EFFECTIVENESS OF NIPPLE STIMULATION ON ACCELERATION OF UTERINE CONTRACTION DURING FIRST STAGE OF LABOUR AMONG PRIMI GRAVIDA MOTHERS IN ANNALAKSHMI HOSPITAL AT TIRUNELVELI DISTRICT.

DISSERTATION SUBMITTED TO

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

CHENNAI

IN PARTIAL FULFILMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

APRIL 2012

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BY

MRS. P.ANITHA

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SRI.K.RAMACHANDRAN NAIDU COLLEGE OF NURSING

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ABSTRACT

A Quasi experimental study to assess the effectiveness of nipple stimulation on acceleration of uterine contraction among primi gravida mothers in Annalakshmi hospital at Vallioor, was conducted by **Mrs. P. Anitha** in partial fulfillment of the requirement for the degree of Master of Science in nursing at the Sri. K. R. N Ramachandran Naidu college of Nursing, under the Tamilnadu Dr. M. G. R Medical University.

The objectives of the study were:

- To assess the pre test level of acceleration of uterine contraction during first stage of labor among primi gravida mothers in experimental and control group.
- To find out the effectiveness of nipple stimulation on acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental and control group.
- To compare the pre and post test level of acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental group.
- To compare the pre and post test level of acceleration of uterine contraction during the first stage of labour among primi gravida mothers in control group.
- To associate the post test level of acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental and control group with their selected demographic variables.

The following hypotheses were set for the study.

All hypotheses were tested at 0.05 level.

H_1 Mean post test level of acceleration of uterine contraction among primi gravida mothers in experimental group was significantly higher than the mean post test level of acceleration of uterine contraction in control group.

H_2 There was a significant difference between mean pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental group.

H_3 There was a significant difference between mean pre and post test level of acceleration of uterine contraction among primi gravida mothers in control group.

H_4 There was a significant association between post test level of acceleration of uterine contraction among primi gravida mothers in experimental group with their selected demographic variables.

H_5 There was a significant association between post test level of acceleration of uterine contraction among primi gravida mothers in control group with their selected demographic variables.

The study was based on Wiedenbach's model. The Quantitative research approach was used. The study conducted in Annalakshmi Hospital, Vallioor. The design adopted for the study was quasi experimental with pre test post test control group design to evaluate the effectiveness of nipple stimulation on acceleration of uterine contraction. The purposive sampling was used to select 30 samples for experimental group, 30 samples for control group.

The data collection tools developed for generating the necessary data were questionnaire and uterine contraction assessment scale was used to assess the nipple stimulation on acceleration of uterine contraction. The content validity of the tools were established by five clinical experts. The reliability of rating scale (r=0.8) was established by inter- rater observer method. The instrument was found to be reliable. Pilot study was conducted to find out the feasibility of the study and to plan for data analysis.

Data collection was done and the data obtained were analyzed in terms of both descriptive and inferential statistics.

The Significant Findings of the Study were,

1. There was a significant difference between mean pre test and post test level of acceleration of uterine contraction among primi gravida mothers in experimental group ($t=9.27$, $p<0.05$).
2. There was a significant difference between mean pre and post test level of acceleration of uterine contraction among primi gravida mothers in control group ($t=0.83$, $p<0.05$).
3. There was a significant difference between mean pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group ($t=0.545$, $p<0.05$).
4. There was a significant difference between mean post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group ($t=7.969$, $p<0.05$).
5. There was a significant association between mean post test level of acceleration of uterine contraction among primi gravida mothers in

experimental and control group with their selected demographic variables ($p<0.05$).

On the Basis of the Findings of the Study it is recommended that:

1. A study can be conducted to assess the knowledge and practice of nipple stimulation for acceleration of uterine contraction among nurse midwives.
2. A study can be conducted to assess the knowledge and attitude of other alternative therapies for labor management among nurse midwives.
3. A study can be conducted to assess the effectiveness of other nursing measures such as aromatherapy on acceleration of uterine contraction among primi gravida mothers.

Recommendation Based on the Suggestion of the Study Subjects

1. Conduction of in- service education related to induction of labour among staff nurses.
2. Mass media should be effectively utilized for conducting programmes on labour.
3. Hospital can provide independent health clinics, guidance and counseling for all antenatal mothers.

CONCLUSION

This study assessed the effectiveness of nipple stimulation on acceleration of uterine contraction among primi gravida mothers. There is a significant difference between experimental and control group at $p>0.05$ level. The primi gravida mothers who were received nipple stimulation had a significant acceleration of uterine contraction compared to the primi gravida mothers who were not received nipple stimulation.

ACKNOWLEDGEMENT

The journey from the basic search from dissertation up to this bound book is solitary. In a project like this, the investigator requires assistance, encouragement and support from many. I am fortunate to have an abundance of all the requisites at every step.

I wish to acknowledge first the **LORD ALMIGHTY** for his abundant blessing, giving me power, strength and health throughout the project work.

At the outset I express my heartful gratitude to **Mr.R.Vivekanandan** Chairman, **(Mrs). Prem santha,** Management Trustee of Sri.K.Ramachandran Naidu College of Nursing for giving me a chance to uplift my professional life.

My earnest and genuine gratitude goes to **Prof.** (**Mrs). N.SARASWATHI., M.Sc. (N)., Ph.D,** Principal cum Head of the Department of Child health Nursing, Sri. K. R. Ramachandran Naidu College of Nursing, for her valuable guidance, patience, source of inspiration, constant encouragement and enlightening ideas which enabled me to accomplish this task.

I am extremely grateful to **Associate Prof. Mrs. Subba lakshmi, M.Sc.(N).,** Class co-ordinator, and **Mrs. Jeya, M.Sc.(N).,** Assistant Co-ordinator, Sri. K. Ramachandran Naidu College of Nursing, for their constant source of inspiration and encouragement, which was a key for the successful completion of this study.

I wish to express my sincere thanks to **Associate prof. Mrs. Annal Angeline, M.Sc.(N).,** Head of the Department of obstetrics and gynecological Nursing, **Ms. V. Murugeshwari, M.SC.(N).,** Lecturer and **Mrs. R. Vasanthamalai, M.Sc.(N).,** Lecturer, Department of Obstetrics and Gynaecological Nursing, Sri. K.

Ramachandran Naidu College of Nursing, for their guidance and suggestions for the completion of the study.

A memorable note of gratitude to **Dr. (Mrs). Shayama, MD, DGO** Director, Annalakshmi Hospital, Valliyoor for granting me permission and cooperation for conducting the study.

I extend my grateful thanks to all the **Medical and Nursing Experts** in Annalakshmi Hospital, Valliyoor for cooperation and help during my data collection procedure.

I extend my heartful thanks to all the **Postnatal Mothers** who participated in my study for their cooperation during the data collection.

I extend my warmest thanks to **Mr. Jayan Dharmaraj M.A., M.A., M.Phil.,** for editing my content in English.

I am indeed thankful to the **Librarians** of Sri. K. Ramachandran Naidu College of Nursing, and The Tamilnadu Dr. M. G. R. Medical University for their co-operation and their support extended in procuring the literature related to the study.

Words are inadequate to express the affection, inspiration shown by my dear husband **Mr. P. Isaac Dharma Raj**, my dear son **Master. Jerfin Paul**, my dear father **Mr. D. Ponnaiah,** my mother **Mrs. Rajaselvi,** my father-in-law **Mr. K. Paul Devadason,** my mother-in-law **Mrs. Esther Rani** and all my family members for their encouragement and support throughout my study.

A special bouquet of thanks to all my lovable friends who have helped me a lot to complete the study.

I extend my grateful thanks to those who helped me directly and indirectly during my project work.

CHAPTER-I

INTRODUCTION

"***Labour is the only prayer that nature answers***"

-Robert Green

BACKGROUND OF THE STUDY

Child birth process is a miracle of every woman's life. They passed the way in a painful manner and provide expected outcome to the world. Reproductive is a specialized system of human body especially in females. Child birth is a one of the great event in every woman's life. Women have fantasies about pregnancy and motherhood. A woman having uterine contraction during child birth is unique, sweet rememberable event in their life.

The overall rate of induction of labour in the United States in 1993 was 134 per 1,000 live births, or over 527,000 of the four million births that occur annually in the united states. Indications for labour induction include postdate pregnancy, premature rupture of membranes, and maternal medical complications, such as diabetes mellitus and induced hypertension. The common indications for induction of labour and the importance of cervical ripening. It then addresses methods used to hasten cervical ripening and induce labour, ranging from the more "natural" and non-invasive methods, such as nipple stimulation, to the newest commercially available formulation of prostaglandin.

Labour may be defined as rhythmic contraction and relaxation of the uterine muscles with progressive effacement (thinning) and dilatation (opening) of the cervix, leading to expulsion of the products of conception. The factors affect the process of

labour and birth which include passenger, passage, power, position of the mother, and psychological responses of the mothers.

Labour process consists of three stages such as first stage, second stage, third stage; first stage of labour is the beginning of labour. It commences with the onset of true pain and uterine contractions which bring about gradual opening up of the cervix are assessed in term of centimetres. Its average duration is 12 hours in primi gravida and 6 hours in multipara mothers.

In the first stage of labour there are three phases, which includes latent phase, active phase, and transitional phase. Latent phase is prior to active first stage of labour and may last for six to eight hours with 0 to 4cm cervix dilatation. Active phase cervical dilatation occurs more rapidly, increasing from 4 to 7cm. transitional phase is the stage of labour when cervix is around 8cm dilated until it is fully dilated with increased uterine contraction.

The onset of true labour cannot be described single, because many factors, including changes in the uterus, cervix, pituitary gland, are involved. Hormone produced by the normal fetal hypothalamus, pituitary, and adrenal cortex probably contribute to the onset of labour, progressive uterine distension increased intrauterine pressure and aging of the placenta are associated with the increasing myometrial irritability. These results in changes in the hormones level and coordinate with the strong, rhythmic, and uterine contractions.

Contractions are often described as a cramping or tightening sensation that starts in the back and moves around to the front in a wave-like manner. Others say the contraction feels like pressure in the back. During a contraction, the abdomen

becomes hard to touch. In the childbirth process, the work of labor is done through a series of contractions. These contractions cause the upper part of the uterus (fundus) to tighten and thicken while the cervix and lower portion of the uterus stretch and relax, helping the baby pass from inside the uterus and into the birth canal for delivery.

Nipple stimulation is often recommended by midwives as a natural way to induce labour. It can be quite intensive and does seem to bring a positive outcome in some cases. Nipple stimulation is done by gentle rubbing (or) rolling the nipples between the fingers for five minutes and resting for 15 minutes. This type of method is said to work because the hormone oxytocin is released during breast stimulation. This can be done for 10 to 15 minutes every 60 to 90 minutes for several hours. Stop once the contractions are established.

Oxytocin a hormone that causes contraction, during nipple stimulation oxytocin secreted by posterior pituitary gland which initiates uterine contraction. Potential adverse effects occur during nipple stimulation through conventional methods. First, nipple discomfort may result from the application of too much pressure on the nipples. Second, there may be milk secretion during nipple stimulation, which may be distracting to both the pregnant women as well as the individual applying the massage. Third, blisters may occur on over stimulating the nipples through excessive pressure, such as, might be inadvertently applied by a breast pump. Fourth, there may be hyper stimulation of the uterus, which can result in fetal distress.

Nipple stimulation is considered as safe practice and there is no significant harm, in this practice if performed appropriately, and it is no cost effective.

NEED FOR THE STUDY

Induction is more likely to succeed when the body had already begun to prepare for labor. Induced contractions may be more powerful, and have a longer duration than non-induced labor, so they may lead to a more painful labor. Administration of uterine stimulants results in risk of the longer, stronger contractions that can interrupt blood flow and oxygen to the fetus, and leads to drop in baby's heart rate. Hence continuous monitoring is necessary.

Some natural methods of induction before moving on to medication, these include:

Nipple stimulation releases oxytocin: stroking nipples, using a breast pump, or oral stimulation. Discontinue if contractions come more than every four minutes, or last longer than one minute.

Acupressure on spleen 6 point: lower leg, four finger-breadths above inner ankle bone. Apply pressure in on-off cycles of 10 to 60 seconds each for up to six cycles.

Enema or castor oil: bowel contractions may stimulate uterine contractions.

The labour is stimulated naturally through the production of labour-inducing hormones (oxytocin) in a pregnant woman. Once these hormones attain a certain level in the woman's bloodstream, uterine contractions will increase to the rate that the final

stages of birth will occur. Thus, where the natural output of these hormones is insufficient, the problem becomes one of stimulating the woman in order to create the production of this hormone, or providing a substitute for such stimulation. Various ways of inducing uterine contractions have been attempted. For instance, oxytocin has been intravenously introduced into the body **(Helena Wigert, 2001).**

The research has shown that another method that increases the production of this hormone is to gently stimulate the nipples of the breasts of the pregnant woman. This stimulation gives the effect of a baby's suckling, which enhances the hormonal output to induce labour. Manual stimulation of the nipples is considered to be more desirable by many since it generates "natural" body hormones. It also avoids the intrusive delivery of oxytocin, which is typically administered in an intravenous drip. In recent years, nipple stimulation has been a common practice as a means for producing uterine contractions. This stimulation produces contractions in order to: (1) perform contraction stress tests, to judge the stress on the foetus; (2) to induce labour; (3) to ripen the cervix; and (4) to manage the period of labour just before birth.

