிறது. 2. கங்காரு தாய் பராமரிப்பு நோய்த்தொற்று மற்றும் பாதுகாப்பு நாசோகோமியல் தொற்றுத் தாழ்வெப்ப நிலை மற்றும் குறைந்த சுவாசக் குழாய்த் தொற்று ஆகியவற்றைக் குறைக்கிறது. 			<p>கங்காரு தாய் பராமரிப்பின் நோக்கங்கள் என்னென்ன</p>

<p>கங்காரு தாய் பராமரிப்பின் கூறுகள்</p>	<p>3. கங்காரு தாய் பராமரிப்பு விளைவாக நீளம் மற்றும் தலை சுற்றளவு ஆகியவற்றில் மேம்பட்ட எடை அதிகரிப்பு ஆர்வத்தை அதிகரித்தது தாய்ப்பால் கொடுக்கும் தாய் உடனடி பிணைப்பு மற்றும் ஓரளவு திருப்தி கிடைக்கும் விதமாக அமைந்தது.</p> <p>4. வலிமிகுந்த தூண்டுதல்களுக்குக் குறைவான பதில் உள்ளது.</p> <p>5. இது அவர்களின் ஆரோக்கியத்தையும் மேம்படுத்துகிறது.</p> <p>6. வேப்பக் கட்டுப்பாடு தாய்ப்பால் மற்றும் பிணைப்பு கங்காரு தாய் பராமரிப்பு மருத்துவமனையில் தொடங்கப்பட்டு வீட்டிலேயே தொடர்கிறது.</p> <p>கங்காரு தாய் பராமரிப்பின் கூறுகள் :</p> <ul style="list-style-type: none"> ◇ தோல் - தோல் தொடர்பு ◇ கங்காரு ஊட்டச்சத்து ◇ கங்காரு அரவணைப்பு 	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	<p>கங்காரு தாய் பராமரிப்பின் கூறுகள் யாவை</p>
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தோல் தொடர்பு – தோல் தொடர்பு : கங்காரு நிலை என்பது தாயுடன் தோல் தொடர்புக்கு தோலில் வரும் குழந்தையை உள்ளடக்கியது. அடிப்படை அம்சமானது மார்பகத்திற்கு இடையில் குழந்தை மார்பில் வைக்கப்படுகிறது. கங்காரு தாய் பராமரிப்பு என்பது தாய்க்கும் குழந்தைக்கும் இடையில் கிட்டத்தட்ட நீடித்த மற்றும் தொடர்ச்சியான தொடர்பு

கங்காரு ஊட்டச்சத்து :

ஊட்டச்சத்துக் குழந்தைக்கு பிரத்தியேகமாக தாய்ப்பால் கொடுப்பது நேரடியாக தோல்க்குத் – தோல் தொடர்பு தாய்ப்பாலை உற்பத்தி செய்ய உதவுகிறது மேலும் இது தாய்க்கு எளிதில் அணுகக்கூடியதால் குழந்தையின் உரிதலுக்குச் சிறப்பாக உதவுகிறது.

நேரடி தோல் தொடர்பு மற்றும் அவரின் குழந்தைகளுக்கான பிணைப்பை வலுப்படுத்த உதவுகிறது.

