"A STUDY TO ASSESS THE EFFECTIVENESS OF NESTING POSTURE ON SLEEPWAKE STATE OF THE PRETERM BABY IN NICU OF A SELECTED HOSPITAL KOLAR."

By

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In partial fulfillment of the requirement for the degree of

Master of Science in Nursing

In

Child Health Nursing

Under the guidance of

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2018

DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation /thesis entitled **"A STUDY TO ASSESS THE EFFECTIVENESS OF NESTING POSTURE ON SLEEPWAKE STATE OF THE PRETERM BABY IN NICU OF A SELECTED HOSPITAL KOLAR."** is a bonafide and genuine research work carried out by me under the guidance of **Mrs. Lavanya Subhashini, Associate Professor of Child Health Nursing,** Sri Devaraj Urs College of Nursing, Tamaka, Kolar.

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"Give thanks to the LORD for he is good; his love endures forever"1 Chronicles' 16:34

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ABSTRACT

BACKGROUND OF THE STUDY

Prematurity is the birth of an infant before 37 weeks of gestation. Premature infants are fetuses living outside the uterus, where brain development occurs faster than any other stage in life.

More than 1 million infants die each year because they are born too early. Worldwide, the pre-term birth rate is estimated at 9.6% - representing about 12.9 million babies.

OBJECTIVE OF THE STUDY

1. To assess sleep wake state of preterm baby by using Assessment preterm infant behavior [APIB] scale in both the experimental and control group.

2. To find the effectiveness of nesting by comparing sleep wake state of preterm babies of both experimental and control group by using Assessment preterm infant behavior [APIB] scale.

3. To determine the association between sleep-wake state of preterm baby with selected demographic variables.

NULL HYPOTHESES

$H0_1$: There will not be any statistically significant difference in sleep wake state of preterm babies between experimental and control group

$H0_2$: There will not be any statistically significant association between sleep wake state of preterm and their socio-demographic variables

METHODOLOGY

In the present study, quasi experimental study research design was adopted. The sample consists of 30 preterm babies in NICU for experimental group and 30 preterm babies in SNICU for control group of R. L Jalappa Hospital and Research center of Tamaka Kolar, by using purposive sampling technique, the sample were selected. All preterm babies born at gestational age between 30 weeks to 37 weeks, birthweight between the 1000 grams to 2000 grams by using the APIB Scale, the data was collected and analyzed and interpretation was done based on descriptive and inferential statistics.

RESULTS

The majority of preterm babies were males, weights between 1.5-2kg, majority of the mothers age belong to 20-30 years, primi gravida, type of delivery was LSCS, occupation was house wife, education was PUC and above in both the experimental and control group. There was significant increase in the mean sleep score of preterm babies in the experimental group compared to control group during morning and evening. There was no association between the socio demographic variables and sleep score of the preterm baby.

CONCLUSION

It is evident that nesting posture is effective in improving the sleep wake state of preterm babies in NICU

Key terms: Preterm, Nesting Posture, sleep, sleep wake state, APIB, NICU

ABBREVATIONS

SI. No	ABBREVIATION
1	APIB: Assessment of preterm infant behavior.
2	SDUCON: Sri Devaraj Urs College of Nursing.
3	f: Frequency.
4	% : Percentage.
5	SD : Standard Deviation.
6	df : Degrees of Freedom.
7	NS : Not Significant.
8	SS : Statistically significant.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURS

LIST OF ANNEXURES

CHAPTER 1

INTRODUCTION

"Do not say, 'It is morning,' and dismiss it with a name of yesterday. See it for the first time as a newborn child that has no name – RABINDRANATH TAGORE."

Prematurity is the birth of an infant before 37 weeks of gestation. Premature infants are fetuses living outside the uterus, where brain development occurs faster than any other stage in life. If the fetus is separated from the protective environment of uterus in this critical period, special treatments are required in neonatal intensive care units (NICU).[1]

Humans spend about one-third of their lives asleep, yet most individuals know little about sleep. Although its function remains to be fully elucidated, sleep is a universal need of all higher life forms including humans, absence of which has serious physiological consequences.[2]

After about seven months growing in the womb, a human fetus spends most of its time asleep. Its brain cycles back and forth between the frenzied activity of rapid eye movement (REM) sleep and the quiet resting state of non-REM sleep. But whether the brains of younger, immature fetuses cycle with sleep or are simply inactive has remained a mystery, until now. Infants spend a significant proportion of their time sleeping, and early sleep behaviors are associated with learning, memory, impulse control, behavior problems, and social competence.[3]

Sleep architecture refers to the basic structural organization of normal sleep. There are two types of sleep, non-rapid eye-movement (NREM) sleep and rapid eye-

movement (REM) sleep. NREM sleep is divided into stages 1, 2, 3, and 4, representing a continuum of relative depth. Each has unique characteristics including variations in brain wave patterns, eye movements, and muscle tone. Sleep cycles and stages were uncovered with the use of electroencephalographic (EEG) recordings that trace the electrical patterns of brain activity.[4]

More than 1 million infants die each year because they are born too early. Worldwide, the pre-term birth rate is estimated at 9.6% - representing about 12.9 million babies. According to the White Paper, the highest pre-term birth rate in the world is found in Africa, North America and Asia as 11.9%, 10.6% and 9.1% respectively (Oct 5th, 2009). The rate of premature birth is rising. According to the March of Dimes, about 12% of babies born in the USA are born pre-term. Among the babies born pre-term 84% are born between 32-36 weeks of gestation, about 10% are born between 28 and 31 weeks of gestation, and about 6% are born at less than 28 weeks of gestation.[5]

One of the consequences of the advanced care environment of the NICU is the disturbance of the sleep-wake states in premature infants. Sleep is a fundamental need for an infant, and recent inquiries have emphasized the pivotal role of adequate sleep in proper brain development.[6]

In premature neonates, the sleep-wake states comprise of different stages, including deep sleep, light sleep, sleepiness, slow wake, active wake, crying, and transitive stage. Each of these stages is associated with specific behavioral and physiological properties. Among these sleep-wake stages, premature newborns benefit most from the deep sleep and slow wake states. Deep sleep is considered the most advantageous developmental state since it allows infants to resist superfluous

environmental stimulants. In the slow wake state, most of the energy of infants is spent on interacting with the environment, collecting information, and developing social and cognitive abilities.[7]

Other studies have indicated the effect of nesting on neonates' sleep improvement. Nesting, as a component of developmental care, improves neonates' sleep quality through preservation of neonates' curved limb position and reduction of sudden movements as well as immobility of the arms and legs.[7,8]

Alternative positioning aids made of stretchable cotton that are designed to provide containment, while allowing the infant to move the extremities into extension followed by recoil back to flexion, have been introduced in the NICU. Although used in many NICUs across the United States and in Europe, no studies to date have examined the effects of these alternative positioning devices. However, results from a recent research survey indicated that the majority of nurses and therapists surveyed perceived that alternative positioning was the easiest type of positioning to use and the most beneficial for preterm infants.[9-10]

NEED FOR THE STUDY

In India multicenter Neonatal Health Research Initiative (NHRI) study, the causes of neonatal deaths as per verbal autopsy were respiratory distress syndrome (57%), low birth weight (51%), prematurity (29%) and jaundice (4%).[11] One of the consequence of the advanced care of advanced environment of the NICU is the disturbance of the sleep-wake states in premature infants.[12]Sleep is a fundamental need for an infant and important for proper brain development.[13]

Despite the necessity of preventing sleep-wake disturbance in premature infants, Caregivers in NICUs constantly neglect these states. Furthermore, design and implementation of interventions to enhance and organize the sleep-wake states in premature infants are normally disregarded by medical researchers.[14-15]

Hospitalization of the neonates in neonatal intensive care unit (NICU) and contact with various environmental stimulations leads to shortening of their sleep time or development of a sleep disorder.[16] In recent years, several studies have been conducted on the factors affecting neonates' sleep improvement. Some studies showed that neonates who are swaddled are less awake and have more sleep time. They also fall asleep more spontaneously and conveniently when they wake up.[17]

Studies have also proved that administration of individualized developmental care like reduction of environmental light and noise, usage of head supports, supports for back and legs, swaddling the hands, non-nutritive sucking, grasping, reduction of parents' stressful interventions, and caring the infant through hugging, prolongs the duration of quite sleep and active sleep times in premature infants.[18,19]

The correct positioning will help the baby to develop good posture and improve muscle control. Some hospitals actually have a little “nest” which is a toweling nest with cotton straps. The baby lies in the nest and the cotton straps are pulled across the baby so that they feel safe and secure. If the towel nesting is not available, nesting can be prepared by using sheets, preferably soft ones. Roll the sheets length way so that they are tubes. These are then placed round the baby so that he/she got sometime secure around them on both sides and under his/her feet. This will not only help them to feel safe but it will also encourage good posture and muscle movement and provide comfort positioning.[17]

Nesting facilitates transformation of sleep pattern from erratic disturbed spells, to deep peaceful nights and contented days, thus conserving energy (may be lost in crying) and minimizing weight loss. Again the flexed posture reduces the surface area exposed to the environment minimizing heat loss which prevents huge weight loss.[17]

As nesting posture has positive effect on the daily sleep quality, investigator felt the need to carry out the study for benefit of overall developmental care of preterm baby.

CHAPTER II

OBJECTIVES

STATEMENT OF THE PROBLEM

"A study to assess the effectiveness of Nesting Posture on sleep-wake state of preterm baby in NICU of a selected hospital Kolar."

OBJECTIVES OF THE STUDY

1. To assess sleep wake state of preterm baby by using Assessment preterm infant behavior [APIB] scale in both the experimental and control group.

2. To find the effectiveness of nesting by comparing sleep wake state of preterm babies of both experimental and control group by using Assessment preterm infant behavior [APIB] scale.

3. To determine the association between sleep-wake state of preterm baby with selected demographic variables.

NULL HYPOTHESIS

$H0_1$: There will not be any statistically significant difference in sleep wake state of preterm babies between experimental and control group

$H0_2$: There will not be any statistically significant association between sleep wake state of preterm and their socio-demographic variables

OPERATIONAL DEFINITIONS

- **Effectiveness:** It refers to quality of being able to bring about an outcome. In this study it refers to how much nesting can improve comfortable to

maintain the normal sleep wake state of newborn as measured by assessment of preterm infant behavior [APIB] scale.

- **Nesting**: In this study it refers to a comfortable posture provided to the newborn, which is oval- shape made by putting two robed baby linen in a form of a nest in which the baby lies.
- **Posture**: In this study it refers to a position or alignment of various parts of the body in relation to one another including position of shoulder in terms of shoulder adduction, flexion and extension of elbows, hips, knee when they are lying in**.**
- **Sleep wake state:** In this study it refers to sleeping and awaking period of the preterm baby which is assessed by using Assessment of preterm infant behavior [APIB] scale.

CONCEPTUAL FRAMEWORK

Conceptual framework for this study is based on Betty Numen theory health care system model (1982). The study aims at assessing the sleep of preterm baby admitted to NICU.

According to the Numen's the client is a central with a several protective layers. The core consists of response patterns.

In the present study the preterm babies hospitalized to NICU is viewed as an open system, bombarded by the spectrum of sleep disturbance in NICU.

The reaction can occur in 3 levels of defense that is in the flexible line of defense preterm babies may consider the admission of baby to NICU as a overwhelming task.

In the normal line of defense, the babies evolve a normal range of response. This line consists of ADJUSTING TO NICU ENVIRONMENT. The researcher used measure or change in the baby environment by putting nesting to adopt in the NICU. This line represents a state of wellness to preterm baby.