A randomised prospective study to evaluate the efficacy of nipple stimulation with a breast pump as compared to oxytocin for augmentation of labour 50 percent of the patient failed to respond to nipple stimulation after 30 minutes and was switched to oxytocin. This patient experienced a more rapid rate of cervical dilation in the active phase and reached higher maximal uterine activity with oxytocin stimulation. However the caesarean section rate was highest in this group. Nipple stimulation with a breast pump appears to be a safe and effective alternative to oxytocin for augmentation of labour **(Stein J L, 1990).**

A study to investigate breast stimulation for cervical ripening and induction of labour. Six trials of woman at term with premature rupture of membranes and no contraction were included in the studies. In the one trial that made comparison, breast stimulation by a variety of techniques was found to be as effective as oxytocin alone in reducing the number of woman not in labour at 72hours after method initiation (n=37, 58.8 vs 25%; relative risk, 2.35; 95%confidence interval, 1.00%-5.54%one randomized control trial) overall, the concluded trials had small study populations limited maternal and fetal outcomes. He offered no conclusions on the safety of breast stimulation but suggest further research regarding safety and efficacy as well as maternal satisfaction with the intervention **(Kavangh et al., 2005).**

The researcher during her clinical experience has observed all mothers suffer physically and emotionally due to contraction. Though uterine contractions a positive signal for the starting of labour. But it gives noxious experiences to the mother. It becomes almost nursing responsibility to faces the event of labour as a positive one in memories of the mothers. There are many pharmacological methods for inducing uterine contraction, but it may bring more side effects for mother and foetus. The investigator being a nurse interested in characterizing some non pharmacological intervention, the experts in field and many researchers has given idea on nipple stimulation on uterine contraction during first stage of labour. Therefore the researcher interested in study to assess the effectiveness of uterine contraction during first stage of labour among primi gravida mothers at selected hospitals at Vallioor, Tirunelveli District.

STATEMENT OF THE PROBLEM

A quasi experimental study to assess the effectiveness of nipple stimulation for acceleration of uterine contraction during first stage of labor among primi gravida mothers admitted in Annalakshmi Hospital at Vallioor, Tirunelveli District, Tamilnadu.

OBJECTIVES

- To assess the pre test level of acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental and control group.
- To find out the effectiveness of nipple stimulation on acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental and control group.
- To compare the pre and post test level of acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental group.
- To compare the pre and post test level of acceleration of uterine contraction during the first stage of labour among primi gravida mothers in control group.
- To associate the post test level of acceleration of uterine contraction during the first stage of labour among primi gravida mothers in experimental and control group with their selected demographic variables.

HYPOTHESES

All hypotheses were tested at .05 level.

H_1 Mean post test level of acceleration of uterine contraction among primi gravida mothers in experimental group was significantly higher than the mean post test level of acceleration of uterine contraction in control group.

H_2 There will be a significant difference between mean pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental group.

H_3 There will be a significant difference between mean pre and post test level of acceleration of uterine contraction among primi gravida mothers in control group.

H_4 There will be a significant association between post test level of acceleration of uterine contraction among primi gravida mothers in experimental group with their selected demographic variables.

H_5 There will be a significant association between post test level of acceleration of uterine contraction among primi gravida mothers in control group with their selected demographic variables.

OPERATIONAL DEFINITIONS

Assess

It refers to systematically and continuously collecting, validating and communicating the data regarding acceleration of uterine contraction among primi gravida mothers by using modified uterine contraction assessment scale.

Effectiveness

It refers to outcome of nipple stimulation for acceleration of uterine contractions among primi gravida mothers.

Acceleration of Uterine Contraction

It refers to improve the acceleration of uterine contraction by nipple stimulation which is measured by modified uterine contraction assessment scale.

Nipple Stimulation

It refers to the investigator placing her palm over the nipple and areola and give a firm and gentle pressure in a circular motion in each breast for five minutes with the interval of 15 minutes for five times.

First Stage of Labour

It refers to the mother who is in first stage of labour for cervical dilatation of 3 to 4cm.

Primi Gravida Mothers

It refers to women who are taken as a sample going to deliver the baby for first time with first stage of labor. Its average duration is 12 hours in primi gravida mothers. In my study first stage of labour and may last for six to eight hours with 0-4cm cervical dilatation.

ASSUMPTIONS

- Nipple stimulation may induce the uterine contraction during first stage of labour.

- ❖ Prolonged labour may predispose to instrumental delivery and maternal exhaustion.
- ❖ Induction of uterine contraction with medication may predispose to uterine rupture and hyper stimulation of uterus.

DELIMITATIONS

1. The study was delimited to four weeks.
2. The study was delimited to sixty primi gravida mothers with gestational age of 36 to 40weeks.

PROJECTED OUTCOME

- Application of nipple stimulation will improve acceleration of uterine contraction among primi gravida mothers.
- The findings of the study will help the nurses to provide nipple stimulation to induce acceleration of uterine contraction among primi gravida mothers.

CONCEPTUAL FRAMEWORK

The conceptual framework for research study presents the measure on which the purpose of the proposed study is based. The frame work provides the perspective from which the investigator views the problems.

The present study is aimed to helping the parturient mother in acceleration of uterine contraction by administration of nipple stimulation during first stage of labour among primi gravida mothers. The investigator adopted the modified Wiedenbach's helping art of clinical nursing theory as a base for developing conceptual framework. Ernestine Wiedenbach's enrolled in John Hospital School of nursing and wrote family - centred maternity nursing. She developed the helping art of clinical nursing - prescriptive theory in 1964.

Ernestine Wiedenbach's helping art of nursing theory for nursing which describes a derived situation and way to attain it. This theory has three factors.

- Central purpose
- Prescription
- Realities

Central Purpose

It refers to what the nurse has to accomplish. In this study, the investigator identified the central purpose was the effective management of uterine contraction during first stage of labour.

Prescriptions

It refers to plan of care for primi gravida mother. It will specify the nature of action that will fulfil the nurse's central purpose. In this study the investigator adopted

nipple stimulation as a intervention for the management of acceleration of uterine contraction.

Realities

It refers to the physical, physiological emotional, spiritual factors that come into play in situation involving nursing action. The five realities identified by Wiedenbach's were agent, recipient goal, means of nursing intervention and framework.

The agent is the practicing nurse or investigator who has the personal attributes problems, capacities, commitment and competence to provide nursing care. In this study the agent is investigator.

The recipient is the patient who has personal attributes, problems, capacities, aspiration and ability to cope with the concern or problems being experienced. In this study the recipient is primi gravida mothers.

The goal is the nurse's desired outcome; it directs actions and suggests the reasons for taking those actions. In this study the goal is to acceleration of uterine contraction.

The means are the activities and devices used by the nurse to achieve the goal. The means include skills, techniques, procedures and devices that may be used to facilitate nursing practice .In this research nipple stimulation is the means.

Framework consists of the human, environmental, professional, organizational facilities that not only make up the context which nursing practice but also constitutes the currently existing limits. In this study the framework was the labour unit.

The conceptualization of nursing according to this theory consists of three steps as follows.

Step-I - Identifying the need for help

Step-II - Ministering the needed help.

Step-III - Validating that the need for help was met.

Step-I: Identifying the need for help

This step involves determining the need for help. The primi gravida mothers were identified based on the inclusive and exclusive criteria. Purposive sampling technique was used to assign the primi gravida mothers in experimental and control group. The assessment level of acceleration of uterine contraction was assessed in both groups by using a modified uterine contraction assessment scale.

Step- II: Ministering the needed help

After the assessment of pre test level of acceleration of uterine contraction during first stage of labour among experimental and control group of primi gravida mothers, given selected intervention of nipple stimulation was administered to the experimental group and no intervention was given for control group.

Step-III: Validating that the need for help was met

It's accomplished by mean of assessing the pre and post test level of acceleration of uterine contraction among experimental and control group. It was followed by analysis of new findings**.**

CHAPTER – II

REVIEW OF LITERATURE

The review of related literature is an essential aspect of scientific research. Its entails the systematic identification, reflection, critical analysis and reporting of existing information in relation to the problem of interest. The purpose of review of literature is to obtain comprehensive knowledge and in depth information about the effectiveness of nipple stimulation technique on uterine contraction in primi gravida mothers.

Review of literature is a systematic study of a number of previous studies which helps to support the research work done. It includes all type of studies. It gives an idea of how the study can be conducted and what is to be done for it. It is helpful for the investigator.

The review of literature is organized under the following sections.

Section-A: Literature related to nipple stimulation on uterine contraction.

Section-B: Literature related to nipple stimulation on labour management.

SECTION-A LITERATURE RELATED TO NIPPLE STIMULATION ON UTERINE CONTRACTION

Strowitzkit et al., (1998) conducted a prospective study used to assess the value of endogenous uterine contraction. They performed breast stimulation test in 136 patients. Sufficient contractions achieved in 89.7 percent. A hyper stimulation was seen in 5.8 percent of the patients. The investigator does not find out false

negative breast stimulation test result. The duration of the breast stimulation test was significantly shorter compared to the other procedure.

Hill W C (1998) conducted a study to compare two methods of performing the breast stimulation stress test. In this test the breast stimulation was used as a method for inducing uterine activity. Here they have undertaken a measure to test the efficacy and safety of two methods of breast stimulation rolling of the nipple and application of moist and hot pads to the breast before stimulation. The total size of the sample was 54 high risk patients were randomly assigned to one of two groups. Group one which includes patients who stimulated on bare nipple intermittently. Group two includes patients who had moist, warm wash cloths applied to the breast for five minutes before breast stimulation. No differences, in terms of efficacy and safety, were found between the two methods of breast stimulation. But the study concluded that breast stimulation was effective in inducing uterine contraction.

Geburtshilfe Frauenheilkd (1998) conducted a study to assess the effectiveness of nipple stimulation on uterine activity and on plasma levels of oxytocin. One hundred and eighty six term pregnant mothers of the gynaecological Department of the University of Innsbruck were selected and nipple stimulation was given for inducing uterine contraction. The continuous or intermittent manual stimulation by the patient was mainly used for contraction stress testing. An adequate uterine response (at least 3 contractions per 10 mts) was achieved in 57 percent. Reversible signs of hyper stimulations, such as prolonged uterine contractions and tachysystoles, were observed in 10 percent, causing reversible pathological fetal heart rate patterns in one percent. The classical intravenous oxytocin challenge test

produced a higher uterine response rate as compared at the same time to breast stimulations. Results were similar to those achieved by manual stimulation.

Hauth J C et al., (1999) conducted a comparative study to assess the effectiveness of perinatal outcome in patients undergoing contraction stress test performed by nipple stimulation versus spontaneously occurring contractions. In this study the perinatal outcomes were assessed in 848 high risk pregnancies managed with a prospective weekly contraction stress testing protocol. In 615 patients the last test was performed by a nipple stimulation protocol whereas 233 patients had spontaneous contractions for performance of the test. The results of the last test were compared to various perinatal outcome parameters. It was concluded that there was no significant difference in perinatal outcomes within the two groups.

Chayen B (2000) conducted a study to assess the effectiveness of nipple stimulation on uterine contraction. In this study nipple stimulation was widely used for producing uterine contraction. High rates of hyper stimulation have been reported with various manual methods of nipple stimulation. Here they have undertaken an effort to standardize the mode and amount of stimulation required to produce uterine contraction. In this study 317 contraction tests were done using an automatic electric breast pump under precise pressure control. This method was successful in achieving adequate contractions in 84.2 percent. Hyper stimulation of the uterus was encountered in 4.1 percent of all test performed. Side effects and complications were minimal.

Morrison J C et al., (2000) conducted a comparative study to assess the effectiveness of nipple stimulation on uterine contraction. The total size of the sample

was 1378 groups were divided in to three groups in that 838 mothers for non-stress tests, 115 mothers selected for spontaneous contraction stress test and 425 mothers selected for Nipple Stimulation Contraction Stress Tests (NS-CSTs). The study results revealed nipple stimulation contraction stress test was highly effective when compared to other tests.

MacMillan (2000) conducted the study at high risk pregnancy mother was selected in 156 performed mammary self stimulation 256 times in an attempt to induced uterine contractions that would meet contraction stress test criteria.149, or 57% of the attempts resulted in contraction of adequate duration and frequency to satisfy those criteria. The patient's acceptance of the procedure was very high only one patient refused to participate in performing contraction stress test through mammary self stimulation and it was found to shorten the time of the successful patients stayed in the testing area and eliminated the need for an intravenous oxytocin challenge test.

Reprods J. (2000) conducted a prospective study to assess the effectiveness of nipple stimulation versus oxytocin on uterine contraction. They underwent antenatal stress tests on a total of 203 patients. One hundred and four nipple stimulation Contractio Stress Tests (BSTs) and 99 Oxytocin Challenge Tests (OCTs) were performed. The population of the study were similar in both groups. They revealed uterine hyper stimulation with abnormal fetal heart rate pattern in 2.9 percent breast stimulation tests and oxytocin challenge test respectively. The failure rate for the breast Stimulation test group was 22 percent maternal age and weight; parity gestational ages were not associated with test failure. In this study only one patient failed in more than one breast stimulation test, but she did not fail every such test.

When test time was compared between the two groups they revealed a significant difference and concluded that the breast stimulation test was successful.

Macmillan J B and Hale (2001) conducted a study to assess the effectiveness of contraction stress testing with mammary self stimulation. In this study 156 women with high risk pregnancies performed mammary self stimulation 256 times in an attempt to induce uterine contractions that would meet the criteria for contraction stress test with this they revealed that 149 or 57 percent, of the attempts resulted in contractions. Performing a contraction stress test through mammary self stimulation was found to shorten the time that successful patients stayed in the testing area and eliminated the need for an intravenous oxytocin challenge test.