<p>கங்காரு தாய் பராமரிப்பின் வகைகள்</p>	<p>கங்காரு அரவணைப்பு :</p> <p>கங்காரு அரவணைப்பு என்பது தாய் மற்றும் குழந்தைக்குப் பிரிக்காமல் மருத்துவ உடல் அல்லது உணர்ச்சி ரீதியான ஆதரவை வழங்குவதை உள்ளடக்குகிறது.</p> <p>கங்காரு தாய் பராமரிப்பின் வகைகள் :</p> <p>இடைநிலை :</p> <ul style="list-style-type: none"> ◇ இடைப்பட்ட கங்காரு தாய் பராமரிப்பு என்பது குழந்தைகளுடன் செய்யப்படுகிறது. ◇ இன்குபேட்டர் மற்றும் மிதமான சூடுள்ள அறைகளில் குழந்தையை வைத்துப் பராமரித்தல். ◇ எடை குறைவான குழந்தைகளை இன்குபேட்டரில் வைத்துப் பராமரித்தல். ◇ முழு வாய்வழி இல்லாத குழந்தைகள் ◇ ஆக்ஸிஜன் தேவைப்படுகிற குழந்தைகளுக்கு 	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	<p>கங்காரு தாய் பராமரிப்பின் வகைகள் யாவை</p>
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	<p>◇ இடைப்பட்ட கங்காரு தாய் பராமரிப்பு ஒரு நாளைக்கு பல முறை முதல் சில நாளைக்கு ஒரு முறை மட்டுமே இருக்கும் குழந்தைகளுக்கு</p> <p>◇ கால அளவு ஒரு நேரத்தில் நிமடங்கள் முதல் மணி நேரம் வரை மாறுபடும்.</p> <p>◇ இடைப்பட்ட கங்காரு தாய் பராமரிப்பின் காலம் குழந்தையின் நிலை மற்றும் தாயின் கிடைக்கும் தன்மையைப் பொறுத்தது.</p> <p>◇ இது நர்சரியில் இருக்கும்போது குழந்தையைக் கவனித்துக்கொள்வதில் தாயை ஊக்குவிக்கிறது.</p> <p>தொடர்ச்சியாக :</p> <p>◇ கங்காரு தாய் பராமரிப்பு தான் இரவும் பகலும் தொடர்ந்து வழங்கப்படுகிறது.</p> <p>◇ கங்காரு தாய் பராமரிப்பானது தாய் குளிக்கும்போது அல்லது பிற தனிப்பட்ட நபர்களுக்குச் செல்ல</p>	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	
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<p>கங்காரு தாய் பராமரிப்பின் நன்மைகள்</p>	<p>வேண்டியிருக்கும் போது மிகக் குறுகிய காலத்திற்கு நிறுத்தப்படலாம்.</p> <p>◇ மருத்துவமனையில் அல்லது கங்காரு தாய் பராமரிப்பு வீட்டில் செய்யும் போது பயிற்சி செய்யலாம்.</p> <p>◇ இன்குபேட்டர் இல்லாத நேரத்திலும் கங்காரு தாய் பராமரிப்பு பயன்படுத்தலாம்.</p> <p>◇ கங்காரு தாய் பராமரிப்பிற்குக் கணவர் உட்பட குடும்ப உறுப்பினர்களின் ஆதரவு தேவை.</p> <p>◇ குறைந்த பிறப்பு எடை கொண்ட குழந்தைகளுக்குக் கங்காரு தாய் பராமரிப்பு சிறந்த வகையாக அமைகிறது.</p> <p>கங்காரு தாய் பராமரிப்பின் நன்மைகள் :</p> <p>1. குழந்தைகளுக்கு :</p> <p>➤ எக்ஸ்ட்ராயூட்டின் தழுவலை ஊக்குவிக்கவும்</p>	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	<p>கங்காரு தாய் பராமரிப்பின் நன்மைகள் யாவை</p>
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	<ul style="list-style-type: none"> ➤ பிரத்தியேகத் தாய்ப்பாலின் உடலியல் ஸ்திரத்தன்மை ஊக்குவிப்பு ➤ தொற்றுநோயைக் குறைக்க உதவுகிறது. ➤ அரவணைப்பு ➤ சிறந்த மற்றும் ஆரம்ப வளர்ச்சியை ஊக்குவித்தல் ➤ அமைதியான தூக்கம் ➤ மூச்சுத்திணறல் மற்றும் ஆக்ஸிஜன் தேவையைக் குறைக்கவும் ➤ எடை அதிகரிப்பு <p>2. தாய்க்குட:</p> <ul style="list-style-type: none"> ➤ தன்னம்பிக்கையை வளர்த்துக்கொள்ளுதல் ➤ பெற்றோர் - குழந்தை தொடர்பு மற்றும் இணைப்பை மேம்படுத்துதல் ➤ சிறந்த பிணைப்பு ➤ மன திருப்தி ➤ வெற்றிகரமான தாய்ப்பால் ஊட்டுதல் 			
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<p>▪ கங்காரு தாய் பராமரிப்பின் அறிகுறிகள் மற்றும் முரண்பாடுகள்</p>	<p>➤ மருத்துவமனையின் இருப்புக் காலத்தைக் குறைத்தல்</p> <p>அறிகுறிகள் :</p> <ul style="list-style-type: none"> ➤ பிறந்த குழந்தை ➤ குறைமாதக் குழந்தை ➤ எடை குறைவான குழந்தை ➤ நிலையற்ற சுவாச நிலை <p>முரண்பாடுகள் :</p> <ul style="list-style-type: none"> ➤ நீடித்த அல்லது கடுமையான மூச்சுத்திணறல் ➤ புற தமனி கோடுகள் ➤ கடுமையான மஞ்சள் காமாலை மற்றும் ஒளிக்கதிர் சிகிச்சை ➤ தாய் ஆரோக்கியமற்ற வேளையில் ➤ ஒத்துழைப்பின்மை ➤ தாய்க்கு ஏதேனும் தொற்று நோய் இருந்தால் (காசநோய், மலேரியா சின்னம்மை) 	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	<p>கங்காரு தாய் பராமரிப்பின் அறிகுறிகள் மற்றும் முரண்பாடுகள் யாவை</p>
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<p>கங்காரு தாய் பராமரிப்பின் பராமரிப்பு முறைகள்</p>	<p>செயல்முறை :</p> <ol style="list-style-type: none"> 1. குறைப்பிரசவக் குழந்தையை தாய்க்கு இடையில் நேர்மையான நிலையில் வைப்பது  <ol style="list-style-type: none"> 2. குழந்தையின் தலை ஒரு பக்கமாகவும் சற்றுத் தலைகீழாகவும் உள்ளது. 	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	<p>கங்காரு தாய் பராமரிப்பின் பராமரிப்பு முறைகள் என்னென்ன</p>
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3. தாய்மார்களின் மட்டத்தில் முன்கூட்டிய வயிறு கைகளை எபிகாஸ்ட்ரியம் அல்லது தாய் மார்பகத்திற்கு மேலே வைக்கப்பட வேண்டும்.



