EFFECTIVENESS OF FOOT REFLEXOLOGY UPON LABOUR PAIN AND COPING IN PRIMIGRAVID WOMEN

By

ANCHANA.C.K

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING

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Approved by the Dissertation committee on : _____

Clinical Guide : _____

Dr. Latha Venkatesan,
M.Sc (N)., M.Phil.(N), Ph.D.(N).,
Principal cum Professor,
Apollo College of Nursing,
Chennai- 600 095

Research Guide : _____

Prof. Lizy Sonia,
M.Sc (N)., Ph.D.(N),
Vice Principal ,
Apollo College of Nursing,
Chennai-600 095.

Medical Guide : _____

Dr.R.Charumathi, M.D., D.G.O.,
Consultant,
Obstetrics and Gynaecologist,
Apollo Hospital,
Chennai-600006.

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DECLARATION

I hereby declare that the present dissertation entitled "**Effectiveness of foot reflexology upon labour pain and coping in primigravid women"** is the outcome of the original research work undertaken and carried out by me under the guidance of **Dr. Latha Venkatesan,** M.Sc (N)., M.Phil.(N), Ph.D.(N), Apollo College of Nursing, **Prof.Mrs. Lizy Sonia,** M.Sc (N)., Ph.D.(N), Vice Principal, Apollo College of Nursing, Chennai. I also declare that the material of this has not formed in anyway, the basis for the award of any degree or diploma in this University or any other Universities.

M.Sc., (N) II Year

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SYNOPSIS

An Experimental Study to Assess the Effectiveness of Foot Reflexology upon Labour Pain and Coping during First Stage of Labour In Primigravid Women at Selected Hospitals, Chennai.

Objectives of the Study

1. To assess the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
2. To determine the effectiveness of Foot Reflexology by comparing the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
3. To determine the level of satisfaction regarding Foot Reflexology in experimental group of primigravid women.
4. To find out the association between the selected demographic variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
5. To find out the association between the selected obstetric variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women.

The conceptual framework setup for the study is the modified model of "Wiedenbach's helping art of clinical nursing theory". The variables of the study were Foot Reflexology and labour pain. Null hypothesis were formulated. An extensive review of literature was made based on the opinions of the experts. An experimental

study of pre-test and post-test design was used. The study included 60 primigravid mothers who were selected by simple random sampling. The study was conducted at St. Antony's Hospital, Chennai.

Demographic variable Proforma, obstetrical variable, Visual Pain Analogue scale, Pain Coping Scale, Rating Scale on Satisfaction of Foot Reflexology and modified WHO Partogram were the various tools used by the researcher. The validity was obtained from various experts and reliability was established. The main study was conducted after the pilot study.

The level of labour pain, coping and feto-maternal parameters were assessed for the control and experimental group of primigravid mothers. The Foot Reflexology was provided in three areas of foot for forty minutes of which 20 seconds at each legs for the experimental group. Then the level of labour pain, coping and feto-maternal parameters were assessed again for both the groups. The level of satisfaction on Foot Reflexology was assessed among the experimental group of primigravid mothers after the labour. The data obtained were analyzed using Descriptive and Inferential statistics.

Major Findings of the Study

- Majority of them lived in nuclear family (76.6%, 80%),resided in semi urban area(69.93%, 90%),None of them had awareness of Foot Reflexology (100%, 100%), between the age group of 25 years (76.6%, 86.7%), were unemployed (97%, 100%),most of them are qualified with higher secondary education (56.6%, 46.6%), were Hindu (63.3%, 63.4%) and significant percentage of them

had monthly income of more than 10,000 rupees (33.33%, 23.3%) in control and experimental group respectively.

- All of them were married (100%, 100%) and had non-consanguineous type of marriage (100%, 100%), they all attained their menarche before 15yrs of age (100%, 100%), their gestational week at delivery were before 40weeks (100%, 100%) and there were no fetomaternal complications(100%, 100%) during labour. Majority of them were below 26yrs of age (86.6%, 90%) and most of the women attended more than three antenatal visits (76.6%, 90%) in control and experimental group respectively.
- Majority of the primigravid women were able to do 3 R's (Rhythm, Ritual and Relaxation) (90%, 86.7%) before therapy and significant percentage of them were able to do 3 R's (3.3%, 33.3%) after therapy in control and experimental group respectively.
- The mean pain level was high after therapy (M=6.1, SD=0.83) compared to before therapy (M=4.2, S.D=0.77) whereas the mean pain level was low (M=3.8, SD=0.60) after therapy compared to before therapy (M=3.8, SD=0.60) in control and experimental group respectively. Hence null hypothesis H_{01} was rejected.
- The mean coping level was low after therapy (M=2.00, SD=0.87) in comparison with before therapy (M=4.2, SD=0.94), and the mean coping level was high after therapy (M=4.3, SD=0.69) in comparison with before therapy (M=3.3, SD=0.60) in control and experimental group respectively. Hence null hypothesis H_{o1} was rejected.
- The uterine dilatation and uterine contraction were increased after therapy in comparison with before therapy were (M=4, SD=0.70; M=6, SD=0.90), (M=2.5,

SD=0.50; M=3.9, SD=0.11) and (M=4,SD=0.70; M=6, SD=0.90), (M=3, SD=1.02; M=4, SD=0.82) in experimental and control and group of primigravid women. This shows that Foot Reflexology is effective.

- That majority of the participants in experimental group were highly satisfied (90%) with the Foot Reflexology during the first stage of labour and none of them reported unsatisfaction towards the intervention.
- There was no association between age, religion, educational status, occupation, monthly income, type of family, area of residence, and previous information regarding pain relief and Foot Reflexology in the control group of primigravid women. Hence null hypothesis H_{o2} was retained. No statistics could be applied to find the association between selected demographic variables and the level of labour pain before Foot Reflexology in the control group as the frequency of pain hurts little more was zero.
- There was no association between age, religion, educational status, occupation, monthly income, type of family, area of residence and previous information regarding pain relief and Foot Reflexology in the experimental group of primigravid women. Hence the null hypothesis H_{o2} was retained. Since the frequency of having pain hurts little more before Foot Reflexology was zero, no statistics could be applied to find the association between selected demographic variables and level of labour pain.
- There was no association between age, religion, educational status, occupation, monthly income, type of family, area of residence and previous information regarding pain relief and Foot Reflexology in the control group. Hence the null hypothesis H_{o2} was retained. As the frequency of samples who were able to do

3R's was zero before Foot Reflexology, no statistics could be applied to find the association.

- There was no association between age, religion, educational status, occupation, monthly income, type of family and previous information regarding pain relief and Foot Reflexology in the experimental group after Foot Reflexology. The frequency of the women who were able to do 3R's was zero before Foot Reflexology. Thus the null hypothesis H_{o2} was retained. Hence statistics could not be applied to find the association between selected demographic variables and the level of coping before Foot Reflexology.
- There was no association between marital status, age at marriage, type of marriage, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of labour pain after Foot Reflexology in the control group. Hence null hypothesis H_{o3} was retained. The association between selected obstetrical variables and level of labour pain before Foot Reflexology in the control group cannot be calculated as the frequency of having pain hurts little more was zero.
- There was no association between marital status, age at marriage, type of marriage, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of labour pain after Foot Reflexology in the experimental group. Hence null hypothesis H_{o3} was retained. The frequency of women having pain hurts even more before Foot Reflexology was zero and hence no statistics could be applied to find the association.

- There was no association between marital status, type of marriage, age of menarche, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of coping after Foot Reflexology in the control group. But there is association between age at marriage, number of antenatal visits till date and level of coping ($\chi 2=4.1$,df=1; $\chi 2=4.2$, df=1) at $p<0.05$ level. Hence the null hypothesis H_{03} was partially rejected with regard to age at marriage and number of antenatal visits till date.
- There was no association between marital status, age at marriage, type of marriage, gestational week at delivery, and number of ante natal visits till date, maternal and fetal complication during delivery with the level of coping after Foot Reflexology in the experimental group. Hence the null hypothesis H_{o3} was retained.

Recommendations

- The same study can be conducted with large number of samples.
- A comparison can be made between primi and multigravid women.
- A comparison can be made with different stages of labour.
- The same study can be conducted at different setting.
- A comparison can be made between different types of alternative and complementary therapies.

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CHAPTER I

INTRODUCTION

"The instant of birth is exquisite. Pain and joy are one at this moment. Ever after, the dim recollection is so sweet that we speak to our children with a gratitude they never understand."

-Madline Tiger

Background of the Study

Pregnancy is one of the most valuable spiritual lessons for any female and has the single greatest impact of any event in a normal life on earth. There is little to say about such pregnancy. God loves to have many children because many children means many sources of joy in life. Having beloved babies in a loving relationship is a most beautiful experience. Since we all are made to the image of God, we also enjoy what God enjoys - many babies growing up and creating joy of life for all of us at any age.

Labour is sometimes accompanied by intense and prolonged pain. Pain levels reported by labouring women vary widely. Studies have shown that pain is registered the same by everyone. The level of perceived pain is also affected by factors that are not necessarily under the control of the woman in labour.

An average birth rate for the whole world in the year 2008 was 19.95/year/1000. There are approximately 6 million pregnancies and 4 million births in United States every year. In India, 128.9 million births occur per year. The birth rate in Tamilnadu and Chennai in the year 2009 was 16.3/1000 births and 15.3/1000 births respectively. Thus

all the women who give birth to a baby necessitate some type of pain relief methods (Department of Health and Family Welfare, 2009).

The first stage of labour is the longest and involves three phases. Experiencing the birth of child is a special and unique experience. Each phase is characterized by different emotions and physical challenges.

Labour pain can scare women out of natural birth. However, a variety of non-pharmacological pain relief methods exist that will keep the body drug free during labour. Foot Reflexology is one of the non-pharmacological pain relief methods. It involves massage, and the application of pressure to points on the feet, which corresponds to various organs and systems in the body. Some women (and caregivers) will use certain Foot Reflexology points for labour pain throughout the woman's labour. Each time the contraction starts, the person administering the Foot Reflexology takes one foot (or both) and applies pressure during the contractions.

Labour pain is an excruciating, intolerable pain which results in changes in blood pressure, pulse, respiration, skin colour and pallor. The mother with labour pain may have bouts of nausea and vomiting and she may have affective expressions which include anxiety, crying, groaning, gesturing,(hand clenching and wringing) and excessive muscular excitability throughout the body.

There are several complementary therapies to ease the aches and pain during labour. Among all the non pharmacological methods for labour pain, Foot Reflexology is one of the best methods because in Foot Reflexology the treatment is safe, free from

side effects, giving lasting cure, economical, and it is compatible with other forms of treatment.

A study was conducted on the effect of Foot Reflexology techniques; Single blind randomized control trial was used in this study. The findings noted that women receiving Foot Reflexology felt very relaxed and the study concluded that Foot Reflexology can be used for symptom relief.

Foot Reflexologyhas also other benefits like release of stress and tension, improves blood circulation and activates lymph drainage, assists in eliminating toxins, strengthens immune system, enables deep state of relaxation and well being. There is no harmful effect on delivery, and no maternal or fetal side effects. Foot Reflexology is a non-invasive and non-pharmacological method of pain relief.

A pilot study carried out in 2010 at Waisall's Manor Hospital by Sushma Sharma, Midwife and Reflexologist. The study results have shown that overall length of the first stage of labour was four hours shorter and second stage was 21 minutes shorter, than of those women who had not received the Foot Reflexology treatment.

Need for the Study

Pregnancy is a special time of life in a woman's life. Most women give birth without complications. Birth starts with the onset of labour, which is usually marked by the beginning of regular uterine contractions. Pregnancy, childbirth and motherhood are times when a woman undergoes a vast change in her body and it can be termed as an entirely new birth for the woman or as a time of rebirth. With changing times the

process of birth has also modernized with less complication but then certain things don't change at all. But we become more capable of handling any complexities of childbirth. Pregnancy and childbirth are wonderful and remarkable moments. Childbirth is a special event in a woman's life and she cherishes these moments all through her life. From the time a woman conceives and all through the period of childbirth there are various physical as well as mental changes that take place.

Literally hundreds of Foot Reflexology studies have been conducted. They survey of 170 studies shows a positive result for 83% of areas researched. A Chinese survey of 8,096 case studies noted a 94% effective or significantly effective rate.

Birth is the renewal of life, it is an ancient as itself and as natural as process of breathing. A baby is God's opinion that the world should go on and the birth pangs are just that old order giving way to the new. This is how nature creates a new mother. Giving birth to a child can be one of the most joyful experiences of a woman's life, but it is undeniably one of the most painful. It's a heterogeneous feeling for a pregnant woman who, within a short span of time will give birth to a life. Labor is usually painful. Studies have shown that pain is registered the same by everyone. Research on labour pain resulted in the interpretation of worst possible pain imaginable. A Patient's perception of worst pain imaginable may change over the course of childbirth.

Childbirth is a natural biological process and therefore pain associated with it is also perceived as normal. The nature of pain experienced during labour depends on physical and emotional status of women.

Ohel. L. et al. (2007) observed on changes in pain threshold before, during and after labour in among 40 pregnant women. The study found that, there was a significant rise in pain threshold during labour than before and after labour.

In the year 2002 Mackey stated that Foot Reflexology is a manual therapeutic approach used to facilitate healing, it can be used by nurses in almost any settings. Information about Foot Reflexology is shared for the purpose of creating awareness about healing modalities and encouraging the use of basic techniques of these manual therapies.

Our bodies are equipped with wonderful self-healing facilities, but these often fail to work properly because vital energy pathways are blocked due to the stress and strains of life. Foot Reflexology, an ancient form of healing, teaches that specific regions of the body called reflex zones (points in the feet, hands, and ears) are associated with particular organs, glands, and other parts of the body.

The most common area for Foot Reflexology treatment is the foot. Pressure is applied to specific zones. During a typical labourFoot Reflexology session, pressure is applied to specific points on a woman's feet and hands to stimulate the pituitary gland and to induce the hormones (endorphins and oxytocin) known to speed labour and ease pain.

In a British study, first-time mothers between the ages of 20 and 25 who received Foot Reflexology had an average labour time of just five to six hours (with some labours only lasting two to three hours). Many women also didn't need anesthesia, and the placenta release was accelerated in 70 percent of women giving birth.

Foot Reflexology as a therapy during child birth is not well documented, however it has proved to be successful. Foot Reflexology has many benefits which can be experienced during labour, natural pain relief, calming and relaxing effect, amongst others. Foot Reflexology can be used in any stage of labour and the effects can be experienced between one and two minutes after beginning. The full effects of Foot Reflexology can be felt after just 15minutes.

Hence, the researcher felt the importance to assess the effectiveness of Foot Reflexology upon labour pain and coping during first stage of labour in primigravid women.

Statement of the Problem

An Experimental Study to Assess the Effectiveness of Foot Reflexology upon Labour Pain and Coping During First Stage Of Labour in Primigravid Women at Selected Hospitals, Chennai.

Objectives of the Study

1. To assess the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
2. To determine the effectiveness of foot Foot Reflexology by comparing the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
3. To determine the level of satisfaction regarding Foot Reflexology in experimental group of primigravid women.

4. To find out the association between the selected demographic variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
5. To find out the association between the selected obstetric variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women.

Operational Definitions

Effectiveness

Effectiveness refers to the outcome of Foot Reflexology in terms of reduction of labour pain among primigravid women in first stage of labour which is measured by Visual Pain Analogue Scale.

Labour pain

It is the pain experienced by the primigravid women during first stage of labour which is measured by Visual Pain Analogue Scale.

Primigravid women

Primigravid women refer to the woman who is going to deliver baby for the first time irrespective of previous abortion between the age group of 20-35 yrs.

Foot Reflexology

In this study Foot Reflexology refers to the application of pressure to the three selected energy points over a period of 40 minutes(20 minutes in each foots) and these points will stimulate the body to create endorphins that interrupt the pain cycle.

The points include,

- A point that lies between the fleshy pads under the big toe and next toe.
- A point that lies just below the centre of the ball of the foot.
- A half-moon shaped points that lie from where the toes join the foot to the farthest end of the ball of the foot.

Fetomaternal parameter

Fetomaternal parameter refers to mother's pulse rate, blood pressure, cervical dilatation, uterine contraction and fetal heart rate which are assessed in control and experimental group before and after Foot Reflexology.

Satisfaction

In this study, satisfaction refers to the feeling of gratification attained or achieved by primigravid women with Foot Reflexology as measured by self rating scale for satisfaction.

Assumption

The study assumes that

- Pain in labour is universal progressive in nature.
- Majority of women need some kind of pain relief during labour.
- Foot Reflexology stimulates the brain to release endorphins and other chemicals to reduce pain.
- Meeting the comfort needs of the primigravid women during first stage of labour is an important function of nurse.

Null Hypotheses

H_{o1} There will be no significant relationship between the level of labour pain, coping and Foot Reflexology in control and experimental group of primigravid women during the first stage oflabour.

H_{02} There will be no significant association between selected demographic variables and level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women during the first stage of labour.

H_{03} There will be no significant association between selected obstetric variables and level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women during the first stage of labour.

Delimitation

The study is limited to primigravid women who were

- willing to participate in this study.
- in first stage of labour with a cervical dilatation of 4-5 cm.
- between the age group of 20-35yrs

Conceptual Framework

Conceptual framework is interrelated concepts or abstractions that are assembled together in some rational schemes by virtue of their relevance to a common theme (Polit).

The conceptual framework set up for the study is the modified model of Wiedenbach's helping art of clinical nursing theory. Ernestine Wiedenbach proposed a

prescriptive theory of nursing which is described as a conceiving of desired situation of the ways to attain it. Prescriptive theories direct action towards an explicit goal. It consists of three factors:

1. Central purpose
2. Prescription
3. Realization.

A nurse develops a prescription based on a purpose and implements it according to the realities of the situation.

Central purpose

In the model central purpose refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives; it transcends the immediate intent of the assignment or task by specifically directing activities towards the patient's good. The central purpose of this study is to minimize the labour pain. The researcher plans the prescription that will fulfil the central purpose by identifying the goal. Thus the researcher selected the method, Foot Reflexology as it is effective and without side effects.

Prescription

Refers to the plan of care for the patient. It specifies the nature of the action that will fulfil the nurse's central purpose and acts as the rationale for the action.

Realities

It refer to the physical, physiological, emotion and spiritual factors that come in to play in a situation involving nursing actions. The five realities identified by

Wiedenbach are agent, recipient, goal, means and frame work where the agent is the practicing nurse; recipient is one who receives a nurse's action, goal is the nurse's desired outcome; the means are the activities and devices used by the nurse to achieve goal; then framework refers to the facilities in which nursing is practiced.

The realities identified in the study are:

Agent - Researcher.

Recipient - Primigravid women in first stage of labour.

Goal - To minimize labour pain.

Means - Foot Reflexology.

Frame work - Delivery room

Wiedenbach views nursing practice as an art based on goal directed care. Her vision of nursing practice closely parallels the assessment, implementation and evaluation steps of the nursing process. She identifies seven levels of awareness/sensation, perception, assumption, realization, insight, design and decision.

According to Wiedenbach nursing practice consists of three steps:

- Identifying the patient's need for help
- Ministering the needed help
- Validating that the need for help was met

Identifying the patient's need for help

In this study, 30 primigravid women in the first stage of labour were identified to have the intervention (Foot Reflexology).The study assumed that there was a relationship between the intervention done by the nurse midwife and the reduction of

labour pain. Assessment before treatment in experimental group was done. Intervention was given for experimental group. Post assessment was done. A positive outcome represents the relief of pain. A negative outcome represents no relief of pain.

Ministering the needed help

In this study the nurse researcher after getting consent from the selected primigravid women implemented the intervention of Foot Reflexology to experimental group and to the control group no intervention was provided.

Validating that the need for help was met

In this study the nurse researcher validating whether the needed help was met or not by assess the effectiveness of Foot Reflexology during first stage of labour to minimize the pain.

The model adopted for this study is modified form of Wiedenbach's helping art of clinical nursing theory. Researcher adopted this model and perceived apt in enabling to assess the effectiveness of Foot Reflexology during first stage of labour to minimize the pain.