Keegan K A et al., (2002) conducted a study to assess the effectiveness of nipple stimulation on uterine contraction. In this they used nipple stimulation to induce uterine contractions for a contraction stress test Breast Stimulation Contraction Stress Test (BSCST) with 657 patients made 1,484 attempts with the BSCST and were successful in 1,072 trials (72.2%). They observed a lower success rate only in gestations less than or equal to 34 weeks. The distribution of test results (positive, negative, equivocal) by BSCST was changed from that of contraction tests performed with exogenous oxytocin (Oxytocin Challenge Test [OCT]). The incidence of false-positive tests was similar to that in previous reports. The corrected perinatal mortality rate for the study population was 1.5 per 1,000 births. The time required for an adequate response was 23.8+/- 15.2 minutes, with 87.5 percent of patients responding in less than 30 minutes with this study they conclude that breast Stimulation Contraction Stress test appears to be a reasonable alternative to the oxytocin

Challenge Test, with elimination of the intravenous line and oxytocin administration and with a shorter testing time.

Dubin N H et al., (2003) conducted a study to assess the effectiveness of nipple stimulation on increasing prolactin and plasma prostaglandin metabolite levels of uterine contraction. In 25 patients undergoing nipple stimulation contraction stress tests were enrolled in this study. Plasma 13, 14 dihydro, 15 keto prostaglandin F2 alpha and plasma prolactin concentration were analysed before and during the contraction stress test. Prolactin concentration were significantly higher (p less than 0.01) in patients who responded with a successful stress test versus those who did not. No significance changes were observed in the mean concentration of plasma 13, 14 dihydro, 15 keto prostaglandin F2 alpha levels between the two groups.

Keegan J R (2003) conducted a prospective study on nipple stimulation technique for inducing a uterine contraction. The total size of the sample was 753. In this study 127 nipple stimulation contraction stress tests were performed on753 patients. The induction of uterine contraction induction was unrelated to parity, gestational age, but was related to the presence of spontaneous pre stimulation contractions. They are found that various stimulation techniques were equally successful in achieving a completed test in the presence of prestimulation contractions. Hyper stimulation test result occurred in 21.5 percent of mothers and increased to 28.8 percent for the bilateral nipple stimulation. The study conducted that nipple stimulation helped to increase the uterine contraction.

Legrand A et al., (2005) conducted a study to assess the effectiveness of nipple stimulation on uterine contraction. The authors have evaluated the effect of

nipple stimulation on uterine tone in a series of 25 patients at term where induction of labour was indicated for obstetric reasons. In 64 percent of cases breast stimulation carried out for 30minutes was followed by uterine contractions. In 20 percent of these cases the authors found that the uterus contracted strongly and in two patients so strongly as to cause fetal heart slowing. Breast stimulation matures the cervix slightly but this is not significant for bishop's score. In 16 percent of case breast stimulation provoked labour.

Singh K et al., (2005) conducted a study to assess the effects of nipple stimulation on intra uterine activity in late pregnancy. In this they studied nine healthy pregnant subjects at term. All of them showed an increase in uterine activity varying from 10 to 73 percent. In one subject, marked uterine hyper tonus was noted which resulted in profound fetal bradycardia. Still this response was transient, lasting 5.5min, and the fetal outcome remain unaffected. Hence they conclude that nipple stimulation was associated with higher incidence of increased uterine activity in terms of frequency, intensity and basal tone, but it should be used with caution in late pregnancy.

Devoe l D et al., (2005) conducted a comparative study to assess the uterine activity effectiveness of nipple stimulation versus oxytocin in the induction of labour. A group of 45 term pregnant women were used for this study. According to this study, 25 patients had nipple stimulation and 20 patients received oxytocin infusions. The two groups were similar in all obstetric parameters. Pre and post test uterine activity was measured by internal tocodynamometry and quantified in Montevideo units. It was found that significant increase in uterine activity occurred in both groups (p >01).

Regular uterine cavity (three contractions in ten minutes) was achieved more rapidly (p >005), but at a lower level (p>.001) in the nipple stimulation group.

Verma et al., (2005) conducted a study to assess the effectiveness of breast pump versus oxytocin in induction labour. From this study it was revealed that the time from stimulation to the onset of regular uterine activity and to 200 montevideo units of uterine activity and the time until entrance in to the active phase of labour were significantly shorter in the nipple stimulation group. But didn't have a significant difference in the active stage of labour.

Figueroa R (2005) conducted a comparative study to assess the effectiveness of nipple stimulation with an electric breast pump versus oxytocin infusion in induction of labour. In this study, they revealed that the time from stimulation to the onset of regular uterine activity and the time until entrance in to the active phase of labour were significantly shorten the nipple stimulation group. It was also concluded that there was no difference between the groups in the length of labour or mode of delivery.

Rossetti C et al., (2007) conducted a study to assess the effectiveness of contraction stress testing with nipple stimulation. The contraction stress test is used widely as a measure of fetoplacental respiratory reserve. With contractions traditionally induced by intravenous oxytocin, the test has been limited in its use by time, expense and patient discomfort with this study concluded that the effectiveness of nipple stimulation for the production of uterine contractions was successfully CST obtained in 94 percent of the attempts, with a mean total test time of 12 minutes.

Zentralbl Gynakol (2007) conducted a study to assess the effectiveness of supplementation of antenatal cardiotocography by nipple self stimulation. Self-of nipples were performed in 155 late pregnant women in connection antenatal cardiotography (non-stress test). Cardiotocographs were interpreted using an own score. Uterine contractions could be produced by nipple stimulation in 111 women (71.6 percent). In 13 daces with score six to eight these contraction contributed to explanation of fetal condition. In additional 11 cases with score nine to ten the attention was focussed to the reduced fetal or placental capacity by the suspect cardiotocogram. In this group frequency of caesarean section was increased significantly. In cases with successful nipple stimulation the rate of labour induction with effect was higher. Oxytocin liberation by nipple stimulation may be regarded as endogenous oxytocin stress test. This simple procedure which can be done quickly and without danger is supposed to be a good supplement to non-stress test. Its reliability can be improved and the success of induction of labour estimated.

Meyer l. Heinzls (2010) conducted a study to assess the effectiveness of breast stimulation in a stress test. One hundred women were selected woman's hospital of the University of Basel. The stimulation was done unilaterally with a breast pump; each nipple was stimulated for 15 minutes, 30 of them 100 mothers had three or more contractions, 12 mothers had no contractions. Prestimulation contraction have an influence on the success rate, 50 percent of mothers in the group with the prestimulation contractions had a successful test. The acceptance was good.

Stock S et al., (2011) conducted a study to assess the effectiveness of nipple stimulation on uterine activity; foetal heart rate and plasma oxytocin level in healthy full term pregnant woman were studied. Ten women in weeks of 38 to 39 weeks of

pregnancy stimulated their nipples for 30 minutes. Nine of the ten mothers experienced uterine contraction. One woman showed signs of uterine hyperactivity the fetal heart rate declarations. Blood samples were drawn at 15 seconds of intervals during 5 to 6 contractions and oxytocin levels were measured with radioimmunoassay. Oxytocin levels rise significantly during nipple stimulation and short bursts of oxytocin were recorded during contractions. Nipple stimulation has been used to induce labour; data may suggest that oxytocin released in response to such stimulation is responsible for the induced contraction.

SECTION-B LITERATURE RELATED TO NIPPLE STIMULATION ON LABOUR MANAGEMENT.

Cucco V (2000) conducted a study to assess the effectiveness of nipple stimulation on induction of labour. One hundred and three mothers were selected with 40 to 42 weeks of gestation. In this study 52 mothers received nipple stimulation and 48 were received no treatment. Nipple stimulation was successful, 83.3 percent of the mothers delivered vaginally. The researcher concluded that mother received nipple stimulation had a good outcome than the control group.

Meye JF (2009) conducted a study to assess the effectiveness of nipple stimulation on induction of labour. Ninety one samples were selected for this study. Mothers received nipple stimulation for throught the labour with the interval of 15minutes. Mothers had a normal vaginal delivered with in 24 hours for patients (88%). The researcher concluded that nipple stimulation helps to induction of labour.

Al-harari A H et al., (2010) conducted a prospective comparative study to assess the effectiveness of nipple stimulation on induction of labour in mother with

severe preeclampsia or near term. One hundred and thirteen mothers were selected they were divided in to two groups. One group was received nipple stimulation and other group was not received intervention. Maternal age, parity, initial cervical status, the rate of caesarean section, and neonatal outcomes were analysed and compared to the control group. The results 69.6 percent had a vaginal delivery. The researcher concluded that nipple stimulation was effective agent for ripening of the cervix for experimental group.

Changnoi A et al., (2011) conducted a comparative study to assess the effectiveness of nipple stimulation versus cervical ripening on induction of labour. Sixty samples were selected for this study. One group received nipple stimulation. Nipple stimulation had higher in the titrated compared with the conventional group (236.2±110.1µg versus 103.1±35.7µg; p=0.001 and25.0% versus6.3%; p=0.03).The researcher concluded that nipple stimulation was effective for cervical ripening.

Surbek D et al., (2011) conducted a comparative study to assess the effectiveness of nipple stimulation versus cervical ripening on induction of labour. Five hundred and twelve samples were selected for this study. One group received nipple stimulation. Other group received cervical ripening. The researcher revealed that nipple stimulation was alternative measures for induction of labour.

Marianij Neto C et al., (2011) conducted a comparative study to assess the effectiveness of nipple stimulation versus enema on induction of labour. Total numbers of mother selected for this study were 238. In that 184 mothers received nipple stimulation remaining mother received enema, mother should fulfil the criteria for cephalic presentation, intact membranes, and bishop score <3. Obstetric and

neonatal data were analysed and compared between two groups. The results revealed similar effect for both groups. The researcher concluded that nipple stimulation and enema both effective for vaginal child birth induction.

Alam A Y et al., (2011) conducted a comparative study to assess the effectiveness of nipple stimulation versus premature rupture of membranes on induction of labour. Two hundred mothers were selected for the study sample. In that 100 mothers received nipple stimulation and another 100 mothers received premature rupture of membranes. Labour commenced in a mean of 6.67 hours (±3.63) for group A, a mean of 8.41 hours (±5.13) in group B (P=0.09). The researcher concluded that nipple stimulation alternative for premature rupture of membranes both are effective and there is no complications.

Rayburn W F (2011) conducted a study to assess the effectiveness of nipple stimulation on cervical dilatation. Three seventy four mothers with modified bishop scores of four or lower before induction of labour were randomly assigned to receive nipple stimulation100(n=118), 150(125), 200(n=131). The primary outcome was proportion of vaginal deliveries within 24 hours. The researcher concluded that nipple stimulation helps in reduction in time of vaginal delivery.

Sylvia Brown (2011) conducted a study to assess the effectiveness of nipple stimulation on shorten the duration of labour. The sample consisted of 108 mothers; 57 (52.8%) received nipple stimulation while 51 (47.2%) were in the control group. The findings suggest that the nipple stimulation can be received by women during their pregnancy, it will shorten the labour with no identified side effects for the women or their babies.

CHAPTER – III

RESEARCH METHODOLOGY

This chapter deals with the methodology adopted in this study. It includes Research approach, Research design, Variables, Settings, Population, and Sample, Criteria for sample selection, Sample size, Sampling technique, development and description of tools, Content validity, Reliability, Pilot study, data collection procedure and plan for data analysis.

RESEARCH APPROACH

Quantitative research approach was used in this study.

RESEARCH DESIGN

The research design used in this study was quasi experimental pre and post test control group design.

Group	Pre-test	Intervention	Post test
Experimental	O_1	X	O_2
Control	O_1	-	O_2

Fig 2: Schematic Representation of Quasi Experimental Design

Key

O_1 = Pre test level of uterine contraction in experimental group.

O_2 = Post test level of uterine contraction in experimental group.

X = Nipple stimulation.

O_1 = Pre test level of uterine contraction in control group.

O_2 = Post test level of uterine contraction in control group.

VARIABLES

Independent Variable

Nipple stimulation

Dependent Variable

Acceleration of uterine contraction

SETTING OF THE STUDY

The study was conducted in labor room in Annalakshmi Hospital, Vallioor. It is a 200 bedded hospital. Hospital includes antenatal ward, postnatal ward, labor ward and gynecological ward. The hospital has separate obstetric operation theatre and newborn resuscitation unit which functions round the clock. Around 150 deliveries are taking place per month. Out of 150 deliveries approximately 105 mothers undergone normal deliveries and 45 mothers undergone cesarean section.

POPULATION

The study population comprised of primi gravida mothers who were admitted in labour room during first stage of labour.

SAMPLE

The study samples were primi gravida mothers during first stage of labours who were admitted in the labour ward at Annalakshmi Hospital, Vallioor, Tirunelveli District and who fulfilled the inclusive criteria**.**

SAMPLE SIZE

The sample size was 60 primi gravida mothers, Out of which 30 of them were assigned to the experimental group and 30 of them to the control group.

SAMPLING TECHNIQUE

Annalakshmi Hospital was selected for the study. During the period of data collection nearly 150 mothers were admitted for delivery. In which 60 of them were primi gravida mothers. The investigator selected the samples by purposive sampling technique method in which thirty samples of them were in experimental group, thirty samples were in control group.

CRITERIA FOR SAMPLE SELECTION

Inclusive Criteria

- Primi gravida mothers who were admitted in labour room with 36 to 40 weeks of pregnancy.
- Primi gravida mothers who were in first stage of labor with 10 to 20 seconds of contractions.
- Primi gravida mothers who were willing to participate in the study.
- Primi gravida mothers who were in latent phase on first stage of labour with six to eight hours.
- Primi gravida mothers with 3- 4cm of cervical dilatation.

Exclusive Criteria

- Primi gravida mothers with high risk.
- Primi gravida mothers with medical and obstetrical disorder.

DEVELOPMENT AND DESCRIPTION OF TOOL

The tool was developed to assess the level of acceleration of uterine contraction among primi gravida mothers by using modified uterine contraction assessment scale.

The tool has two sections.

Section-A

It consists of demographic variables such as age in years, education, occupation, type of family, weeks of gestation, and area of living.