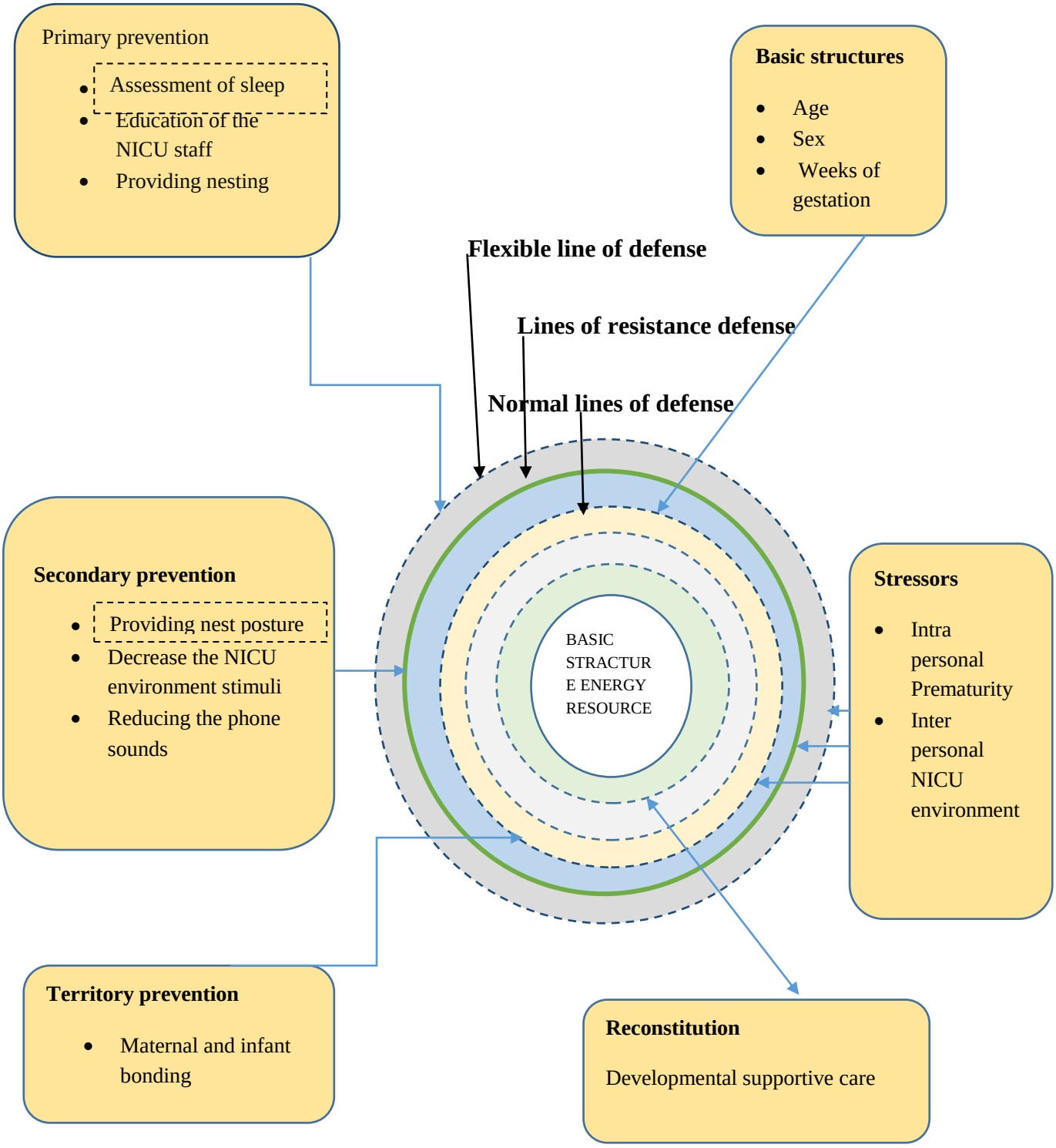

Figure: 1 Schematic representation of theoretical frame work adopted for the present study based on Betty Neumann's Theory

CHAPTER-III

REVIEW OF LITRATURE

Review of literature is done based on the objectives of the study. Reviews are done on the following headings

1) Reviews related to sleep wake state and nesting posture.
2) Reviews related to developmental care of preterm baby.

1) REVIEWS RELATED TO SLEEP WAKE STATE AND NESTING POSTURE.

An Experimental study conducted in the year 2016, evaluated the effect of nesting posture on the sleep wake state of premature infants. For this study a researcher took 60 premature infants admitted in the NICU. Infants were divided into two groups of experimental and control. Data were collected using the Assessment of Premature Infants' Behavior (APIB). Neonates in the control group were placed in an incubator, and neonates in the experimental group were positioned in a nest. Between-group comparison was performed using paired-samples T-test for normal variables and Wilcoxon test for non-normal variables.[20]

A crossover clinical trial was conducted to evaluate the effect of nesting and swaddling on the sleep duration of the premature infants. For this study researcher took 42 premature infants who met the inclusion criteria. Infants were randomly assigned to two groups of nest-swaddle and swaddle–nest. Sleep states was evaluated by observation and use of prechtl's criteria then duration of total sleep time [TST] and quite sleep time were recorded. Data were analyzed by using repeated measure

analysis of variance [ANOVA] both swaddling and nesting could significantly increase in the duration of TST and QST compared to the control group.[21]

A randomized clinical trial which was conducted to evaluate the effect of flexed [facilitated fetal tucking] andextended [free body] postures on the daily sleep quantity. This study was conducted in the year 2015 at AL- Zahra teaching hospital of Tabriz, Iran. Thirty-two premature infants with the age range of 33–36 weeks were selected for the study. Every infant was studied for 4 days and in a 12-h period every day (8 a.m.–8 p.m.). Each day, an infant was randomly put in one of the four statuses, namely, free body posture in the supine position, free body posture in the lateral position, facilitated fetal tucking in the supine position and facilitated fetal tucking in the lateral position. Films were recorded in the 12-h period (8a.m –8 p.m.). The results showed that daily sleep duration of the infants in flexed (facilitated fetal tucking) posture and lateral position is longer than that of the infants in extended (free body) posture and supine position.[22]

An experimental study conducted two nurseries in a northwest medical center to evaluate the Preterm Infant State Developmental Individual and Gender Differences Matter. For this study researcher took Ninety-seven (97) hospitalized, medically stable, preterm infants. Fifty one (51) subjects were females. Two hundred eighty five (285) real-time video recordings of infants performed during 4-hour interfeeding intervals. Sleep-wake states were coded at 15-second intervals. Active sleep was the dominant state across postmenstrual ages. Although not statistically significant, preterm infants showed developmental changes in state organization with increased quiet sleep, drowsy, and awake, decreased active sleep, and more defined and less diffuse states over age. A significant gender effect was found, with males having less

active sleep (p = .012), more drowsy (p = .03), more awake (p = 0.43), less defined (p = .002), and more diffuse (p = .001) states compared with females.[23]

A Descriptive study was conducted to assess the State change in preterm infants in response to nursing care giving: possible gender effects for this study researcher took Twenty-two hospitalized preterm infants. Infant state and care giving episodes were coded in 15-second intervals from video recordings of approximately three hours duration. Time plots of state and care giving were analyzed visually to summarize spontaneous state changes and state change associated with care giving. Sleep and wake state distribution did not differ statistically by gender; however, the rate of state change in male infants was twice that of females (p=.012) at discharge. At discharge, male infants received approximately twice as many care episodes as females. At discharge, the rate of state change in response to care giving in male infants was four times that of female infants (p=.026). Males exhibited a greater percentage of care giving episodes related to state change than did females at discharge (p=.018). Neither of these sleep developmental changes showed any significant effects of NIDCAP intervention. [24]

A study was done to assess the importance of neonatal care in neonatal intensive care unit. Developmental care has been added as a supplementary part of health care in NICUs to help better protect against potential sleep disturbing factors and its consequent results. Nurses in neonates ward dedicate major part of their time in providing care services in NICUs and thus play an important role in sustaining a suitable environment for neonates' sleep.[25]

A study was conducted to assess the manner in which between sleep states transitions occur in infants, we examined polysomnography (PSG) studies in 25 clinically and neurologically normal, appropriate for gestational age, 30 to 36 week gestational age (GA) infants. Twenty infants underwent paper PSG and five infants digitized PSG. Sleep states were coded based on concordance of REMs and the electroencephalogram (EEG) pattern. Data were analyzed using a multivariate linear model, with the subject factor as a cluster. Duration of active sleep (AS) to quiet sleep (QS) transitions (median 4.8 min) was significantly longer than duration of QS to AS transitions (1.7 min) and was independent from GA and from the recording method (paper vs. digitized PSG). The sequence of modifications in parameters (REM and EEG) was invariable: REM cessation was the first change in AS to QS transitions, and REM appearance was the last change in the QS to AS transitions. Our study demonstrates a stable, well organized pattern of between sleep states transitions in healthy 30 to 36 week GA premature infants. These findings are similar to those described in full term new borns and are in agreement with our previous observations of well-defined sleep states at the age investigated here.[26]

2) REVIEWS RELATED TO DEVELOPMENTAL CARE OF PRETERM BABY

An experimental study conducted to determine the effect of nesting posture on discomfort and physiological parameters of low birth weight infant. The study was conducted in NICU of government hospital of Delhi. For this study the researcher took 60 low birth weight babies; 30 in experimental group and 30 in control group. Pre-test, post- test control group design was used in which nesting was provided in experimental group 9 hours per day for 5 days. Posture, comfort and physiological

parameters were assessed before and during administration of nesting. A significant improvement in posture discomfort (t=12.64) was observed in experimental group during application of nesting. A significant reduction in the discomfort was observed in experimental group as compared to control group (t=10.65).Low birth weight infants exhibit comparatively stable physiological parameters during the period of nesting.[27]

A prospective cross-over study included 33 preterm neonates [mean (S.D.): gestational age: 29.3 (1.8) weeks; birth weight: 1245 (336) g]. Polysomno graphy was performed in two randomly ordered 3-h periods with and without Development Care. A blinded electro physiologist analyzed sleep. The total sleep time (TST) was the primary outcome, duration of active (AS), quiet (QS) & indeterminate sleep(IS), and latency before sleep were the secondary outcomes. Non-parametric Wilcoxon tests & ANOVA were used. Developmental care proved to improve the duration of sleep.[28]

A experimental data suggest a strong role for sleep in brain development. As sleep is the predominant behavioral state in the term and especially the preterm newborn, these data underline the importance of respecting sleep duration and organization within the different sleep states. Polysomnography is the preferred technique used for identification of sleep state; however, behavioral observations-under the condition that the observer is well trained-may prove as efficient. Application of the Neonatal Individualized Developmental Care and Assessment Program decreases environmental stressful events and promotes harmonious well-being behaviors, based on an individual approach. This strategy has encouraging results, showing an increase in sleep duration under Neonatal Individualized Developmental Care and Assessment Program conditions, but further studies are needed to assess its long-term neurobehavioral impact.[29]

An experimental study was done by using a web based intervention to teach developmentally supportive care to parents of preterm infants. Intervention programs that support child development have been shown to have positive impact on early motor and cognitive development and parental wellbeing. A multidisciplinary team developed micux agar are quotidian (MAQ) to teach developmentally supportive care to parents of preterm infants based on 5 themes that is infant behavioral cues, flexion positioning, oral feeding support, parent infant interaction and anticipation of developmental milestones. Majority of parents (43/45) were satisfied with the intervention program. MAQ met their need for evidenced based information that proved useful to support their child development.[30]

An experimental study was conducted in Bab-el-Sharia hospital aimed at evaluating the short term effect of early procedural pain exposure on subsequent development of behavioral and physiological recruited from NICU of Bab-El Sbaeria Hospital. Pain response to heel-stick procedure was assessed by neonatal pain scale to measure behavioral response and change in heart rate and o2 saturation to evaluate physiological responses. The study result evident that behavioral pain response were blunted in neonate with lower pain scores during and after heel stick while physiological response were exaggerated with higher heartrate and o2 saturation variability. On studying the development of physiological and responds to pain in neonate, it was found that prior pain exposure and number of procedures predict dampened behavioral and exaggerated physiological subsequent pain responses.[31]

An observational descriptive explorative study was conducted to describe the manipulation of handling that preterm infants are subjected to over a24 hour period in an NICU. The study was conducted with 20 preterm infants who were filmed continuously in a NICU over a 24 hours period from September 2008 to March 2009.