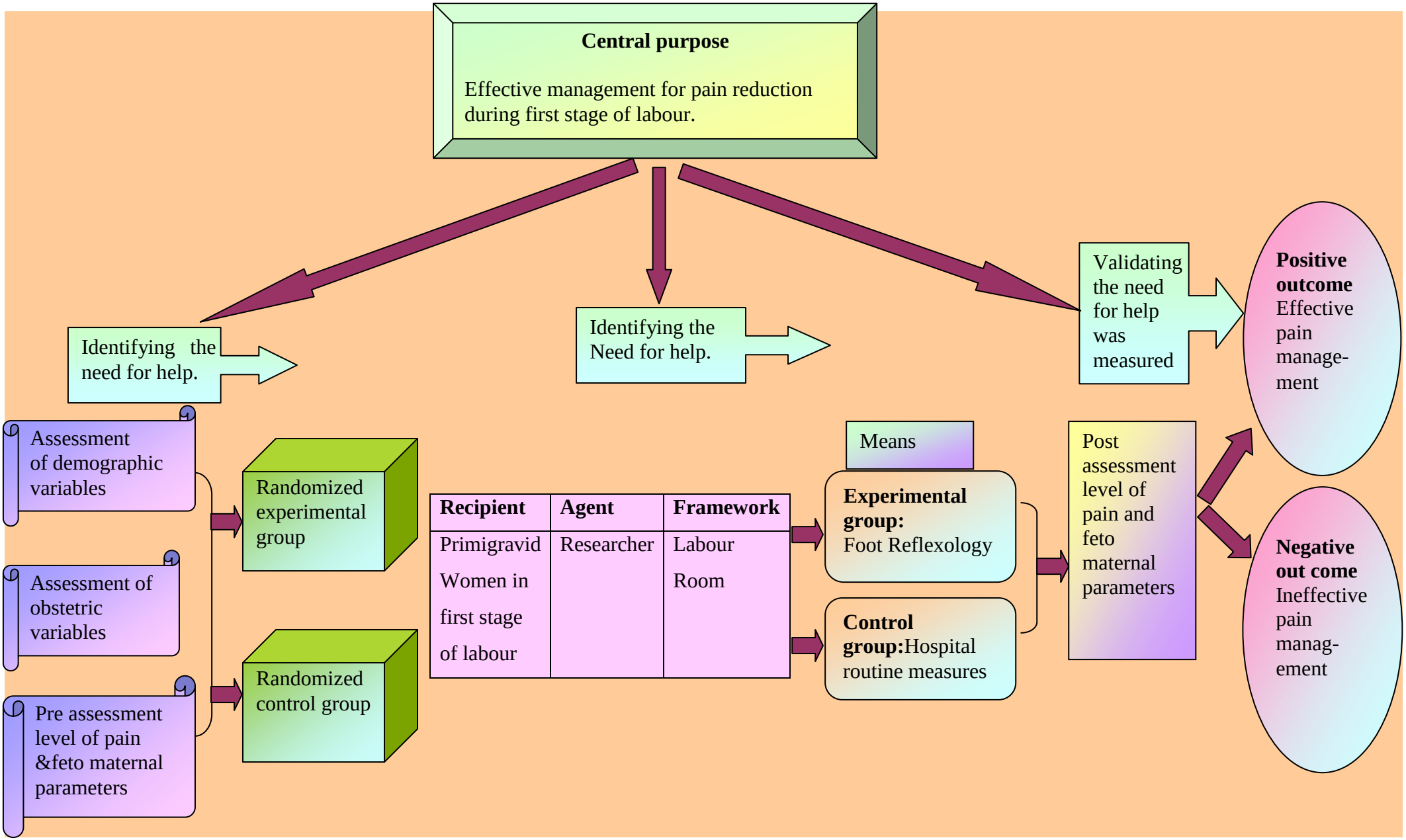


Fig.1 Conceptual Frame Work on Modified Form of Wiedenbach's Helping Art of Clinical Nursing

Projected Outcome

The study projects that Foot Reflexology will have a change in the level of labour pain and coping among the primigravid women.

Summary

This chapter has dealt with background of the study, need for the study, statement of the problem, objectives of the study, operational definitions, assumptions, null hypotheses, delimitations and conceptual framework.

Organization of the Report

Further aspects of the study are presented in the following chapters.

Chapter – II: Review of literature

Chapter –III: Research methodology which includes research approach, research design, research setting, population, sampling, sampling criteria and development of analysis and research instrument.

Chapter – IV: Analysis and interpretation of data is presented in terms of descriptive and inferential statistics

Chapter - V: Discussion

Chapter -VI: Summary, conclusion, implications, recommendations and limitations are presented.

CHAPTER II

REVIEW OF LITERATURE

A literature involves the systematic identification, location, scrutiny and summary of written materials that contain information on the research problem (Polit and Hungler 2007).

Review of Literature

"Conducting a literature review is a little bit doing a full-fledged study". The review of literature has two major goals: (1) To provide readers with an overview of existing evidence on the problem being addressed and (2) To develop an argument that demonstrates the need for the new study. According to nursing research by Polit (2008), 'Review of literature is a written summary of the state of evidence on a research problem.'

The review of literature in this chapter is presented under the following headings

- Literature related to pain relief during labour.
- Literature related to pain relief in first stage of labour.
- Literature related to Foot Reflexology in labour pain.
- Literature related to Foot Reflexology for labour pain.

Literature related to Pain Relief During Labour

Leanne, et. al. conducted a randomized controlled trial in the year 2012 on pain management for women in labour. 987 women were selected from a hospital in Swedan. For all interventions, with available data, results are presented as comparisons of one type of intervention versus a different type of intervention (pharmacological and non-

pharmacological). Not all reviews included results for all comparisons. They concluded that most methods of non-pharmacological pain management are non-invasive and appear to be safe for mother and baby.

Smith in the year 2009 conducted a randomized controlled trial comparing complementary and alternative therapies for pain management in labour. All women such as primiparous or multiparous, and in spontaneous or induced labour, in the first and second stage of labour were included. He has used acupuncture, hypnotherapy, acupressure, relaxation and massage.Heconcluded that acupuncture is a helpful therapy for pain management in labour.

In 2007, Walker conducted a comparative study on the relationship between method of pain management during labour and birth outcomes. She had provided narcotic analgesics along with antenatal education, breathing and relaxation techniques, and hydrotherapy have been found to promote relaxation, increase comfort, and provide pain relief in labour. Narcotics analgesics have been found to decrease pain although the short and long-term effects of respiratory depression may increase the risk to the newborn.

Literature related to First Stage of Labor

In 2007, Ralph et. al. conducted randomized controlled trial Gentofte County Hospital on the effect of warm water on labor pain**.** Overall four of the eight trials noted a significant reduction in pain, which was determined by a decreased pain score on a pain scale or decreased narcotic use. However, none of the trials demonstrated a

statistically significant reduction in use of epidural anesthesia. Bathing did not increase the risk of maternal or neonatal infection, even in women with ruptured membranes.

Collins et. al. in 2007 conducted a systemic review on the effect on continuous intrapartum support on labour pain. There was 873 labour women taken from Shahid Akbarabadi hospital, Tehran.The result shows that nonmedical care of the labouring woman throughout labour with nurturing and a supportive companion during labor can help the woman cope with pain and anxiety.

A randomized controlled trial was conducted in 2005 by Simkin inAsgarieh and Shahid Beheshti Hospitalson the effect of maternal movement and positioning on labour pain. The women's pain and progress were assessed in each position. The result shows that none of the women in the eight trials found the supine position more comfortable than other positions when comparing 30-minute periods of standing with supine or sitting, the women reported less pain while standing. When comparing sitting with supine, the women reported less pain while sitting. When comparing sitting with lying on the side, women reported less pain with sitting until 6 cm than with lying on the side through 10 cm.

Literature related Foot Reflexology on Labour Pain

In 2010, McNeill et. al. conducted a study on the effect of Foot Reflexology on the pain and certain features and outcomes of the labor on the primiparous women. In this quasi-experimental study, 88 primiparous mothers referred to selected hospitals of Isfahan for vaginal delivery were selected using systematic random sampling method and then randomized in two groups. They concluded that there was no significant

difference between groups before intervention. In the Foot Reflexology group, there was a significant difference between before and after the 4 stages intervention ($p < 0.001$).

In 2008, Yang et. al. conducted a randomized clinical trial randomly to determine the effect of Foot Reflexology on pain intensity as well as to determine the duration of labour in primiparas. Pain intensity at all the three stages of cervical dilatation was significantly lower in the Foot Reflexology group. During the 4-5 cm dilatation stage, women in the supported group reported less severe pain compared to those receiving routine care. Their findings showed that Foot Reflexology can be useful to decrease the pain intensity as well as duration of labour.

A research was conducted by Oleson in 2008 to determine the effect of Foot Reflexology on pain intensity of labour on primiparous. A randomized clinical trial study was designed. Pain intensity in all three dilatation stages was significantly lower in Foot Reflexology group based on the results of this study, it seems that Foot Reflexology can decrease the pain intensity in first stage of labour.

Flocco in 2007 conducted a study aimed at reviewing the effect of Foot Reflexology on the pain and outcomes of labour. In this, quasi experimental study was used. There was no significant difference between the groups before intervention. In the Foot Reflexology group there was significant difference between PRI (pain rating index) before and after 4 stages of interventions. It was concluded that Foot Reflexology can lead to decrease in labour pain. Therefore regarding safety of this technique, it can be replaced as an alternative for pharmacological methods.

A randomized controlled study was conducted in 2006 by Simkin aimed at discovering the effects of Foot Reflexology on labour outcomes for pregnant mothers. It was discovered that the effects of Foot Reflexology on labour outcomes were outstanding as there was decrease in duration of labour. Thus it was concluded that Foot Reflexology can be used for reduction of labour duration.

In 2005 clinical study was carried out by Jafari. The aim of this study was to investigate the effect of Foot Reflexology on the severity of labour pain and labour duration in nulliparous women. The results were the severity of labour pain in the intervention group was lower than the control group. The labour duration was same in both groups. Thus it was concluded that Foot Reflexology has an indisputable effect on decreasing labour pain in the first phase.

Valiani in 2005 conducted a randomized clinical trial study to evaluate the effect of Foot Reflexology on pain intensity and duration of labour on primiparas. The findings of the study proved that pain intensity at all the three stages of cervical dilatation was significantly lower in Foot Reflexology group. This indicates that Foot Reflexology could decrease duration of first, second, third stages of labour.

Literature related to Foot Reflexology for Labor Pain

Mirzeai conducted a study in 2011 on effect of Foot Reflexology on duration of labour and severity of first-stage labour pain. The aim of this study is to investigate the effect of Foot Reflexology on the severity of labour pain and labour duration in nulliparous women. Clinical trial study was carried out on 70 nulliparous women (39 intervention and 31 controls) who referring to labour room of Afzalipour Hospital

(Kerman city) with gestational age of 37 weeks and above, and cervical dilatation of 3-4 cm. Result shows that severity of labour pain before Foot Reflexology did not vary between case and control groups ($p = 0.14$) but after it, severity of labour pain in the intervention group was lower than the control group ($p < 0.001$).

A four month pilot study was done in 2010 by Baldrick to investigate the effect of Foot Reflexology on pregnant women. Out of 60 women who were given Foot Reflexology 58 were greatly relieved of pain. It was concluded that Foot Reflexology is useful in assisting delivery by reducing the use of drugs to stimulate uterine contractions, reducing frequency of analgesics and to release retained placenta.

In 2008, a randomized clinical trial study was conducted randomly by Dolation et.al. on the effect of Foot Reflexology on Pain Intensity and duration of Labour on primiparas.The results were pain intensity at all the three stages of cervical dilatation was significantly lower in the Foot Reflexology group. Their findings showed that Foot Reflexology can be useful to decrease the pain intensity as well as duration of labour.

In 2007, Smith et. al. conducted a retrospective cohort study. The objective of this study was to investigate the effect of Foot Reflexology exploring the relationship between antenatal Foot Reflexology and intranatal outcome. The group with Foot Reflexology had reduced length of labour. Thus it was concluded that Foot Reflexology can be used for reducing the labour pain.

A Clinical trial study was carried out in 2005 by Levett. The aim of this study was to investigate the effect of Foot Reflexology on the duration of labour and severity of the first stage of labour pain. The severity of pain in the intervention group was lower

than the control group. Thus it was concluded that Foot Reflexology has an effect on decreasing labour pain.

Summary

This chapter deals with the review of literature related to the problem stated. The literatures were taken from the 25 primary and 1 secondary sources. It helped the researcher to develop tools, collect, organize and analyze the data.

CHAPTER III

RESEARCH METHODOLOGY

This chapter deals with the methodology used by the researcher in this study which includes research approach, research design, setting of the study, population, sample, sampling technique, sampling criteria, selection and development of the tools, psychometric properties of the tools, pilot study, data collection procedure and plan for data analysis.

Research Approach

To accomplish the objectives of the study, an experimental approach is considered most appropriate as the researcher wanted to assess effectiveness of Foot Reflexology on pain relief and coping during labour.

Research Design

Research design is the overall plan for addressing a research question, including specifications for enhancing the study's integrity (Polit, 2008).

Experimental (time series) research design is used in this study. The researcher assessed the pain level with the visual pain analogue scale, coping level with the pain coping scale, fetomaternal parameters with modified WHO partograph before intervention for both the control and experimental group of primigravid women. The researcher then provided Foot Reflexology at each point in both foot for 40 minutes (20 minutes in each foot) for the experimental group of primigravid women with the cervical dilatation of 4-5cm. And reassessed the pain level, coping level and

feto maternal parameters for both the group after each intervention. Then the level of satisfaction on Foot Reflexology was assessed from the experimental group of primigravid women.

R O1- O2, O3, 04

R O1 X O2, O3, O4

O1 - Assessment before Foot Reflexology

O2, O3, O4 - Assessment after Foot Reflexology

X - Administration of Foot Reflexology

R - Randomization

Variables

Variable is an attribute that varies. That is takes on different values (Polit, 2010).

Independent variable

The variable that is believed to cause or influence the dependent variable is called independent variable. In this study Foot Reflexology is the independent variable. Foot Reflexology is provided for forty minutes in both foot at each point to assess the change in the pain level and coping level.

Dependent variable

The variable hypothesized to depend on or be caused by independent variable is the dependent variable. Labour pain is the dependent variable in this study. The level of labour pain is assessed during the cervical dilatations of 4-5cm, 6-7 cm, 8-10 cm after Foot Reflexology.

Extraneous variables

A variable that confounds the relationship between the independent and dependent variables and that needs to be controlled either in the research design or through statistical procedures is the extraneous variables. Demographic variables and obstetric variables were extraneous variables in this study.

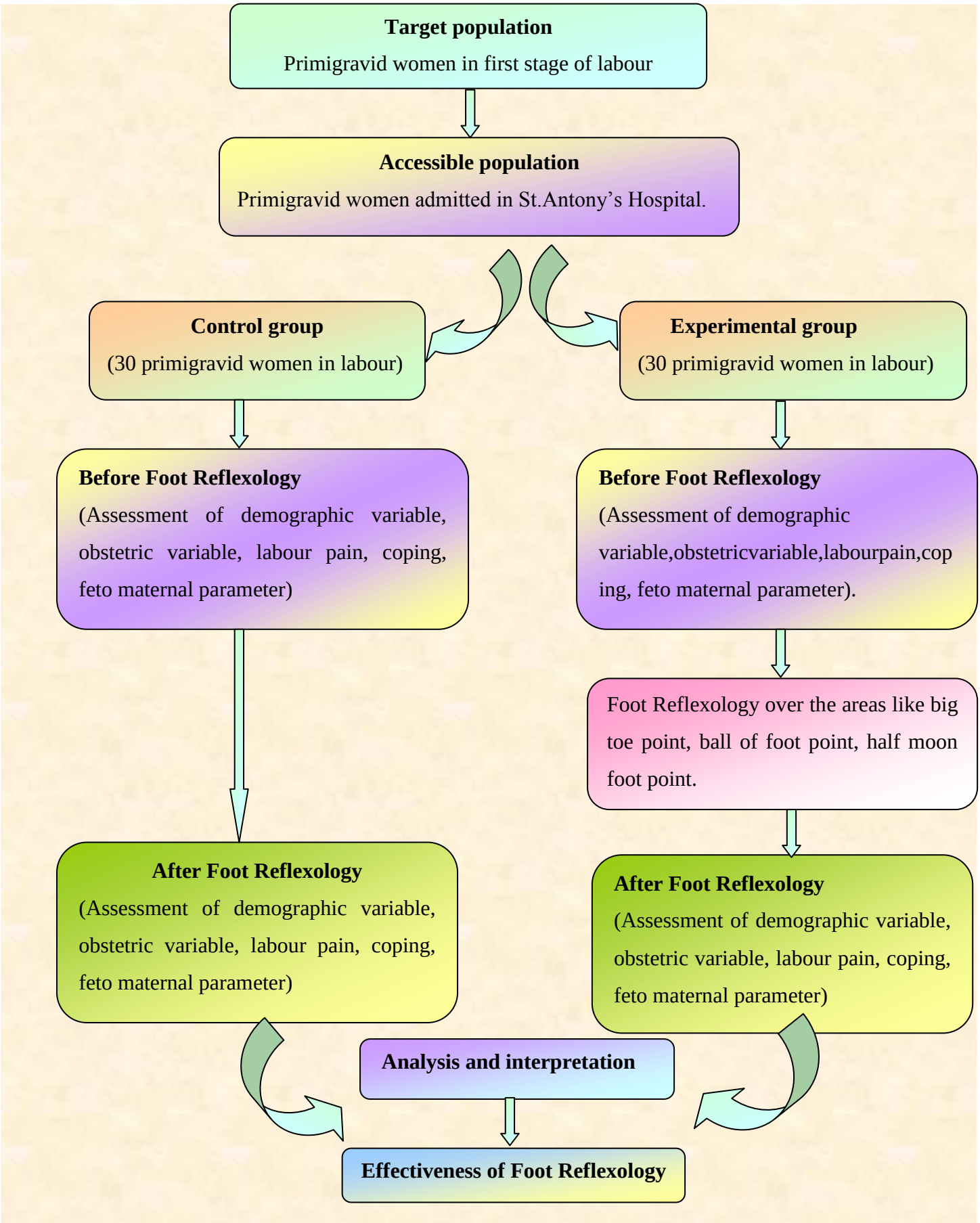


Fig.2 Schematic representation of research design

Research Setting

The study was conducted at St.Antony's Hospital located at Madhavaram which is a semi-urban area of Chennai. The hospital is 200 bedded which has labour room with four labour table and equipments like cardiotocography machine, warmer and life saving drugs and equipments for Obstetric and Medical Emergencies. On an average 80 – 100 primigravidae undergo normal vaginal delivery every month. The hospital also has postnatal ward, post operative ward, NICU, operation theatre, laboratory and other diagnostic facilities like scanning. They also provide Immunization and conduct teaching programmes for the staffs and the patients and do referral to government agencies in need.

Population

Population is the entire set of individuals or objects having some common characteristics (Polit and Beck, 2010). The target population is the entire population in which a researcher is interested and to which he or she would like to generalize the study results. In this study the target population was all the primigravid women in the first stage of labour. The accessible population is the aggregate of cases that confirm to designated criteria and that are accessible as subjects for a study. In this study the accessible population was all the primigravid women who were in the first stage of labour admitted at St. Antony's Hospital, Chennai.

Sample

According to Polit and Beck (2010) sample is a subset of population elements. A sample of 60 primigravid women in the first stage of labour was selected among which

30 primigravid women were randomly assigned to the control group and 30 primigravid women was assigned to the experimental group.

Sampling Technique

Sampling is the process of selecting a portion of the population to represent the entire population so that inferences about the population can be made (Polit and Beck 2010). Systematic random sampling was used in this study for the women who satisfy the inclusion criteria where the odd number primigravid women were assigned to control group and the even number primigravid women were assigned to the experimental group.

Sampling Criteria

Inclusion criteria

- Primigravid admitted in selected maternity centre.
- Primigravid who are not under high risk group.
- Who can speak English or Tamil.
- Who Completed 37 weeks of gestation.
- Available at the time of data collection.

Exclusion criteria

- Not willing to participate in the study.
- Multi gravid.
- Mothers who have the history of still birth.

Selection and Development of Study Instruments

The instruments for this study were developed to evaluate the effectiveness of Foot Reflexology upon labour pain and coping through extensive review of literature.

The instruments used in this study were demographic variable proforma, obstetric variable proforma, visual pain analogue scale, pain coping scale, modified WHO partograph and rating scale on satisfaction of Foot Reflexology upon labour pain.

Demographic variable Performa for primigravid women

The demographic variable performa consists of age, educational status, occupation, monthly income, religion, type of family and area of residence.

Obstetric variable Performa

The obstetric variable performa consists of marital status, age at marriage, type of marriage, age at menarche, menstrual cycle, gestational age in weeks, number Of antenatal visits attended till date, maternal complication during labour and fetal complication during labour.

Visual pain analogue scale

Visual pain analogue scale was used to assess the level of labour pain during the first stage of labour in primigravid women before and after Foot Reflexology which was collected by the researcher through interview.

Pain coping scale for primigravid women

Pain coping scale was used to assess the pain coping level of the primigravid women before and after Foot Reflexology during first stage of labour.

Modified WHO Partograph for primigravid women

This graph consists of fetal heart rate, maternal heart rate, maternal blood pressure, cervical dilatation, frequency and duration of uterine contraction.

Rating scale on satisfaction of Foot Reflexology upon labour

This scale was designed by the researcher to assess the satisfaction level of the participants regarding Foot Reflexology provided during first stage of labour.

The satisfaction score was classified as follows:

Score interpretation

Score	Percentage (%)	Interpretation
44-56	76-100	Highly Satisfied
29-43	51-75	Satisfied
14-28	26-50	Dissatisfied
≤13	≤ 25	Highly dissatisfied

Psychometric Assessment of the Instruments

Validity of the instruments

Validity is the degree to which an instrument measures what it is intended to measure (Polit,2010).

Content validity of the tool, was obtained from seven experts in the field of Obstetrics and Gynaecology. Seven of them were nursing personnel. The suggestions given by the validators regarding rating scale was made in the final preparation of the tool.

Reliability of the tool

Reliability is the degree of consistence or dependability with which an instrument measures an attribute (Polit 2007). The reliability was found using Pearsons correlation formula.

1. Visual pain analogue scale – 0.9(inter rater method)

2. Pain coping scale for primigravid women – 0.9 (inter rater technique).

3. Rating scale on satisfaction on scalp acupressure upon labour pain – 0.9 (test – retest method).

Pilot study

Pilot study is a small scale version or trial run done in preparation for a major study (Polit, 2004). The purpose of the pilot study was to find out the feasibility and practicability of study design.

The pilot study was conducted at St.Antony's Hospital, Chennai by selecting 10 primigravid women with five primigravid women in the control group and five in the experimental group using systematic random sampling in order to assess the methodology and tool. The level of labour pain, coping and fetomaternal parameters were assessed using visual pain analogue scale, pain coping scale and modified WHO partograph respectively for both the control and experimental group before therapy. Foot Reflexology was provided for forty minutes in both foot (20 seconds in each foot) at each point for the participants of experimental group during the cervical dilatation of 4-5 cm. Again the pain level, coping level and feto maternal parameters were assessed for both the groups. The level of satisfaction on Foot Reflexology was assessed from the experimental group after delivery. After the pilot study, it was found to be feasible and effective and the study instruments were found to be appropriate.

Protection of Human Rights

The study was conducted

- after the approval of ethical committee of Apollo Hospitals
- after obtaining written consent from the participants
- with confidentiality throughout the study.

Data Collection Procedure

Data collection is gathering information about something which the researcher has chosen to explore or investigate (Crookes and Davies, 1998).