Section-B

Modified uterine contraction assessment scale to observe and document the pre and post test assessment of level of acceleration of uterine contraction among primi gravida mothers in experimental and control group. The investigator placing her palm over the nipple and areola and gave a firm and gentle pressure in a circular motion in each breast for five minutes with the interval of 15 minutes for five times. The contraction level from one to two indicates mild uterine contraction and score was 1. The contraction level from three to four indicates moderate uterine contraction and score was 2. The contraction level more than five indicates severe uterine contraction and score was 3.

SCORING KEY

Score	Nature of uterine contraction	Description of uterine contraction
1.	Mild	Less than 20 seconds with 1-2 contractions/10 mts.
2.	Moderate	21-40 seconds with 3-4 contractions/10 mts.
3.	Severe	>40 seconds with 5contractions/10 mts.

INTERVENTION

The procedure was as follows, each day as the mother gets admitted for labour the investigator selected two to three samples based on inclusive criteria and by using purposive sampling technique. The samples selected were primi gravida mothers in latent phase with 0-4cm cervical dilatation. The investigator assessed pre test level of acceleration of uterine contraction in both experimental and control group. Then the mother was made lie down in supine position and the investigator placing her palm over the nipple and areola and gave a firm and gentle pressure in a circular motion in each breast for five minutes with the interval of 15 minutes for five times for each samples in experimental group. No intervention was given for control group. The contraction level from one to two indicates mild uterine contraction and score was 1. The contraction level from three to four indicates moderate uterine contraction and score was 2. The contraction level more than five indicates severe uterine and score was 3. The investigator spent one and half hours for each samples in experimental group and control group. Post-test assessment of acceleration of uterine contraction was assessed for experimental and control group. The same procedure followed for the consecutive weeks.

CONTENT VALIDITY

The content validity of the tools was established on the opinion of two experts in the field of obstetrics and gynaecologist and three nursing experts. Tool was modified as per the consensus of all the experts and the tool was finalized.

RELIABILITY

Reliability of the tool was tested by the investigator and another maternity nursing expert personal who was trained for the use of tools. The reliability of the tool was determined by inter- rater observer technique. The reliability score was r =0.8. Hence the tool was considered highly reliable for proceeding with the study.

PILOT STUDY

The pilot study was a trial run for major study. The tool was used for the pilot study to test the feasibility and practicability. The pilot study was conducted in Mercy Hospital, Vallioor. A formal permission was obtained from the Director of the Mercy Hospital. The mothers selected for the pilot study were not included in the main study. The period for pilot study was one week from 28.03.2011 to 02.04.2011, from 9am to 6pm.

The investigator introduced her self to the mothers and established rapport with the mothers. Six samples were selected for pilot study using purposive sampling technique. Data pertaining to demographic variables were collected by interview method. Investigator assessed pre and post test level of acceleration of uterine contraction by using modified uterine contraction assessment Scale. Data collection was done in the same setting for a period of six days. The investigator selected six samples by using purposive method of sampling technique. Out of six samples three samples were allotted for experimental group, and three samples were allotted for control group. After assessing the pre test level of acceleration of uterine contraction among primi gravida mothers for both the groups, the investigator gave nipple stimulation for samples of experimental group and three samples of control group

without nipple stimulation. The investigator placing her palm over the nipple and areola and gave a firm and gentle pressure in a circular motion in each breast for five minutes with the interval of 15 minutes for five times in experimental group. At the end of the intervention, the post test level of acceleration of uterine contraction was scored for both groups by modified uterine contraction assessment scale. The investigator has spent one and half hours for each sample. The pilot study revealed that there was a highly significant difference between the pre test and post level of acceleration of uterine contraction in experimental and control group of primi gravida mothers at $p < 0.05$ level. The findings showed that nipple stimulation was good method to increase the acceleration of uterine contraction. It was feasible and practicable to conduct the main study. There was no modification made in the tool after the pilot study.

PROCEDURE FOR DATA COLLECTION

The researcher got formal permission from the Principal and research committee, of Sri K.R.N College of nursing. Annalakshmi hospital was selected for data collection. Data collection period was conducted for four consecutive weeks from 28.3.11to 02.04.11 at 7am to 5pm in week days.

Each day as the mother gets admitted for labour the investigator selected two to three cases based on inclusive criteria and by using purposive sampling technique. The samples selected were primi gravida mothers in latent phase with 0- 4cm cervical dilatation.The investigator established rapport with primi gravida mothers. They were assured that no physical or emotional harm would be done during the course of the study.

Data pertaining to the demographic variables were collected by interview method. The investigator assessed pre test level of uterine contraction in both experimental and control group. Then the mother was made lie down in supine position and the investigator placing her palm over the nipple and areola and gave a firm and gentle pressure in a circular motion in each breast for five minutes with the interval of 15 minutes for five times for each samples in experimental group. No intervention was given for control group. The contraction level from one to two indicates mild uterine contraction and score was 1. The contraction level from three to four indicates moderate uterine contraction and score was 2. The contraction level more than five indicates severe uterine and score was 3. The investigator spent one and half hours for each samples in experimental group and control group. Post-test assessment of acceleration of uterine contraction was assessed for experimental and control group. The same procedure followed for the consecutive weeks.

PLAN FOR DATA ANALYSIS

Both descriptive and inferential statistics were used.

Descriptive Statistics

- The frequency and percentage distribution was used to analyze the demographic variables among primi gravida mothers in experimental and control group with acceleration of uterine contraction.
- The frequency percentage distribution was used to assess the pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

- Means and standard deviation was used to assess the pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

Inferential Statistics

- Unpaired 't'- test was used to compare the pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.
- Paired 't'- test was used to compare the pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.
- Chi-square test was used to associate the post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group with their selected demographic variables.

PROTECTION OF HUMAN SUBJECTS

The proposed study was conducted after getting approval from the research committee of the Sri. K.R.Ramacharan Naidu College of Nursing. Permission was sought from Dr. Shayama MD., DGO Annalakshmi Hospital. The written consent was obtained from each participants before data collection. Assurance was given to the study participants that the data collected will be kept confidential.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data related to assess the effectiveness of nipple stimulation on acceleration of uterine contraction among primi gravida mothers in Annalakshmi Hospital, Vallioor, at Tirunelveli district.

Descriptive and inferential statistics were used for analysing the data on the basis of the objectives of the study. The data has been tabulated and organized as follows.

ORGANIZATION OF DATA

Section A : Description of demographic variables of the primi gravida mothers with acceleration of uterine contraction.

- Frequency and percentage distribution of demographic variables of primi gravida mothers.

Section B : **Assessment of level of acceleration of uterine contraction among primi gravida mothers in experimental and control group**.

- Assessment the pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.
- Assessment of the post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

Section C : **Comparison of pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.**

- Comparison of mean and standard deviation of the pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental group.
- Comparison of mean and standard deviation of the pre and post test level of acceleration of uterine contraction among primi gravida mothers in control group.
- Comparison of mean and standard deviation of the post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

Section D : **Association of post test level of acceleration of uterine contraction among primi gravida mothers in experimental and Control group with their selected demographic variables**.

- Association of post test level of acceleration of uterine contraction among primi gravida mothers in experimental group with their selected demographic variables.
- Association of post test level of acceleration of uterine contraction among primi gravida mothers in control group with their selected demographic variables

SECTION-A

DESCRIPTION OF DEMOGRAPHIC VARIABLES OF THE EXPERIMENTAL AND CONTROL GROUP OF PRIMI GRAVIDA MOTHERS WITH THE ACCELERATION OF UTERINE CONTRACTION

Table-1: Frequency and Percentage Distribution of Demographic Variables of Primi Gravida Mothers

(N=60)

S. No	Demographic Variables	Experimental Group (n-30)		Control Group (n=30)		Total (N=60)	
		f	%	f	%	N	%
1.	**Age**						
	18 – 22 years	8	26.7	11	36.7	19	31.7
	23 – 27 years	12	40	10	33.3	22	36.6
	28 – 32 years	8	26.7	7	23.3	15	25
	> 32 years	2	6.6	2	6.7	4	6.7
2.	**Educational Status**						
	Illiterate	4	13.3	6	20	10	16.7
	Primary	5	16.7	5	16.7	10	16.7
	High school	7	23.3	7	23.3	14	23.3
	Higher secondary	6	20	6	20	12	20
	Graduate	8	26.7	6	20	14	23.3
3.	**Occupation**						
	House wife	10	33.3	16	53.3	26	43.3
	Labour	5	16.7	3	10	8	13.3
	Technical	9	30	5	16.7	14	23.3
	Professional	6	20	6	20	12	20
4.	**Type of Family**						
	Nuclear family	17	56.7	17	56.7	34	56.7

Table: 1 cont…..

S. No	Demographic Variables	Experimental Group (n-30)		Control Group (n=30)		Total (N=60)	
		f	%	f	%	N	%
	Joint family	11	36.6	11	36.6	22	36.6
	Extended family	2	6.7	2	6.7	4	6.7
5.	**Weeks of Gestation**						
	37-38 weeks	15	50	16	53.3	31	51.7
	39-40 weeks	13	43.3	11	36.7	24	40
	41-42 weeks	2	6.7	3	10	5	8.3

Table 1 describes about the frequency and percentage distribution of demographic variables of primi gravida mothers with respect to age, educational status, and occupation, type of family and weeks of gestation.

Out of the 60 primi gravida mothers in the experimental group 8 (26.7%) of them were between 18- 22 years of age, 12 (40%) of them were between 23-27 years, 8 (26.7%) of them were between 28-32 years of age and 2 (6.6%) of them were between >32years of age.

In the control group 11 (36.7%) of them were between 18-22years of age, 10 (33.3%) of them were between 23-27years of age,7 (23.3%) of them were between 28-32 years of age, 2 (6.7%) of them were between > 32 years.

With regards to the education 4 (13.3%) were illiterate workers, 5 (16.7%) completed their primary education, 7 (23.3%) had high school education, 6 (20%) completed their higher secondary education, 8 (26.7%) completed their graduate in experimental group.

In the control group 6 (20%) were illiterate, 5 (16.7%) had completed their primary education, 7 (23.3%) had completed their high school education, 6 (20%) had completed their higher secondary education, 6 (20%) graduate.

With regards to the occupation in the experimental group 10 (33.3%) were house wives and 5 (16.7%) were labourers, 9 (30%) were technical workers and, 6 (20%) were professional workers.

In the control group16 (53.3%) were house wives and 3 (10%) were labourers, 5 (16.7%) were technical workers and, 6 (20%) were professional workers.

With regards to the type of family in the experimental group 17 (56.7%) of them were nuclear family, 11 (36.6%) of them were joint family, 2 (6.67%) of them were extended family.

In the control group 17 (56.7%) of them were nuclear family, 11 (36.6%) of them were joint family, 2 (6.7%) of them were extended family.

With regards to the weeks of gestation in the experimental group 15 (50%) were between 37-38 weeks of gestation, 13 (43.3%) of them were between39-40 weeks of gestation, 2 (6.7%) of them were between 41-42 weeks of gestation.

In the control group 16 (53.3%) of them were between 37-38 weeks of gestation, 11 (36.7%) of them were between 39-40 weeks of gestation, 3 (10%) of them were between 41-42 weeks of gestation.

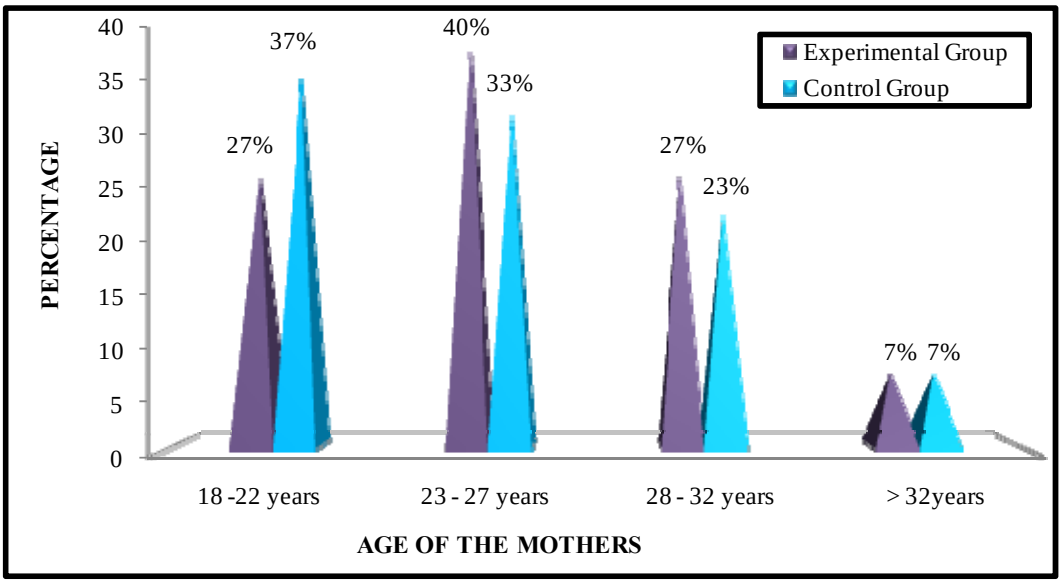

Figure-4: Percentage distribution of age among primi gravida mothers in experimental and control group.