The preterm infants were subjected to an average of 768 manipulations and 1341 procedures. The result of the study shows that preterm infants in NICU underwent an excessive number of manipulations over 24 hour period evaluated. This result prompts the need for a critical evaluation of the care provided to this population specifically with regard to decision making for whether and went to perform procedures and manipulation for these children during therapy.[32]

CHAPTER -IV

METHODOLOGY

"This section deals with the methodology adopted for the study. "Research methodology is a way to solve problem." It is a systematic procedure in which the researcher starts from initial identification to final conclusions.[33]

RESEARCH APPROACH

The selection of research approach is the basic procedure for research enquiry. Quantitative approach was adopted for the study.

RESEARCH DESIGN

A research design encompasses the methodology and procedure employed to conduct a research.[34]In this study, the research design, adopted for this study was quasi experimental research Design.

VARIABLES

Variables are properties or characteristic of some event, object, or person that can take on different values or amounts when conducting research experiments often manipulate variables .A variable as the name implies, is something that varies.[35]

Variables identified in this study were

Independent Variables: Sleep wake state.

Dependent Variables: Nesting posture for preterm baby.

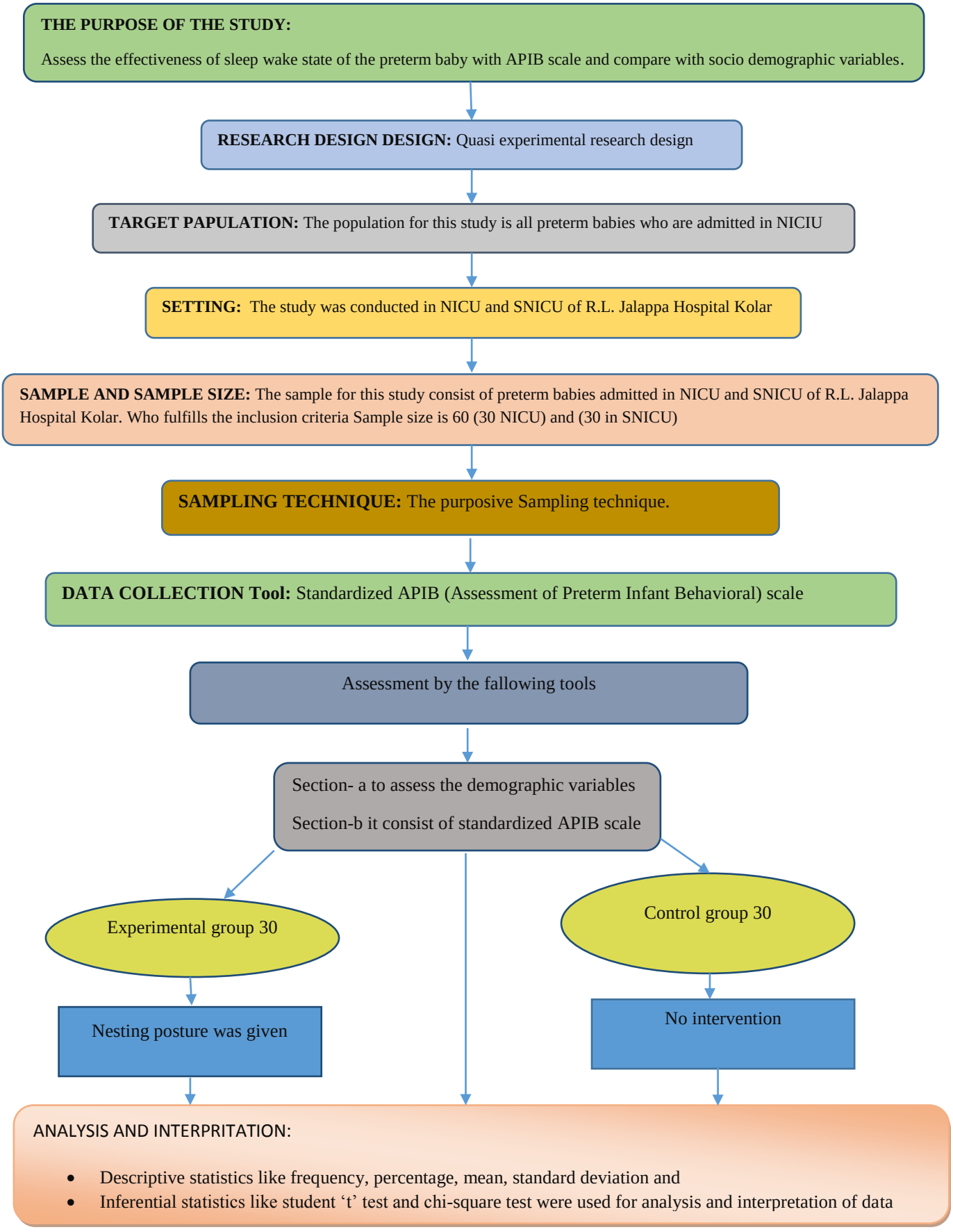

Figure- 2 Schematic Presentation on Methodology

SETTING OF THE STUDY

Setting of the study is the physical location and conditions in which data collection take place in a study. Setting is the more specific place where data collection occurs. Sites and settings should be selected so as to maximise the validity and reliability of data.[25]

In the present Study the setting was NICU and SNICU of R. L. Jalappa hospital and research center TamakaKolar. This NICU consist of 15 beds and SNICU consist of 8 beds. The people come from the Kolar, Bangarpet, Mulbagal, K.G.Fand Hoskote near people's are coming for the hospital.

POPULATION

The term population refers to the aggregate of all the units in which researcher is interested. [36]

In this study the population refers preterm babies admitted to the NICU and SNICU of R. L. Jalappa hospital and research center TamakaKolar.

SAMPLE AND SAMPLE SIZE

The subset of the overall population that is included in study is called as Sample.[25]

The sample for the study consists of 30 preterm babies in NICU for experimental study and 30 preterm babies in SNICU for control group.

SAMPLING TECHNIQUE

Sampling is the act, process or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or

characteristics of the whole population.[25]In the present study purposive sampling technique was adopted

CRITERIA FOR THE SELECTION OF SAMPLE

Inclusion Criteria

- All preterm babies born at gestational age between 30 weeks to 37 weeks
- Birth weight between 1000gm to 2000gm

Exclusion Criteria

- Babies who are in the critical condition
- Babies who are on ventilator
- Babies who are on sedation

DEVELOPMENT AND DESCRIPTION OF THE TOOL

Data Collection tool are the procedures or instruments used by the researcher to observe or measure the key variables in the research problem.

1. Based on the objectives of the study the following tool were used to collected data. Subject data sheet to assess the demographic variables of the baby
2. Assessment of preterm infant behavior [APIB] scales to assess the sleep wake state of preterm baby. It is a standardized scale developed by Als H[26]

Tool -1: Socio – demographic profile of preterm baby which include is age of the baby, sex of the baby, Gestational age, weight of the baby, type of feeding. Mother's demographic variables includes age, type of marriage, education, occupation, type of

family, monthly income, Religion, residential area, number of children's, type of delivery, history of abortion, history of preterm baby, Gravida clinical variables like oxygen administration, IV fluid administration, phone sounds, alarm sounds, presence of pulse oxymetry.

DATA COLLECTION PROCEDURE

The data was collected in the following steps by self-administration which includes

Step -1: Permission was obtained from the ethical committee to carry out the study.

Step -2: A formal written permission was obtained from the hospital authorities.

Step -3: By using purposive sampling technique, 60 (30 NICU, 30 SNICU) preterm babies were selected based on who fulfilled the inclusion criteria were selected in both experimental and control group.

Step -4: On the day of data collection, investigator introduced to mother of preterm baby and informed the purpose of the study, then mothers were ensured with confidentiality, later informed consent was obtained from mothers of preterm baby.

Step -5: The sleep assessment was done by using standardized scale (APIB) scale. Baseline assessment was done, when the preterm babies were stable.

Nesting Posture is given to Experimental group in NICU whereas in control group routine care usually supine position is given

- The nest is made in oval shape with two rolled-up line in which the preterm baby is placed
- The preterm baby is placed in the nest to facilitate a semi flexed and adducted position of the shoulders and hips

Step-6: The sleep wake state was assessed for the three days continuously in the morning and evening.

Step- 7 Each sleep assessment is done for 1 hr.

- The sleep wake state for all babies was assessed in the morning 1 hour between 8am to 12pm and in the evening one hour 4pm to 6pm continuously for three days in both experimental and control group
- Each one hour assessment was recorded in 30 columns.
- Each column was recorded for two minutes
- Every 2 minutes once the scoring was given according to the parameters present in APIB scale which includes, eye movements, body movements, facial movements, respiration.

	Day 1	**Day 2**	**Day3**	**Day4**
Experimental Group	Baseline assessment	Sleep assessment	Sleep assessment	Sleep assessment
	Nesting Posture			
Control group	**No intervention**			
	Baseline assessment	Sleep assessment	Sleep assessment	Sleep assessment

Figure: 3. Schematic representation of data collection plan.

CONTENT VALIDITY

"Validity is a criterion for evaluating the quality of measure or an instrument". A measure is valid if it accurately measures what it is supposed to measure. Content validity is the intent to which a measuring instrument provides adequate coverage of the topic under the study.[37]

- Socio-demographic variables of preterm baby with 5 items.
- Socio-demographic variables of mothers of the preterm baby with 10 items.
- Clinical variables with 5 items.

Content validity is done with the five nursing experts at Sri Devaraj Urs College of nursing. Prof. Radha M.S, Silvia Surekha Mrs. JairaginiAruna, to Prof. Mary Minerva, Mrs. Gayathri Asst. Professor.

RELIABILITY OF THE TOOL

The reliability of an instrument is the degree of consistency with which it measures an attribute it is supposed to be measuring. [38] To establish reliability, the tool was administered to 5 preterm baby in NICU intervention for experimental group and SNICU for control group by the investigator and expert. The obtained value of reliabity ('r' value = 0.9) Hence the tool was reliable.

PILOT STUDY

A pilot study is a small scale version or trial run, done in preparation for a major study[28].

The pilot study was conducted on preterm baby. A formal written permission was obtained from higher authorities of RL Jalappa Hospital and Research Centre. By using the purposive sampling technique, sixbabies in each ICU who fulfilled the inclusion criteria were selected on the day of data collection,investigator introduce herself to mothers of preterm baby and explained the purpose of the study. Then mothers were ensured with confidentiality, later informed consent was obtained. The data was collected by using standardized scale (APIB) and 1 hour was spent with each baby for collecting the data by self-observation method.

The sleep was assessed two times in the morning and evening for continuously three days after inclusion.

PLAN FOR DATA ANALYSIS

Data analysis is the schematic organization of research data and the testing of research hypothesis using that data.[39]

The data obtained was planned and analyzed in terms of objectives of the study using descriptive and inferential statistics.

Descriptive statistics like frequency, percentage, mean, standard deviation and inferential statistics like student ‘t’ test was used to test the difference of sleep score between experimental and control group and chi-square test to find the association between sleep score and preterm baby’s demographic variables.

SUMMARY:

This chapter dealt with the research methodology that is, research approach, research design, sample and sampling technique, research setting, criteria for selection of sample, development & description of the tool, data collection procedure, validity, reliability of tool, pilot study and plan for data analysis.

CHAPTER-V

THE SAMPLE SIZE ESTIMATION PROCESS

STATEMENT OF THE PROBLEM

A Study to assess the effectiveness of Nesting Posture on Sleep-wake state of preterm baby in NICU of as selected hostpital Kolar.

Research approach: Quantitative research approach

Research design: Quasi experimental research design

Sampling technique: Purposive sampling technique

Sampling Size: NICU 3 for experimental group SNICU 30 for control group of R.L.Jalappa hospital and research center tamaka Kolar.

Sample size estimation: Sample size was estimated based on evaluvation of the effect of nesting posture on sleep wake state of premature infant in the year 2016 based on the Rhyani study.

For the present study 60 preterm babies were selected in NICU of R.L.Jalappa hospital and research center tamaka Kolar.

Signature of the statistition

CHAPTER-VI

DATA ANALYSIS AND INTERPRETATION

Data analysis is defined as the systematic organization and synthesis of research.Data and the testing of research hypothesis using those data.