The researcher was trained for one week in giving Foot Reflexology and certified before data collection. Protection of human rights was maintained and the data was collected day and night from June 17 to July 30.

The participants were selected using systematic random sampling among which 30 women were assigned to the control group and 30 women to the experimental group and the data was collected from the participants through interview and through medical records. The labour pain level was assessed by the visual pain analogue scale, coping level with pain coping scale and fetomaternal parameters using modified WHO partograph before each intervention for both control and experimental group of primigravid women.

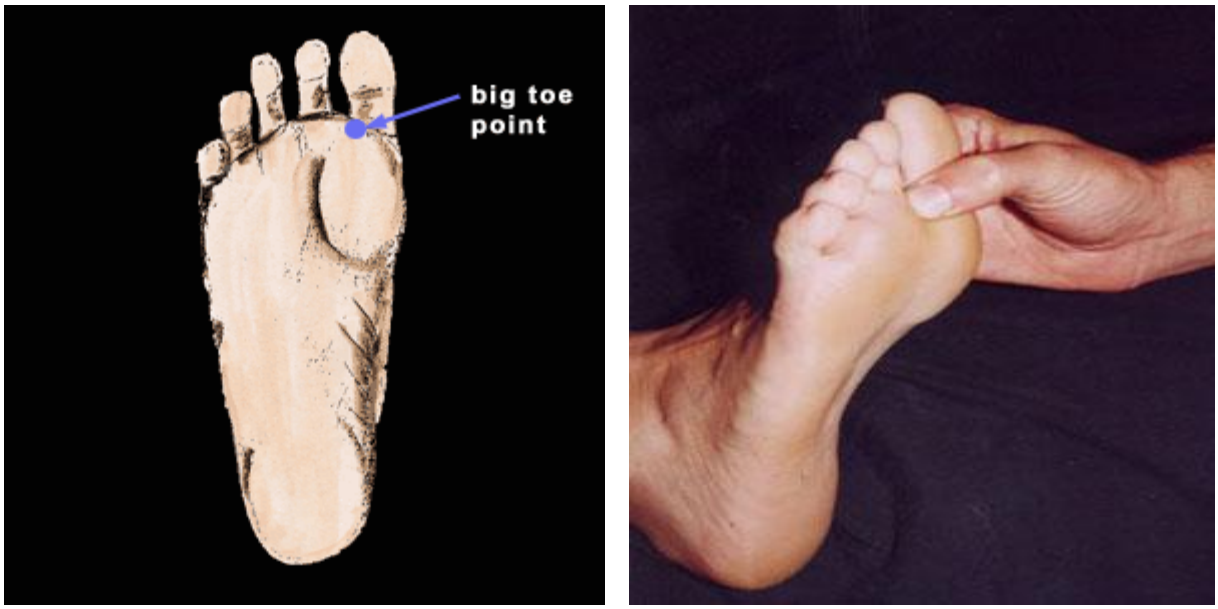
Foot Reflexology was provided at the cervical dilatation of 4-5 cm for forty minutes (20 min in each foot) at each point for experimental group of primigravid women. The pain level, coping level and fetomaternal parameters were assessed after

intervention and with the cervical dilatation of 4-5 cm, 6-7 cm, 8-10 cm for both groups with the same tools. The level of satisfaction on Foot Reflexology was assessed in the experimental group of primigravid women using rating scale after delivery.

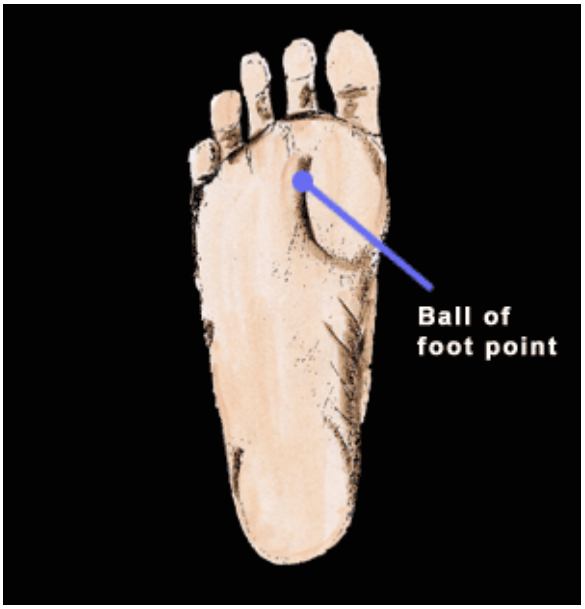
Problems Faced During Data Collection

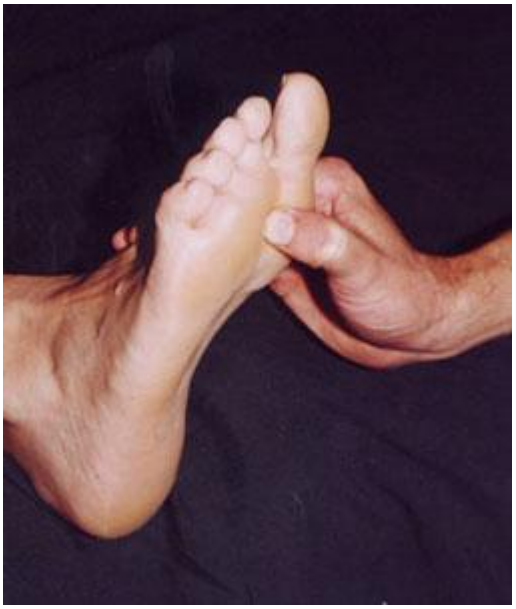
- Few primigravid women felt that they were disturbed every time to fill the scale.

Foot Reflexology points in foot

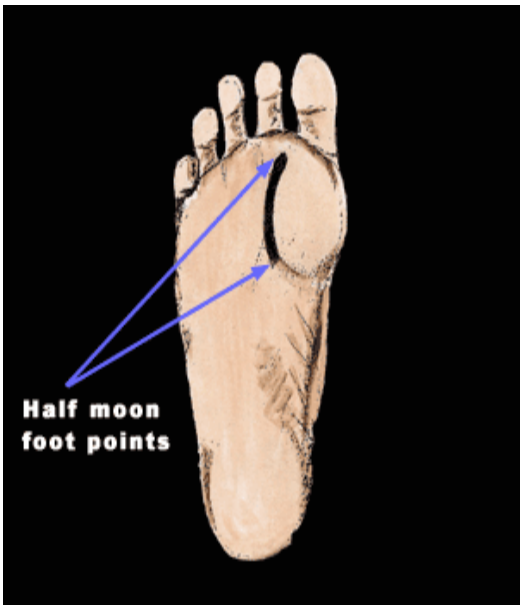


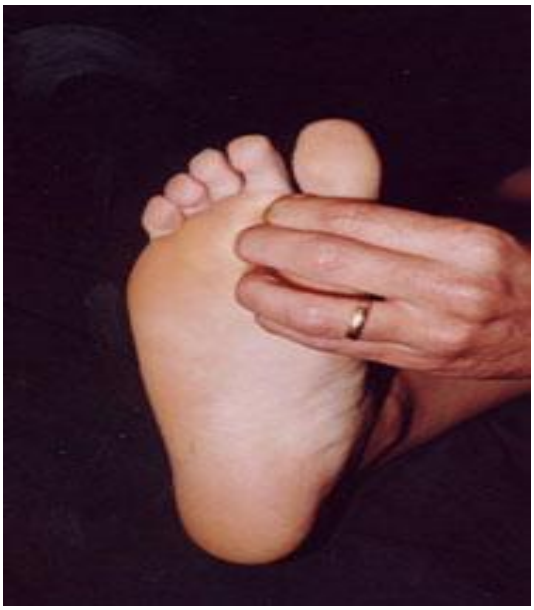
A point that lies between the fleshy pads under the big toe and next toe and shows pressure being applied to the Foot Reflexology point near the big toe.





A point that lies just below the centre of the ball of the foot and shows pressure being applied to the Foot Reflexology point on the ball of the foot.





A set of half moon shaped points that lie from where the toes join the foot to the farthest end of the ball of the foot and shows pressure being applied to the half moon Foot Reflexology points.

Plan for Data Analysis

Data analysis is the systematic organization, synthesis of research data and testing of hypothesis using those data (Polit and Beck, 2010).

Analysis were carried out using descriptive statistics like frequency distribution, percentage, mean, standard deviation and inferential statistics like independent ‘t’ test. The association between the demographic variables, obstetric variables and dependent variables were analyzed with the help of chi-square test.

Summary

This chapter dealt with the research approach, research design, setting, population, sample, sampling technique, sampling criteria, development of study instruments, reliability and validity of the instruments, pilot study, data collection procedure and plan for data analysis.

CHAPTER – IV

ANALYSIS AND INTERPRETATION

Statistics are aggregates of facts, affected to a marked extend by multiplicity of causes, numerically expressed, enumerated or estimated according to reasonable standards of accuracy, collected by systematic manner for a predetermined purpose and placed in relation to each other (Agarwal, 2010).

The data was collected from 60 primigravid women among which 30 were in the control group and 30 were in the experimental group. The data were analyzed using descriptive and inferential statistics based on the objectives and hypothesis. The data analysis was completed after transferring all the data to the master coding sheet.

Organization of findings

- Frequency and percentage distribution of demographic variables, obstetric variables, level of labour pain, level of coping, level of satisfaction before and after Foot Reflexology in the control and experimental group of primigravid women.
- Comparison of mean and standard deviation of level of labour pain, level of coping before and after Foot Reflexology in the control and experimental group of primigravid women.
- Association between selected demographic variables and the level of labour pain and coping, selected obstetric variable and the level of labour pain and coping before and after Foot Reflexology in the control and experimental group of primigravid women.

Table. 1

Frequency and Percentage Distribution of Demographic Variable in Control and Experimental Group of Primigravid Women.

Demographic variables	Control group (n=30)		Experimental group (n=30)	
	n	p	n	p
Age in years				
≤20	-	-	-	-
21-25	23	76.6	26	86.7
26-30	7	23.4	4	13.3
≥ 31	-	-	-	-
Educational status				
Illiterate	-	-	-	-
Primary education	-	-	2	6.7
High school	6	20	5	16.7
Higher secondary	17	56.6	14	46.6
Graduate and above	7	23.4	9	30
Monthly income				
<5000	1	3.33	2	6.7
5000-10000	12	40	12	40
10000-15000	10	33.33	7	23.3
15000-20000	5	16.67	9	30
>20000	2	6.67	-	-

Type of family				
Nuclear	23	76.6	24	80
Joint	**7**	23.4	6	20
Area of residence				
Urban	7	23.4	1	3.4
Semi urban	21	69.93	27	90
Rural	2	6.67	2	6.6
Previous information regarding pain relief and Foot Reflexology				
Yes (if yes, specify)	-	-	-	-
No	30	100	30	100

From Table 1 infers that majority of the primigravid women were between the age group of 25 years(76.6% ,86.7%), most of them are qualified with higher secondary education (56.6%, 46.6%) and significant percentage of them had monthly income of more than 10,000 rupees (33.33%,23.3%) and majority of them lived in nuclear family(76.6%,80%),resided in semi urban area(69.93%,90%), a none of them had aware of Foot Reflexology(100%, 100%) in the control and experimental group respectively.

Fig.3 shows that most of them were Hindu (63.3%, 63.4%) in control and experimental group.

Fig.4 reveals that majority of the women were unemployed in control group (97%) and in experimental group all of them were unemployed (100%) respectively.

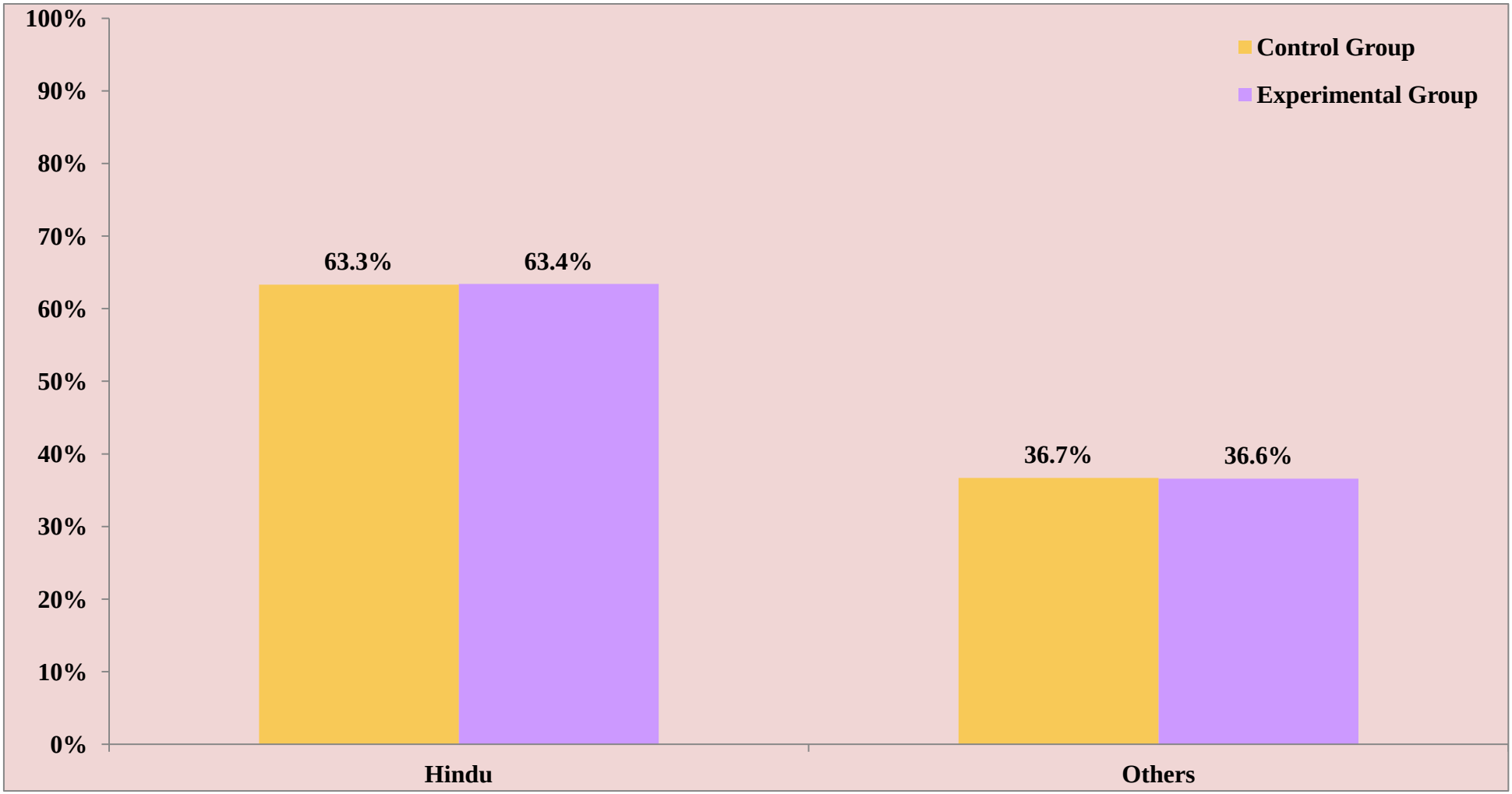


Fig.3 Percentage Distribution of religion in Control and Experimental group of Primigravid Women

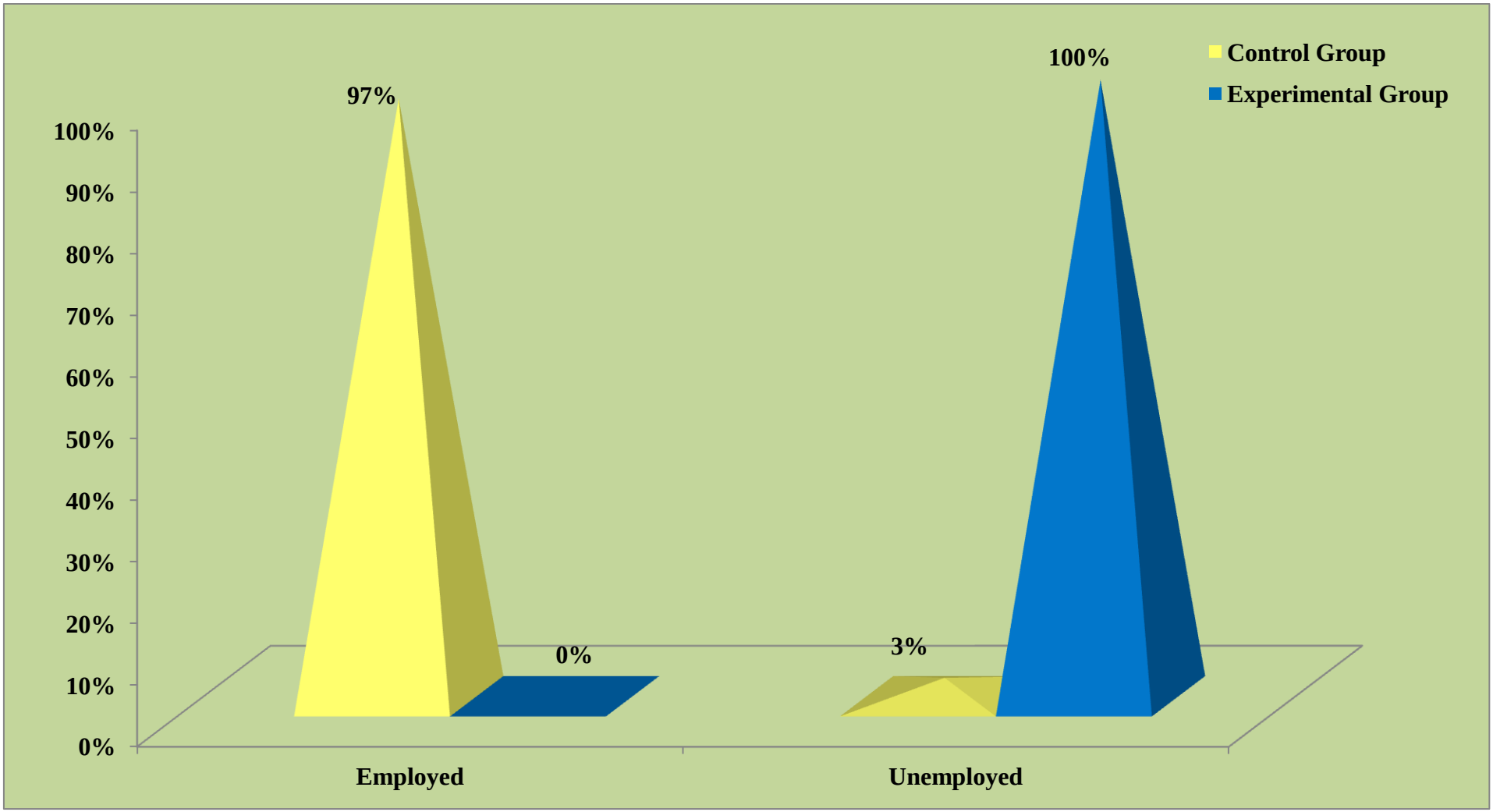


Fig.4 Percentage Distribution of occupation in Control and Experimental group of Primigravid Women

Table. 2

Frequency and Percentage Distribution of Obstetric Variables in Control and Experimental Group of Primigravid Women.

Obstetric variables	Control group (n=30)		Experimental group (n=30)	
	n	p	n	p
Marital status				
Married	30	100	30	100
Unmarried	-	-	-	-
Divorced	-	-	-	-
Widow	-	-	-	-
Age at marriage				
≤20	-	-	-	-
21-25	26	86.6	27	90
26-39	4	13.4	3	10
≥30	-	-	-	-
Type of marriage				
Consanguineous	-	-	-	-
Non-consanguineous	30	100	30	100
Age at menarche in yrs				
≤12	-	-	-	-
12-15	30	100	30	100
16-18	-	-	-	-
≥19	-	-	-	-

Menstrual cycle				
Regular	30	100	30	100
Irregular	-	-	-	-
Gestational week at delivery				
37-40	30	100	30	100
41-42	-	-	-	-
Maternal complication during labour				
Prolonged labour	-	-	-	-
Intra partum haemorrhage	-	-	-	-
Maternal distress	-	-	-	-
Absent	30	100	30	100
Fetal complication during labour				
Fetal distress	-	-	-	-
Meconium aspiration	-	-	-	-
Absent	30	100	30	100

The data presented in Table 2 depicts that all of them were married (100%, 100%) had non-consanguineous type of marriage (100%,100%), they all attained their menarche before 15yrs of age (100%,100%),their gestational week at delivery were before 40weeks (100%,100%) and there were no feto-maternal (100%,100%) complication during labour. Majority of them were below 26yrs of age (86.6%, 90%) in control and experimental group respectively.

Fig. 5 infers that majority of the women attended below three (76.6%, 90%) and a significant number of them were attended more than three (23.4%, 10%) antenatal visits in control and experimental group respectively.