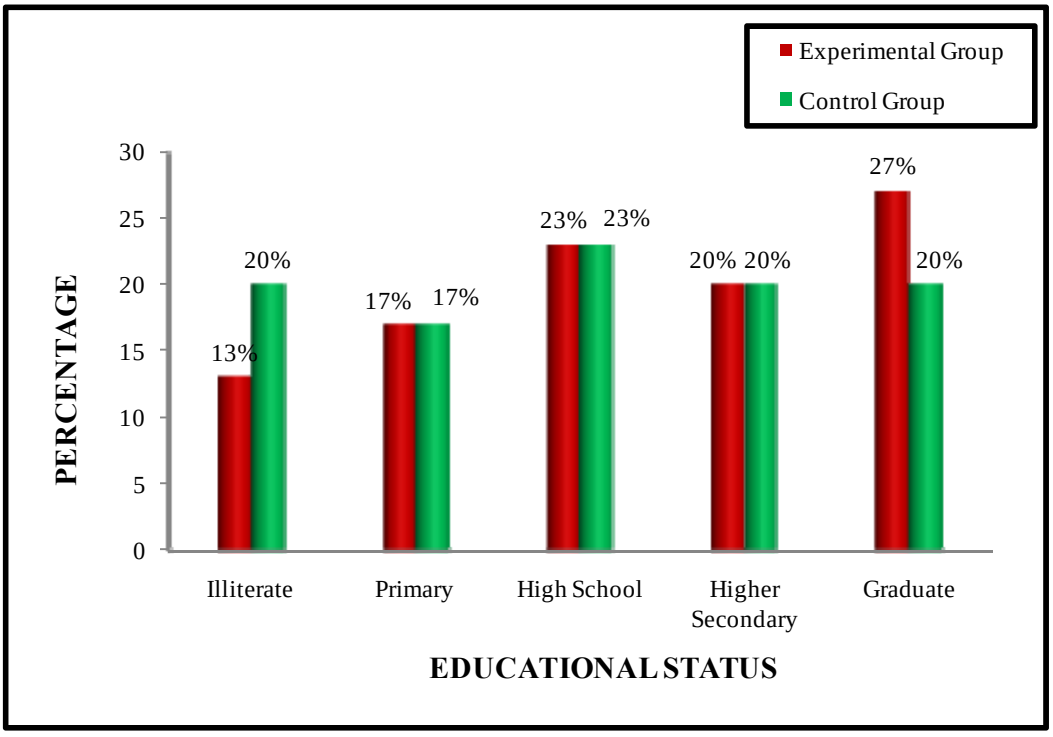

Figure-5: Percentage distribution of educational status among primi gravida mothers in experimental and the control group.

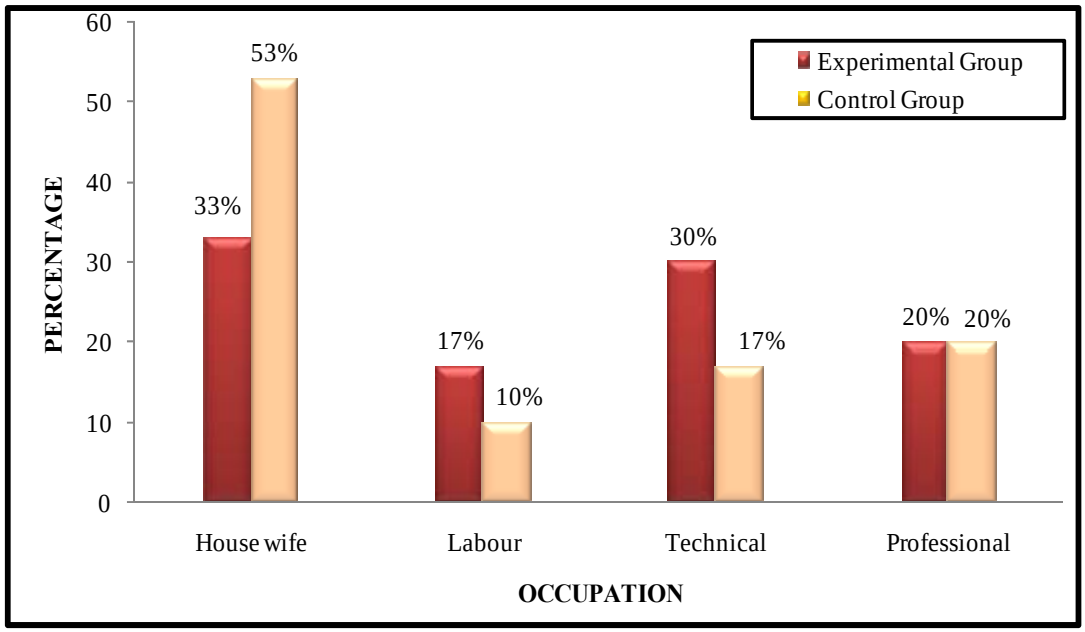

Figure-6: Percentage distribution of occupation among primi gravida mothers in the experimental and the control group.

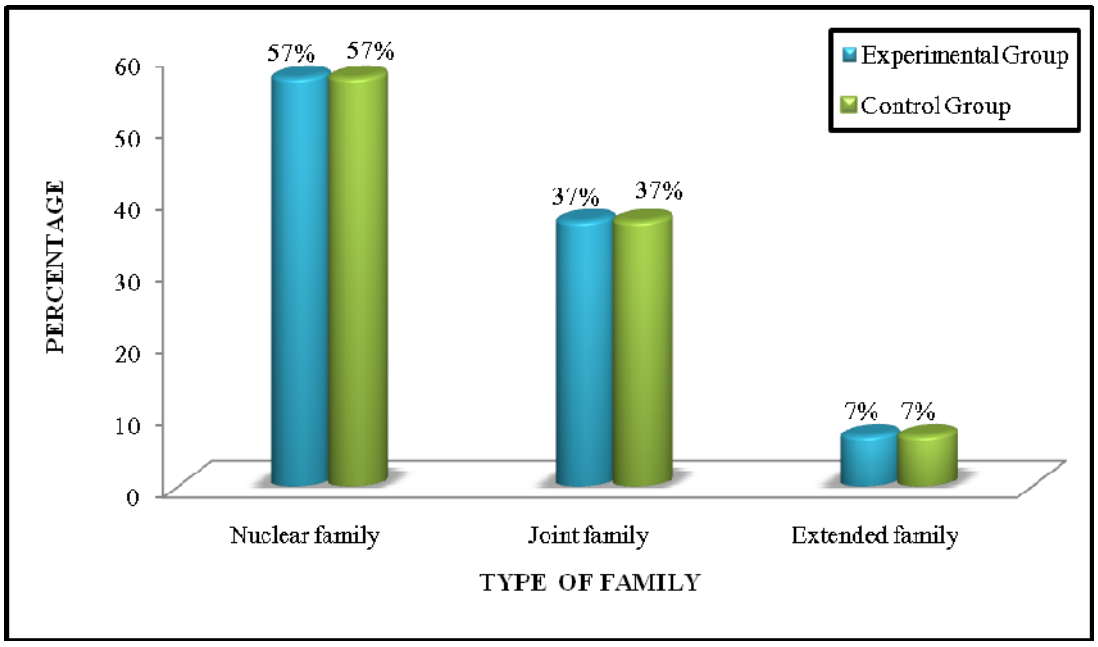

Figure-7: Percentage distribution of Type of family among primi gravida mothers in experimental and the control group.

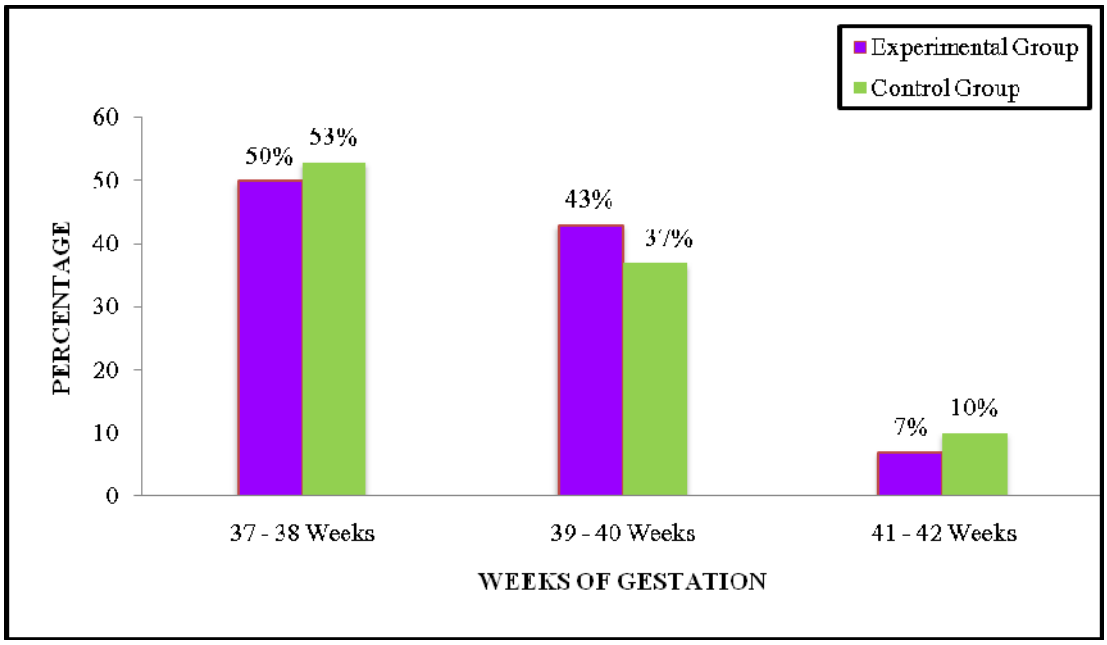

Figure-8: Percentage distribution of weeks of gestation among primi gravida mothers in experimental and control group.

SECTION-B

ASSESSMENT OF LEVEL OF ACCELERATION OF UTERINE CONTRACTION AMONG PRIMI GRAVIDA MOTHERS IN EXPERIMENTAL AND CONTROL GROUP

Table-2: Assessment of the Pre-test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in Experimental and Control Group.

(N=60)

S. No.	Group	Level of Acceleration of Uterine Contraction					
		Mild contraction		Moderate contraction		Severe contraction	
		f	%	f	f	f	%
1.	Experimental Group	21	70	9	30	0	0
2.	Control Group	25	83.3	5	16.7	0	0

The table 2 reveals the frequency and percentage distribution of pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

With regards to the level of acceleration of uterine Contraction in experimental group out of 30 primi gravida mothers, 21 (70%) of the mothers had mild uterine contraction and 9 (30%) of the mothers had moderate uterine contraction.

With regards to the level of acceleration of uterine Contraction in control group out of 30 primi gravida mothers, 25 (86.3%) of the mothers had mild uterine contraction and 5(16.7%) of the mothers had moderate uterine contraction.

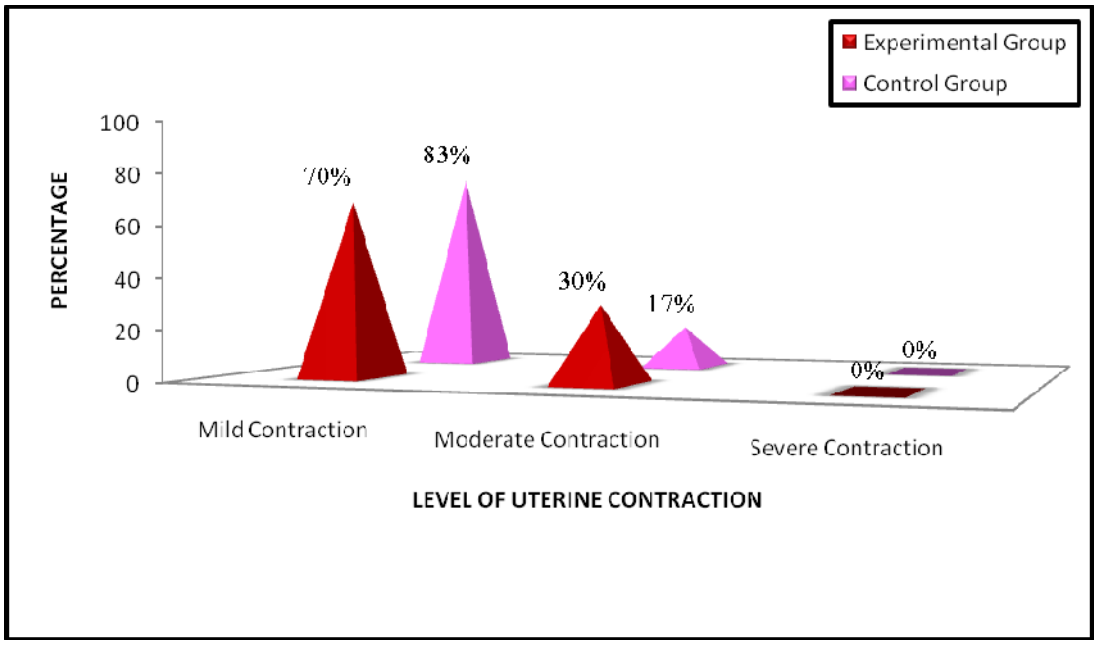

Figure-9: Percentage distribution of pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

Table-3: Mean and Standard Deviation of Pre test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in Experimental and Control Group.

(N=60)

S.No.	Group	Mean	Standard Deviation
1.	Experimental	1.3	0.45
2.	Control	1.16	0.392

Table 3 reveals the mean and standard deviation of pre test level of acceleration of uterine Contraction among primi gravida mothers in experimental and control group.

With regard to experimental group, the pre test mean value was 1.3 with standard deviation of 0.45 in experimental group. In control group the mean value was 1.16 with standard deviation of 0.392.

<u>Table-4:</u> Assessment of the Post-test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in Experimental and Control Group.

(N=60)

S. No.	Group	Level of Acceleration of Uterine Contraction					
		Mild contraction		Moderate contraction		Severe contraction	
		No	%	No	%	No	%
1.	Experimental Group	0	0	21	70	9	30
2.	Control Group	24	80	4	13.3	2	6.7

The table 4 reveals the frequency and percentage distribution of post test level of acceleration of uterine Contraction among primi gravida mothers in experimental and control group.

With regards to the level of acceleration of uterine Contraction in experimental group 21 (70%) were experiencing moderate uterine Contraction. 9 (30%) were experiencing severe uterine Contraction.