This chapter deals with the analysis and interpretation of the data collected, to assess the Effectiveness of Nesting Posture on Sleep Wake state of the Preterm baby in NICU of R. L.J.H. Research centre. The findings were analysed based on the objectives and hypothesis of the study.

OBJECTIVES OF THE STUDY

1. To assess sleep wake state of preterm baby by using Assessment preterm infant behavior [APIB] scale in both the experimental and control group.

2. To find the effectiveness of nesting by comparing sleep wake state of preterm babies of both experimental and control group by using Assessment preterm infant behavior [APIB] scale.

3. To determine the association between sleep-wake state of preterm baby with selected demographic variables.

NULL HYPOTHESIS

$H0_1$: There will not be any statistically significant difference in sleep wake state of preterm babies between experimental and control group.

$H0_2$: There will not be any statistically significant association between sleep wake state of preterm and their socio-demographic variables.

ORGANIZATION OF THE FINDINGS

1. Data was organized on the master sheet.
2. Frequencies and percentages were used for analysis of demographic characteristics.
3. Calculation of the mean, standard deviation, mean error deviation, mean deviation.
4. Student's test was used to find the effectiveness of nesting posture on sleep wake state of preterm baby.
5. Application of the chi- square test to find the association between the experimental and control group sleep scores with the selected demographic variables of preterm baby.

Findings are discussed under the following headings:

Section A: Description of demographic variables of preterm baby's and mothers of preterm baby in both experimental and control group.

Section B: Description of the clinical variables of both experimental group and control group.

Section C: Description of the sleep wake state in both the experimental group and control group during morning and evening.

Section D: Association between the sleep score and socio demographic variables in both the experimental group and control group

SECTION A:

Description of demographic variables of preterm baby's and mothers of preterm baby in both experimental and control group.

This section deals with the description of the infants according to their demographic characteristics.

Table No- 1 Description of socio demographic variables of the preterm baby

N=60

Sl No	Demographic Variables		Experimental		Control	
			Frequency	**Percentage**	**Frequency**	**Percentage**
1.	**Age of the baby**	Day : 2-3	30	100%	30	100%
		Day : 4-5	00	00	00	00
2.	**Sex of the baby**	Male	17	56.7%	19	63.3%
		Female	13	43.3%	11	36.7%
3.	**Gestation age**	30 – 34	15	50%	14	46.7%
		35 – 37	15	50%	16	53.3%
4.	**Birth weight of the baby**	1- 1.5 kg	06	20%	09	30%
		1.5 -2kg	24	80%	21	70%

5.	**Type of the Feeding**	Syringe feeding(Palade feeding)	15	50%	09	30%
		Direct breast feeding	01	3.4%	02	6.6%
		Naso gastric feeding	03	10%	00	00
		Oro gastric feeding	11	36.6%	19	63.4%

Table-1: Reveals the socio demographic variables of the sample.

Regarding age of the baby all (100%) babies were included on day 2 to day 3 in both the experimental group and control group.

With regard to sex of the baby, majority (56.7%) were males and remaining 43.3% infants were females in experimental group where as in control group majority (63.3%) were males and remaining36.7% infants were females.

Regarding Gestational age, half(50%) of preterm babies were from 30- 34 weeks of gestation and another half (50%) were from 35-37weeks of gestation in experimental group where as in control group majority (53.3%) were 35 to 37 weeks of gestation and remaining 46.7% were 30-34 weeks of gestation.

Regarding birth weight of the baby, majority (80%) were 1.5-2kg and remaining 20% were in 1-1.5kg in experimental group and in control group majority (70%) were 1.5-2kg and remaining 30% were 1 to 1.5kg

Regarding type of feeding, majority(50%) were on syringe (Palade) feeding, 36.6% were on oro- gastric feeding, 10% were on Naso gastric feeding and only 3.3% were on direct breast feeding in experimental group, where as in control group majority (63.3%) were on oro gastric feeding, 30%were on syringe (Palade) feeding and only 6.6% were on direct breast feeding.

Table - 2 Description of socio demographic variables of the mothers of preterm baby

N=60

Slno	Demographic Variables		Experimental		Control	
			Frequency	**Percentage**	**Frequency**	**Percentage**
1.	**Age of the mother**	20-30	30	100%	28	93.3%
		31-40	00	00	02	6.7%
2.	**Educatation**	Primary	00	00	00	00
		higher Secondary	00	00	03	10%
		Secondry	09	30%	06	20%
		PUC and above	21	70%	21	70%
3.	**Type of family**	Nucler family	15	50%	21	70%
		Joint family	15	50%	09	30%

4.	**Occupation**	Working	05	16.7%	00	00
		Housewife	25	83.3%	30	100%
5.	**Monthly Income of the family**	Below Rs5000	00	00	00	00
		Rs 5000- Rs 10,000	17	56.7%	27	90%
		Rs 10,000- Rs 15,000	13	43.3%	02	6.7%
		Rs 15,000 and above	00	00	01	3.3%
6.	**Residencial area**	Urban	09	30%	13	43.3%
		Rural	21	70%	17	56.7%
7.	**Number of the childrens**	One child	14	46.7%	10	33.3%
		Two children	16	53.3%	20	66.7%
8.	**Type of the delivery**	Normal vaginal delivery	09	30%	12	40%
		LSCS	21	70%	18	60%
9.	**Gravida**	Primi mother	20	66.7%	21	70%
		Multipara mothers	10	33.3%	09	30%

Table- 2 Reveals the Socio Demographic Variables of the Mothers of Preterm Baby.

Regarding ageof mothers, all (100%) were of the age group between 20-30 years in experimental group whereas in control group majority (93.3%) were between age group of 20-30 years and remaining 6.7% were from 30 – 40 years.

Regarding educational qualification, majority (70%) were PUC and above, remaining 30% secondary education in experimental group and in control group majority were (70%) were PUC and 20% were higher secondary and remaining 10% were secondary school.

Regarding to type of family half (50%) were from nuclear family and another (50%) were from joint family in experimental group and in control group majority (70%) were from nuclear family and remaining 30% were from joint family.

Regarding occupation of the mother, majority (83.3%) were house wife's and remaining were working women (16.7%) in experimental group where as in control group all (100%) were house wife's.

Regarding to monthly family income majority,(56.7%) were fromRs5,000-10,000 remaining 43.3% were from Rs10,000- Rs15,000 and in control group majority of them were (90%) were from Rs5000- Rs10000, 6.6% were from 10,000- Rs15,000 remaining 3.3%were Rs15,000 above.

Regarding to residential area, majority (70%) were rural, remaining 30% were urban in experimental group and in control group, majority (56.7%) were rural remaining 43.3% of them were urban.

Regarding number of children, majority (53.3%) were having two children and remaining 46.7% of them were having one child in experimental group and in

control group majority (66.6%) were having two children and remaining33.3% of them were having one child.

Regarding to type of delivery, majority (70%) have undergone LSCS, remaining 30% of them had normal vaginal delivery in experimental group and control group majority (60%) have undergone LSCS and remaining 40%of them had normal vaginal delivery.

Regarding to gravida majority (66.6%) were primi mothers and remaining 33.3% were multipara mothers in experimental group and in control group majority (70%) were primi mothers and remaining30% were multipara mothers.

SECTION B:

This section deals with Distribution of the clinical variables in experimental group and control group

Table no - 3 Description of the clinical variables of both experimental group and control groups

Sl No	VARIABLES	DAY	EXPERIMENTAL GROUP		CONTROL GROUP	
			Frequency	Percentage	Frequency	Percentage
1	Oxygen administration	Day 1	23	76%	23	76.6%
		Day 2	14	46%	16	53.3%
		Day 3	09	30%	13	43.3%
2	I.V. fluids	Day 1	18	60%	20	30%
		Day 2	18	60%	17	56.6%
		Day 3	14	46.6%	15	50%
3	Alarm sounds	Day 1	30	100%	30	100%
		Day 2	30	100%	30	100%
		Day 3	30	100%	30	100%
4	Phone sounds	Day 1	30	100%	30	100%
		Day 2	30	100%	30	100%
		Day 3	30	100%	30	100%
5	Presence of pulse oximetry	Day 1	30	100%	30	100%
		Day 2	30	100%	30	100%
		Day 3	30	100%	30	100%

Table-3: Reveals the Clinical Variables of the Preterm Baby

Regarding oxygen on 1st day majority (76.6%) were on oxygen and on 2nd day46.6% were on oxygenand on 3rd day 30% in experimental group. In control group on day 1st majority (76.6%) were on oxygenand on 2nd day 53.3% were on oxygen and on 3rd day 43.3% were on oxygen.

Regarding IV fluids 1st day and 2nd day 60% were on IV fluids and on 3rd day 46% were on IV fluids in experimental group and in control group 1st day 30% were on IV fluids, on 2nd day 56.6% were on IV fluids, on 3rd day 50% were on IV fluids remaining were not on IV fluids.

While assessing sleep wake state of preterm babies, all of them were exposed to alarm sounds, phone sounds and presence of pulse oximetry.

SECTION C:

Description of the sleep score in both the experimental group and control group

Table - 4 Description of mean sleep score in the experimental and control group during morning.

N=60

DAY	GROUP	MEAN	SD	MEAN %	't' VALUE	'p' VALUE	Inference
Day 1	**Experimental**	547.63	95.03	17.35	.212	.833	NS
	Control	543.87	22.00	4.01			
Day 2	**Experimental**	569.87	38.15	6.96	2.191	.032*	SS
	Control	524.27	107.40	19.61			
Day 3	**Experimental**	571.30	16.19	2.95	6.390	<.001*	SS
	Control	534.37	27.20	4.96			

* Significant at p level< 0.05

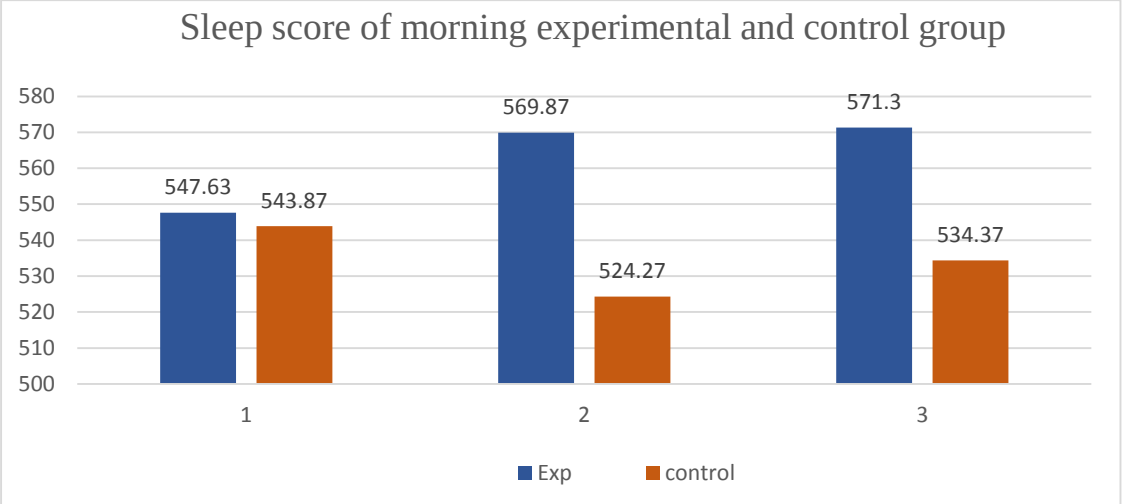

Figure: 4 - Bar diagram of description of sleep during morning in both experimental and control group

Table 4 and figure 4 indicates the description of sleep during morning in both the experimental and control group

In table 4, the mean sleep score on 1st day of morning was 547.63± 95.03 in experimental group and 543.87±22 in control group. The mean sleep score on 2nd day was 569.89±38.57in experimental group and524.27±107.40 in control group. The mean sleep score on 3rd day 571.30±64.19in experimental group and 534.37±27.20 in control group. There was no significant difference on 1st dayamong the sleep score as assessed by student 't' test (p=.833) but there was significant difference on 2nd day (p= .03) and 3rd day (p=<.001). So it is evident that the mean sleep score is more in experimental group compared to control group.