விரிவுரை மற்றும்
கலந்துரையாடல்

கேட்டல்

4. இடுப்பு நெகிழ்ந்த கடத்தப்பட்ட, கால்கள் கீழே ஒரு தவளை போன்ற நிலையில்



விரிவுரை மற்றும்
கலந்துரையாடல்

கேட்டல்

5. பருத்தித் தாளைப் பயன்படுத்துவதன் மூலம் குழந்தைகள் கீழே ஆதரிக்கப்படுகிறார்கள்.



உணவளித்தல் :

- குழந்தையைத் தாய்ப்பால் உற்பத்தி செய்யும் தாயின் அருகே வைத்திருப்பது குழந்தை கங்காரு தாய் பராமரிப்பு நிலையில் இருக்கும்போது பால் வெளிப்படுத்த வேண்டும்.
- குழந்தையின் நிலையைப் பொறுத்து குழந்தைக்குப் பாலாடாய் கோப்பை ஸ்பூன் அல்லது குழாய் மூலம் உணவளிக்க முடியும்.

விரிவுரை மற்றும் கலந்துரையாடல்

கேட்டல்

	<p>தனியுரிமை</p> <p>➤ கங்காரு தாய் பராமரிப்பின் போது ஒரு பகுதியிலிருந்து சில வெளிப்பாடு தேவைப்படுகிறது இது உங்கள் பதட்டத்தை உண்டாக்குகிறது மேலும் அது கீழிறக்கக்கூடியதாக இருக்கக்கூடும். எனவே கங்காரு தாய் பராமரிப்புக்காக அம்மாவுக்கு சில தனியுரிமை வழங்கப்பட வேண்டும்.</p> <p>கங்காரு தாய் கவனிப்பு பயிற்சி செய்யப்பட வேண்டிய காலம் :</p> <p>➤ இதைத் தொடங்க நீண்ட காலத்திற்கு வழங்க முடியாமல் போகலாம் ஆனால் கங்காரு தாய் பராமரிப்பின் ஒவ்வொரு அமர்வும் குறைந்தது ஒரு மணி நேரம் நீடிக்க வேண்டும் பின்னர் முடிந்தவரை 24 மணிநேரமும் கங்காரு தாய் பராமரிப்பு வழங்க வேண்டும்</p>	<p>விரிவுரை மற்றும் கலந்துரையாடல</p>	<p>கேட்டல்</p>	
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	<p>தூக்கத்திலும் ஓய்விலும் கங்காரு தாய் பராமரிப்பை தாயால் தொடரமுடியுமா?</p> <p>➤ ஒரு சாதாரணப் படுக்கையில் ஒரு வசதியான நாற்காலி அல்லது பல தலையணைகளைப் பயன்படுத்தி தூக்கம் மற்றும் ஓய்வின் போது கங்காரு தாய் பராமரிப்பு வழங்கப்படலாம்.</p> <p>கங்காரு தாய் பராமரிப்பு எப்போது துண்டிக்கப்பட வேண்டும்:</p> <p>➤ தாயும் குழந்தையும் வசதியாக இருக்கும்போது வீட்டிற்குச் சென்றபின் கங்காரு தாய் பராமரிப்பைப் பெறுவதை குழந்தைகள் விரும்புகிறார்கள். கங்காரு தாய் பராமரிப்பு முடிந்தவரை நீண்ட காலமாகத் தொடர்ந்து மருத்துவமனையில் பின்னர் வீட்டில் எடை 2.500 கிராம் வரை தொடர்ந்து இருக்கும். இந்த நேரத்தில் குழந்தை</p>	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	