With regards to the level of acceleration of uterine Contraction in control group 24 (80%) of them were experiencing mild uterine Contraction, 4 (13.3%) of them were experiencing moderate uterine Contraction, and the remaining 2 (6.7%) were experiencing severe uterine Contraction.

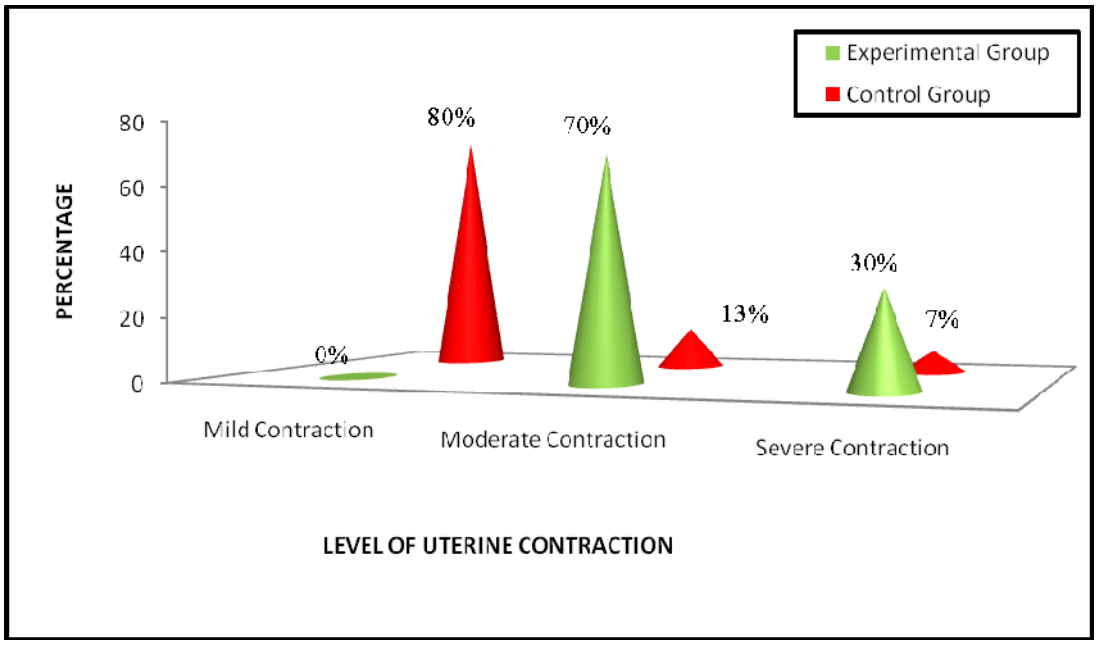

Figure-10: Percentage distribution of post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

Table-5: Mean and Standard Deviation of Post-test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in Experimental and Control Group.

(N=60)

S. No.	Group	Mean	Standard Deviation
1.	Experimental	2.33	0.48
2.	Control	1.26	0.58

Table 5 reveals the mean and standard deviation of the post test level of acceleration of uterine Contraction among primi gravida mothers in experimental and control group.

With respect to experimental group the post test mean was 2.33 with standard deviation of 0.48. The mean of control group was 1.26 with standard deviation of 0.58.

SECTION-C

COMPARISON OF EFFECTS OF NIPPLE STIMULATION ON ACCELERATION OF UTERINE CONTRACTION AMONG PRIMI GRAVIDA MOTHERS IN EXPERIMENTAL AND CONTROL GROUP

Table-6: Comparison of Mean and Standard Deviation of the Pre and Post-test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in Experimental Group.

(N=30)

S. No.	Test	Mean	Standard Deviation	Mean difference	't' value
1.	Pre test	1.3	0.45	1.03	t = 9.27 S
2.	Post test	2.33	0.48		

S - Significant

Table 6 shows the paired "t" test to compare pre test and post test level of acceleration of uterine contraction among primi gravida mothers in experimental group.

The pre test mean value was 1.3 with standard deviation of 0.45 and the post test mean value was 2.33 with standard deviation of 0.48. The calculated 't' value was 9.27 which shows that there was a significant difference between the pre and post test level of acceleration of uterine contraction in the experimental group at $p<0.05$ level of significance. Hence the hypothesis was accepted.

Table-7: Comparison of Mean and Standard Deviation of the Pre and Post-test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in control Group.

(N=30)

S. No.	Test	Mean	Standard Deviation	Mean difference	't' value
1.	Pre test	1.16	0.392	0.1	t = 0.83 NS
2.	Post test	1.26	0.58		

NS –Non Significant

Table 7 shows the paired "t" test to compare pre and post test level of acceleration of uterine contraction among primi gravida mothers in control group.

The pre test mean value was 1.16 with standard deviation of 0.392 and the post test mean value was 1.26 with standard deviation of 0.58. The mean difference was 0.1 and the calculated 't' value was 0.83 which shows that there was no significant difference between the pre and post test level of acceleration of uterine contraction in the control group at $p<0.05$ level of significance. Hence the hypothesis was rejected.

Table-8: Comparison of Mean and Standard Deviation of the Pre-test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in Experimental and Control group.

(N=60)

S.No	Group	Mean	Standard Deviation	Level of Significance 't' Value
1.	Experimental Group	1.3	0.45	0.545 **NS**
2.	Control Group	1.16	0.39	

NS –Non Significant

Table 8 reveals the unpaired "t'' test to compare the pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

With regards to the pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group. It was found that 't' value was 0.545 indicating that there is no significant difference in pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group at $p<0.05$ level. Hence the hypothesis was rejected.

Table-9: Comparison of Mean and Standard Deviation of the Post-test Level of Acceleration of Uterine Contraction among Primi gravida Mothers in Experimental and Control Group.

(N=60)

S. No.	Group	Mean	Standard Deviation	Level of significance 't' Value
1.	Experimental Group	2.33	0.48	7.96 S
2.	Control Group	1.26	0.58	

S - Significant

Table 9 reveals the unpaired't' test to compare the post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

With regards to the post test level of acceleration of uterine contraction primi gravida mothers in experimental and control group. It was found that 't' value was 7.96 which shows that there was significant difference in post test level of acceleration of uterine contraction between experimental and control group of primi gravida mothers at $p<0.05$ level. Hence the hypothesis was accepted.

SECTION-D

ASSOCIATION OF POST-TEST LEVEL OF ACCELERATION OF UTERINE CONTRACTION AMONG PRIMI GRAVIDA MOTHERS IN EXPERIMENTAL AND CONTROL GROUP WITH THEIR SELECTED DEMOGRAPHIC VARIABLES

Table-10: Association of Post-test Level of Uterine Contraction among Primi gravida Mothers in Experimental Group with their Selected Demographic Variables

(N=30)

S. No	Demographic Variables	Level of Uterine Contraction						χ^2 Value
		Mild Contraction		Moderate Contraction		Severe Contraction		
		f	%	f	%	f	%	
1.	**Age**							
	18 – 22 years	0	0	7	23.3	1	3.3	3.60 df=3 **NS**
	23 – 27 years	0	0	8	26.7	4	13.	
	28 – 32 years	0	0	4	13.3	4	13.	
	> 32 years	0	0	2	6.7	0	0	
2.	**Educational Status**							
	Illiterate	0	0	3	10	1	3.3	5.29 df=4 **NS**
	Primary	0	0	4	13.3	1	3.3	
	High school	0	0	5	16.7	2	6.7	
	Higher secondary	0	0	2	6.7	4	13.3	
	Graduate	0	0	7	23.3	1	3.3	
3.	**Occupation**							
	House wife	0	0	7	23.3	3	10	1.63 df=3 **NS**
	Labour	0	0	4	13.3	1	3.3	

S. No	Demographic Variables	Level of Uterine Contraction						χ^2 Value
		Mild Contraction		Moderate Contraction		Severe Contraction		
		f	%	f	%	f	%	
	Technical	0	0	5	16.7	4	13.3	
	Professional	0	0	5	16.7	1	3.3	
4.	**Type of Family**							
	Nuclear family	0	0	11	36.7	6	20	1.33 df=2 **NS**
	Joint family	0	0	9	30	2	6.7	
	Extended family	0	0	1	3.3	1	3.3	
5.	**Weeks of Gestation**							
	37-38 weeks	0	0	10	33.3	5	16.7	0.75 df=2 **NS**
	39-40 weeks	0	0	10	33.3	3	10	
	41-42 weeks	0	0	1	3.3	1	3.3	

NS- Non Significant S- Significant

Table 10 shows the association of post test level of acceleration of uterine contraction among primi gravida mothers in experimental group with their selected demographic variables.

So the study findings showed that there was no significant association of post test level of acceleration of uterine contraction in experimental group with their demographic variables. Hence the hypothesis was rejected.

Table-11: Association of Post-test Level of Uterine Contraction among Primi gravida Mothers in Control Group with their Selected Demographic Variables.

(N=30)

S. No	Demographic Variables	Level of Uterine Contraction						χ^2 Value
		Mild Contraction		Moderate Contraction		Severe Contraction		
		f	%	f	%	f	%	
1.	**Age**							
	18 – 22 years	10	33.3	1	3.33	0	0	6.19 df=2 **S**
	23 – 27 years	6	20	3	10	1	3.3	
	28 – 32 years	7	23.3	0	0	0	0	
	> 32 years	1	3.3	0	0	1	3.3	
2.	**Educational Status**							
	Illiterate	5	16.7	0	0	1	3.3	3.63 df=4 **NS**
	Primary	5	16.7	0	0	0	0	
	High school	4	13.3	3	10	0	0	
	Higher secondary	5	16.7	1	3.3	0	0	
	Graduate	5	16.7	0	0	1	3.3	
3.	**Occupation**							
	House wife	13	43.3	2	6.7	1	3.3	5.87 df=3 **NS**
	Labour	3	10	0	0	0	0	
	Technical	5	16.7	0	0	0	0	
	Professional	3	10	2	6.7	1	3.3	
4.	**Type of Family**							
	Nuclear family	13	43.3	3	10	1	3.3	1.62 df=2 **NS**
	Joint family	9	30	1	3.3	1	3.3	
	Extended family	2	6.7	0	0	0	0	

Table:11 cont….

S. No	Demographic Variables	Level of Uterine Contraction						χ^2 Value
		Mild Contraction		Moderate Contraction		Severe Contraction		
		f	%	f	%	f	%	
5.	**Weeks of Gestation**							
	37-38 weeks	12	40	4	13.3	0	0	1.01 df=2 **NS**
	39-40 weeks	9	30	0	0	2	6.7	
	41-42 weeks	3	10	0	0	0	0	

NS- Non Significant S- Significant

Table 10 shows the association of the post test level of acceleration of uterine contraction among Primi gravida Mothers in control group with their selected demographic variables.

So the study findings showed that there was no significant association of post test level of acceleration of uterine contraction except age among control group of primi gravida mothers with their demographic variables at $p<0.05$ level. Hence the hypothesis was rejected.

CHAPTER – V

DISCUSSION

This chapter deals with the discussion of the data analyzed based on the objectives and hypothesis of the study. The problem stated is “A quasi experimental study to assess the effectiveness of nipple stimulation on acceleration of uterine contraction among primi gravida mothers who are admitted in Annalakshmi Hospital, at Vallioor. The discussion is based on the objectives of the study and the hypothesis specified in the study.

MAJOR FINDINGS OF THE STUDY

1. In experimental group majority of the mothers 56.7% belongs to nuclear family.
2. With regards to age of the mothers 6.6% were comes under the age of >32 years in experimental group.
3. In control group majority of the mothers 56.7% belongs to nuclear family.
4. With regards to the age of the mothers 6.7% were comes under the age of >32 years, 6.7% were belongs to extended family in control group.
5. In experimental group the pre test mean value was 1.3 with the standard deviation 0.45 and in control group the pre test mean value was 1.16 with the standard deviation 0.392. The calculated “t” value was 0.545 at $p<0.05$ level.
6. With respect to the experimental group post test mean value was 2.3 with the standard deviation 0.58 and in control group the pre test mean value

was 1.26 with the standard deviation 0.545. The calculated “t” value was 7.969 at $p<0.05$ level.

The first objective was to assess the pre test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

The analysis of pre intervention level of acceleration of uterine contraction revealed that the majority of primi gravida mothers in experimental group 21 (70%) of mothers had mild uterine contraction and 9 (30%) of them had moderate uterine contraction.

With regards to control group the analysis of the pre intervention level of acceleration of uterine contraction revealed that the only 25 (86.3%) had mild uterine contraction, 5 (16.7%) had moderate uterine contraction.

The pre test level of acceleration of uterine contraction mean value in experimental group was 1.3 with standard deviation of 0.45 and pre test level of acceleration of uterine contraction mean value in control group was 1.16 with standard deviation of 0.392. The ‘t’ value of the pre test level of acceleration of uterine contraction in experimental group and control group was 0.545 which showed that there was no significant difference between pre test level of uterine contraction among experimental and control group of primi gravida mothers at $p<0.05$ level.

Hence the research hypothesis states that there was no significant difference between experimental and control group of primi gravida mothers. Hypothesis rejected at $p<0.05$ level.

Mr. James (1994) this prospective clinical trial was to asses the ability of the nipple stimulation for 267 nulliparous women with single term pregnancy in the mammary stimulation test was positive in 45 of 266 (17%) patients. Delivery occurred <37 weeks in 27 patients (10.2%) and at <34 weeks in five (1.9%).The test is demonstrated on a sensitivity of 37%, a specificity of 84%, a positive predictive value of 20% and a negative predictive value of 92% for delivery at <37 weeks of gestation. For delivery at <34 weeks gestation the mammary stimulation tests had a sensitive of 60%, a specificity of 82%, a positive predictive value of 6%, a negative predictive value of 99%.One third of preterm deliveries were secondary to idiopathic preterm labour, and the mammary stimulation test was positive in 77.8% (7 of 9) of these pregnancies. The patient with a positive test were more likely to require observation in labour and delivery for uterine contractions (34% versus 4.3%, $p<0.01$), and they were more likely to demonstrate to change at cervical examination (14% versus 2%, $p<0.01$).