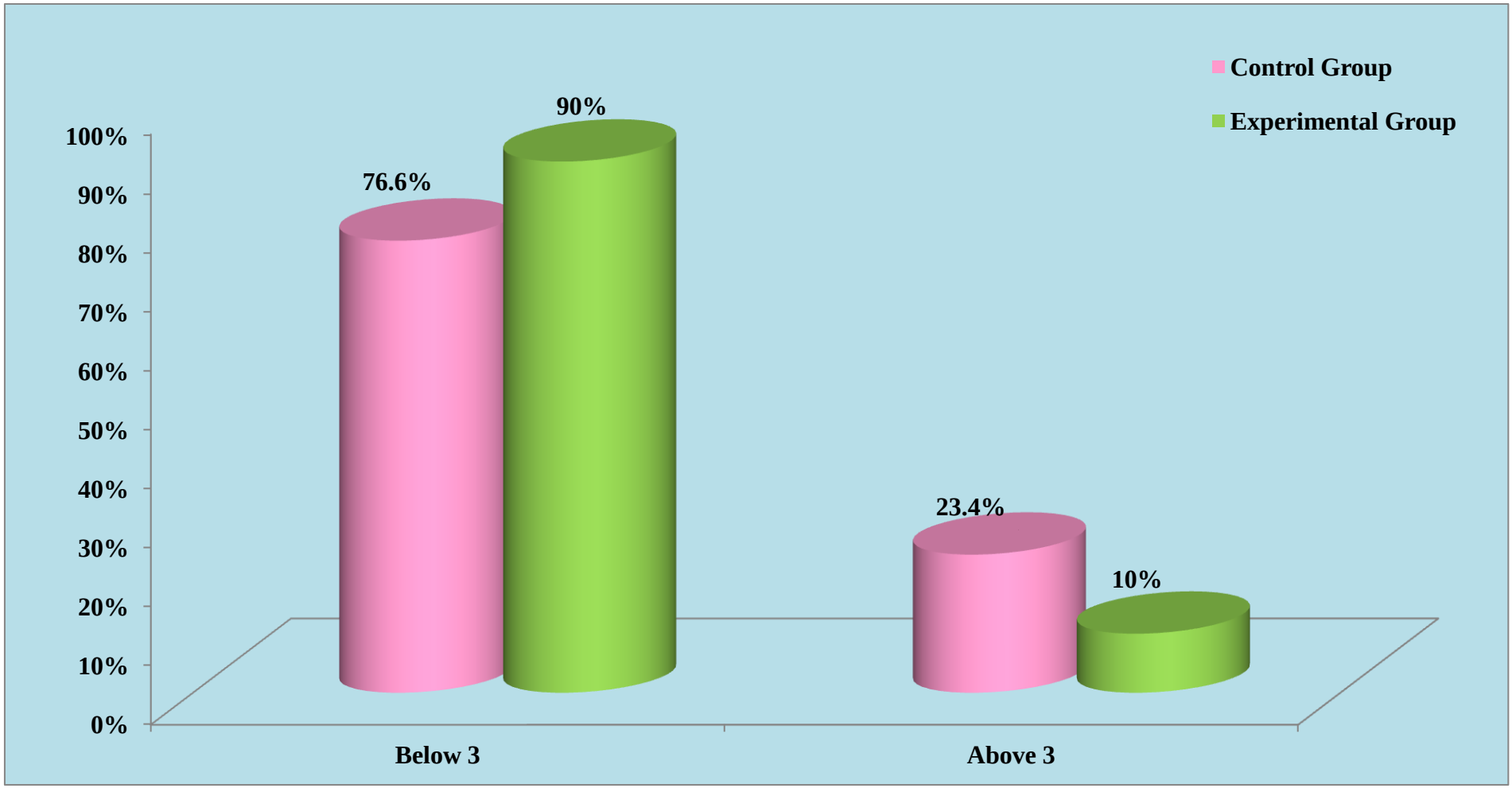


Fig.5 Percentage Distribution of number of antenatal visit attended till date in Control and Experimental Group of Primigravid Women

Table. 3

Frequency and Percentage Distribution of Level of Labour Pain Before and After Foot Reflexology in Control and Experimental Group of Primigravid Women.

Level of labour pain	Before therapy (n=30)		After therapy (n=30)	
Control group	**n**	**p**	**n**	**p**
No hurts	-	-	-	-
Hurts little bit	1	3.4	-	-
Hurts little more	25	83.3	1	3.4
Hurts even more	4	13.3	24	80
Hurts whole lot	-	-	5	16.6
Hurts worst	-	-	-	-
Experimental group				
No hurts	-	-	-	-
Hurts little bit	3	10	3	10
Hurts little more	27	90	27	90
Hurts even more	-	-	-	-
Hurts whole lot	-	-	-	-
Hurts worst	-	-	-	-

Table 3 reveals that majority of primigravid women had little more pain hurts (90%, 90%) and significant number of them had more pain hurts (13.3% & 80%) before and after Foot Reflexology in control and experimental group respectively.

Table. 4

Frequency and Percentage Distribution of Level of Coping Before and After Foot Reflexology in Control and Experimental Group of Primigravid Women.

Level of pain coping	Before therapy (n=30)		After therapy (n=30)	
Control group	**n**	**p**	**n**	**p**
No need to cope	-	-	-	-
Easy	-	-	-	-
Able to do 3 R's	27	90	1	3.3
Needs lots of help	3	10	29	96.7
Can't do it	-	-	-	-
Experimental group				
No need to cope	-	-	-	-
Easy	1	3.3	-	-
Able to do 3 R's	26	86.7	10	33.3
Needs lot of help	3	10	20	66.7
Can't do it	-	-	-	-

Table 4 shows that majority of the primigravid women were able to do 3R's (Rhythm, Ritual and Relaxation) (90%, 86.7%) before therapy and significant percentage of them were able to do 3 R's (3.3%, 33.3%) after therapy in control and experimental group respectively.

Table. 5

Comparison of Mean and Standard Deviation of Level of Labour Pain Before and After Foot Reflexology in Control and Experimental Group of Primigravid Women.

Group	Before therapy			After therapy		
	Mean	SD	't'	Mean	SD	't'
Control group	4.2	0.77	0.55	6.1	0.83	6.7
Experimental group	3.8	0.60		4.8	0.60	

Table 5 depicts that the mean pain level was high after therapy (M=6.1, SD=0.83) compared to before therapy (M=4.2, S.D=0.77) whereas the mean pain level was low (M=3.8, SD=0.60) after therapy compared to before therapy (M=3.8, SD=0.60) in control and experimental group respectively. Hence null hypothesis H_{o1} was rejected.

Table.6

Comparison of Mean and Standard Deviation of Level of Coping Before and After Foot Reflexology in Control and Experimental Group of Primigravid Women.

Group	Before therapy		't' value	After therapy		't' value
	Mean	SD		Mean	SD	
Control group	4.2	0.94	0.55	2	0.87	6.7
Experimental group	3.3	0.60		4.3	0.69	

Table 6 infers that the mean coping level was low after therapy (M=2.00, SD=0.87) in comparison with before therapy (M=4.2, SD=0.94), and the mean coping level was high after therapy (M=4.3, SD=0.69) in comparison with before therapy (M=3.3, SD=0.60) in control and experimental group respectively. Hence null hypothesis H_{o1} was rejected.

Table.7

Comparison of Mean and Standard Deviation of Feto-Maternal Parameters Before and After Foot Reflexology in Control and Experimental Group of Primigravid Women.

Feto-maternal parameters	Before therapy (n=30)		't' value	After therapy (n=30)		't' value
	M	SD		M	SD	
Control group						
Fetal heart rate	148	2.45	0.89	147.6	3.34	2.53
Cervical dilatation	4	0.70	1.26	6	0.90	2.75
Uterine contraction	2.5	0.50	6.25	3.9	0.11	5
Systolic blood pressure	120	2.23	3.70	119	2.24	1.85
Diastolic blood pressure	76.2	3.2	1.3	76.2	3.23	5.14
Experimental group						
Fetal heart rate	149	4.57	0.89	150	4.38	2.53
Cervical dilatation	4	0.70	1.26	6	0.90	2.75
Uterine contraction	3	1.02	6.25	4	0.82	5
Systolic blood pressure	118	3.1	3.70	117.5	4.14	1.85
Diastolic blood pressure	75.1	3.6	1.3	70	3.38	5.14

Table 7depicts that the uterine dilatation and uterine contraction were increased in after therapy in comparison with before therapy were (M=4,SD=0.70; M=6,SD=0.90), (M=2.5,SD=0.50; M=3.9,SD=0.11) and (M=4,SD=0.70; M=6,SD=0.90), (M=3,SD=1.02; M=4,SD=0.82) in experimental and control and group of primigravid women. This shows that Foot Reflexology is effective.

Table.8

Frequency and Percentage Distribution of Level of Satisfaction on Foot Reflexology in Experimental Group of Primigravid Women.

Level of satisfaction	Experimental group (n=30)	
	n	p
Highly satisfied	27	90
Moderately satisfied	3	10
Just satisfied	-	-
Unsatisfied	-	-

The data from the Table 8 shows that majority of the participants in experimental group were highly satisfied (90%) with the Foot Reflexology during the first stage of labour and none of them reported unsatisfaction towards the intervention.

Table. 9

Association Between the Selected Demographic Variables and Level of Labour Pain After Foot Reflexology in Control Group of Primigravid Women.

Demographic variables	Level of pain (n=30)			
	Hurts little more	Hurts even more	df	$\chi 2$
Age in years				
≤25	5	18		
>25	0	7	1	0.24
Religion				
Hindu	3	16		
Others	2	9	1	0.48
Educational status				
Literate	5	25		
Illiterate	0	0	1	0.12
Occupation				
Employed	0	1		
Unemployed	5	24	1	3.54
Monthly income				
≤10000	2	11	1	0.44
>10000	14	3		

Type of family				
Nuclear	4	19	1	0.06
Joint	1	6		
Area of residence				
Urban	5	23		
Rural	0	2	1	1.7
Previous information regarding pain relief and Foot Reflexology				
Yes (if yes, specify)	0	0		
No	5	25	1	0.12

From the data presented in Table 9 revealed that there is no significant association between age, religion, educational status, occupation, monthly income, type of family, area of residence, and previous information regarding pain relief and Foot Reflexology in the control group of primigravid women. Hence null hypothesis H_{o2} was retained.

Table. 10

Association Between the Selected Demographic Variables and Level of Labour Pain After Foot Reflexology in Experimental Group of Primigravid Women.

Demographic variables	Level of pain (n=30)		df	χ^2
	Hurts little more	Hurts even more		
Age in years				
≤25	23	3		
>25	27	0	1	0.51
Religion				
Hindu	17	2		
Others	10	1	1	0.02
Educational status				
Literate	3	27		
Illiterate	0	0	1	0
Occupation				
Employed	0	0		
Unemployed	27	3	1	0
Monthly income				
<10000	13	2		
>10000	14	1	1	0.37

Type of family				
Nuclear	21	2	1	0.18
Joint	6	1		
Area of residence				
Urban	25	3		
Rural	2	0	1	0.23
Previous information regarding pain relief and Foot Reflexology				
Yes (if yes, specify)	0	0		
No	27	3	1	0

Table 10 shows that there is no significant association between age, religion, educational status, occupation, monthly income, type of family, area of residence and previous information regarding pain relief and Foot Reflexology in the experimental group of primigravid women. Hence the null hypothesis H_{o2} was retained.

Table. 11

Association Between the Selected Demographic Variables and Level of Coping After Foot Reflexology in Control Group of Primigravid Women.

Demographic variables	Level of coping (n=30)		df	$\chi 2$
	Needs lot of help	Able to do 3R's		
Age in years				
≤25	5	18	1	
>25	0	7		0.01
Religion				
Hindu	3	17		
Others	2	8	1	0.17
Educational status				
Literate	5	25		
Illiterate	0	0	1	0
Occupation				
Employed	0	1		
Unemployed	5	24	1	0.001
Monthly income				
≤10000	1	11		
>10000	4	14	1	1

Type of family				
Nuclear	4	19		
Joint	1	6	1	0.03
Area of residence				
Urban	4	24		
Rural	1	1	1	1.7
Previous information regarding pain relief and Foot Reflexology				
Yes (if yes, specify)	0	0		
No	5	25	1	0

It can be interpreted from the Table 11 that there is no significant association between age, religion, educational status, occupation, monthly income, type of family, area of residence and previous information regarding pain relief and Foot Reflexology in the control group. Hence the null hypothesis H_{o2} was retained.

Table. 12

Association Between the Selected Demographic Variables and Level of Coping After Foot Reflexology in Experimental Group of Primigravid Women.

Demographic variables	Level of coping (n=30)		df	χ^2
	Needs lot of help	Able to do 3R's		
Age in years				
≤25	8	18	1	0.05
>25	1	3		
Religion				
Hindu	6	13	1	0.06
Others	3	8		
Educational status				
Literate	0	0	1	0
Illiterate	9	21		
Occupation				
Employed	0	0	1	0
Unemployed	9	21		
Monthly income				
≤10000	3	11	1	0.91
>10000	6	10		

Type of family				
Nuclear	6	18	1	1.4
Joint	3	3		
Area of residence				
Urban	9	19	1	0.02
Rural	0	2		
Previous information regarding pain relief and Foot Reflexology				
Yes (if yes, specify)	0	0	1	0
No	9	21		

The data from the above Table 12 reveals that there is no significant association between age, religion, educational status, occupation, monthly income, type of family and previous information regarding pain relief and Foot Reflexology in the experimental group after Foot Reflexology. The frequency of the women who were able to do 3R's was zero before Foot Reflexology. Thus the null hypothesis H_{o2} was retained.

Table. 13

Association Between the Selected Obstetric Variables and Level of Labour Pain After Therapy in Control Group of Primigravid Women.

Obstetrical variables	Level of pain (n=30)		df	χ^2
	Hurts little more	Hurts even more		
Marital status				
Married	4	26	1	0
Unmarried	0	0		
Age at marriage				
≤25	4	22	1	0.71
>25	0	4		
Type of marriage				
Consanguineous	0	0	1	0
Nonconsanguineous	4	26		
Age at menarche				
≤15	4	26	1	0
>15	**0**	**0**		
Menstrual cycle				
Regular	4	26	1	0
Irregular	0	0		

Gestational week at delivery				
≤40	4	26	1	0
>40	0	0		
No. of antenatal visits till date				
≤3	3	20	1	0.007
>3	1	6		
Maternal complication during labour				
None	4	26	1	0
Others	0	0		
Fetal complication during labour				
None	4	26	1	0
Others	0	0		

The above table 13 interprets that there is no significant association between marital status, age at marriage, type of marriage, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of labour pain after Foot Reflexology in the control group. Hence null hypothesis H_{o3} was retained.

Table. 14

Association Between the Selected Obstetric Variables and Level of Labour Pain After Foot Reflexology in Experimental Group of Primi gravid Women.

Obstetrical variables	Level of pain (n=30)			
	Hurts little more	Hurts even more	df	$\chi 2$
Marital status				
Married	27	3		
Unmarried	0	0	1	0
Age at marriage				
<25	22	3		
>25	5	0	1	0.66
Type of marriage				
Consanguineous	0	0		
Nonconsanguineous	27	3	1	0
Age at menarche				
≤15	27	3		
>15	0	0	1	0
Menstrual cycle				
Regular	27	3		
Irregular	0	0	1	0

Gestational week at delivery				
≤40	27	3		
>40	0	0	1	0
No. of antenatal visits till date				
≤3	21	2		
>3	6	1	1	0.018
Maternal complication during labour				
None	27	3		
Others	0	0	1	0
Fetal complication during labour				
None	27	3		
Others	0	0	1	0

Table 14 reveals that there is no significant association between marital status, age at marriage, type of marriage, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of labour pain after Foot Reflexology in the experimental group. Hence null hypothesis H_{o3} was retained.

Table. 15

Association Between the Selected Obstetric Variables and Level of Coping After Foot Reflexology in Control Group of Primigravid Women.

Obstetrical variables	Level of coping (n=30)		df	χ^2
	Needs lot of help	Able to do 3 R's		
Marital status				
Married	10	20		
Unmarried	0	0	1	0
Age at marriage				
≤25	8	20		
>25	2	0	1	4.2*
Type of marriage				
Consanguineous	0	0		
Nonconsanguineous	10	20	1	0
Age at menarche				
≤15	10	20		
>15	0	0	1	0
Menstrual cycle				
Regular	10	20		
Irregular	0	0	1	0

Gestational week at delivery				
≤40	10	20		
>40	0	0	1	0
No. of antenatal visits till date				
≤3	8	15		
>3	2	5	1	4.1*
Maternal complication during labour				
None	10	20		
Others	0	0	1	0
Fetal complication during labour				
None	10	20		
Others	0	0	1	0

*P<0.05

It can be inferred from the Table 15 that there is no association between marital status, type of marriage, age of menarche, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of coping after Foot Reflexology in the control group. But there is association between age at marriage, number of antenatal visits till date and level of coping ($\chi 2=4.1$,df=1; $\chi 2=4.2$, df=1) at $p<0.05$ level. Hence the null hypothesis $H_{o3}$was rejected with regard to age at marriage and number of antenatal visits till date.

Table. 16

Association Between the Selected Obstetric Variables and Level of Coping After Foot Reflexology in Experimental Group of Primigravid Women.

Obstetrical variables	Level of coping (n=30)		df	χ^2
	Needs lot of help	Able to do 3 R's		
Marital status				
Married	9	21		
Unmarried	0	0	1	0
Age at marriage				
≤25	8	19		
>25	1	2	1	0.017
Type of marriage				
Consanguineous	0	0		
Nonconsanguineous	9	21	1	0
Age at menarche				
≤15	9	21		
>15	0	0	1	0
Menstrual cycle				
Regular	9	21		
Irregular	0	0	1	0

Gestational week at delivery				
≤40	9	21		
>40	0	0	1	0
No. of antenatal visits till date				
≤3	7	17		
>3	2	4	1	0.03
Maternal complication during labour				
None	9	21		
Others	0	0	1	0
Fetal complication during labour				
None	9	21		
Others	0	0	1	0

The presented data from Table 16 reveals that there is no significant association between marital status, age at marriage, type of marriage, gestational week at delivery, and number of ante natal visits till date, maternal and fetal complication during delivery with the level of coping after Foot Reflexology in the experimental group. Hence the null hypothesis H_{o3} was retained.

Summary

This chapter dealt with the analysis and the interpretation of the data collected by the researcher. From the analysis it can be inferred that the level of labour pain was low and level of coping was high after therapy in the experimental group than the control group. Thus it shows that the Foot Reflexology was effective in reducing labour pain perception during the first stage of labour among the primigravid women.

CHAPTER V

DISCUSSION

Statement of the Problem

An Experimental Study to Assess the Effectiveness of Foot Reflexology upon Labour Pain and Coping During First Stage of Labour in Primigravid Women at Selected Hospital, Chennai.

Objectives of the Study

1. To assess the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
2. To determine the effectiveness of Foot Reflexology by comparing the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
3. To determine the level of satisfaction regarding Foot Reflexology in experimental group of primigravid women.
4. To find out the association between the selected demographic variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
5. To find out the association between the selected obstetric variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women.

This study was carried out for the primigravid mother in labour who have with the cervical dilatation of 4-5cm at St. Antony's hospital. The level of labour pain, coping level and feto maternal parameters were assessed for the control and experimental group of primigravid women and Foot Reflexology was provided for the experimental group of primigravid women with the cervical dilatation of 4-5cm and pain level, coping level and feto maternal parameters were assessed again for both the groups. The level of satisfaction upon Foot Reflexology was assessed among the experimental group of women after the labour.

The discussion is presented under the following headings:

- Demographic variables and Obstetric variables of control and experimental group of primigravid women.
- Mean and standard deviation of level of labour pain, coping level before and after Foot Reflexology.
- Assessment of level of satisfaction upon Foot Reflexology among the experimental group of primigravid women.
- Association between selected demographic variables and level of labour pain and coping after Foot Reflexology.
- Association between selected obstetric variables and level of labour pain and coping after Foot Reflexology.

Demographic variables of primigravid women

Majority of the primigravid women in both the control and experimental group were the age group of 25 years (76.6%, 86.7%) which shows that most of them are aware about the right age of reproduction.

The educational qualification of the women shows that most of them in the control and experimental group had only secondary education (56.6%, 46.6%) and also 30% of the women in the experimental group were graduates. As women with inadequate education may have inadequate information regarding health care practices, the researcher felt that doing higher education helps mother in better understanding about labour process and better coping and thus all the women should be encouraged to do their higher education in addition to schooling.

Majority of them in both the control and experimental group were from semi urban area(69.93%,90%) respectively and even though the women were distributed in different areas of residence they seek good medical advice and are aware about the advantages of taking adequate antenatal care and thus reducing the incidence of complications during delivery.

Among the women of both the control and experimental group, majority of them belong to nuclear family (76.6%, 80) respectively. The researcher feels that as the responsibility to care other family members were less in the nuclear families, it promotes the mother to seek antenatal care with the support of their spouse. A study conducted by Allendorf in 2010 says that among nuclear families, women with better marital relationships are more likely to use antenatal care services delivered in a health-care facility than others.

None of the women in the control and experimental group receive previous information about Foot Reflexology (100%, 100%) which shows that they were not familiar with the various pain relief measures. Hence it is the duty of the nurse

midwives to explain to the women about various methods available for pain relief during labour.

Obstetric variables of the primigravid women

Majority of the women in the control and experimental group were between 39 – 40 weeks of gestation (100%, 100%) during delivery. This proves that risk of preterm labour and maternal complications was reduced with regular antenatal checkups and screening methods and the health care workers assists mother in delivering the baby at the right time without leading to post term labour. This view was supported by Aaron et.al. (2008) in the study conducted at the Department of Obstetrics and Gynecology that maternal complications were high beyond 40 weeks of gestation.

Majority of the women (76.6%, 90%) in both the control and experimental group attended more than three antenatal visit emphasizes that most of the women were aware about the importance of regular antenatal checkup thus reducing the abnormal deliveries. It is felt by the researcher that recent advances in the health care services improved the outcome of labour through increased antenatal visits. It is also noted that all of them had non consanguineous type of marriage in both control and experimental group of primigravidwomen (100%,100%) thus reducing the incidence of complicated deliveries. This was supported by the study, 'Effects of consanguineous marriage on reproductive outcome in an Arab community in Israel' by Jaber et. al. It reveals that a prominent public health problem (including abortions, stillbirths, and neonatal or infant deaths) associated with consanguineous marriage in the Arab community.

There were no maternal and fetal complication(100%) in control and experimental group of primigravid women. Thus the researcher identified that non consanguinity and regular antenatal visit reduced fetomaternal complication during labour.Research showed that new mothers who received Foot Reflexology work initiated lactation in 43.47 hours (+12.39 hours) and in comparison to the control group average of 66.97 hours (+28.16 hours). At 72 hours satisfactory lactation was documented in 98% of the Foot Reflexology group and 67% of the control group. Foot Reflexology work helped to avoid use of drugs in lactation that may be harmful to the baby.