Table: 5 Description of mean sleep score in the experimental and control group during evening.

N=60

DAY	GROUP	MEAN	SD	MEAN %	't' value	'p' value	Inference
Day 1	**Experimental**	568.97	27.89	5.09	3.07	.003*	SS
	Control	548.23	24.25	4.42			
Day 2	**Experimental**	574.43	23.15	4.22	5.30	<.001*	SS
	Control	541.50	24.93	4.55			
Day 3	**Experimental**	565.00	29.18	5.32	3.62	.001*	SS
	Control	539.53	25.12	4.55			

* Significant at p level< 0.05

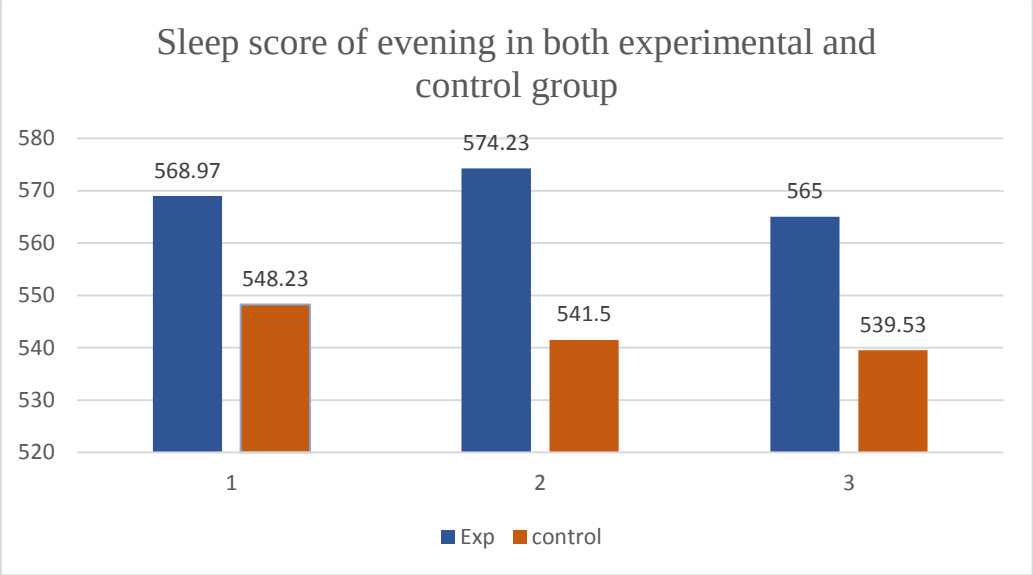

Figure: 5 Bar diagram of description of sleep during evening in both experimental and control group

Table 5 and figure 5 indicates the description of sleep in the morning in both the experimental and control group.

Table: 5 reveals that the mean sleep score on 1st day of evening was 568.97± 27.88 in experimental group and 548.23±24.25 in control group. The mean sleep score on 2nd day was 574.43 ± 23.15 in experimental group and541.50±24.93 in control group. The mean sleep score on 3rd day was 565.00±29.18 in experimental group and 539.53±25.12 in control group. There was a significant difference on 1st day (p=.003), 2nd day (p=<.001) and 3rd day (p=.001) of sleep scores in the experimental and control group duringevening as assessed by student t test.

So it is evident that the mean sleep score is more in experimental group compared to control group.

Hence nesting is effective in improving the sleep of preterm babies. So null hypothesis is rejected and research hypothesis is accepted.

SECTION: D

Table: 6 Association between the sleep score and socio demographic variables in both the experimental group and control group

Demographic Variables		Experimental Group				Control Group				Inference
		≤Median	>Median	χ^2	p value	≤Median	>Median	χ^2	p value	
Sex of the baby	Male	10	07	0.14	0.7	10	9	1.22	.2	NS
	Female	5	08			5	6			
Gestational age	30 - 34	3	1	1.42	0.2	5	6	2.71	.9	NS
	35 – 37	12	13			11	9			
Birth weight of the baby	1- 1.5 kg	6	7	0.53	0.4	8	8	0.13	.7	NS
	1.5 - 2kg	9	8			7	7			
Type of the Feed	Oral feed	6	8	0.14	0.7	8	5	0.	1.	NS
	Tube feed	9	7			7	10			

df= 1, * Significant at p level< 0.05, *SS=statistically significant, NS Not Significant, $\chi 2$ table value (3.84)

The data presented in the table 6, shows that there is no significant association between the nesting on sleep wake state of preterm baby sleep scores of experimental group and control group with socio demographic variables like sex ($\chi 2$=0.14), gestational age($\chi 2$=1.42), birth weight($\chi 2$=0.53) and type of feeding($\chi 2$=0.14).

Since there is no association between the sleep score and socio demographic variables in the both experimental and control group, the null hypothesis was accepted.

SUMMARY:

This chapter deals with the data analysis and interpretation of the findings of the study. The data was analysed by using descriptive and student t test statistics. The analysis has been organized and presented under various sections like description of preterm baby socio demographic variables, description of socio demographic variables of the mothers of preterm baby and description of the clinical variables in both the experimental and control group. Description of the sleep score in both the experimental and control group during morning and evening, association between the sleep score and socio demographic variables preterm baby.

CHAPTER-VII

DISCUSSION

This chapter presents the major findings of the study and discusses them in relation to similar studies conducted by other researcher.

The aim of the study was to assess the effectiveness of the nesting on sleep wake state of the preterm baby in NICU and SNICU at R. L. Jalappa hospital and research center Tamaka Kolar. Data collection and analysis were carried out based on the objectives of the study.

OBJECTIVES OF THE STUDY

1. To assess sleep wake state of preterm baby by using Assessment preterm infant behavior [APIB] scale in both the experimental and control group.

2. To find the effectiveness of nesting by comparing sleep wake state of preterm babies of both experimental and control group by using Assessment preterm infant behavior [APIB] scale.

3. To determine the association between sleep-wake state of preterm baby with selected demographic variables.

NULL HYPOTHESIS

$H0_1$: There will not be any statistically significant difference in sleep wake state of preterm babies between experimental and control group.

$H0_2$: There will not be any statistically significant association between sleep wake state of preterm and their socio-demographic variables.

Major Findings of Socio Demographic Variables of Preterm Baby

All preterm babies age assessed for sleep were less than 3 days in both experimental group (100%) and control group(100%) and majority were males in both experimental (56.7%) and control (63.3%) group. Majority of baby's birth weight were between 1.5-2kg in both experimental (80%) and control (70%) group and half of their gestational age was 30-34 weeks (50%) in experimental and control group (53.3%) with majority on syringe feeding(Palade feeding) (50%) in experimental group and tube feeding (63.3%) in control group.

Major findings of socio demographic variables mothers of preterm baby

All mothers were between age group of 20- 30 years in experimental group and also control group. Majority of the mother's education in both experimental group (70%) and control (70%) group had a PUC and above, half of the mothers belongs to (50%) Nuclear family and another half members were from (50%) joint family in experimental group and majority were nuclear family in control group (70%). Majority of the mothers in experimental group (83.3%) and control group (100%) were house wife's and majority of the mothers income was between Rs 5,000-Rs 10,000 in both the experimental (56.7%) and control group (90%) Most of the mothers were residing from rural area in both the experimental (70%) and control group (56.7%) and most of them were having two children's in both experimental (53.3%) and control group (66.7%) majority of the mothers underwent LSCS in both the experimental group (70%) and control group (60%) and were primi gravida in both the experimental group (66.7%) and control group (30%).

Findings ofsleep wake state of preterm babies in both experimental and control group

There was significant increase in the mean sleep score of preterm babies in the experimental group compared to control group during morning and evening. So it was evident that nesting posture is effective in improving the sleep wake state of preterm baby.

Findings of association between sleep wake state and socio demographic variables of both experimental and control group.

There was no association between the sleep wake state and socio demographic variables of the preterm baby like sex of baby, gestational age, birth weight and type of feeding.

There was no studies found in Indian literature related to effect of nesting on sleep wake state of preterm baby, however one study which was done by Rehayani was similar finding, where during nesting intervention the sleep was significantly higher in experimental group compared to control group.

Major study findings

The findings of study (Table-4) majority i.e. mean sleep score of the experimental group sleep score is higher than the control group in both morning and evening.

Study findings are supported by the Reyhani[40]T A study was conducted to evaluate found the effect of nest posture on the sleep wake state of premature infants

during the intervention, mean score of deep sleep was higher in the experimental group.

The study also supported by the Kihara and Nakamura,[41] found the effect of swaddling and nesting on premature infants' behavioral conditions and sleep, concluded that infants in prone position, either in the nest or swaddled, had more prolong QST in them.

Another study done by Bertelle[41] *et al* found that individualized developmental care including reducing the direct light and environmental noise, use of supports for back and head, non-nutritive sucking, and swaddling with restriction of hands increased the length of total sleep and QST.

SUMMARY:

It is evident that nesting posture is effective in improving the sleep wake state of preterm babies in NICU

CHAPTER -VIII

CONCLUSION

This chapter enlightens the importance of this research study. It deals with the important conclusions drawn from the study and their implications with the major findings, its limitation, recommendations and implications for nursing practice, nursing education and nursing research. The purpose of this study was to assess the effectiveness of nesting on sleep wake state of preterm baby at R. L. Jalappa Hospital and Research center Kolar

There was significant increase in the mean sleep score of preterm babies in the experimental group compared to control group during morning and evening. So it was evident that nesting posture is effective in improving the sleep wake state of preterm baby

The study statistically proved there is no association between the mean sleep score and socio demographic variables of preterm baby.

Major findings of socio demographic variables of preterm baby

All preterm babies age assessed for sleep were less than 3 days in both experimental group (100%) and control group (100%) and majority were males in both experimental (56.7%) and control (63.3%) group. Majority of baby's birth weight were between 1.5-2 kg in both experimental (80%) and control (70%) group and half of their gestational age was 30-34 weeks (50%) in experimental and control group (53.3%) with majority on syringe feeding (50%) in experimental group and tube feeding (63.3%) in control group.

Major findings of socio demographic variables mothers of preterm baby

All mothers were between age group of 20- 30 years (100%) in experimental group and were as in control group (93.3%). Majority of the mother's education in both experimental group (70%) and control (70%) group had a PUC and above, half of the mothers belongs to (50%) Nuclear family and another half members were from (50%) joint family in experimental group and majority were nuclear family in control group (70%). Majority of the mothers in experimental group (83.3%) and control group (100%) were house wife's and majority of the mothers income was between Rs 5,000- Rs 10,000 in both the experimental (56.7%) and control group (90%) Most of the mothers were residing from rural area in both the experimental (70%) and control group (56.7%) and most of them were having two children's in both experimental (53.3%) and control group (66.7%) majority of the mothers underwent LSCS in both the experimental group (70%) and control group (60%) and were prim gravida in both the experimental group (66.7%) and control group (30%).

Findings of sleep wake state of preterm babies in both experimental and control group

There was significant increase in the mean sleep score of preterm babies in the experimental group compared to control group during morning and evening. So it was evident that nesting posture is effective in improving the sleep wake state of preterm baby

Findings of association between sleep wake state and socio demographic variables of both experimental and control group.

There was no association between the sleep wake state and socio demographic variables of the preterm baby like sex of baby, gestational age, birth weight and type of feeding.

Conclusion - It is evident that nesting posture is effective in improving the sleep wake state of preterm babies in NICU

IMPLICATIONS OF THE STUDY

The present study was conducted to determine the effectiveness of nesting posture on sleep wake state among the preterm baby who are admitted to NICU of R. L. Jalappa Hospital and Research center Tamaka, Kolar. The findings of the study have implications for the nursing practice, nursing education, nursing research and nursing administration.

1. NURSING PRACTICE

- Keeping the findings of the study as base NICU nurses can practice the nesting for the preterm baby.
- NICU nurse can practice assessing the sleep wake state of the preterm baby.

2. NURSING EDUCATION

The nurse educator helps the nurse to develop competence in theoretical as well as practical level.

- Based on the findings of the study, nurse educator can emphasize on utilization of sleep assessment scales and nesting posture in NICU.