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<p>கங்காரு தாய் பராமரிப்பின் ஆபத்து அறிகுறிகள் கண்டறியவும்</p>	<p>அவள் சங்கடமாக இருக்கிறது. ஒவ்வொரு முறையும் தன் கைகளை வெளியே இழுத்து அழுகிறது. ஒவ்வொரு முறையும் தாய் தன் தோலை தோலுக்கு வைக்க முயற்சிக்கிறாள்.</p> <p>பிந்தைய வெளியேற்ற பின்தொடர் :</p> <p>வெளியேற்றப்பட்ட குழந்தையை மருத்துவர் மற்றும் செவிலியர் அறிவுறுத்தியபடி காலத்திற்கு உட்பட்டு மருத்துவமனைக்குக் கொண்டு செல்ல வேண்டும்.</p> <p>ஆபத்துக் காரணிகள் :</p> <ul style="list-style-type: none"> ▪ சுவாசிப்பதில் சிரமம் ▪ மூச்சுத்திணறல் ▪ குளிர் வலிப்பு ▪ வயிற்றுப்போக்கு ▪ மஞ்சள் தோல் 	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	<p>கங்காரு தாய் பராமரிப்பின் ஆபத்து அறிகுறிகள்</p>
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	<p>தாய் மற்றும் குழந்தைகளுக்கானச் செவிலியர் பராமரிப்பு</p> <ul style="list-style-type: none"> ➤ கங்காரு தாய் பராமரிப்பின் நன்மைகள் மற்றும் முக்கியத்துவத்தைப் பற்றி கல்வியைக் கொடுங்கள். ➤ கங்காரு தாய் பராமரிப்புக்கு இடையில் பிரத்தியேகமான தாய்ப்பால் கொடுப்பதைப் பற்றி தாய்க்குக் கல்வி கற்பிக்கும் போது தாய்க்கு உணவளிக்கும் போது வசதியான நிலையை வழங்கவும் சுற்றுச்சூழலுக்கு உதவவும் உதவுகிறது. <p>சுருக்கம் :</p> <p>இந்த வகுப்பில் சுருக்கம் குழந்தை மற்றும் தாய்க்கான வரையறை கூறுகள் முன்நிபந்தனைகள் நன்மைகள் மற்றும் தகுதிக்கான அளவுகோல்கள் தாய் மற்றும் குழந்தை தயாரித்தல் மற்றும் செயல்முறை மற்றும் கங்காரு தாய்</p>	<p>விரிவுரை மற்றும் கலந்துரையாடல்</p>	<p>கேட்டல்</p>	
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	<p>பராமரிப்பின் ஆலோசனைகளைப் பின்தொடர்வது பற்றி நாங்கள் கற்றுக்கொண்டோம்.</p> <p>முடிவுரை :</p> <p>கங்காரு தாய் பராமரிப்பு என்பது தாழ்வெப்பநிலையைத் தடுக்கவும் நிர்வகிக்கவும் பயன்படும் ஒரு சுதேச நுட்பமாகும். இது மிகவும் எளிமையானது மற்றும் எந்த நிபுணத்துவமும் நிபுணத்துவ உபகரணங்களும் தேவையில்லை.</p>	விரிவுரை மற்றும் கலந்துரையாடல்	கேட்டல்	
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APPENDIX IX

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation work on 'A Study to evaluate the effectiveness of kangaroo mother care on physiological parameters among preterm infants in Selected hospitals at Madurai' done by **Ms. Jesintha Josphin. W**, II year M.Sc. Nursing of C.S.I Jeyaraj Annapackiam College of Nursing, Madurai is edited for English language appropriateness by _____

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APPENDIX X
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APPENDIX XI
PHOTO GALLERY