Mean and Standard Deviation of pain level before and after Foot Reflexology in the control and experimental group of primigravid women

Majority of women in the control group had pain hurts little more (83.3%) before Foot Reflexology and had pain hurts even more (80%) after Foot Reflexology. The mean pain level in the control group was high after therapy (M=6.1, SD=0.83) compared to before therapy (M=4.2, S.D=0.77) whereas the mean pain level was low (M=3.8, SD=0.60) after therapy in the experimental group when compared with before therapy (M=3.8, SD=0.60).

This shows that the Foot Reflexology was effective in reducing the level of labour pain perception. Many women need some type of pain relieving measures to deal with pain during childbirth. The management of labour pain is a primary responsibility of the nurse. Interventions to reduce pain perception are one of the essential aspects of nursing care that must be considered during a woman's labour. Because of its strong

effect on pain management, Foot Reflexology can be used by the nurse midwife in assisting the mother with labour pain.

Similar study was conducted by Jaferi, in the year 2011 which showed that severity of labour pain before Foot Reflexology did not vary between case and control groups ($p = 0.14$) but after it, severity of labour pain in the intervention group was lower than the control group ($p < 0.001$). The severity of labour pain reduced after the intervention in the intervention group ($p < 0.001$), whereas, labour pain increased in the control group ($p < 0.001$).

Mean and Standard deviation of coping level before and after Foot Reflexology in the control and experimental group of primigravid women

Majority of the women needed lot of help after Foot Reflexology (96.7%) in control group when compared with experimental group(76.7%). Most of the women were able to do 3R's (33.3%) in experimental group when compared with control group (3.3%).The mean coping level was low after therapy (M=2.00, SD=0.87) in comparison with before therapy (M=4.2, SD=0.94) , and the mean coping level was high after therapy (M=4.3, SD=0.69) in comparison with before therapy (M=3.3, SD=0.60) in control and experimental group respectively.

A study conducted by Abushaikha in 2007 among Jordanian women describes that they used different coping methods which included physiological, psychological, spiritual and cognitive methods to cope during labour. Thus it is the responsibility of every nurse midwife to understand the importance of using various coping methods during labour.

Feto maternal parameters of the primiprimigravid women

Among the feto maternal parameters of the primigravid women a there is no significant difference was found in the uterine contraction and cervical dilatation. The uterine dilatation and uterine contraction were increased in after therapy in comparison with before therapy in control (M=4,SD=0.70; M=6,SD=0.90), (M=2.5,SD=0.50; M=3.9,SD=0.11) and experimental (M=4,SD=0.70; M=6,SD=0.90), (M=3,SD=1.02; M=4,SD=0.82) group of primigravid women which shows that Foot Reflexology is effective.

This shows that Foot Reflexology increases the uterine contraction and cervical dilatation for the primigravid women. A study conducted by Dora in 2010 shows that there is a significant relationship among Foot Reflexology and cervical dilatation and uterine dilatation.

Level of satisfaction on Foot Reflexology among primigravid women

Majority of the women were highly satisfied (90%) with Foot Reflexology and none of them had unsatisfaction towards the therapy. This interprets that Foot Reflexology was highly effective in reducing the labour pain perception and improving the coping of the women. Though there are many techniques to reduce the labour pain perception, most of them are invasive or has adverse effects on the mother or the baby. But Foot Reflexology is a type of non-invasive procedure that has good effect on reducing the labour pain perception without affecting the mother or the baby. Thus the midwives should understand the importance of using pain relief methods which are harmless and they should be encouraged in practicing such therapies.

Association between selected demographic variables and level of labour pain and coping after Foot Reflexology in the control and experimental group of primigravid women

In both the control and experimental group of primigravid women, no significant association was found between demographic variables and the level of labour pain which proves that demographic variables has no influence over the pain perception. Hence some type of pain relief methods has to be provided for the women in reducing the pain.

Similarly no association was found between demographic variables and the level of coping in both the control and experimental group of primigravid women. This shows that demographic variables may not alter the coping level of the women and hence it is the responsibility of the nurse midwife to help the mother in coping with the labour pain.

No association could be found between demographic variables and level of labour pain and coping after Foot Reflexology as all the women experienced severe pain and needed lot of help in the control and experimental group respectively. This was supported by a study conducted by Saraswathi (2010) on assessing the effect of ice application on energy meridian points, where there was no association between the age, education, area of residence with that of the labour pain.

Association between selected obstetric variables and level of labour pain and coping after Foot Reflexology in the control and experimental group of primigravid women

There was no significant association between marital status, age at marriage, type of marriage, gestational week at delivery, number of ante natal visits till date, maternal

and fetal complication during delivery with the level of labour pain after Foot Reflexology in the control group. Hence null hypothesis H_{o3} was retained. There is no significant association between marital status, age at marriage,type of marriage, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of labour pain after Foot Reflexology in the experimental group. Hence null hypothesis H_{o3} was retained.

There was no association between marital status, type of marriage, age of menarche, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of coping after Foot Reflexology in the control group. And there was association between age at marriage, number of antenatal visits attended till date and level of coping ($\chi 2=4.1$, df=1; $\chi 2=4.2$, df=1),at $p<0.05$ level. Hence the null hypothesis $H_{o3}$was partially rejected with regard to age at marriage and number of antenatal visits attended till date. There was no significant association between marital status, age at marriage, type of marriage, gestational week at delivery, number of ante natal visits till date, maternal and fetal complication during delivery with the level of coping after Foot Reflexology in the experimental group. Hence the null hypothesis H_{o3} was retained. Which emphasizes that obstetric variables has no influence over the pain perception and coping level of the women and necessitates provision of external agent in reducing the labour pain perception and improving the coping level. As everybody in the control and experimental group experienced pain hurts even more in before Foot Reflexology no statistics could be applied to find the association between selected obstetric variables and the level of labour pain and coping.

Summary

This chapter has dealt with the discussion of various aspects of the study findings. This emphasized the demographic variables and obstetric variables of the primigravid women. It has also dealt with the mean and standard deviation of level of labour pain, coping and feto maternal parameters before and after Foot Reflexology in control and experimental group, association between selected demographic and obstetrical variables with level of labour pain and coping after Foot Reflexology.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS

Summary

This study was conducted by the researcher to find the effectiveness of Foot Reflexology upon labour pain and coping during first stage of labour in primigravid women.

The Objectives of the Study

1. To assess the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
2. To determine the effectiveness of Foot Reflexology by comparing the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
3. To determine the level of satisfaction regarding Foot Reflexology in experimental group of primigravid women.
4. To find out the association between the selected demographic variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women in first stage of labour.
5. To find out the association between the selected obstetric variables and the level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women.

Null Hypotheses

H_{o1} There will be no significant relationship between the level of labour pain, coping and Foot Reflexology in control and experimental group of primigravid women during the first stage of labour.

H_{02} There will be no significant association between selected demographic variables and level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women during the first stage of labour.

H_{03} There will be no significant association between selected obstetric variables and level of labour pain and coping before and after Foot Reflexology in control and experimental group of primigravid women the during first stage of labour.

The Major Findings of the Study

Demographic variables of the primigravid women

Majority of the women in both the control and experimental group were the age group of 25 years (76.6%, 86.7%) which shows that majority of them are aware about the right age of reproduction. It is also noted that none of the mothers in control group and experimental group delivered after 30 years of age which emphasizes that there is less risk of developing complications during the antenatal period.

The educational qualification of the women shows that most of them in the control and experimental group had only secondary education (56.6%, 46.6%) and also 30% of the women in the experimental group were graduates. As women with inadequate education may have inadequate information regarding health care practices,

the researcher felt that doing higher education helps mother in better understanding about labour process and better coping and thus all the women should be encouraged to do their higher education in addition to schooling.

Most of them in both the control and experimental group resided in semi urban area(69.93%,90%) and even though the women were distributed in different areas of residence they seek good medical advice and are aware of the advantages of taking adequate antenatal care and thus reducing the incidence of complications during delivery.

Among the women of both the control and experimental group, majority of them belonged to nuclear family(76.6%, 80). The researcher feels that, as the responsibility to care other members of the family was less in the nuclear families, it promotes the mother to seek antenatal care with the support of their spouse.

None of the women in the control and experimental group received previous information about Foot Reflexology (100%, 100%) which shows that they were not familiar with the various pain relief measures. Hence it is the duty of the nurse midwives to explain the women about various methods available for pain relief during labor.

Obstetric variables of the primigravid women

Majority of the women in the control and experimental group were between 39 – 40 weeks of gestation (100%, 100%) during delivery. This proves that risk of preterm labour and maternal complications was reduced with regular antenatal checkups and

screening methods and the health care workers assists mother in delivering the baby at the right time without leading to post term labour.

Majority of the women (76.6%, 90%) in both the control and experimental group attended minimum three antenatal visit emphasizes that most of the women were aware about the importance of regular antenatal checkup thus reducing the abnormal deliveries. It is felt by the researcher that recent advances in the health care services improved the outcome of labour through increased antenatal visits. It is also noted that all of them had non consanguineous type of marriage in both control and experimental group of primigravid women (100%,100%) thus reducing the incidence of complicated deliveries. There is no fetomaternal complication (100%, 100%) in control and experimental group of primi gravid women. Thus the researcher identified that, non consanguinity and regular antenatal visit reducedfeto maternal complication during labour.

Level of labour pain in the primigravid women

All the women in the control group had pain hurts little more (83.3%) before Foot Reflexology and majority of them had pain hurts even more (80%) after Foot Reflexology. The mean and standard deviation of the pain level was high after Foot Reflexology (M=6.1, SD=0.83) in the control group when compared with pain level before Foot Reflexology (M=4.2, SD=0.77). Whereas majority of the women in the experimental group had pain hurts little pain(90%) before and after Foot Reflexology. Thus the mean and standard deviation of the pain level before and after Foot

Reflexology were (M=3.8,SD=0.60) and (M=4.8, SD=0.60) in experimental group of prim gravid women.

This shows that the Foot Reflexology was effective in reducing the level of labour pain perception. Many women need some type of pain relieving measures to deal with pain during childbirth. The management of labour pain is a primary responsibility of the nurse. Interventions to reduce pain perception are one of the essential aspects of nursing care that must be considered during a woman's labour. Because of its strong effect on pain management, Foot Reflexology can be used by the nurse midwife in assisting the mother with labour pain.

Similar study was conducted by Jaferi, in the year 2011 which showed that severity of labor pain before Foot Reflexology did not vary between case and control groups ($p = 0.14$) but after it, severity of labor pain in the intervention group was lower than the control group ($p < 0.001$). The severity of labor pain reduced after the intervention in the experimental group ($p < 0.001$), whereas, labor pain increased in the control group ($p < 0.001$).

Level of coping in the primigravid women

All the women needed lot of help after Foot Reflexology (96.7%) in control group when compared with experimental group (76.7%). Most of the women were able to do 3R's (33.3%) in experimental group when compared with control group(3.3%).The mean and standard deviation of coping level in the control group after Foot Reflexology (M=2.00, SD=0.87) was lower when compared with before Foot Reflexology (M=4.2, SD=0.94) whereas the mean and standard deviation of coping

level after Foot Reflexology (M=4.3, SD=0.69) was higher in the experimental group compared to before Foot Reflexology (M=3.3, SD=0.60).

A study conducted by Abushaikha in 2007 among Jordanian women describes that they used different coping methods which included physiological, psychological, spiritual and cognitive methods to cope during labour. Thus it is the responsibility of every nurse midwife to understand the importance of using various coping methods during labour.

Feto maternal parameters of the primigravid women

Among the feto maternal parameters of the primigravid women, there is no significant difference was found in the uterine contraction and cervical dilatation. There is no much difference in mean and standard deviation of uterine contraction and cervical dilatation before (M=2.5, SD=0.50),(M=4,SD=0.70) and after Foot Reflexology (M=3.9, SD=0.11),(M=6,SD=0.90) in the control group. Whereas the mean and standard deviation of uterine contraction and cervical dilatation in the experimental group progressed highly (M=4, SD=0.70,M=6,SD=0.90) compared to before Foot Reflexology (M=4.14, SD=0.22).

This shows that Foot Reflexology increases the uterine contraction and cervical dilatation for the primigravid women. A study conducted by Dora in 2010 shows that there is a significant relationship among Foot Reflexology and cervical dilatation and uterine dilatation.

Level of satisfaction on Foot Reflexology among primigravid women

Majority of the women were highly satisfied (90%) with Foot Reflexology and none of them had unsatisfaction towards the therapy. This interprets that Foot Reflexology was highly effective in reducing the labor pain perception and improving the coping of the women. Though there are many techniques to reduce the labor pain perception, most of them are invasive or has adverse effects on the mother or the baby. But Foot Reflexology is a type of non-invasive procedure that has good effect on reducing the labor pain perception without affecting the mother or the baby. Thus the midwives should understand the importance of using pain relief methods which is harmless and they should be encouraged in practicing such therapies.

Association between selected demographic variables and level of labour pain and coping after Foot Reflexology in the control and experimental group of primigravid women

No association could be found between demographic variables and level of labour pain and coping after Foot Reflexology, as all the women experienced severe pain and needed lot of help in the control and experimental group respectively. This shows that demographic variable has no influence in the pain perception and coping level. As all the women in the control and experimental group had pain hurts a lot and needed lot of help before Foot Reflexology, no statistics could be applied to find the association between demographic variables and level of labour pain and coping.

Association between selected obstetric variables and level of labour pain and coping after Foot Reflexology in the control and experimental group of primigravid women

No significant association was found between the obstetric variables and the level of labour pain in both the control and experimental group of primigravid women and similarly no association between the obstetric variables and level of coping was found in both the groups which emphasizes that obstetric variables has no influence over the pain perception and coping level of the women and necessitates provision of external agent in reducing the labour pain perception and improving the coping level. As everybody in the control and experimental group experienced pain hurts even more in before Foot Reflexology no statistics could be applied to find the association between selected obstetric variables and the level of labour pain and coping.

Conclusion

This study shows that Foot Reflexology was effective in reducing the labour pain perception and improving the coping level. The experimental group of primigravid women who received Foot Reflexology had decreased pain perception and was highly satisfied with the therapy. The Foot Reflexology is a non – invasive procedure and has no adverse effects on the mother and the fetus and hence the midwives could be encouraged to use this as a pain relief method during labour.

Implications

Nursing Practice

The primigravid women of the experimental group felt less pain perception and improved coping with the use of Foot Reflexology during the first stage of labour than the control group proving it to be effective to use. The intensity of labour pain, the length of time labour lasts and women's response to the pain varies widely. The environment in which the women give birth and the support they receive from their care givers and companions will also affect their reaction to pain and their ability to cope. Many women opt to use some form of pain relieving method to help them cope during labour. Hence it becomes a necessity for the midwives to have adequate knowledge and skill about various non-pharmacological methods. Though there is availability of various non-pharmacological methods, Foot Reflexology technique is noninvasive, safe and effective. Thus nurses should use Foot Reflexology as noninvasive, safe and effective treatment modalities in their practices.

Nursing Education

The nursing profession has a long history of viewing and caring for individuals in a holistic manner. A national conference conducted by National Institutes of Health of Alternative Medicine and the Uniformed Services University of Health Sciences concluded that nursing and medical education should include information about complementary and alternative therapies. Nurse educators should consider the inclusion of complementary and alternative therapies in nursing curricula with increasing frequency and motivation by major part of the public for the use of these therapies.

Inherent in the nurse's role is the ability to assess, intervene and evaluate preventive, supportive, and restorative functions of a patient's physical, emotional, mental and spiritual domains. This should be emphasized to the nursing students through educating them about the various therapies that help the patients in providing care to meet the above aspects.

Nursing Administration

With the advent of various technologies in the field of nursing, nurses are expected to be skilful in various aspects of providing care for which student nurses has to be trained in it through their education. Thus it is the responsibility of the nurse administrators to include the concept of alternative and complementary therapies in the nursing curricula. The nursing staffs and the nursing students should be encouraged by the nurse administrators to learn various nursing modalities in caring patients and could conduct certifying courses which would help them to practice alternative and complementary therapies.

Nursing Research

The competence of a registered nurse to perform the skills of complementary and alternative therapies begins with nursing education and ends with nursing practice which requires an evidence to give assurance that the knowledge and practice gained by the nurse are safe and provide comfort for the patients. Thus major research has to be promoted and conducted by the nurse researchers to prove the effectiveness of alternative and complementary therapies in nursing profession.

Recommendations

- The same study can be conducted with large number of samples.
- A comparison can be made between primi and multi gravidae.
- A comparison can be made with different stages of labour.
- The same study can be conducted at different setting.
- A comparison can be made between different types of alternative and complementary therapies.

Limitations

- The study findings cannot be generalized due to small sample size.
- Simple random sampling was not possible due to practical difficulties.
- Quasi experimental research could not be possible due to practical difficulties.

REFERENCES

Aaron, et.al. (2008). Maternal Complications of Pregnancy Increase Beyond 40 Weeks' Gestation. **American Journal of Obstetrics and Gynecology**, 196(2), 1-155.

Abushaikha, L. (2007)**.** Methods of coping with labour pain used by Jordanian women.**An International Journal of Obstetrics and Gynaecology**, 91(2):116-24.

Alderdice, F. (2006). Exploring the relationship between antenatal Foot Reflexology and intranatal outcomes. **Nursing Times**, 12(2):119-125.

Allendorf, K. (2010).The quality of family relationships and use of maternal health-care services in India.**Asian Journal of Medical Sciences**,41(4):263-76.

Bakker, R. (2011).Explaining differences in birth outcomes in relation to maternal age. **An International Journal of Obstetrics and Gynaecology**. 174(24), 81.

Baldrick, G. (2010).Effect of Foot Reflexology on pregnant women. **China Preventive Medical Association and the Chinese Society of Foot Reflexology**, 11(3&4), 19-28.

Blunt, E. (2006). Foot Reflexology. **Holistic Nurse Practice**. 20(5) 257-259.

Carlson, H. et.al. (2010). Reviewing the effect of Foot Reflexology on the pain and certain features and outcomes of the labour on the primiparous women.**Iranin Journal of Nursing and Midwifery Research**, 15(l1), 302–310.

Cunningham, C. et al. (2005). **Obstetrics**. (22nd ed.). Newyork: McGraw-Hill Publishers.

Dolation, M. (2011.)The Effect of Foot Reflexology on Pain Intensity and Duration of Labour on Primiparas.**Iranian Red Crescent Medical Journal**, 13(7),475-479.

Dutta, D. C. (2005)**. Textbook of Obstetrics**. (6th ed.).Calcutta: New Central Book Agency.

Ernst, E. (2009). Is Foot Reflexology an effective intervention- A systematic review of randomized controlled trials.**Complementary therapies for pregnancy and child birth**, 191 (5), 263–6.

Fahdhy, M.,&Chongsuvivatwong,V. (2005). Evaluation of World Health Organization partograph implementation by midwives for maternity home birth in Medan,Indonesia. **American Journal for Midwifery**, 21(4):301-310.

Flocco,W.(2007).The effect of Foot Reflexology on labour pain and outcome of labour.**International Journal of Nursing Studies**, 37(18), 493–503.

Ghafari, F (2006). The effect of Foot Reflexology on the intensity of Fatigue on pregnant Women in Primigravidae.**International Journal of Gynecology And Obstetrics**.79(7): 592-98.

Iris, P. (2006).The effect of Foot Reflexology on labour outcomes for pregnant mothers. **Complementary Therapeutic Clinical Practice**, 5(2), 67.

Jeyalakshmi, J. (2008). Determine the influence of semi sitting position during second stage of labour on feto – maternal parameters among primiparous women at Andhra

MahilaSabha, Chennai. **Unpublished Master of Nursing Thesis.**TheTamilnadu Dr. M.G.R. Medical University, Chennai.

Kevin, D., & Barbara, Y. (2007). Duration of the second stage of labour in multiparous women: maternal and neonatal outcomes, **The Complete Guide to Foot Reflexology**, 46(6), 196.

Leanne, et. al.(2012). Pain management in labour.**Cochrane Database of Systematic Reviews**, 7(12).

Levitt, (2005). The effect of Foot Reflexology on labour pain and severity. **Complementary therapy in Nursing and Midwifery**,3(5),132-134

Mackey, W. (2007).Foot Reflexology a manual therapeutic approach. **Complementary Therapeutic Clinical Practice**, 41(4), 263-276.

Mahajan, B.K. (2010). **Methods in Biostatistics**. (7th ed.). New Delhi: Jaypee Brothers Medical Publishers.

McNeill, et.al. (2006). A retrospective cohort study exploring the relationship between antenatal Foot Reflexology and intranatal outcomes. **Complementary Therapy Clinical Practice**,15 (3) 25.

Mirzaei,F.(2011). Effect of Foot Reflexology on duration of labour and severity of first-stage labour pain,**Danish Reflexologists Association Research Committee Report**, 14(7),88.

Motha, G.,& McGrath, J.(2004). The effect of Foot Reflexology on labour outcome. **Journal of Association of Reflexologists**, 8(**4)**:2-4.

Murray, E.S., & McKinney, S.S. (2006). **Foundations of Maternal – Newborn And Women's Health Nursing**,(5th ed.). Missouri: Saunders Elsevier**.**

Norman,et.al. (2008).The Effects of Foot Reflexology on Labour Outcome, **The Foot Reflexology Handbook. A Complete Guide**, pp. 22- 23.

Ohel, et.al. (2007).The Effect of Foot Reflexology on pain threshold during labour.**American journal of obstetrics and gynecology**, 18(7),14-24.

Oleson,T.(2008).The Effect of Foot Reflexology on Pain Intensity and Duration of Labour on Primiparas.**Journal of Association of Reflexologists**, 4(2),4.

Philpott, R., & Castle, W.M. (2007). Cervicographs in the management of labour in primigravidae. **International Journal Of Gynecology And Obstetrics,79**(7): 592-98.

Pilliteri, A. (2010). **Maternal And Child Health Nursing**. (6th ed.). Philadelphia. Lippincott Williams and Wilkins.