3. NURSING ADMINISTRATION

Nursing administration is a service sector to control the management operation along with arrangement of service policies in order to plan for organization. Nursing administrators take initiatives for continuous education programme.

- Nurse administrator can arrange for in service education programs for nurses to orient them regarding sleep assessment scales and proving nesting posture to preterm babies
- Nurse administrator can develop standard guidelines regarding specific sleep assessment scale and proving nesting posture to preterm babies.

4. NURSING RESEARCH

Nursing research is a systematic investigation and study of materials, sources etc. In order to establish facts and reach conclusion.

- Findings of the study add to the body of knowledge.
- Emphasize evidence based practice to provide quality care to preterm babies

LIMITATIONS OF THE STUDY

1. The study limited to preterm babies with the gestational age 30-37.
2. The samples was limited to 30 in experimental group (NICU), 30 in control group and purposive sampling technique was used.

RECOMMENDATIONS

a) A similar study can be conducted by using large population.

b) A randomized control design can be adopted for this study

c) A study can be conducted including low birth weight babies

d) A follow up study could be conducted to assess the benefit of sleep wake state of preterm baby**.**

SUMMARY:

This chapter has brought out various implications of the study and provided recommendations. Studies of this kind should be on going to improve sleep and to provide better comfortable care to preterm babies.

CHAPTER-IX

SUMMARY

Preterm baby sleep wake is disturbed in the NICU due to the various reasons the babies brain development will be reduced. More than 1 million infants die each year because they are born too early. Worldwide, the pre-term birth rate is estimated at 9.6% - representing about 12.9 million babies. So we should know about importance of the sleeping and waking state of the preterm baby at NICU.

OBJECTIVE OF THE STUDY

1. To assess sleep wake state of preterm baby by using Assessment preterm infant behavior [APIB] scale in both the experimental and control group.

2. To find the effectiveness of nesting by comparing sleep wake state of preterm babies of both experimental and control group by using Assessment preterm infant behavior [APIB] scale.

3. To determine the association between sleep-wake state of preterm baby with selected demographic variables.

NULL HYPOTHESIS

$H0_1$: There will not be any statistically significant difference in sleep wake state of preterm babies between experimental and control group

$H0_2$: There will not be any statistically significant association between sleep wake state of preterm and their socio-demographic variables

METHODOLOGY

In the present study, quasi experimental study research design was adopted. The sample consists of 30 preterm babies in NICU for experimental group and 30 preterm babies in SNICU for control group of R. L Jalappa Hospital and Research center of TamakaKolar, by using purposive sampling technique, the sample were selected. All preterm babies born at gestational age between 30 weeks to 37 weeks, birthweight between the 1000 grams to 2000 grams by using the APIB Scale. Data was collected and analyzed and interpreted based on descriptive and inferential statistics.

Major findings of socio demographic variables of preterm baby

All preterm babies age assessed for sleep were less than 3 days in both experimental group (100%) and control group (100%) and majority were males in both experimental (56.7%) and control (63.3%) group. Majority of baby's birth weight were between 1.5-2 kg in both experimental (80%) and control (70%) group and half of their gestational age was 30-34 weeks (50%) in experimental and control group (53.3%) with majority on syringe feeding (Palade feeding) (50%) in experimental group and in control group majority of the babies were on tube feeding (63.3%).

Major findings of socio demographic variables mothers of preterm baby

All mothers were between age group of 20- 30 years (100%) in experimental group and were as in control group (93.3%). Majority of the mother's education in both experimental group (70%) and control (70%) group had a PUC and above, half of the mothers belongs to (50%) Nuclear family and another half members were from

(50%) joint family in experimental group and majority were nuclear family in control group (70%). Majority of the mothers in experimental group (83.3%) and control group (100%) were house wife's and majority of the mothers income was between Rs 5,000- Rs 10,000 in both the experimental (56.7%) and control group (90%) Most of the mothers were residing from rural area in both the experimental (70%) and control group (56.7%) and most of them were having two children's in both experimental (53.3%) and control group (66.7%) majority of the mothers underwent LSCS in both the experimental group (70%) and control group (60%) and were prim gravida in both the experimental group (66.7%) and control group (30%).

Findings of sleep wake state of preterm babies in both experimental and control group

There was significant increase in the mean sleep score of preterm babies in the experimental group compared to control group during morning and evening. So it was evident that nesting posture is effective in improving the sleep wake state of preterm baby

Findings of association between sleep wake state and socio demographic variables of both experimental and control group.

There was no association between the sleep wake state and socio demographic variables of the preterm baby like sex of baby, gestational age, birth weight and type of feeding.

Conclusion – It is evident that nesting posture is effective in improving the sleep wake state of preterm babies in NICU.

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ANNEXURE: I

	SRI DEVARAJ URS COLLEGE OF NURSING TAMAKA, KOLAR – 563 101. INSTITUTIONAL ETHICS COMMITTEE	Format No.	IEC 00
		Issue No.	01
		Rev No.	01
		Date	01-04-2008

Ref: No. SDUCON/ IEC/ 03/ 2016-17 **Date:** 18-03-2017

From
The Institutional Ethics Committee,
Sri Devaraj Urs College of Nursing,
Tamaka,
Kolar-563 103.

To
Ms. Shwetha S.G.
I M.Sc.(N)- Pediatric Nursing
SDUCON,
Kolar -563 103.

This is to certify that the institutional ethics committee of Sri Devaraj Urs College of Nursing, Tamaka, Kolar has examined and unanimously approved the M.Sc.(N) Topic " ***A study to assess the effectiveness of Nesting posture on sleep-wake state of preterm baby in NICU of selected hospital Kolar*** " of Ms. **Shwetha S.G.,** under the guidance of **Mrs. Lavanya Subhashini**, Assoc. Prof. Dept. of Pediatric Nursing, Sri Devaraj Urs College of Nursing Kolar.

Member Secretary

MEMBER SECRETARY
ETHICS COMMITTEE
SRI DEVARAJ URS COLLEGE OF NURSING
TAMAKA KOLAR - 563103.

Chairperson

CHAIR PERSON
ETHICS COMMITTEE
SRI DEVARAJ URS COLLEGE OF NURSING
TAMAKA KOLAR - 563103.

ANNEXURE: II

LETTER REQUESTING PERMISSION FOR CONDUCTING

RESEARCH STUDY

From

Miss. Shwetha .G
II Year M.Sc. Nursing
Sri DevarajUrs College of Nursing
Tamaka, Kolar-563103.

To

Medical Superintendent.
R.L.J. Hospital & Research Centre
Tamaka, Kolar-563103.

Forwarded Through

The Principal and Research Guide
Sri DevarajUrs College of Nursing
Kolar-563103.+

Respected Sir/Madam

Sub: Requesting Permission for Conducting Research Study-reg.

I Miss. Shwetha .G, M.Sc. (N) II Year (Child Health Nursing Specialty) of Sri DevarajUrs College of Nursing, Tamaka, Kolar has selected the below mentioned topic for research study, as a partial fulfillment for M.Sc. Nursing Programme.

TITLE OF THE TOPIC:"A STUDY TO ASSESS THE EFFECTIVENESS OF NESTING POSTURE ONSLEEPWAKE STATE OF THE PRETERM BABY IN NICU IN SELECTED HOSPITAL KOLAR."

With regard to the above mentioned subject, I kindly request you to grant permission to collect the data for research study from Chronic Renal Failure patients undergoing Hemodialysis at RLJH. So kindly consider this letter and do the needful.

Thanking You

Yours faithfully
(Shwetha .G)

REQUESTING LETTER TO CONDUCT STUDY

From,
Ms. Shwetha G
II Year M.Sc. Nursing
Sri Devaraj Urs College of Nursing
Tamaka, Kolar-563103.

To,
Medical Superintendent.
R.L Jalappa Hospital and Research Center Kolar.
Tamaka, Kolar-563103.

Through,
The Principal
Sri Devaraj Urs College of Nursing Kolar.

Sub: Requesting Permission to Conduct Study at R. L. Jalappa Hospital Tamaka kolar.

Respected Sir,

I Miss. Shwetha. G studying in M.Sc. (N) II Year (Pediatric Nursing Specialty) of Sri Devaraj Urs College of Nursing, Tamaka, Kolar has to conduct a research study under the guidance of Mrs. LavanyaSubhashini Associate Professor, Child Health Nursig Department. I have selected below mentioned topic for my research study.

Title of the topic:

"A study to assess the effectiveness of Nesting Posture on sleep-wake state of preterm baby in NICU of a selected hospital Kolar"

Hence I request you to grant me permission to conduct the study among the preterm baby admitted in the NICU of R. L. J. Hospital for study, so kindly consider this letter and do the needful.

Thanking You,

Yours faithfully
Ms. Shwetha. G

Research Guide forwarded to Principal for the needful
24/2/18

Enclosure:-

1. Synopsis
2. Ethical clearance
3. Patient information sheet and Informed consent

Forwarded for the needful
24/2/18
Principal
Sri Devaraj Urs College of Nursing
Tamaka, Kolar-563 101.

Permitted
Medical Superintendent

ANNEXURE: III

INFORMED CONSENT FORM

Name of the Investigator: SHWETHA. G SL -_____No._____

Name of the Organization: R.L. Jalapa Hospital & Research Centre attached to Sri Deva raj Urs Medical Collage TamakaKolar

Title of study: "A study to assess the effectiveness of nesting posture on sleep-wake state of preterm baby in NICU of a selected hospital. Kolar"

If you agree to participate in the study we will collect information as per Performa from you or a person responsible for you or both.

You are invited to take part in this research study. You are being asked to participate in this study because you satisfy our eligibly criteria. The information in the given document is meant to help you decide whether or not to take part Please feel free to ask any queries.

I have read or it has been read and explained to me in my own language. I have understood the purpose of this study, the nature of information that will be collected and disclosed during the study. I had the opportunity to ask questions and the same has been answered to my satisfaction. I understand that I remain free to withdraw from this study at any time and this will not change my future care. I the undersigned agree to participate in this study and authorize the collection and disclosure of my personal information for presentation and publication.

Patient's signature/Thumb impression

Date:

Person obtaining consent and his/her signature:

Date:

Principal investigator signature

Date:

For any clarification you are free to contact the investigator:

Principal Investigator

Shwetha.G

Contact No. 9448385707

ಒಪ್ಪಿಗೆ ಪತ್ರ

ಪ್ರಧಾನ ತನಿಖೆಗಾರರು: ಕುಮಾರಿ ಶ್ವೇತ ಜಿ

ಅಧ್ಯಯನ ನಡಿಸುವ ಸ್ಥಳ: ಆರ್ .ಎಲ್ ಜಾಲಪ್ಪ ಆಸ್ಪತ್ರೆಯಲ್ಲಿರುವ ಎನ್,ಐ,ಸಿ,ಯು ಮತ್ತು ಸಂಶೋಧನಾ ಕೇಂದ್ರ, ಈ ಆಸ್ಪತ್ರೆಯು ಶ್ರೀ ದೇವರಾಜ್ ಅರಸ್ ಶುಶ್ರೂಷಕಿಯರ ಕಾಲೇಜಿನ ಪೋಷಕ ಆಸ್ಪತ್ರೆ ಆಗಿರುತ್ತದೆ.

ಅಧ್ಯಯನದ ಶೀರ್ಷಿಕೆ: ಎನ್ ಐ ಸಿ ಉ ನಲ್ಲಿ ಆವದಿಗೆ ಮುಂಚೆ ಹುಟ್ಟಿದ ನವಜಾತ ಶಿಶುಗಳ ನಿದ್ರಾಹೀನತೆಯನ್ನು ಪರಿಷೇನಿಸಲು ಗೂಡುಕಟ್ಟುವಿಕೆಯ ಪರಿಣಾಮಕಾರತ್ವವನ್ನು ನಿರ್ಣಯಿಸಲು ಒಂದ್ದು ಆಧ್ಯಯನವನ್ನು ಕೋಲಾರದಲ್ಲಿ ಇರುವ ಆರ್. ಎಲ್ ಜಾಲಪ್ಪ ಆಸ್ಪತ್ರೆ ಮತ್ತು ಸಂಶೋಧನಾ ಕೇಂದ್ರಕೇಂದ್ರದಲ್ಲಿ ಮಾಡತಕದ್ದು

ನೀವು ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಲು ಒಪ್ಪಿಕೊಂಡರೆ ನಾವು ನಿಮ್ಮಿಂದ ಅಥವಾ ನಿಮ್ಮ ಜವಾಬ್ದಾರರಾಗಿರುವ ವ್ಯಕ್ತಿಯಿಂದ ಮಾಹಿತಿಯನ್ನು ಸಂಗ್ರಹಿಸುತ್ತೇವೆ.