The second objective was find out the effectiveness of acceleration of uterine contraction among primi gravida mothers in experimental and control group.

The analysis of post intervention level of acceleration of uterine contraction of experimental group revealed that the majority of primi gravida mothers 21 (70%) of them had moderate uterine contraction, 9 (30%) of them had severe uterine contraction.

With regards to control group the analysis of the post intervention level of acceleration of uterine contraction revealed that 24 (80%) of them had mild uterine contraction, 4 (13.3%) of them had moderate uterine contraction and 2 (6.7%) had severe uterine contraction.

The post test level of acceleration of uterine contraction mean value in experimental group was 2.33, with standard deviation of 0.48 and post test level of acceleration of uterine contraction mean value of control group was 1.26 with standard deviation of 0.58. The ‘t’ value of the pre and post test level of acceleration of uterine contraction in experimental and control group was 7.969.

Hence the research hypothesis states that there was a significant difference in post test level of acceleration of uterine contraction among experimental and control group of primi gravida mothers at $p<0.05$ level hence hypothesis was accepted.

The third objective was to compare the pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental group.

The pre assessment level of acceleration of uterine contraction mean value in experimental group was 1.3, with standard deviation of 0.45 and the post assessment level of acceleration of uterine contraction mean value in experimental group was 2.33 with standard deviation of 0.48. The calculated‘t’ value of the pre and post test level of acceleration of uterine contraction among experimental group was 9.27 at $p<0.05$ level.

Hence the research hypothesis states that there was a significant difference between pre and post test levels of acceleration of uterine contraction among primi gravida mothers in experimental and control group accepted at $p<0.05$ level.

The fourth objective was to compare the pre and post test level of acceleration of uterine contraction among primi gravida mothers in control group.

Pre assessment level of acceleration of uterine contraction mean value in control group was 1.16 with standard deviation of 0.392. The improvement post

assessment level of acceleration of uterine contraction mean value in control group was 1.26, with standard deviation of 0.58. The calculated ‘t’ value of the level of acceleration of uterine contraction among control group was 0.83 at $p<0.05$ level.

Hence the research hypothesis states that there was a significant difference in pre and post test levels of acceleration of uterine contraction among primi gravida mothers in control group was accepted at $p<0.05$ level.

The fifth objective to associate the post test level of acceleration of uterine contraction among primi gravida mothers in experimental and control group with their selected demographic variables.

Association of post assessment level of acceleration of uterine contraction with demographic variables was done by using chi-square test.

Data findings revealed that there was no statistically significant association of post assessment level of acceleration of uterine contraction among primi gravida mothers in experimental and control group with selected demographic variables at $p<0.05$ level of significance. Association of post assessment level of acceleration of uterine contraction among primi gravida mothers in control group showed that there was a statistical significance in age except education, occupation, type of family, and weeks of gestation.

From the analysis there is no association between post test level of acceleration of uterine contraction in experimental and control group was rejected except age in control group.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATION, LIMITATION AND RECOMMENDATIONS

This chapter deals with the summary, conclusion, implications, limitations and recommendations.

SUMMARY

Child birth is one of the most beautiful experiences in the life of a woman. But it may get affected if it is continued by severe pain especially in normal vaginal delivery. This may also lead to the mother failing to enjoy her motherhood. If the midwife understands the nature and effect of nipple stimulation on uterine contraction they will be prepared to provide support and care. Physical comfort includes offering a variety of pharmacological and non-pharmacological approaches to primi gravida mothers.

It is a type of non pharmacological method, nipple stimulation helps to acceleration of the uterine contraction. It can be done safely or can be done by a professional. So, the investigator assessed the effectiveness of nipple stimulation on acceleration of uterine contraction in primi gravida mothers who are admitted in Annalakshmi Hospital at Vallioor, Tirunelveli District.

The objectives of the study were,

- To assess the pre test level of acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental and control group.

- To find out the effectiveness of nipple stimulation on acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental and control group.
- To compare the pre and post test level of acceleration of uterine contraction during first stage of labour among primi gravida mothers in experimental group.
- To compare the pre and post test level of acceleration of uterine contraction during the first stage of labour among primi gravida mothers in control group.
- To associate the post test level of acceleration of uterine contraction during the first stage of labour among primi gravida mothers in experimental and control group with their selected demographic variables.

The hypotheses for the study were,

H_1 Mean post test level of acceleration of uterine contraction among primi gravida mothers in experimental group was significantly higher than the mean post test level of acceleration of uterine contraction in control group.

H_2 There was a significant difference between mean pre and post test level of acceleration of uterine contraction among primi gravida mothers in experimental group.

H_3 There was a significant difference between mean pre and post test level of acceleration of uterine contraction among primi gravida mothers in control group.

H_4 There was a significant association between post test level of acceleration of uterine contraction among primi gravida mothers in experimental group with their selected demographic variables.

H_5 There was a significant association between post test level of acceleration of uterine contraction among primi gravida mothers in control group with their selected demographic variables.

The assumptions of this study were,

1. Nipple stimulations on acceleration of uterine contraction in primi gravida mothers.
2. Nipple stimulation may increase involution of uterus.
3. Nipple stimulation may reduce postpartum haemorrhage.

Review of Literature Collected for the Studies Related to,

The literature gathered from exclusive criteria is depicted under the following heading.

Section-A: Literature related to nipple stimulation on uterine contraction.

Section-B: Literature related to nipple stimulation on labour management.

The conceptual frame work for the study was based on modified Wiedenbachs helping art of clinical nursing theory and it provided a complete framework in order to achieve the objectives of the study.

The research design selected for the study was quasi experimental pre test and post test control group design. The study was conducted in the labour ward in Annalakshmi Hospital, Vallioor. The tool used for data collection was consisting of demographic variables such as Age, education, occupation, and type of family, Weeks of gestation. Modified uterine contraction assessment scale was used to assess the level of acceleration of uterine contraction. The pilot study was conducted in Mercy

Hospital, at Vallioor, Tirunelveli District and findings revealed that the tool was feasible, reliable and practicable to conduct the main study.

The tool was validated by five experts and the reliability of the tool was established by inter-rater reliability method.

The main study was conducted in Annalakshmi hospital, Vallioor, 60 primi gravida mothers who fulfilled the inclusive criteria were selected for the study. Out of which 30 mothers were assigned to experimental group and 30 were assigned to control group through the purposive sampling technique.

Based on the inclusive criteria the samples were selected and allotted to the experimental and control group. The pre test level of acceleration of uterine contraction was assessed by modified uterine contraction assessment scale. Mothers of the experimental group were given nipple stimulation and control group was not given nipple stimulation. The post test level of acceleration of uterine contraction was assessed by using the same scale. Data pertaining to the demographic variables were collected by the investigator by interview method. Both inferential and descriptive statistics were used to analyse the data.

The findings of the study revealed that the calculated ‘t’ value was 7.96 which showed highly statistical significant difference in post test level of acceleration of uterine contraction between experimental group and control group at $p<0.05$ level. Hence the hypothesis stated that there was a significant difference between the post test level of acceleration of uterine contraction and the experimental and control group of primi gravida mothers at $p<0.05$ was accepted.

Association of post test assessment level of acceleration of uterine contraction with their selected demographic variables among experimental group showed that there was no statistical significance. Hence the hypothesis stated that there will be significant association of post test level of acceleration of uterine contraction among experimental group of primi gravida mothers with the selected demographic variables at $p<0.05$. So the hypothesis was rejected.

Association of post test assessment level of acceleration of uterine contraction with their selected demographic variables among control group showed that there was a statistical significance in age except education, occupation, type of family, and weeks of gestation.

Hence the hypothesis stated that there was no significant association of post test level of acceleration of uterine contraction among control group of primi gravida mothers with the selected demographic variables at $p<0.05$. So the hypothesis was rejected.

CONCLUSION

The present study assessed the effectiveness of nipple stimulation on acceleration of uterine contraction among primi gravida mothers. The results of the study concluded that applying nipple stimulation was effective on the acceleration of uterine contraction in primi gravida mothers. By applying nipple stimulation the duration of latent phase on first stage of labour was reduced to 4-6 hours for 18 samples in experimental group and for the remaining 12 samples the duration of latent phase was 0-8 hours. For the control group the duration of latent phase on first stage of labour was 0-8 hours. There is no reduction in the duration. Nipple stimulation is

safe and effective, easy to apply, not painful and can enhance comfort in mother in the labour period. Hence, could easily be adopted as a regular intervention. Therefore, the investigator felt that more importance should be given to the assessment of post assessment of uterine contraction by using modified uterine contraction assessment scale following the intervention of nipple stimulation can be given as non-pharmacological measures to enhance acceleration of uterine contraction among primi gravida mothers.

IMPLICATIONS

The investigator has derived the following implications which are of vital concern in the field of nursing practice, nursing education, nursing administration and nursing research.

Implications for Nursing Practice

The midwives have a vital role in providing safe and effective nursing care to acceleration of uterine contraction. This can be facilitated by motivating the nurse midwives to,

1. have an in depth knowledge on physiological changes during normal labour and management of acceleration of uterine contraction
2. learn about accurate assessment of acceleration of uterine contraction with the use of modified uterine contraction assessment scale.
3. develop skill in providing efficient nursing care for effective uterine contraction management and promote comfort.
4. teach the primi gravida mothers during antenatal period about the effectiveness of various non pharmacological measures for acceleration of uterine contraction during labor.

Implications for Nursing Education

1. Ensure that the students learn the normal physiological changes during labour and its management.
2. Provide adequate clinical exposure for the students to give effective and safe nursing care in accelerating uterine contraction among primi gravida mothers.
3. Make use of available literatures and studies related to non-pharmacological measures for acceleration of uterine contraction.
4. Educate the students about various alternative therapies for labor management.
5. Encourage the students for effective utilization of research based practices.

Implications for Nursing Administration

1. Collaborative with governing bodies to formulate standard policies and protocols to emphasize nursing care in the primi gravida mothers.
2. Conduct in-service programme and continuing education programme for effectiveness of labor management.
3. Ensure and conduct workshops, conferences, and seminars on non-pharmacological methods to acceleration of uterine contraction.

Implications for Nursing Research

1. As a nurse researcher, promote more research on effective labor management.
2. Disseminate the finding of the research through conferences, seminars and publishing in nursing journal.

3. Promote effective utilization of research findings on labor management.

LIMITATIONS

1. Only limited literatures and studies were obtained from the Indian context.
2. Generalization will be better in case of large samples.

RECOMMENDATIONS

The study recommends the following future research.

1. The similar study can be conducted with larger samples for better generalization.
2. A study can be conducted to assess the knowledge and practice of nipple stimulation on acceleration of uterine contraction among nurse midwives.
3. A study can be conducted to assess the knowledge and attitude of other alternative therapies for labor management among nurse midwives.
4. A study can be conducted to assess the effectiveness of other nursing measures such as aromatherapy on acceleration of uterine contraction among primi gravida mothers.

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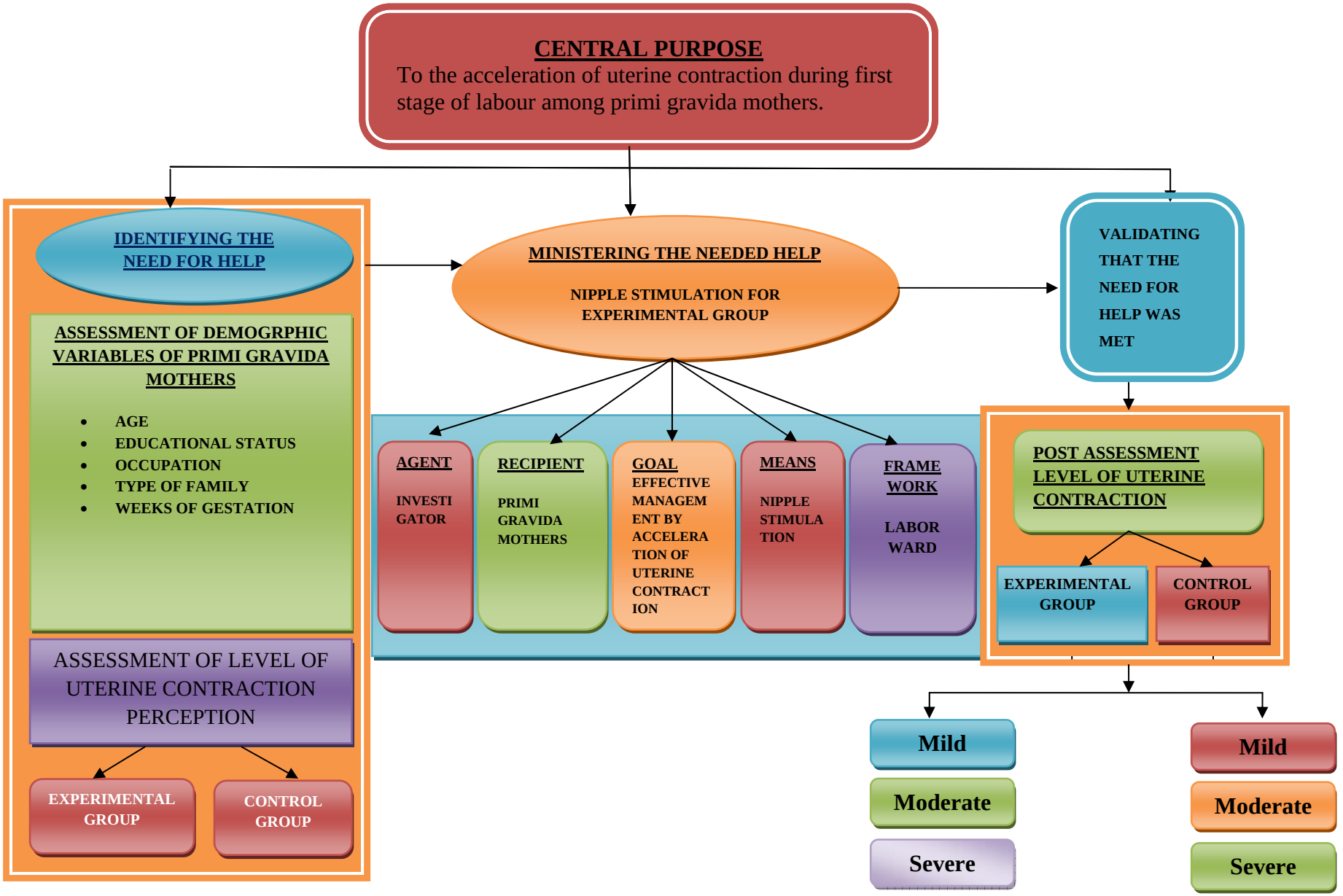