Polit, D. F., & Beck, C.T. (2010). **Nursing Research**. (8th ed.). Philadelphia. Lippincott Williams and Wilkins.

Prabhakara, G.N. (2006). **Biostatistics**(1st ed.). New Delhi: Jaypee Brothers Medical Publishers.

Ralph, et.al.(2007).Nonpharmacological approaches to management of labour pain. **Cochrane Review,** 15(8), 123-126.

Ricci, S.S & Kyle, T. (2009). **Maternity and Pediatric Nursing**. China. Lippincott Williams And Wilkins.

Samuel, C.&Ebenezer.A,(2008). The effects of Foot Reflexology on pain threshold and tolerance in primigravid mothers. **Complementary Therapies in Clinical Practice**, 12(2);119-125

Saraswathi, K. (2010). Effectiveness of Ice Massage over Energy meridian point upon first stage labour pain at Kancheepuram District Head Quarters Hospital. Kancheepuram. **Unpublished Master of Nursing Thesis.** The Tamilnadu Dr. M. G. R. Medical University, Chennai.

Sharma,S.(2010).The Effect of Foot Reflexology on the duration of first stage labour.**Arak Medical University Journal**,11(1).

Simkin,N. (2005).Comparison of the maternal experience and duration of labour in two upright delivery positions. **Cochrane Review**,3(10),88-90.

Smith,C.(2009).Manual healing methods including massage and Foot Reflexology for pain management in labour. **Cochrane Database of Systematic Reviews**,9(3)

Valiani,M.(2005).the effect of Foot Reflexology on pain intensity and duration of labour on primiparas. **International journal for alternative complementary medicine**,5(2),42–45.

Walker,N.(2007).Pain management during labour and birth outcome. C**omplementaryTherapies for Pregnancy and Childbirth,** 79(6),428-431

Wong,W., &Perry,S.E. (1998). **Maternal – Child Nursing Care** (1st ed.). Philadelphia. Mosby Publishers.

Yang, et.al. (2008). The Effect of Foot Reflexology on Pain Intensity and Duration of Labour on Primiparas. **Nursing Midwifery Journal**, 12**(**5),11.

Zhang, C. (2007).The application of Foot Reflexology in relieving labour pains. **China Foot Reflexology**,65(8);1-7.

APPENDIX I

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

Apollo College of Nursing

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/0255/12 ***14.06.12***

To

The Administrator,
St.Antony's Hospital
Madhavaram
Chennai.

Respected Madam,

Sub.: *To request permission for research study – Reg.*

Greetings! *As part of the curriculum requirement our 2nd year M. Sc. (N) student Ms. Anchana.C.K. has selected the following title for her research study.*

"An experimental study to assess the effectiveness of foot reflexology upon labour pain among primigravid women during first stage of labour at selected hospital, Chennai".

So I kindly request your goodselves to permit her to conduct study in your esteemed institution.

Thanking You,

Dr. LATHA VENKATESAN
PRINCIPAL

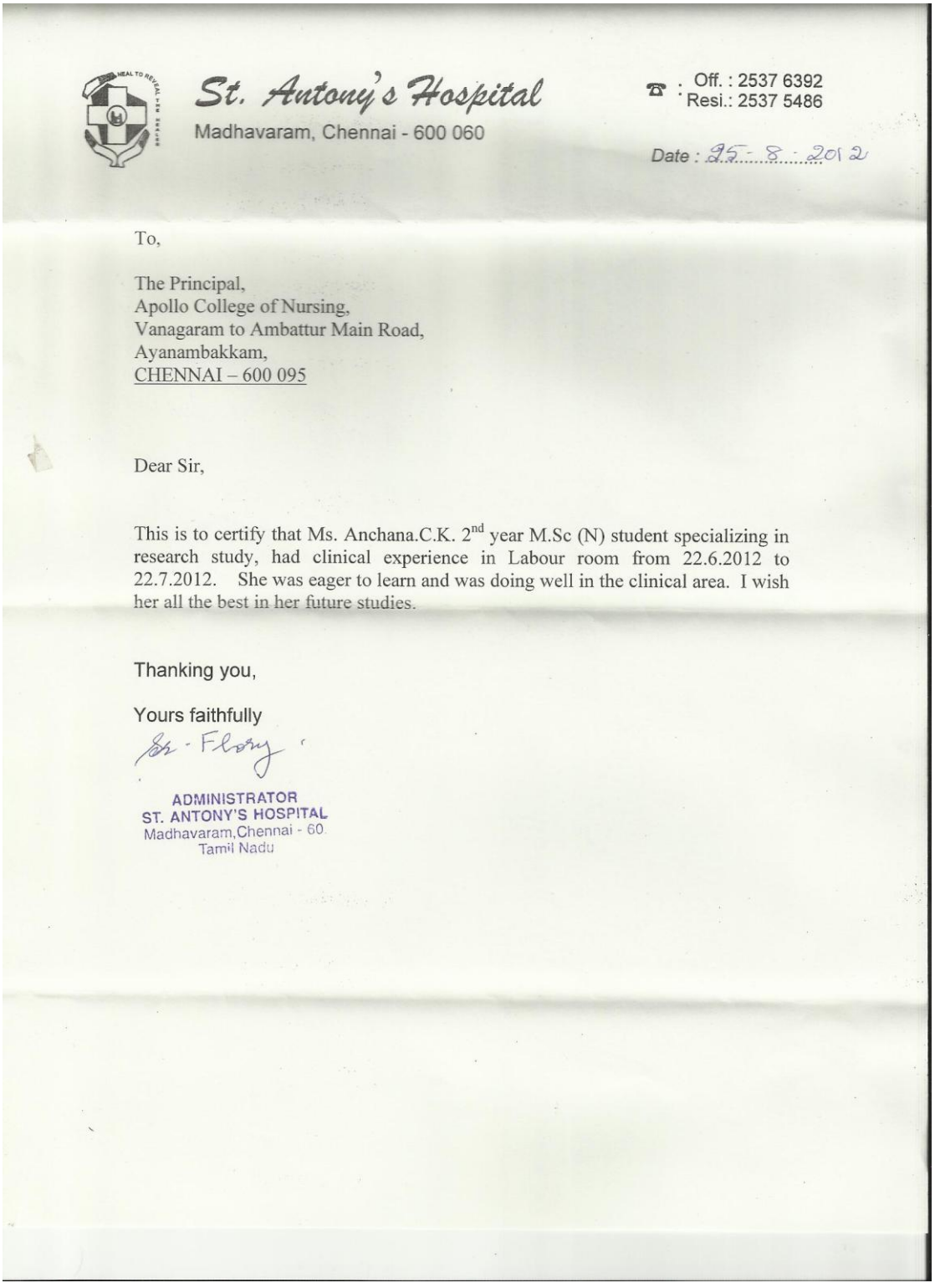
ADMINISTRATOR
ST. ANTONY'S HOSPITAL
Madhavaram,Chennai - 60.
Tamil Nadu

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX II

LETTER PERMITTING TO CONDUCT THE STUDY



St. Antony's Hospital
Madhavaram, Chennai - 600 060

Off. : 2537 6392
Resi.: 2537 5486

Date : 25-8-2012

To,

The Principal,
Apollo College of Nursing,
Vanagaram to Ambattur Main Road,
Ayanambakkam,
CHENNAI – 600 095

Dear Sir,

This is to certify that Ms. Anchana.C.K. 2nd year M.Sc (N) student specializing in research study, had clinical experience in Labour room from 22.6.2012 to 22.7.2012. She was eager to learn and was doing well in the clinical area. I wish her all the best in her future studies.

Thanking you,

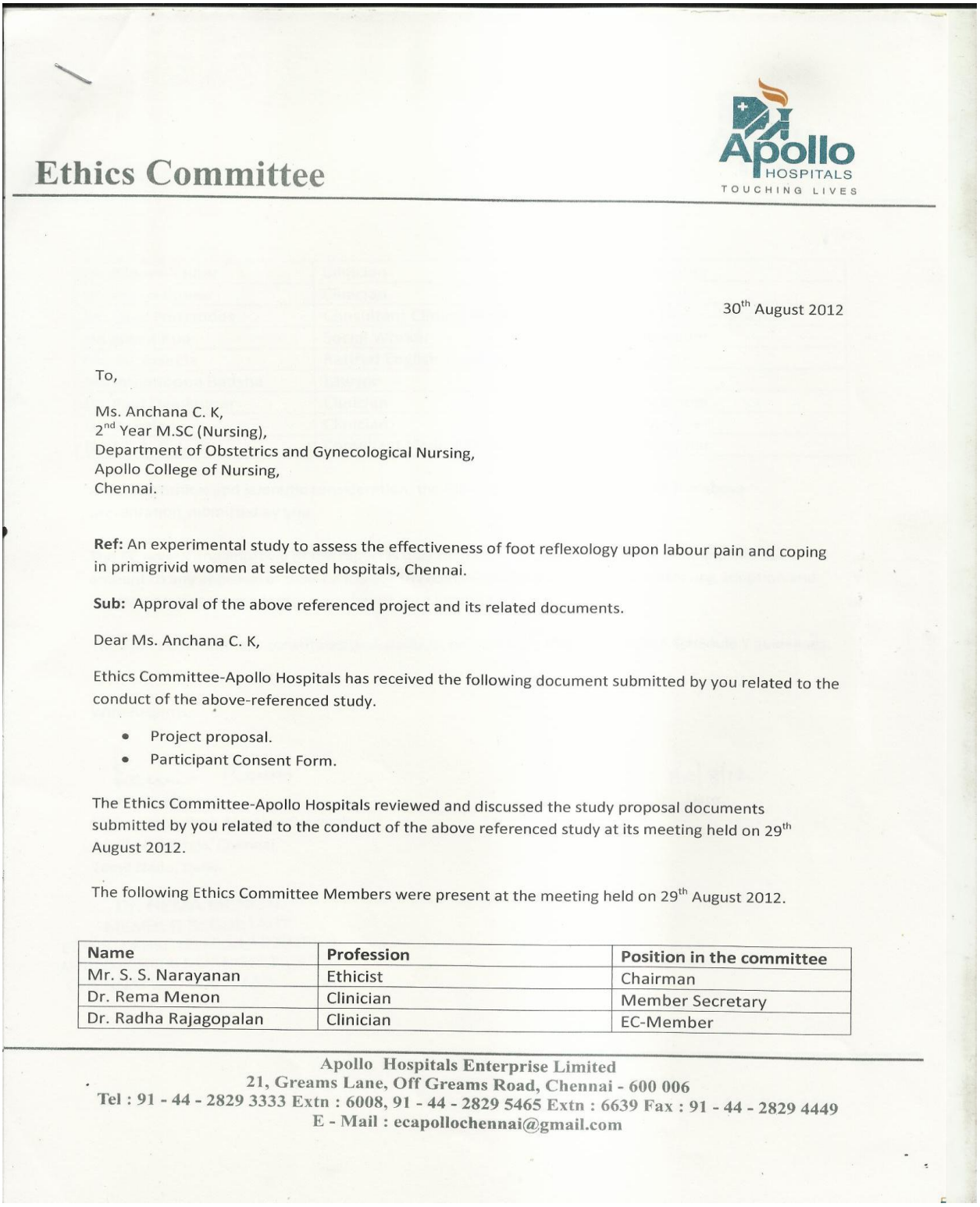
Yours faithfully

Sr. Flory

ADMINISTRATOR
ST. ANTONY'S HOSPITAL
Madhavaram,Chennai - 60
Tamil Nadu

APPENDIX III

ETHICAL COMMITTEE PERMISSION TO CONDUCT THE STUDY



Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

30th August 2012

To,

Ms. Anchana C. K,
2nd Year M.SC (Nursing),
Department of Obstetrics and Gynecological Nursing,
Apollo College of Nursing,
Chennai.

Ref: An experimental study to assess the effectiveness of foot reflexology upon labour pain and coping in primigrivid women at selected hospitals, Chennai.

Sub: Approval of the above referenced project and its related documents.

Dear Ms. Anchana C. K,

Ethics Committee-Apollo Hospitals has received the following document submitted by you related to the conduct of the above-referenced study.

- Project proposal.
- Participant Consent Form.

The Ethics Committee-Apollo Hospitals reviewed and discussed the study proposal documents submitted by you related to the conduct of the above referenced study at its meeting held on 29th August 2012.

The following Ethics Committee Members were present at the meeting held on 29th August 2012.

Name	Profession	Position in the committee
Mr. S. S. Narayanan	Ethicist	Chairman
Dr. Rema Menon	Clinician	Member Secretary
Dr. Radha Rajagopalan	Clinician	EC-Member

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

Ethics Committee

Dr. Krishnakumar	Clinician	EC-Member
Dr. Vijaya Kumar	Clinician	EC-Member
Dr. Clive Fernandes	Consultant Clinical Pharmacologist	Basic Medical Scientist
Dr. Nalini Roa	Social Worker	EC-Member
Ms. N. Suseela	Retired English Teacher	Layperson
Ms. Maimoona Badsha	Lawyer	Lawyer
Dr. Paul Dilipkumar	Clinician	EC-Member
Dr. V. Balaji	Clinician	EC-Member
Dr. M. A. Raja	Consultant Medical Oncologist	EC-Member

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you.

The EC review and approval of the report is only to meet their academic requirement and will not amount to any approval of their conclusions/recommendations as conclusive, deserving adoption and implementation, in any form, in any health care institution.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

With Regards,

Rema Menon

30/8/12
Date:

Dr. Rema Menon,
Ethics Committee-Member Secretary,
Apollo Hospitals, Chennai,
Tamil Nadu, India.

Dr. REMA MENON
MEMBER SECRETARY
ETHICS COMMITTEE, APOLLO HOSPITALS
APOLLO HOSPITALS ENTERPRISE LIMITED
CHENNAI-600 006, TAMILNADU

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

APPENDIX – IV

LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS FOR ESTABLISHING CONTENT VALIDITY OF RESEARCH

From

Ms. Anchana.C.K.

M.Sc., (Nursing) II Year,

Apollo College of Nursing,

Chennai-95.

To

Forwarded Through:

Dr. Latha Venkatesan,

Principal,

Apollo College of Nursing.

Sub: Request for opinions and suggestions of experts for content validity of Research tool.

Respected Sir/ Madam

Greetings! As a part of the Curriculum Requirement the following research title is selected for the study.

"An experimental study to assess the effectiveness of Foot Reflexology upon labour pain and coping during first stage of labour in primigravid women at Selected Hospitals, Chennai".

I will be highly privileged to have your valuable suggestions with regard to the establishment of Content Validity of Research tool. So, I request you to validate my Research tool and give suggestions about the tool.

Yours Sincerely,

(Ms. Anchana.C.K)

APPENDIX - V

LIST OF EXPERTS FOR CONTENT VALIDITY

1. **Dr. Latha Venkatesan, M.Sc (N)., M.Phil.(N)., Ph.D.(N).,**
   Principal and Professor,
   Apollo college of Nursing,
   Chennai-95.

2. **Prof. Lizy Sonia, A. M.Sc. (N).,Ph.D.(N)**
   Vice Principal & Professor in Nursing,
   HOD of Medical Surgical Nursing,
   Apollo College of Nursing,
   Chennai-95.

3. **Mrs. Vijayalekshmi, M.Sc. (N), Ph.D.(N)**
   Professor,
   Department of Mental Health Nursing,
   Apollo College of Nursing, Chennai.

4. **Mrs. Nesa sathya Sachi, M.Sc. (N).,**
   Reader,
   Department of Child Health Nursing,
   Apollo College of Nursing, Chennai.

5. **Mrs. Pappy Yuvarani, M.Sc.(N).,**
   Reader,
   Dept. Of obstetrics and Gynaecologycal nursing,
   Apollo College of Nursing, Chennai.

6. **Mrs.Saraswathy, M.Sc.(N).,**
   Lecturer,
   Dept. Of obstetrics and Gynaecologycal nursing,
   Apollo College of Nursing, Chennai.

7. **Ms.Kavitha, M.Sc.(N).,**
   Lecturer,
   Dept. Of obstetrics and Gynaecologycal nursing,
   Apollo College of Nursing, Chennai.

APPENDIX – VI

CONTENT VALIDITY CERTIFICATE

I hereby certify that I have validated the research tool and interventional programme of Ms.Anchana.C.K, M.Sc (Nursing) II year student who is undertaking research study on **"An experimental study to assess the effectiveness of Foot Reflexology upon labour pain and coping during first stage of labour in primi gravid women at Selected Hospitals, Chennai".**

Signature of Expert

Name and designation

APPENDIX VII

RESEARCH PARTICIPANT CONSENT FORM

Dear Participant,

I am Anchana.C.K., M.Sc. Nursing student of Apollo College of Nursing, Chennai. As a part of my study, I have selected a Research Project on " **An experimental study to assess the effectiveness of Foot Reflexology upon labour pain among primigravid women during first stage of labour in selected hospital Chennai."**

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your response. The information collected will be kept confidential and anonymity will be maintained.

Signature of the Researcher

I, ……, hereby give my consent to participate in the study.

Signature of the Participant

ஆராச்சியில் பங்கு பெறுபவருக்கான ஒப்புதல் படிவம்

அன்பார்ந்த தாய்மாரே!

என் பெயர் அஞ்சனா, நான் அப்போலோ செவிலியர் கல்லூரியில் முதுகலை செவிலியர் பயிற்சி பெறும் மாணவி, என்னுடைய பயிற்சியின் ஒரு பகுதியாக, பாதத்திற்கான ரி.ப்லெக்ஸ்சாலஜி செய்யும் ஆய்வை செய்கிறேன்.

இதனால் இந்த ஆராய்ச்சியில் நீங்கள் பங்கு பெற உங்களுடைய ஒப்புதல் மற்றும் ஒத்துழைப்பை வேண்டுகிறேன். தயவு செய்து உங்களுடைய பதில்கள் அனைத்தும் வெளிப்படையாகவும் மற்றும் உண்மையானதாகவும் இருக்க வேண்டும் உங்களுடைய பெயர் எங்கும் வெளியிடப்படமாட்டாது.

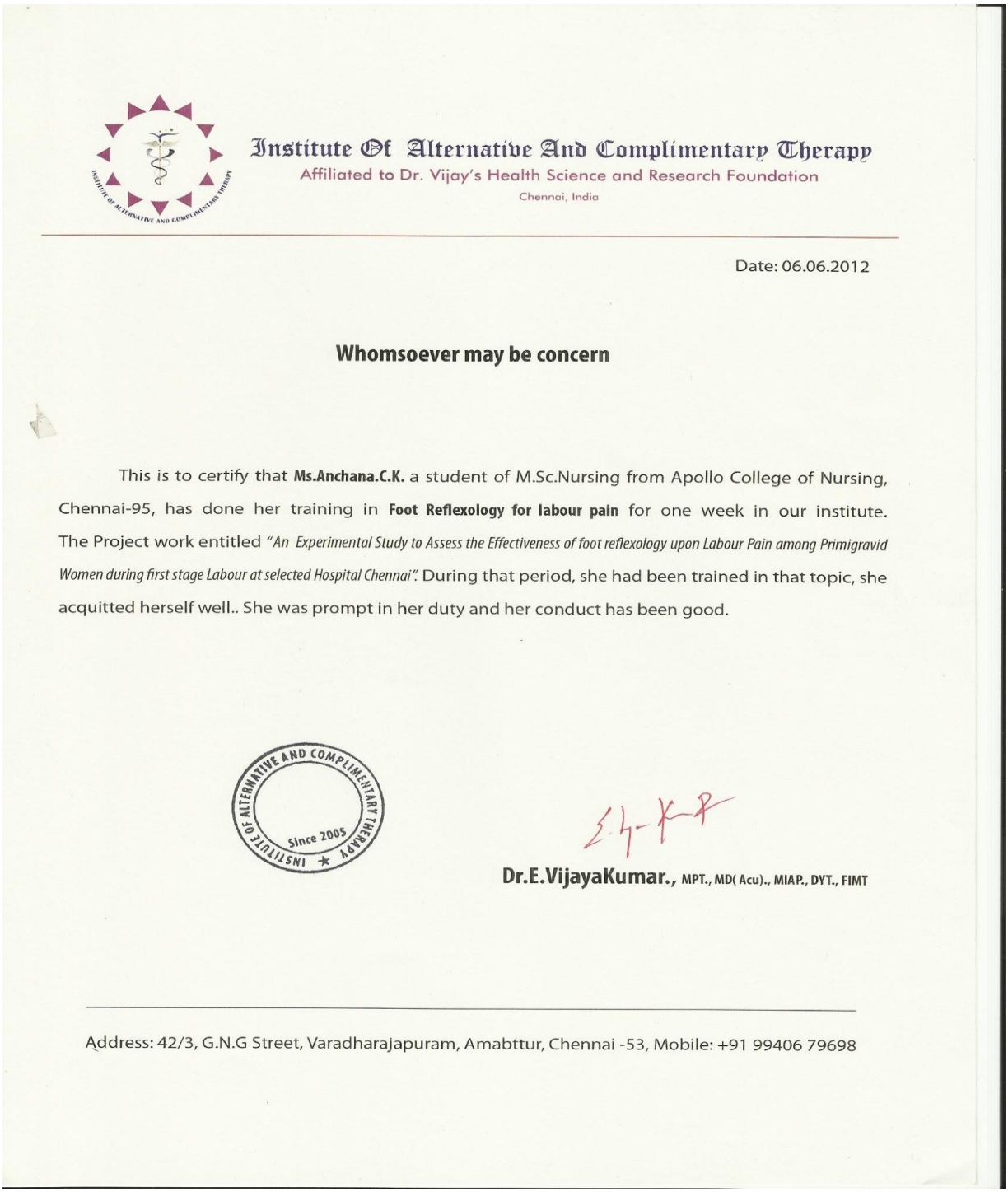
ஆராச்சியாளரின் கையொப்பம்

..... என்ற நான் இந்த ஆராய்ச்சியில் பங்கு பெற ஒப்புதல் அளிக்கிறேன்.