ಈ ಸಂಶೋಧನಾ ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಲು ನಿಮ್ಮನ್ನು ಆಹ್ವಾನಿಸಲಾಗಿದೆ. ನಮ್ಮ ಸಂಶೋಧನಾ ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಲು ನೀವು ಮತ್ತು ನಿಮ್ಮ ಮಗುವು ಅರ್ಹತೆಯನ್ನು ಪೂರೈಸಿದ್ದರಿಂದ. ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ನಿಮ್ಮನ್ನು ಕೇಳಲಾಗುತ್ತದೆ.

ಈ ಅಧ್ಯಯನದ ಉದ್ದೇಶ, ಅಧ್ಯಯನದ ಸಮಯದಲ್ಲಿ ಸಂಗ್ರಹಿಸುವ ಮತ್ತು ಬಹಿರಂಗಪಡಿಸುವ ಮಾಹಿತಿಯ ಸ್ವರೂಪವನ್ನು ನಾನುಸ್ವತಃ ಓದಿದ್ದೆನೆ ಅಥವಾ ಸ್ವಂತ ಬಷೆ ಯಲ್ಲಿ ಓದಿ ವಿವರಿಸಿರುವುದನ್ನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ. ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಲು ನನಗೆ ಅವಕಾಶವಿದೆ ಮತ್ತು ನನಗೆ ತೃಪ್ತಿ ಕರವಾದ ಉತ್ತರವನ್ನು ನೀಡಲಾಗಿದೆ ಎಂದು ನಾನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ. ಈ ಅಧ್ಯಯನದಿಂದ ನಾನು ಯಾವುದೇ ಸಮಯದಲ್ಲಿ ಹಿಂತೆಗೆದುಕೊಳ್ಳಲು ಮುಕ್ತವಾಗಿರುತ್ತೇನೆ ಮತ್ತು ಇದು ನನ್ನ ಮುಂದಿನ ಕಾಳಜಿಯನ್ನು ಬದಲಿಸುವುದಿಲ್ಲ ಎಂದು ನಾನು ಅರ್ಥಮಾಡಿಕೊಂಡಿದ್ದೇನೆ. ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಭಾಗವಹಿಸಲು ಮತ್ತು ಪ್ರಸ್ತುತಿ ಮತ್ತು ಪ್ರಕಟಣೆಗಾಗಿ ನನ್ನ ವೈಯಕ್ತಿಕ ಮಾಹಿತಿಯ ಸಂಗ್ರಹ ಮತ್ತು ಬಹಿರಂಗಪಡಿಸುವಿಕೆಯನ್ನು ಅನುಮೋದಿಸಲು ಒಪ್ಪಿಕೊಂಡಿದ್ದೇನೆ.

ಮಗುವಿನ ತಾಯಿಯ ಸಹಿ / ಹೆಬ್ಬೆರಳು ಗುರುತು ದಿನಾಂಕ:

ಅವನ / ಅವಳ ಸಹಿ ದಿನಾಂಕವನ್ನು ಸ್ವೀಕರಿಸುವ ವ್ಯಕ್ತಿ:

ANNEXURE: IV

PATIENT INFORMATION SHEET

Study title: A study to assess the effectiveness of nesting posture on sleep-wake state of preterm baby in NICU of a selected hospital Kolar.

Principal Investigator: Shwetha S, G (9448385707)

Study Site: R.L Jalappa hospital and research center attached to Sri DevarajUrs Medical college, Tamaka, Kolar

PURPOSE OF THE STUDY: A study to assess the effectiveness of nesting posture on sleep-wake state of preterm baby. That could help the preterm baby to improve their sleeping pattern for the overall developmental care.

Voluntary participation: Your participation in this study is entirely voluntary. There is no compulsion to participate in this study. You will be no way affected if you do not wish to participate in this study. You are required to sign if you voluntarily agree to participate in this study. Further you are at a liberty to withdraw from the study at any time.

Procedure: I will be assessing your baby for the sleeping and waking of the baby with the nesting which will help your preterm baby to have good sleep.

Confidentiality: information collected from you and your baby will be strictly confidential and will not be disclosed to anyone except if it is required by the law. This information collected will be used only for research presentation and publication. This information will not reveal your identity.

We would not compel you any time during this process; also would greatly appreciate your cooperation to the study. We would like to get your consent to participate in the study.

For information you're free to contact the investigator. This study has been approved by the ethical committee.

Phone Number: 9448385707

ರೋಗಿಯ ಮಾಹಿತಿ ಪತ್ರ

ಅಧ್ಯಯನದ ಶೀರ್ಷಿಕೆ: ಎನ್ ಐ ಸಿ ಯು ನಲ್ಲಿ ಆವದಿಗೆ ಮುಂಚೆ ಹುಟ್ಟಿದ ನವಜಾತ ಶಿಶುಗಳ ನಿದ್ರಾಹೀನತೆಯನ್ನು ಪರಿಷೇನಿಸಲು ಗೂಡುಕಟ್ಟುವಿಕೆಯ ಪರಿಣಾಮಕಾರತ್ವವನ್ನು ನಿರ್ಣಯಿಸಲು ಒಂದ್ದು ಆಧ್ಯಯನವನ್ನು ಕೋಲಾರದಲ್ಲಿ ಇರುವ ಆರ್. ಎಲ್ ಜಾಲಪ್ಪ ಆಸ್ಪತ್ರೆ ಮತ್ತು ಸಂಶೋಧನಾ ಕೇಂದ್ರಕೇಂದ್ರದಲ್ಲಿ ಮಾಡತಕದ್ದು

ಪ್ರಧಾನ ತನಿಖೆಗಾರರು: ಕುಮಾರಿ. ಶ್ವೇತ ಜಿ

ಅಧ್ಯಯನ ನಡಿಸುವ ಸ್ಥಳ : ಆರ್ .ಎಲ್ ಜಾಲಪ್ಪ ಆಸ್ಪತ್ರೆ ಮತ್ತು ಸಂಶೋಧನಾ ಕೇಂದ್ರ, ಈ ಆಸ್ಪತ್ರೆಯು ಶ್ರೀ ದೇವರಾಜ್ ಅರಸ್ ಶುಶ್ರೂಷಕಿಯರ ಕಾಲೇಜಿನ ಪೋಷಕ ಆಸ್ಪತ್ರೆ ಆಗಿರುತ್ತದೆ.

ಅಧ್ಯಯನದ ಉದ್ದೇಶ: ನವಜಾಥ ಶಿಶುವಿನಲ್ಲಿ ನಿದ್ರೆಯನ್ನು ಗೂಡುಕಟ್ಟುವ ಮೂಲಕ ಹೆಚ್ಚಿಸಲು

ಸ್ವಯಂಪ್ರೇರಿತ ಭಾಗವಹಿಸುವಿಕೆ: ಈ ಅಧ್ಯಯನದಲ್ಲಿ ನಿಮ್ಮ ಭಾಗವಹಿಸುವಿಕೆ ಸಂಪೂರ್ಣವಾಗಿ ಸ್ವಯಂಪ್ರೇರಿತವಾಗಿರುತ್ತದೆ.ಹಾಗೂ ನಿಮ್ಮ ಭಾಗವಹಿಸುವಿಕೆಗೆ ಯಾವುದೇ ನಿರ್ಬಂಧವಿಲ್ಲ. ಈ ಅಧ್ಯಯನವು ನಿಮ್ಮ ಮೇಲೆ ಯಾವುದೇ ರೀತಿಯ ಕೆಟ್ಟ ಪರಿಣಾಮವನ್ನು ಬೀರುವುದಿಲ್ಲ. ಈ ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಲು ನೀವು ಸ್ವಯಂಪ್ರೇರಣೆಯಿಂದ ಸಮ್ಮತಿಸಿದರೆ ಮಾತ್ರ ನೀವು ಸಹಿ ಮಾಡಬೇಕಾಗುತ್ತದೆ ಹಾಗೂ ನೀವು ಯಾವುದೇ ಸಮಯದಲ್ಲಿಬೇಕಾದರು ಅಧ್ಯಯನದಿಂದ ಹೊರಬರುವ ಸ್ವಾತಂತ್ರ್ಯ ವಿದೇ.

ಅಧ್ಯಯನ ನಡೆಸುವ ವಿಧಾನ : ಮೊದಲಿಗೆ ನಾನು ನಿಮ್ಮ ವಯಸ್ಸು ಹಾಗು ಇತರೆ ಸಾಮಾಜಿಕ ವಿಷಯಗಳ ಬಗ್ಗೆ ಪ್ರಶ್ನೆ ಕೇಳುತ್ತೇನೆ ಹಾಗೂ ನಿಮ್ಮ ಮಗುವಿನಬಗ್ಗೆ ಕೆಲವುವಿಚಾರಗಳು ಮಗುವಿನಥೂತೂಕ, ಲಿಂಗ, ಜೇಸ್ಟೆಏಶಿನಲ್ ಯೇಜೆ, ಹಾಲುಣಿಸುವಿಕೆಯ ವಿಧಾನ.

ಗೌಪ್ಯತೆ: ನಿಮ್ಮಿಂದ ಮತ್ತು ನಿಮ್ಮಮಗುವಿನಿಂದ ಸಂಗ್ರಹಿಸಲಾದ ಯೆಲ್ಲಾ ಮಾಹಿತಿಗಳು ಕಟ್ಟುನಿಟ್ಟಾಗಿ ಗೌಪ್ಯವಾಗಿರುತ್ತವೆ ಮತ್ತು ಕಾನೂನಿನ ಅಗತ್ಯ ಹೊರತುಪಡಿಸಿ, ಮತ್ಯಾರಿಗೂ ನಿಮ್ಮ ವಿಷಯಗಳನ್ನು ಬಹಿರಂಗಪಡಿಸುವುದಿಲ್ಲ. ಸಂಗ್ರಹಿಸಿದ ಈ ಮಾಹಿತಿಯನ್ನು ಸಂಶೋಧನೆಯ ಪ್ರಸ್ತುತಿ ಮತ್ತು ಪ್ರಕಟಣೆಗಾಗಿ ಮಾತ್ರ ಬಳಸಲಾಗುತ್ತದೆ. ಈ ಮಾಹಿತಿಯು ನಿಮ್ಮ ಗುರುತನ್ನು ಬಹಿರಂಗಪಡಿಸುವುದಿಲ್ಲ.

ಈ ಪ್ರಕ್ರಿಯೆಯಲ್ಲಿ, ನಾವು ಯಾವುದೇ ಸಮಯದಲ್ಲಿಯೂ ನಿಮ್ಮನ್ನು ಒತ್ತಾಯಿಸುವುದಿಲ್ಲ, ಅಧ್ಯಯನದ ನಿಮ್ಮ ಸಹಕಾರವನ್ನು ನಾವು ಬಹಳವಾಗಿ ಪ್ರಶಂಶಿಸುತ್ತೆವೆ. ಅಧ್ಯಯನದಲ್ಲಿ ಪಾಲ್ಗೊಳ್ಳಲು ನಿಮ್ಮ ಒಪ್ಪಿಗೆಯನ್ನು ಪಡೆಯಲು ನಾವು ಬಯಸುತ್ತೇವೆ.

ಯಾವುದೇ ಮಾಹಿತಿಗಾಗಿ ನೀವು ತನಿಖೆದಾರರನ್ನು ಸಂಪರ್ಕಿಸಲು ಮುಕ್ತವಾಗಿರುತ್ತೀರಿ. ಈ ಅಧ್ಯಯನವು ನೈತಿಕ ಸಮಿತಿಯಿಂದ ಅನುಮೋದಿಸಲ್ಪಟ್ಟಿದೆ.