FIG 1: MODIFIED WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY

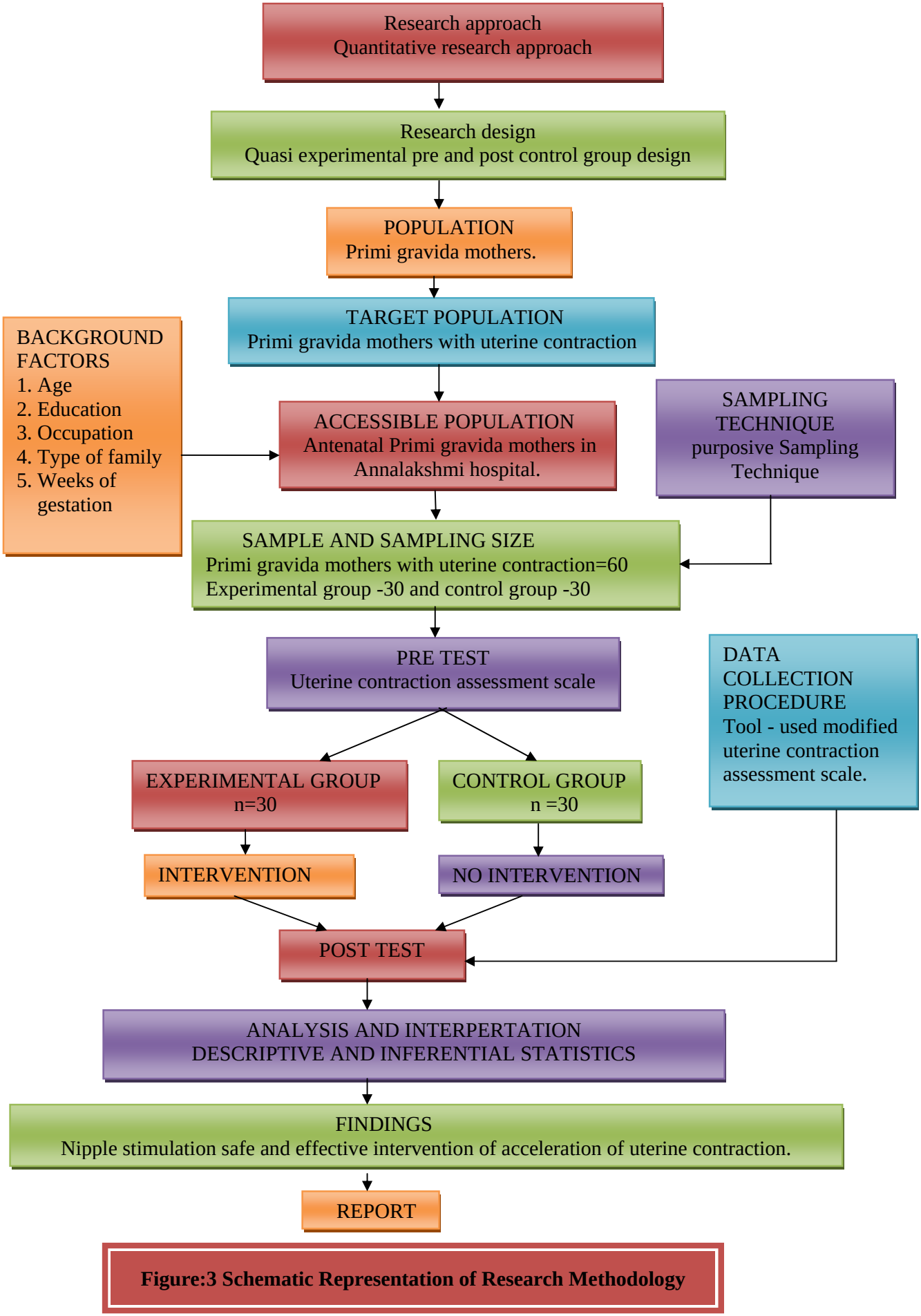

Figure:3 Schematic Representation of Research Methodology

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APPENDIX-A

LETTER SEEKING AND GRANTING PERMISSION FOR CONDUCTING THE STUDY

SRI K. RAMACHANDRAN NAIDU
COLLEGE OF NURSING
Approved by Govt. of Tamilnadu and Indian Nursing Council / T.N.C
Affiliated to the Tamilnadu Dr. M.G.R. Medical University
K.R. Naidu Nagar - 627 753, Paruvakudi Village, Post Bag No.1, Karivalam (via)
Sankarankovil (Tk), Tirunelveli (Dt), Ph. : 04636 - 260950, Fax : 04636 - 260377. E - Mail : srikrncon@yahoo.com

31.03.2011

To

Dr.Shyama M.D., D.G.O.,
Annalakshmi Hospital,
Vallioor.
Tirunelveli District.

Mrs. P.Anitha is a bonafide student of our college studying in M.Sc (N) programme. As a partial fulfillment of the university requirement for the award of M.Sc (N) degree, She needs to conduct research project.

Her chosen research project is as follows **"A study to assess the effectiveness of nipple stimulation on uterine contraction during first stage of labour among mothers in Annalakshmi Hospital at Vallioor, April 2011."**

She will abide by the rules and regulations of the hospital and adhere to hospital policies during her period of data collection. Permission may kindly be granted to her for conduction of the study at your hospital.

Further details of the proposal project will be furnished by the student personally, Confidentiality will be ensured in the research project.

Thanking you

Yours faithfully

Principal
Sri K. Ramachandran Naidu
College of Nursing
K.R. Naidu Nagar - 627 753. Karivalam (Via)
Sankarankovil (T.K.) Tirunelveli Dt.,

ANNALEKSHMY NURSING HOME
அன்னலெட்சுமி மருத்துவமனை
305-B Main Road, Vallioor - 627 117
✆ 04637 - 222436, 223638.

APPENDIX-B

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Mrs.P. ANITHA,
Sri. K. Ramachandran Naidu College Of Nursing,
Karivalam, (via), SankaranKovil,
Tirunelveli - (Dt) - 627753.

To,

Sub: Requisition for expert opinion on suggestion for content validity of the tool.

Respected Madam,

I am Ist year M.sc (Nursing) student of Sri. K. Ramachandran Naidu College of Nursing, Thirunelveli. As part of my course I am doing a study on the topic mentioned below.

"A Quasi Experimental study to assess the effectiveness of nipple stimulation on acceleration of uterine contraction during first stage of labour among primi gravida mothers in Annalakshmi Hospital at Vallioor".

The dissertation is to be submitted to the Tamil Nadu Dr. M.G.R University, as a partial fulfillment for the requirement of M.Sc (Nursing) Degree.

Hence I request you to kindly evaluate the tool items and give your valuable opinion and suggestion for improvement of this tool.

I would be highly obliged and thankful to hear from you.

Thanking you,

Signature and seal of validate, Yours sincerely,

(P.ANITHA)

APPENDIX-C

LIST OF EXPERTS FOR CONTENT VALIDITY

Medical Experts

1. **Dr. Mrs. D. Uma maheswari, M.D., D.G.O.,**
   Consultant Obstetrician & Gynaecologist,
   Ashok Clinic,
   609, Tenkasi road,
   Rajapalayam,
   Virudhunagar Dist – 626 117.

2. **Dr. Mrs. K. Uma maheswari, M.B.B.S., D.G.O.,**
   Assistant Surgeon,
   Government Maternity Hospital,
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Nursing Experts

3. **Mrs. Rajeshwari**
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4. **Mrs. Rosalind Rachel**
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   Indira College of Nursing,
   V.G.R Nagar, Pandur,
   Thiruvallur Dist – 631 203

5. **Mrs. Sabeera Banu**
   Principal,
   Matha College of Nursing,
   Vanpuram P.O.,
   Manamadurai,
   Sivagangai Dist.

APPENDIX-D

CERTIFICATE OF ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the dissertation work **"A Quasi Experimental study to assess the effectiveness of nipple stimulation on acceleration of uterine contraction during first stage of labour among primi gravida mothers in Annalakshmi Hospital at Vallioor"** done by **Mrs.Anitha M.Sc. (Nursing)** in Sri K. Ramachanadaran Naidu College of Nursing, Tirunelveli is edited for English language appropriateness by **Mr.S. Jayan Dharmaraj M.A., M.A., M.Phil. (English).**

Signature

APPENDIX-E

INFORMED CONSENT

I, **Mrs.Anitha,** IInd Year, M.Sc. (Nursing) student from Sri K. Ramachandaran Naidu College of Nursing, Tirunelveli conducting a study **"A Quasi Experimental study to assess the effectiveness of nipple stimulation on acceleration of uterine contraction during first stage of labour among primi gravida mothers in Annalakshmi Hospital at Vallioor"** as a partial fulfillment of the requirement for the degree of M.Sc. (Nursing) under the Tamil Nadu Dr. M. G. R. Medical University. The study participants will be assessed by modified uterine contraction assessment scale for acceleration of uterine contraction during first stage of labour. I assure you that the response given by you will be kept confidentially. So, I request you to kindly cooperate with me and participate in this study.

Thank you,

APPENDIX-F

SECTION: A

DEMOGRAPHIC VARIABLES

1) Age in years

a) 18-22yrs
b) 23-27years
c) 28-32years
d) >32years

2) Education

a) Illiterate
b) Primary school
c) High school
d) Higher secondary
e) Graduate

3) Occupation

a) House wife
b) Labour or coolie
c) Technical
d) Professional

4) Type of Family

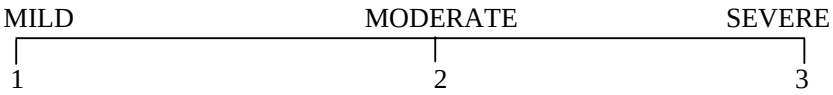
a) Nuclear family
b) Joint family
c) Extended family

5) Weeks of Gestation

a) 37 – 38 weeks
b) 39 - 40 weeks
c) 41 – 42 weeks

SECTION: B

UTERINE CONTRACTION ASSESSMENT SCALE



less than 20 seconds with	21-40 seconds with	>40 seconds above
1-2 contractions/10 mts	3-4contractions/10 mts	5contraction

APPENDIX - G

SCORING KEY

Scoring key 1-3 are using uterine contraction assessment scale.

This is grouped under three categories.

Score	Nature of uterine contraction	Description of uterine contraction
1.	Mild	Less than 20 seconds with 1-2 contractions/10 mts.
2.	Moderate	21-40 seconds with 3-4 contractions/10 mts.
3.	Severe	>40 seconds with 5contractions/10 mts.

APPENDIX-H

INTERVENTION GUIDE FOR ACCLERATION ON UTERINE CONTRACTION AMONG PRIMI GRAVIDA MOTHERS

INTRODUCTION

As a part of research study intervention chosen for the study was nipple stimulation to primi gravida mothers.

PROCEDURE

Preliminaries

- Explain the procedure and its effect to the mother.
- Mother was made in the lying down position comfortably.
- Privacy was maintained.
- Assess the pre test level of acceleration of uterine contraction by using uterine contraction assessment scale.

Intervention

- Place the mother in lying down position comfortably.
- Only massage one breast at a time.
- Only massage a nipple for five minutes wait up to 15 minutes to see what happens before continuing with the massage.
- Do not use nipple stimulation after the contractions are three minutes apart or one minute long.
- Gentle rubbing of nipple and areola and give firm gentle pressure over the breast. Encourage the mother to move the palm in circular motion stimulate one breast for five minutes.

Post-test

- After applying nipple stimulation post test level of acceleration of uterine contraction was assessed by using uterine contraction assessment Scale.

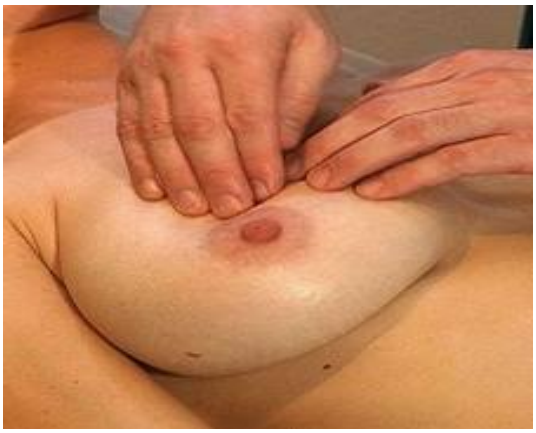
PROCEDURE

1. Explain the procedure and its effect to the mother.

2. Obtain informed consent from mother.

3. Mother was made in the lying down position comfortably and privacy was maintained.

4. Only massage a nipple for five minutes wait up to 15 minutes to see what happens before continuing with the massage. Do not use nipple stimulation after the contractions are three minutes apart or one minute long.



5. Gentle rubbing of nipple and areola and give firm gentle pressure over the breast. Encourage the mother to move the palm in circular motion stimulate one breast for five minutes.