பங்கு பெறுவோரின் கையொப்பம்

APPENDIX VIII

CERTIFICATE FOR FOOT REFLEXOLOGY



Institute Of Alternative And Complimentary Therapy
Affiliated to Dr. Vijay's Health Science and Research Foundation
Chennai, India

Date: 06.06.2012

Whomsoever may be concern

This is to certify that **Ms.Anchana.C.K.** a student of M.Sc.Nursing from Apollo College of Nursing, Chennai-95, has done her training in **Foot Reflexology for labour pain** for one week in our institute. The Project work entitled *"An Experimental Study to Assess the Effectiveness of foot reflexology upon Labour Pain among Primigravid Women during first stage Labour at selected Hospital Chennai".* During that period, she had been trained in that topic, she acquitted herself well.. She was prompt in her duty and her conduct has been good.

INSTITUTE OF ALTERNATIVE AND COMPLIMENTARY THERAPY Since 2005

Dr.E.VijayaKumar., MPT., MD(Acu)., MIAP., DYT., FIMT

Address: 42/3, G.N.G Street, Varadharajapuram, Amabttur, Chennai -53, Mobile: +91 99406 79698

APPENDIX –IX

CERTIFICATE FOR ENGLISH EDITING

CERTIFICATE FOR ENGLISH EDITING

TO WHOM EVER IT MAY CONCERN

This is to certify that the dissertation **"An experimental study to assess the effectiveness of foot reflexology upon labour pain and coping during first stage of labour in primi gravid women at selected hospitals, Chennai"** by Ms. Anchana.C.K, II year M.Sc (N) Student, Apollo College of Nursing was edited for English language appropriateness.

Signature

INDULETHA. K.S. M.A., M.Phil.,

ASSOCIATE PROFESSOR

DEPARTMENT OF ENGLISH

APPENDIX –X

CERTIFICATE FOR TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool for demographic variable proforma, Obstetric variable proforma, Visual pain analogue scale, Pain coping scale and Rating scale on satisfaction of Foot Reflexology upon labour pain translated by Ms.Anchana.C.K. II year M.Sc (N) Student, Apollo College of Nursing for her dissertation **"An experimental study to assess the effectiveness of Foot Reflexology upon labour pain and coping during first stage of labour in primigravid women"**was edited for Tamil language appropriateness.

Signature

ச.ஸ்ரீபதிநாயுடு, M.A.B.Ed.
பட்டதாரி ஆசிரியர்,
அரசுஉயர்நிலைப்பள்ளி,
சிட்லபாக்கம், சென்னை - 64

APPENDIX – XI

DEMOGRAPHIC VARIABLE PROFORMA

Purpose

This proforma is used to measure the demographic variables of primigravid women such as age, educational status, occupation, monthly income, religion, type of family and area of residence.

Instructions:

The researcher will be collecting the information by interviewing primigravid women and place a (√) mark, as against appropriate responses.

Sample no: ☐

Hospital no: ☐

1. Age in years

1.1 ≤ 20 ☐

1.2 20-25 ☐

1.3 26-30 ☐

1.4 31-35 ☐

1.5 ≥ 35 ☐

2. Religion

2.1 Hindu ☐

2.2 Christian ☐

2.3 Muslim ☐

3. Educational status

3.1 Illiterate ☐

3.2 Primary education ☐

3.3 High school education ☐

3.4 Higher secondary education ☐

3.5 Graduate and above ☐

4. Occupation

4.1 Employed ☐

4.2 House wife ☐

5. Monthly income (in rupees)

5.1 $\leq$ 5000 ☐

5.2 5000 to 10000 ☐

5.3 10000 to 15000 ☐

5.4 15000 to 20000 ☐

5.5 $\geq$ 20,000 ☐

6. Type of family

6.1 Nuclear family ☐

6.2 Joint family ☐

7. Area of residence

7.1 Urban ☐

7.2 Semi urban ☐

7.3 Rural ☐

8. Previous information regarding pain relief and Foot Reflexology

8.1 Yes (if yes, specify) ☐

8.2 No ☐

சமூக மற்றும் குடும்ப விபரங்களை அறிய உதவும் மாதிரி படிவம்

நோக்கம்

இந்த படிவம் கருவுற்றிருக்கும் பெண்ணின் வயது, படிப்பு, மாத வருமானம், மதம், குடும்பவகை மற்றும் வசிப்பிடம் பற்றிய விபரங்களை அறிய உதவுகிறது.

குறிப்பு

கீழே கொடுக்கப்பட்டுள்ள தகவல்கள் கறுவுற்றிருக்கும் பெண்ணிடம் கேட்டறிந்து ஆராய்ச்சியாளரால் நிரப்படும்.

மாதரி எண்:

1. வயது (வருடங்களில்)

1.1 ≤ 20 ☐

1.2 20-25 ☐

1.3 26-30 ☐

1.4 31-35 ☐

1.5 ≥ 35 ☐

2. மதம்

2.1 இந்து ☐

2.2 கிறிஸ்துவம் ☐

2.3 இஸ்லாமியம் ☐

3. படிப்பு

3.1 படிக்காதவன் ☐

3.2 ஆரம்பநிலைக் கல்வி ☐

3.3 உயர்நிலைக் கல்வி ☐

3.4 மேல்நிலைக் கல்வி ☐

3.5 பட்டப்படிப்பு அல்லது அதற்கு மேல் ☐

4. வேலை

4.1 வேலை செய்பவர் ☐

4.2 குடும்பநிர்வாகி ☐

5. மாத வருமானம் (ரூபாயில்)

5.1 ₹ 5000 ☐

5.2 5000 முதல் 10000 வரை ☐

5.3 10000 லிருந்து 15000 வரை ☐

5.4 15000 முதல் 20000 வரை ☐

5.5 ₹ 20இ000 ☐

6. குடும்ப வகை

6.1 தனிகுடும்பம் ☐

6.2 கூட்டுக்குடும்பம் ☐

7. வசிக்கும் இடம்

7.1 நகர்புறம் ☐

7.2 கிராமபுறம் ☐

8.பாதத்திறகாண ரி.ஃ.ப்லெக்ஸ்சாலஜி சிகிச்சையை பற்றிய தகவல்களை முன்னரே அறிந்துள்ளீர்களா.

8.1 ஆம் (எனில் குறிப்பிடவும் **********) ☐

8.2 இல்லை ☐

APPENDIX – XII

OBSTETRIC VARIABLE PROFORMA

Purpose

This proforma is used to measure the obstetric variables such as marital status, age at marriage, type of marriage, age at menarche, menstrual cycle, gestational age in weeks, no. of antenatal visits attended till date, maternal complication during labour and fetal complication during labour.

Instructions

The researcher will be collecting the information by interviewing primigravid women and place a (√) mark, as against appropriate responses.

1. Marital status

1.1 Married ☐

1.2 Unmarried ☐

1.3 Divorced ☐

1.4 Widow ☐

2. Age at marriage

2.1 ≤ 20yrs ☐

2.2 20-25yrs ☐

2.3 26-30yrs ☐

2.4 ≥ 30yrs ☐

3. Type of marriage

3.1 Consanguineous ☐

3.2 Non consanguineous ☐

4. Age at menarche (in years)

4.1 ≤ 12 ☐

4.2 12-15 ☐

4.3 16-18 ☐

4.4 ≥19 ☐

5. Menstrual cycle

5.1 Regular ☐

5.2 Irregular ☐

6. Gestational weeks at delivery

6.1 37 to 40 ☐

6.2 40 to 42 ☐

7. No. of antenatal visits attended till date

7.1 No visits ☐

7.2 1-3 visits ☐

7.3 >3 visits ☐

8. Maternal complication during labour

8.1 Prolonged labour ☐

8.2 Intrapartum haemorrhage ☐

8.3 Maternal distress ☐

8.4 Absent ☐

9. Fetal complication during labour

9.1 Fetal distress ☐

9.2 Meconium aspiration ☐

9.3 Absent ☐

கர்ப்பகால

விவரங்களின் மாதிரி படிவம்

நோக்கம்

இந்த படிவம் திருமணநிலை, திருமணமானவயது, திருமணமான முறை, பூப்பெய்திய வயது, உதிரபோக்கின் சுழற்சி, கறுவுற்றிருக்கும் வாரங்கள், கருவுற்றிக்கும்போது மருத்துவ ஆலோசனை பெற்றிருக்கும் எண்ணிக்கை.

குறிப்புகள்

கீழே கொடுக்கபட்டுள்ள தகவல்கள் கறுவுற்றிருக்கும் பெண்ணிடம் கேட்டறிந்து, ஆராய்ச்சியாளரால் நிரப்பப்படும்.

1. **திருமணநிலை**

1.1 திருமணமானவர் ☐

1.2 திருமண மாகாதவர் ☐

1.3 மண முறிவு பெற்றவர் (விவாகரத்தானவர்) ☐

1.4 கணவணை இழந்தவர் ☐

2. திருமணமான வயது

2.1 ≤ 20 வயதுகள ☐

2.2 20-25 வயதுகள் ☐

2.3 26-30 வயதுகள் ☐

2.4 ≥ 30 வயதுகள் ☐

3. திருமண வகை

3.1 உறவினருக்குள் திருமணம் ☐

3.2 அவ்வாறு இல்லை ☐

4. பூப்பெய்திய வயது ∴ வருடங்களில்

4.1 ≤ 12 ☐

4.2 12-15 ☐

4.3 16-18 ☐

4.4 ≥ 19 ☐

5. உதிர போக்கிற்காண சுழற்சிமுறை

5.1 சிரானது ☐

5.2 சீரற்றது ☐

6. கறுவுற்றிருக்கும் வாரங்கள் (குழந்தை பிறக்கும் போது)

6.1 37 முதல் 40 வரை ☐

6.2 40 முதல் 42 வரை ☐

7. கறுவுற்றிருக்கும் போது மருத்துவர் அணுகிய எண்ணிக்கை ∴ இன்று வரை

7.1 இல்லை ☐

7.2 1-3 முறைகள் ☐

7.3 ≥ 3 முறைகள் ☐

8. பிரசவத்தின் போது தாய்க்கு ஏதேனும் ஏற்பட்டதா?

8.1 குழந்தை பிறப்பிற்கான நேரஅளவு அதிகப்பட்டது ☐

8.2 குழந்தை பிறக்கும் போது உதிரபோக்கு ☐

8.3 பிரசவத்தின் போது தாய்க்கு மூச்சுதிணறல் ஏற்பட்டது ☐

8.4 ஏதுவும் இல்லை ☐

9. பிரசவத்தின் போது சிசுவிற்கு ஏதேனும் சிக்கல்கள் ஏற்பட்டதா?

9.1 சிசுவிற்கு மூச்சுதிணறல் ஏற்பட்டது ☐

9.2 மெக்கோனியம் ஆஸ்பிரேஸன் நோய்க்குறி ☐

9.3 ஏதுவும் இல்லை ☐

APPENDIX – XIII

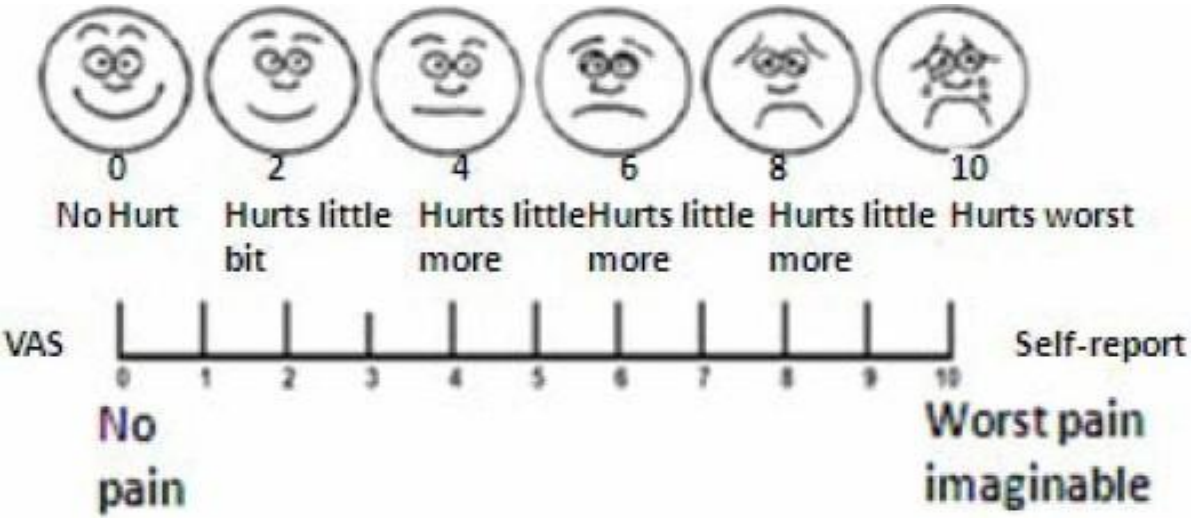
VISUAL PAIN ANALOGUE SCALE

Purpose:

Visual analogue scale is used to check the level of pain in primi gravid women during labour.

Instruction :

The researcher will ask the primigravid women to point out the position on the line between the faces to indicate how much pain they are currently feeling. The far left end indicates 'No pain' and the far right end indicates 'Worst pain ever'.



Cervical Dilatation	Time	Pain Score
4-5cm (before intervention)		
4-5cm (after intervention)		
6-7 cm		
8-10cm		

வலியின் அளவை நிர்ணயிக்கும் அளவுகோல்

நோக்கம்

இந்த அளவுகோல் பிரசவத்தின் போது தாய்க்கும் ஏற்படும் வலியின் அளவை நிர்ணயிக்க உதவுகிறது.

குறிப்புகள்

ஆராய்சியாளர் கிழே கொடுக்கப்பட்டுள்ள முகங்களில், எது பிரசவிக்கும் பெண்ணின் வலியின் அளவை ஒப்பிடுவதை போலுள்ளது. என்பதை காண்பிக்க கூறுவதன் மூலம் வலியின் அளவை கண்டறிய உதவுகிறது. இடதுபுறம் கடைசியில் உள்ள முகம் வலி இல்லை என்பதை குறிக்கிறது. வலது புறம் கடைசியில் உள்ள முகம் மிகவும்

வலிஇல்லை	**மிக சிறய அளவு வலி உள்ளது**	**மிகசிறிய அளவை சற்று கூடுதலாக வலி உள்ளது**	**அதை விட சற்று கூடுதலாக உள்ளது**	**மிக அதிக அளவு வலி உள்ளது**	**மிகவும் மோசமான அளவு உள்ளது**

சுய அறிக்கை

வலியை நிர்ணயிக்கும் அளவுகோல்

கர்பனை செய்ய இயலாத அளவு மோசமானவலி

APPENDIX – XIV

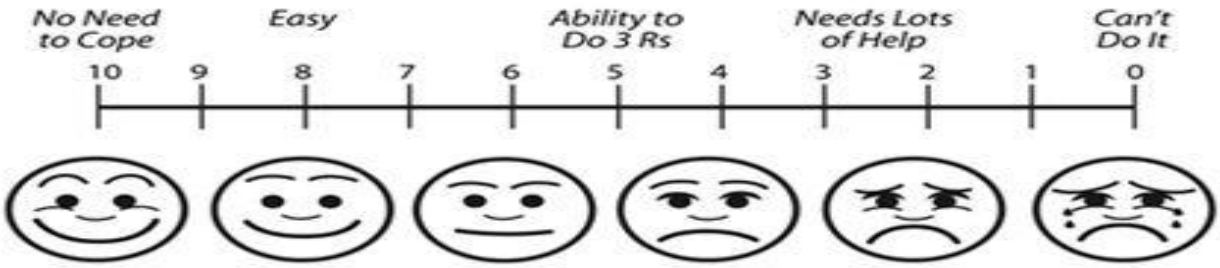
PAIN COPING SCALE

Purpose:

The scale will be used to measure the pain coping of primigravid women before and after Foot Reflexology as scored by the researcher.

Instruction:

Please indicate your level of coping ability during uterine contraction. This response will be kept confidential.



Scores	Level of Pain
0	Can´t do it
1-3	Needs of lot
4-6	Able to do 3 R´s
7-9	Easy
10	No need to cope

Assessment of pain coping	**Cervical dilatation**		
	4-5 cm	6-7cm	8-10cm
Before therapy			
After therapy			

3R's- Relaxation,Ritual,Rhythm

வலியின் திறணை கணக்கிடும் அளவுக்கோல்

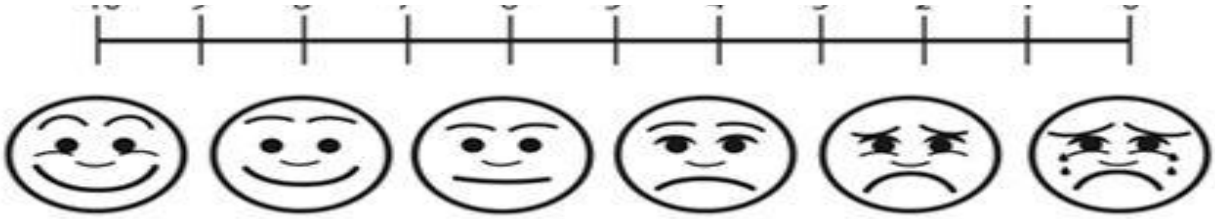
நோக்கம்:

இந்த அளவுகோல் கருவுற்றிருக்கும் பெண்ணின் வலியை தாங்கிக் கொள்ளும் திறனை, ரிப்ரெக்சாலஜி, சிகிச்சைக்கு முன்னும், பின்னும் எவ்வாறு உள்ளது என்பதை கண்டறிய உதவுகிறது.

குறிப்புகள்:

தயவுகூர்ந்து, உங்கள் கர்ப்பபை சுருங்கும்போது உண்டாகும் வலியை எந்த அளவிற்கு தாங்கிக் கொள்கிறீர்கள் என்பதை குறிப்பிடவும். உங்கள் பதில்கள் இரகசியமாக வைக்கப்படும்.

வலி தாங்கும் அவசியமில்லை **எளிதாக செய்ய முடியும்** **3 வதத்தில் செய்ய முடியும்** **உதவியுடன் செய்ய முடியும்** **செயலின்மை**



மதிப்பென்		**வலியின் அளவு**
0	-	செயலின்மை
1-3	-	உதவியுடன் செய்ய முடியும்
4-6	-	3விதத்தில் செய்ய முடியும்
7-9	-	எளிதாக செய்ய முடியும்
10	-	வலிதாங்கும் அவசியம் இல்லை

கர்ப்பப்பை வாய் நீட்டிப்பு	**2cm**	**4cm**	**6cm**
வலியின் அளவு சிகிச்சைக்கு முன்			
வலியின் அளவு சிகிச்சைக்கு பின்			

(3விதம்: தாளம், சடங்கு, இளைப்பாறுதல்)

APPENDIX – XV

MODIFIED WHO PARTOGRAPH

Purpose:

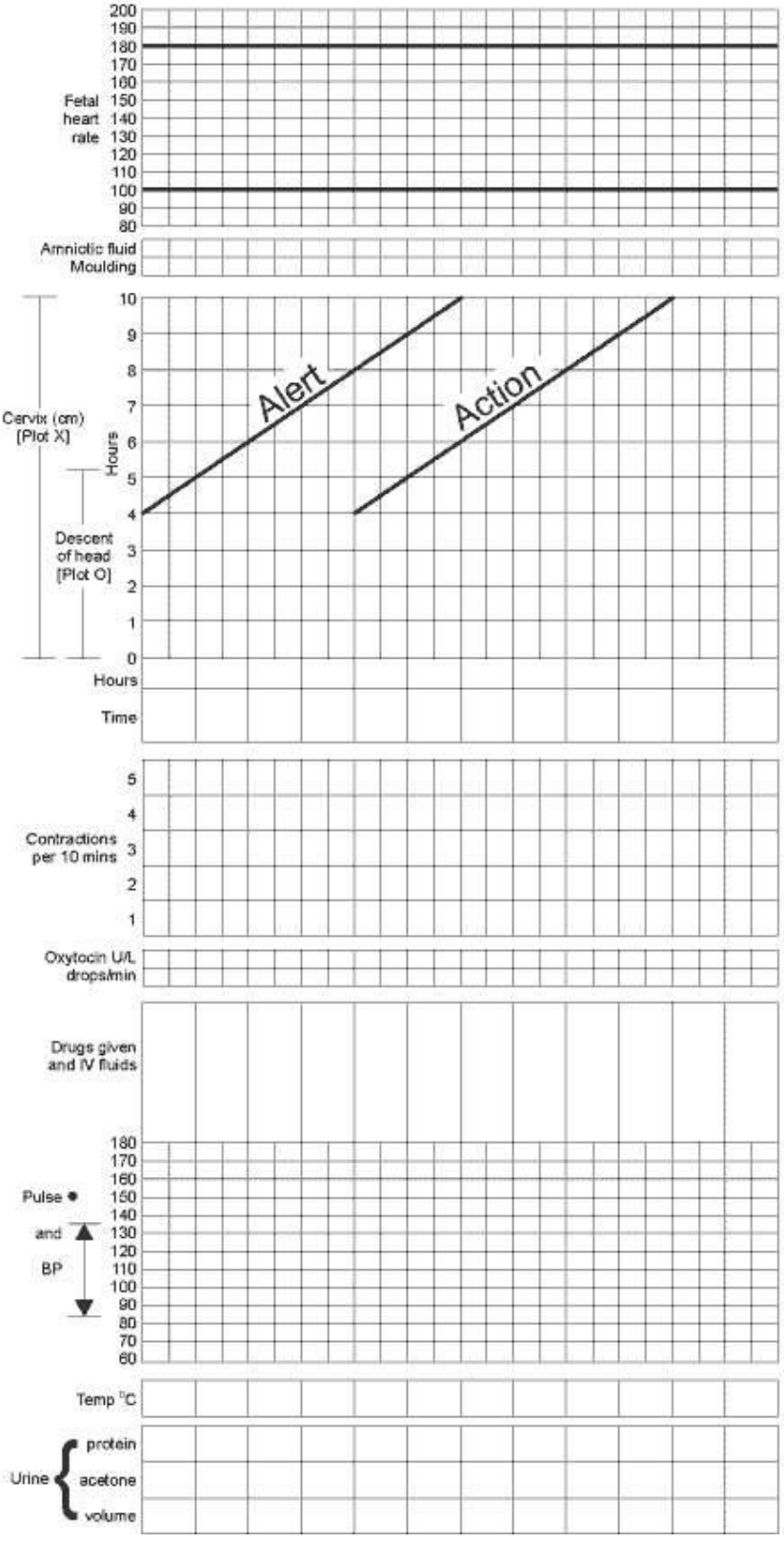
This partogram is used to record the information such as fetal heart rate, cervical dilatation, cervical effacement, contractions per 10 minutes, drugs given during first stage of labour, maternal pulse rate and blood pressure, maternal temperature, urine protein, acetone and urine volume.