(ಸಂಶೋದನಾದಾರರನ್ನು ಸಂಪರ್ಕಿಸಬೇಕಾದ ಮೊಬೈಲ್ ಸಂಖ್ಯೆ 9448385707).

ANNEXURE: V

PERFORMA

ACA/DCD/SYN/SDUCN-K/PG/2016-17

Course : MSC NURSING IN PAEDIATRIC					
3	MRS MAMATHA B.N	RADHA.M.S Desg : LECTURER	A STUDY TO IDENTIFY CONSTRAINTS TO EXCLUSIVE BREAST FEEDING PRACTICE AMONG BREAST FEEDING MOTHERS IN A SELECTED HOSPITAL KOLAR WITH A VIEW TO PROMOTE HEALTHY BREAST FEEDING PRACTICE.	**Status**: Provisionally registered. **Observations** : 1. Problem status is adequate. 2.Review of literature need to be updated. 3. research approach need to be mentioned clearly. 4.Vancouver style has to be followed **Remarks** : Study is feasible and researchable.	**PROVISIONALLY REGISTERED** PLS ATTEND THE OBSERVATIONS AS PER REVIEWER **STATUS OF ADMISSIONS APPROVED**
4	MS SHWETHA G	LAVANYA SUBHASHINI Desg : ASST.PROF	A STUDY TO ASSESS THE EFFECTIVENESS OF NESTING POSTURE ON SLEEP-WAKE STATE OF PRETERM BABY IN NICU OF A SELECTED HOSPITAL KOLAR.	**Status**: Provisionally registered. **Observations** : 1.Problem status is adequate. 2. Review of literature up to date. 3. Days and Hours of nesting need to be mentioned. 4. Vancouver style has to be followed **Remarks** : Study is feasible and researchable.	**PROVISIONALLY REGISTERED** PLS ATTEND THE OBSERVATIONS AS PER REVIEWER **STATUS OF ADMISSIONS APPROVED**

31/10/17

Principal
Sri Devaraj Urs College of Nursing
Tamaka, Kolar-563 101.

ANNEXURE-VI

Letter Requesting Opinions and Suggestions of Experts For Establishing

Content Validity Of Research Tool

From

Ms.Shwetha G
2nd yea M.Sc. (N) student
Sri Devaraj Urs College of Nursing
Tamaka, Kolar – 563101

To
Through the principal
Respected Madam,

Sub: Request for opinion and suggestions of experts for establishing content validity of Research Tool-reg.

I Ms.Shwetha G post graduate student (Child Health Nursing Specialty) of Sri Devaraj Urs College of Nursing, Tamaka, Kolar has selected the below mentioned topic for my main project, for the fulfillment of Masters of Nursing Degree.

TITLE OF THE TOPIC:

"A STUDY TO ASSESS THE EFFECTIVENESS OF NESTING POSTURE ON SLEEPWAKE STATE OF THE PRETERM BABY IN NICU OF SELECTED HOSPITAL KOLAR."

With regards to the above may I kindly request you to validate the tool (Standerzed tool and Subject data sheet) for its appropriateness and relevancy I am here with enclosing the objectives of the study, criteria rating scale for your reference I would be highly obliged and remain thankful for your great help preferable as early as possible.

Thanking you

Yours Sincerely,
(Shwetha G)

Enclosures:

1) Objectives of the study
2) Standerzed tool and Subject data sheet
3) Content validity certificate

SECTION-A

DEMOGRAFIC DATA OF THE BABY

1. Age of the baby
    a. 1 to 3 days
    b. 3 to 5 days
2. Sex of the baby
    a. Male
    b. female
3. Gestational age
    a. 30-34 weeks
    b. 35 to 37 weeks
4. Birth weight of the baby
    a. 1-1.5kg
    b. 1.5-2kg
5. Type of the feed and day of baby
    a. Syringe feed (Palade feeding)
    b. Direct breast feed
    c. Nasogastric feed
    d. Oro gastric feed

SECTION-B

DEMOGRAPHIC DATA OF THE MOTHER

1. Age of the mother
    a. 20-30 years
    b. 31-40 years

2. Education
    a. Primary
    b. Secondary
    c. Higher secondary
    d. PUC and above

3. Occupation
    a. Working
    b. Housewife

4. Type of the family
    a. Nuclear family
    b. Joint family

5. Monthly income
    a. Below Rs5000
    b. Rs 5000- Rs 10000
    c. Rs 10000- Rs 15000
    d. Rs 15000-above

6. Religion
    a. Hindu
    b. Muslim

7. Residential area
    a. Urban
    b. Rural

8. Number of the children’s
    a. One child
    b. Two children’s

9. Type of the delivery
    a. Normal vaginal delivery
    b. LSCS

10. Gravida
    a. Primi mother
    b. Multipara mother

SECTION-C

Clinical Variables of the Preterm Baby.

SL NO	CLINICAL PARAMETER	DAY 1ST	DAY 2ND	DAY 3RD
1.	Oxygen administration			
2.	I.V fluids			
3.	Alarm sounds			
4.	Phone sounds			
5.	Presence of pulse oximetry			

SECTION-D

Score	Assessment parameter																												
	EYE MOVEMENTS																												
1	Open																												
2	Periods of opening and closing																												
3	Rapid eye movements																												
4	Slow eye movements																												
5	Closed																												
	BODY MOVEMENTS																												
1	Gross motor movements																												
2	Rapid statile																												
3	Low tone between statiles																												
4	Slow statile																												
5	Slow, small twitches																												
6	Relatively no																												

	body movements																												
	FACIAL MOVEMENTS																												
1	Vocalization																												
2	Burst of sucking vocalization																												
3	Frowns, smiles, grimace, sucking, crying																												
4	Frowns and smiles																												
5	Grimace, intermittent sucking																												
6	Few rhythmic mouth movements																												
7	Relaxed sign																												
	RESPIRATION																												
3	Regular																												
2	Slow																												
1	irregular																												

INTERPRETATION: scoring, if preterm baby present with the sign the score will be given as per that responses. The minimum score is 120 maximum score is 630

ANNEXURE - VII

KEY POINTS OF MASTER SHEET

Socio demographic data of the baby

1. AOB - Age of the baby
2. SOB - Sex of the baby
3. GA - Gestational age
4. BWOB - Birth weight of the baby
5. TOF - Type of the feed

Socio demographic data of the mother

1. AOM - Age of the mother
2. EDU - Education
3. OCC - Occupation
4. TOF - Type of the family
5. MI - Monthly income
6. RA - Residential area
7. RE- Relegion
8. NOC - Number of the children's
9. TOD - Type of the delivery
10. GRA – Gravida

CLINICAL VARIABLES

11. OA- Oxygen administration
12. IVF- Intra venous fluid
13. AS- Alarm sounds
14. PS-Phone sounds

15. PO-Presence of pulse oxymetry.

SECTION-A

DEMOGRAFIC DATA OF THE BABY

1. Age of the baby
    a. Day – 2-Day – 3-0
    b. Day -3- Day – 4 -1
2. Sex of the baby
    a. Male-0
    b. Female-1
3. Gestational age
    a. 30-34 weeks- 0
    b. 35 to 37 weeks -1
4. Birth weight of the baby
    a. 1-1.5kg -0
    b. 1.5-2kg -1
5. Type of the feed and day of baby
    a. Syringe feed Palade feeding)
    b. Direct breast feed-2
    c. Nasogastric feed-3
    d. Oro gastric feed-4

SECTION-B

DEMOGRAPHIC DATA OF THE MOTHER

1. Age of the mother
    a. 20- 30 years - 0
    b. 31- 40 years – 1

2. Education
    a. Primary - 0
    b. Secondary - 1
    e. Higher secondary - 2
    f. PUC and above - 3

3. Occupation
    a. Working - 0
    b. Housewife - 1

4. Type of the family
    a. Nuclear family - 0
    b. Joint family – 1

5. Monthly income
    a. Below Rs5000 - 0
    b. Rs 5000- Rs 10000 - 1

c. Rs 10000- Rs 15000 - 2

d. Rs 15000-above - 3

6. Religion

    a. Hindu - 0

    b. Muslim - 1

7. Residential area

    a. Urban - 0

    b. Rural – 1

8. Number of the children’s

    a. One child - 0

    b. Two children’s – 1

9. Type of the delivery

    a. Normal vaginal delivery - 0

    b. LSCS – 1

10. Gravida

    a. Prime mother - 0

    b. Multipara mother – 1

CLINICAL VARIABLES

1. Oxygen administration
    a. Yes-0
    b. No-1

2. Intravenous fluid administration
    a. Yes-0
    b. No- 1

3. Presence of alarm sounds
    a. Yes-0
    b. No-1

4. Presence of phone sounds
    a. Yes- 0
    b. No-1

5. Presence of pulse oximetry
    a. Yes-0
    b. No-1

ANNEXURE- VIII

CERTIFICATE FROM STATISTICIAN

I hereby certify that I have provided statistical guidance in analysis of the data to **Ms. ShwethaG** 2nd year M.sc (N) student of Sri DevrajUrs college of Nursing TamakaKolarfor her study titled as **"A STUDY TO ASSESS THE EFFECTIVENESS OF NESTING POSTURE ON SLEEPWAKE STATE OF THE PRETERM BABY IN NICU IN SELECTED HOSPITAL KOLAR."**

S. RAVISHANKAR
Lect./Assit. Professor,
Dept. of Community Medicine,
Sri Devaraj Urs Medical College,
Tamaka, Kolar-563101

Signature of statistician

6/7/2018

Prof. Ravi Shankar
Assistant professor in Biostatistics
Department of Community Medicine
Sri devaraj Urs Medical College
Tamaka, Kolar

Date: 06/7/2018
Place:Tamaka,Kolar.

ANNEXURE: IX

ENLISH EDITING CERTIFICATE

Ihereby certify that I have edited the consent of dissertation titled as **"A STUDY TO ASSESS THEEFFECTIVENESSOF NESTING POSTURE ONSLEEPWAKE STATE OF THE PRETERM BABY IN NICU IN SELECTED HOSPITAL KOLAR."**of **Ms. Shwetha G,**2nd year M.sc (N) student of Sri DevrajUrsCollege of Nursing,TamakaKolar.

Place- KOLAR
Date- 5/6/2018

Signature of experts
K Srinath

ANNEXURE: X

KANNADA TRANSLATION CERTIFICATE

Ihereby certify that I have edited the consent of dissertation titled as **"A STUDY TO ASSESS THEEFFECTIVENESSOF NESTING POSTURE ONSLEEPWAKE STATE OF THE PRETERM BABY IN NICU IN SELECTED HOSPITAL KOLAR."**of **Ms. Shwetha G,**2nd year M.sc (N) student of Sri DevrajUrsCollege of Nursing,TamakaKolar.

Place- KOLAR
Date- 5/6/2018

Signature of experts
K Srinath

P-1214
5/6/2018

ANNEXURE: XI

ANNEXURE-XII

MASTAR SHEET

AOB	SOB	GA	BWT	TOF	AOM	EDU	TOF	OCCU	MIC	RA	NOC	TOD	GRA	OA DAY 1	DAY 2	DAY 3	IVF DAY1	DAY 2	DAY 3	ASDA Y 1	DA Y2	DA Y3	PS DAY1	DA Y2	DA Y3	PODA Y 1	DA Y2	DA Y3
0	0	0	1	0	0	3	0	0	2	0	1	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	2	0	1	2	0	1	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
0	0	1	1	3	0	3	0	1	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0
0	0	1	1	0	0	3	1	1	2	0	0	1	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
0	1	1	1	0	0	3	1	1	2	1	0	1	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
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0	0	1	1	3	0	3	0	1	1	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
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0	1	1	1	3	0	1	0	1	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	1	0	2	1	1	1	0	1	1	1	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0
0	1	1	1	3	0	3	0	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
0	1	1	1	0	0	1	0	1	1	1	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0
0	0	1	0	3	1	1	1	1	1	1	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0
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