Instruction:

The researcher monitors the maternal and fetal condition to record in this partogram

Name Gravida Para Hospital number

Date of admission Time of admission Ruptured membranes hours



BLUE PRINT ON

RATING SCALE ON SATISFACTION OF FOOT REFLEXOLOGY UP ON LABOUR PAIN

S. No	Dimensions	Items	Total items	Percentage (%)
1.	Researcher	1,2,3,4,10	5	35.71 %
2.	Foot reflexology	5,6,14	3	21.42%
3.	Effectiveness	7,8,9,11,12,13	6	42.87%
		Total		**100%**

APPENDIX – XVI

RATING SCALE ON THE LEVEL OF SATISFACTION FOOT REFLEXOLOGY UP ON LABOUR PAIN AND COPING

Purpose:

This rating scale is designed to assess the level of satisfaction of the participants regarding Foot Reflexology.

Instructions:

There are 14 items below. Kindly read the items. Response extends from highly satisfactory, moderately satisfactory, just satisfactory to unsatisfactory. Put a tick mark against your answers. Describe your responses freely and frankly. The responses will be kept confidential and used for research purpose only.

S.No	Items	Highly Satisfied	Moderately-Satisfied	Just satisfied	Unsatisfied
		(4)	(3)	(2)	(1)
1.	Are you satisfied with the explanation regarding Foot Reflexology?				
2.	Are you satisfied with the approach of the researcher?				
3.	Are you satisfied with the method of evaluation by the researcher?				
4.	Are you satisfied with the timing of giving Foot Reflexology?				
5.	Are you thinking Foot Reflexology is easy to use?				

6.	Are you satisfied with the duration of Foot Reflexology?				
7.	Are you satisfied that the Foot Reflexology causes no complication to mother?				
8.	Are you satisfied that the Foot Reflexology causes no complication to mother?				
9.	Are you satisfied that the Foot Reflexology Helps in diversion of mind from pain?				
10.	Are you thinking that Foot Reflexology is the best non-pharmacological method?				
11.	Are you thinking that Foot Reflexology is very useful?				
12.	Are you satisfied with the reduction of pain?				
13.	Are you satisfied as Foot Reflexology promotes relaxation?				
14.	Are you satisfied with the application of pressure?				

Score interpretation

Score	Percentage (%)	Interpretation
44-56	76-100	Highly Satisfied
29-43	51-75	Moderately Satisfied
14-28	26-50	Just satisfied
≤13	≤ 25	Unsatisfied

APPENDIX XVII

PERMISSION FOR USING VISUAL PAIN ANALOGUE SCALE AND PAIN COPING SCALE

anchana anchaa <anchana.anchaa@gmail.com>

Seeking permission to use visual pain analogue scale and pain coping scale
1 message

anchana anchaa <anchana.anchaa@gmail.com> Wed, May 30, 2012 at 11:25 AM

To: kmh@pregnancytoparenthood.org

FROM: ANCHANA.C.K (anchana.anchaa@gmail.com)

TO,
kmh@pregnancytoparenthood.org
subject- requesting permission

Respected Madam,

I am Ms.Anchana.C.K, a post graduate student at Apollo College of Nursing. I would like to do my research in obstetrics under the title of " An experimental study to assess the effectiveness of Foot Reflexology up on labour pain and coping in primi gravid women". For which I am in need of using Visual pain analogue and Pain coping scale.May I get permission to use the above mentioned scales.This will help me to proceed with my study and I will highly grateful to you.

Thanking You,

Your's Sincerely

Anchana.C.K

APPENDIX XVIII

MANUAL ON FOOT REFLEXOLOGY

Definition

Foot Reflexology is a technique where the energies of the body are regulated by manipulating points on the body. The pressure over the key healing points is provided using fingers, palms or elbows.

Benefits of Foot Reflexology

The general benefits include

- Release of muscular tension
- Promote circulation of blood
- Aids healing
- Relieves pain improves general health

The benefits in labour includes

- Reduces labour pain
- Induces labour
- Improves coping
- Promotes good contractions
- Promotes cervical dilatation
- Aids in progress of labour with reducing the duration of labour.

Methods of applying Foot Reflexology

- Strong pressure with finger or thumb.
- Wraps four of the fingers, apply strong pressure.

Contraindications

The Foot Reflexology should not be used in the following conditions

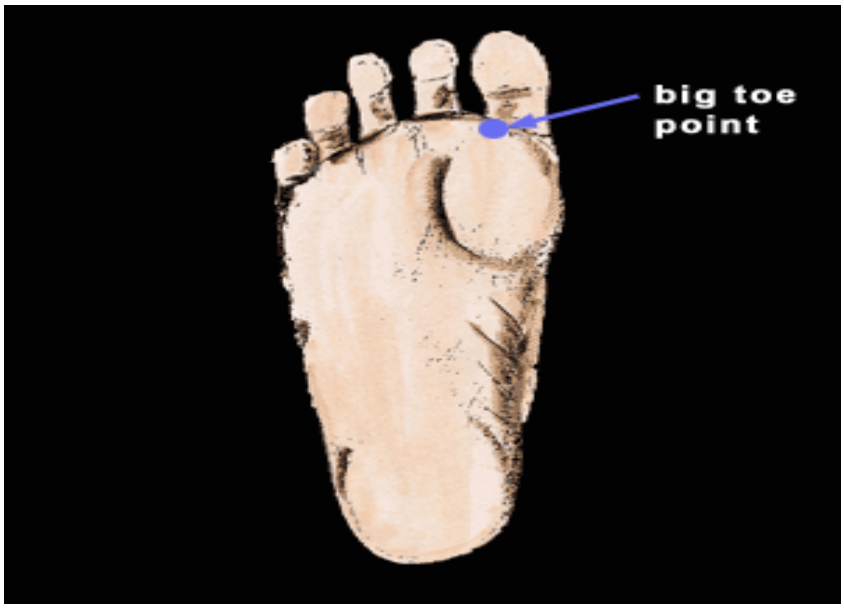
- Burns and infections
- Scars and injuries
- cuts, wounds, scars, bruises and directly on veins

Mechanism of action

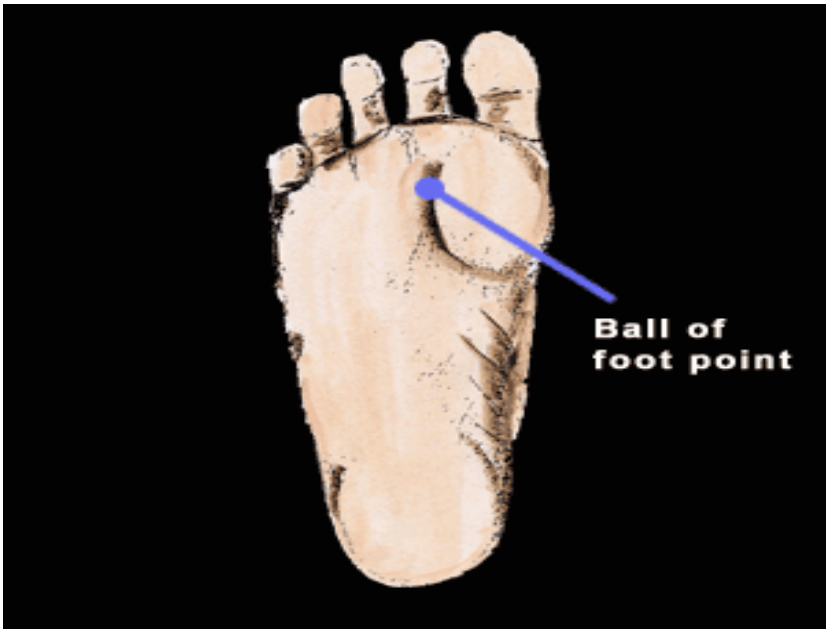
The Foot Reflexology stimulates the peripheral nervous system and energy channels thus leading to the release of natural endorphins in the body resulting in decreased pain perception. By decreasing the blocks in the energy points, the impulse from the brain reaches the cervix leading to progress in the cervical dilatation.

Points used in the foot to provide Foot Reflexology

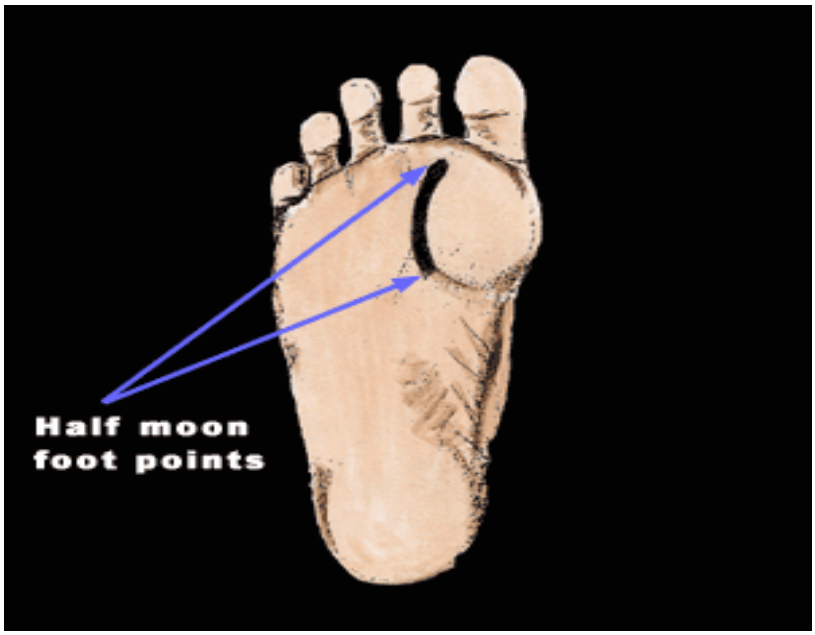
Three areas lies the under surface of the foot as follows:



A point that lies between the fleshy pads under the big toe and next toe.



A point that lies just below the centre of the ball of the foot.



A set of half moon shaped points that lie from where the toes join the foot to the farthest end of the ball of the foot.

APPENDIX – XIX

PLAGIARISM ORIGINALITY REPORT

	Plagiarism Detector - Originality Report
	Plagiarism Detector Project: [http://plagiarism-detector.com] Application core verrsion: 557

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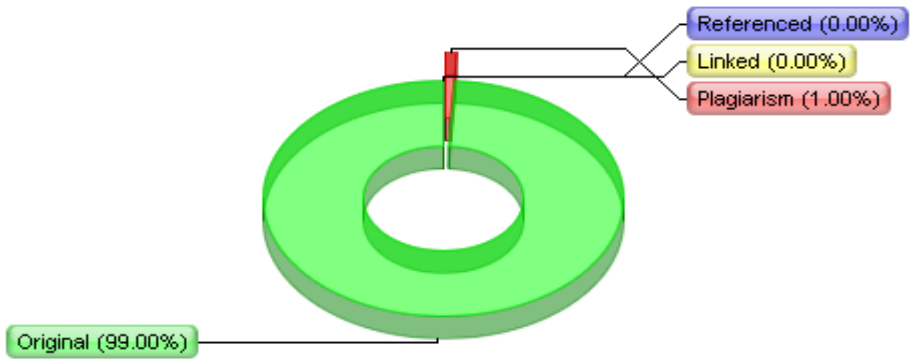
Plagiarism Detection Chart:



<=""">

Referenced 0% / Linked 0%

Original - 99% / 1% - Plagiarism

APPENDIX – XX

DATA CODE SHEET

CG: Control group
EG: Experimental group

AGE: Age in years
1.1 ≤ 20
1.2 20-25
1.3 26-30
1.4 31-35
1.5 ≥ 35

REL: Religion
2.1 Hindu
2.2 Christian
2.3 Muslim

EDN: Educational qualification
2.1 Illiterate
3.2 Primary education
3.3 Secondary education
3.4 Higher secondary
3.5 Graduate and above

OCC: Occupation
4.1 Employed
4.2 House wife

MI: Monthly income
5.1 ≤ 5000
5.2 5000-10000
5.3 10000-15000
5.4 15000-20000
5.5 ≥ 20000

TOF: Type of family
6.1 Nuclear
6.2 Joint

AR: Area of residence
7.1 Rural
7.2 Semi-rural
7.3 Urban

PI-Previous information regarding pain relief and Foot Reflexology
8.1 Yes (if yes, specify)
8.2 No

MS-Marital status
1.1 Married
1.2 Unmarried
1.3 Divorced
1.4 Widow

AM- Age at marriage
2.1 ≤20yrs
2.2 20-25yrs
2.3 26-30yrs
2.4≥30yrs

TOM-Type of marriage
3.1 Consanguineous
3.2 Non consanguineous

AAT-Age at menarche (in years)
4.1 ≤ 12
4.2 12-15
4.3 16-18
4.4 ≥19

MC-Menstrul cycle
5.1 Regular
5.2 Irregular

GWD-Gestational weeks at delivery
6.1 37 to 40
6.2 40 to 42

AV-No. of antenatal visits attended till date
7.1 No visits
7.2 1-3 visits
7.3 ≥3 visits

MAC-Maternal complication during labour
8.1 Prolonged labour
8.2 Intrapartum hemorrhage
8.3 Maternal distress
8.4 Absent

FC-Fetal complication during labour
9.1 Fetal distress
9.2 Meconium aspiration
9.3 Absent

LOS- Level of satisfaction
BT-Before therapy
AT-After therapy

APPENDIX - XXI
MASTER CODE SHEET-CONTROL GROUP

	DEMOGRAPHIC VARIABLES								OBSTETRICAL VARIABLES									PAIN		COPING		FETO MATERNAL PARAMETERS									
	AGE	REL	EDN	OCC	MI	TOF	AOR	PI	MS	AM	TM	AAM	MC	GWD	AV	MAC	FC	BT	AT	BT	AT	CD		UC		SBP		DBP		FHR	
CG																						BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
1	1.1	2.1	3.4	4.2	5.4	6.1	7.1	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	6	6	6	4	4	6	2	3.6	120	120	80	80	150	148
2	1.1	2.3	3.4	4.2	5.3	6.1	7.1	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	6	3	4	6	2	4	120	113	80	77	148	147
3	1.1	2.3	3.4	4.2	5.2	6.2	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	6	7	3	1	4	6	2	4	120	120	80	80	152	151
4	1.1	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	7	2	2	4	6	2	4	120	113	80	70	146	145
5	1.1	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	2	4	6	2	4	120	120	80	73	156	153
6	1.1	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	2	4	6	3	4	120	120	80	73	140	142
7	1.1	2.2	3.4	4.2	5.3	6.2	7.1	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.3	8.4	9.3	4	6	4	2	4	6	3	4	120	120	80	80	148	146
8	1.1	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	2	4	6	3	4	120	120	80	76	156	155
9	1.1	2.2	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	2	4	6	3	4	120	116	80	73	156	154
10	1.1	2.1	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	3	4	6	3	4	120	120	80	73	148	147
11	1.1	2.3	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	1	4	6	3	4	120	120	70	76	150	151
12	1.2	2.1	3.3	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	1	4	6	3	4	120	120	70	73	148	146
13	1.1	2.3	3.5	4.2	5.5	6.2	7.1	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	1	4	6	3	4	120	120	70	76	146	146
14	1.1	2.3	3.5	4.2	5.5	6.2	7.1	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	1	4	6	3	4	120	120	70	80	150	148
15	1.1	2.1	3.4	4.2	5.2	6.1	7.2	82	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	1	4	6	3	4	120	120	80	76	148	147
16	1.1	2.2	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	1	4	6	3	4	120	120	80	80	146	146
17	1.1	2.1	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	3	4	6	2	4	120	120	80	76	152	151
18	1.1	2.1	3.4	4.2	5.2	6.1	7.3	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	5	3	4	6	2	4	120	113	80	76	140	141
19	1.2	2.3	3.3	4.2	5.2	6.2	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.3	8.4	9.3	4	6	4	1	4	6	2	4	120	120	70	70	148	147
20	1.2	2.2	3.5	4.2	5.3	6.2	7.2	8.2	1.1	2.3	3.3	4.2	5.1	6.1	7.3	8.4	9.3	4	6	4	3	4	6	2	4	120	120	80	80	148	146
21	1.1	2.1	3.3	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.3	8.4	9.3	6	7	4	2	4	6	2	4	120	120	70	76	150	148
22	1.1	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.3	8.4	9.3	4	6	6	3	4	6	2	4	120	120	80	80	148	149
23	1.2	2.2	3.5	4.2	5.4	6.1	7.1	8.2	1.1	2.3	3.3	4.2	5.1	6.1	7.3	8.4	9.3	4	6	4	1	4	6	2	4	120	120	80	76	146	146
24	1.1	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	6	7	4	2	4	6	2	4	120	120	80	80	142	141
25	1.2	2.1	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.3	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	3	4	6	2	4	120	120	70	76	148	147
26	1.2	2.1	3.5	4.1	5.4	6.1	7.2	8.2	1.1	2.3	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	2	4	6	3	4	120	120	80	76	152	151
27	1.2	2.1	3.3	4.2	5.1	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	2	4	3	1	4	6	3	4	120	120	80	80	140	144
28	1.1	2.1	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	4	2	4	6	3	4	120	120	80	70	148	148
29	1.1	2.1	3.3	4.2	5.2	6.1	7.3	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.3	8.4	9.3	4	6	4	1	4	6	3	4	120	120	70	76	150	150
30	1.1	2.2	3.3	4.2	5.3	6.2	7.1	8.2	1.1	2.2	3.3	4.2	5.1	6.1	7.2	8.4	9.3	4	6	6	3	4	6	3	4	120	120	80	80	150	148

EXPERIMENTAL GROUP

	DEMOGRAPHIC VARIABLES								OBSTETRIC VARIABLES									PAIN		COPING		FETO MATERNAL PARAMETERS										
																						CD		UC		SBP		DBP		FHR		
EG	AGE	REL	EDN	OCC	MI	TOF	AOR	PI	MS	AM	TOM	AAM	MC	GWD	AV	MAC	FC	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT	LOS
1	1.2	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	5	4	4	6	3	4	120	120	80	80	152	151	54
2	1.2	2.1	3.3	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.3	8.4	9.3	4	5	7	6	4	6	3	4	120	120	80	80	148	150	51
3	1.2	2.1	3.4	4.2	5.3	6.2	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	70	73	140	141	52
4	1.2	2.1	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	5	4	4	6	3	4	120	110	70	70	146	146	51
5	1.2	2.3	3.3	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	5	4	4	6	3	4	120	120	80	70	156	156	53
6	1.2	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	76	152	152	42
7	1.2	2.1	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	70	76	148	150	53
8	1.2	2.1	3.4	4.2	5.3	6.2	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.3	8.4	9.3	4	5	4	3	4	6	3	4	110	110	70	70	154	153	53
9	1.2	2.1	3.4	4.2	5.3	6.2	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	2	3	5	4	4	6	3	4	120	120	80	80	148	146	53
10	1.2	2.2	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	76	150	152	42
11	1.2	2.1	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.3	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	76	148	148	42
12	1.3	2.1	3.2	4.2	5.1	6.1	7.3	8.2	1.1	2.3	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	80	156	157	53
13	1.2	2.2	3.4	4.2	5.2	6.2	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	5	4	4	6	3	4	120	120	80	76	158	156	52
14	1.2	2.1	3.4	4.2	5.2	6.1	7.3	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	70	142	143	51
15	1.2	2.1	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	110	110	80	73	140	142	53
16	1.3	2.2	3.5	4.2	5.4	6.2	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	80	154	156	53
17	1.2	2.1	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.3	8.4	9.3	4	5	4	3	4	6	3	4	120	120	70	73	152	151	49
18	1.3	2.2	3.5	4.2	5.4	6.1	7.1	8.2	1.1	2.3	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	110	110	80	80	148	147	53
19	1.2	2.1	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.3	8.4	9.3	4	5	4	3	4	6	3	4	120	120	70	73	152	155	47
20	1.2	2.2	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	80	148	147	47
21	1.2	2.2	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	70	76	150	151	47
22	1.2	2.1	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	110	110	80	76	148	146	45
23	1.2	2.1	3.3	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.3	8.4	9.3	4	5	4	3	4	6	3	4	110	110	70	76	156	156	53
24	1.3	2.2	3.5	4.2	5.4	6.1	7.2	8.2	1.1	2.3	3.2	4.2	5.1	6.1	7.3	8.4	9.3	4	5	5	4	4	6	3	4	120	120	80	70	146	148	50
25	1.2	2.3	3.4	4.2	5.3	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	70	156	155	51
26	1.2	2.1	3.4	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	120	80	80	148	147	53
27	1.2	2.1	3.3	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	110	120	70	70	150	150	53
28	1.2	2.2	3.3	4.2	5.2	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	2	3	3	2	4	6	3	4	120	113	80	76	148	148	53
29	1.2	2.1	3.2	4.2	5.1	6.1	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	2	3	4	3	4	6	3	4	120	120	80	76	148	147	53
30	1.2	2.3	3.5	4.2	5.4	6.2	7.2	8.2	1.1	2.2	3.2	4.2	5.1	6.1	7.2	8.4	9.3	4	5	4	3	4	6	3	4	120	113	80	73	156	155	47

APPENDIX XXII

PHOTOGRAPHS DURING FOOT REFLEXOLOGY