EFFECTIVENESS OF REFLEXOLOGY ON PROGRESS OF FIRST STAGE OF LABOUR AMONG PRIMIPARTURIENTS AT SELECTED HOSPITAL, SALEM

By

Ms. ROSELIN DEVAMANI.F

Reg. No: 30109424

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CERTIFICATE

Certified that this is the bonafide work of **Ms. ROSELIN DEVAMANI. F,** final year M.Sc. (Nursing) student of Sri Gokulam College of Nursing, Salem, submitted in partial fulfilment of the requirement for the Degree of Master of Science in Nursing to The Tamilnadu Dr. M.G.R. Medical University, Chennai, under the Registration No. **30109424.**

College Seal:

Signature: **…….**

Prof. Dr. A. JAYASUDHA, Ph.D. (N).,

PRINCIPAL,

SRI GOKULAM COLLEGE OF NURSING,

3/836, PERIYAKALAM,

NEIKKARAPATTI,

SALEM - 636 010.

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Approved by the Dissertation Committee on: 21.12.2011

Signature of the Clinical Speciality Guide:……..……..……

Mrs. K.AMUDHA, M.Sc. (N).,

Associate Professor,

Department of Obstetrics and Gynaecology,

Sri Gokulam College of Nursing,

Salem - 636 010.

Signature of the Medical Expert: **…….**

Dr.P.CHELLAMMAL, M.D., D.G.O.,

Consultant, Obstetrician and Gynaecologist,

Sri Gokulam Hospital,

Salem - 636 004.

…… **……...**

Signature of the Internal Examiner with date

Signature of the External Examiner with date

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- Pslams 30:12

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ABSTRACT

"A Study was conducted to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".

Quasi experimental time series design was adopted. Non probability convenience sampling technique was used to select 60 primiparturients among which 30 were assigned to experimental group and 30 were assigned to control group. The data was collected using structured interview schedule, Numerical Pain Intensity Scale and observational checklist. Pre test was done for both experimental and control group. Reflexology was given for the experimental group for 15 minutes in every 45 minutes and withheld for control group. Post test was done for both experimental and control group after the intervention. The findings showed that in experimental group 13(43.33%) belong to the age group of 21-25 years, 12(40%) were illiterate, 20(66.66%) were unemployed, 18(60%) were residing in rural area, 21(70%) have the monthly family income ranging from Rs.2000-5000, 17(56.66%) were in joint family, 11(46.66%) had 1-3 antenatal visits and 9(30%) were in 37 weeks of gestation. In control group 14(46.66%) belong to the age group of 21-25 years, 10(33.33%) were illiterate, 23(76.66%) were unemployed, 21(70%) were residing in rural area, 19(63.33%) have the monthly family income of Rs.2000 – 5000, 16(53.33%) were in joint family, 11(36.66%) had no antenatal visits, 11(36.66%) had 1 – 3 antenatal visits and 11(36.66%) were in 39 weeks of gestation. Mean difference on level of pain were, in experimental group 1.43, 2.04, 1.70, 1.90 and in control group 0.70, 0.80, 0.74, 0.80. Mean difference on duration of first stage of labour was 129.50. 't' value on level of pain in experimental group before and after reflexology were 13.20, 15.50, 17.40, 19.00 at $P<0.05$ level. Hence H_1 was retained. The post test 't' value on progress of first stage of labour were 8.073, 12.349 at $P<0.05$ level. Hence H_2 was retained. The chi-square value revealed that significant association was found between the progress of first stage of labour with their selected demographic variables. Hence H_3 is retained for age in years (χ^2 = 9.76), educational status (χ^2=9.77), monthly family income (χ^2 = 10.19), type of family (χ^2 = 4.98) and number of antenatal visits (χ^2=7.70) in experimental group, educational status (χ^2 = 10.39), occupation (χ^2=6.67), monthly family income (χ^2 = 8.91) and type of family (χ^2 = 4.69) in control group at $P<0.05$ level. The complementary therapy is the best ancient form of healing therapy. Reflexology is one of the complementary therapy which the researcher has used to promote the progress of first stage of labour.

CHAPTER – I

INTRODUCTION

"God's interest in the human race is nowhere better evinced than in obstetrics "

- Martin.H.Fisher

A mother joy begins when new life is stirring inside. When a tiny heartbeat is heard for the very first time, and a playful kick reminds her that she is never alone. Pregnancy is the privilege of experiencing God's miracles on earth. No where is this more apparent than in the experience of a pregnancy.

Labour is the period during which the mother's physical, mental and social process alter. Mother will be occupied with full of pressure, tension, stress and mainly of labour pain during the labour process. Mother feels comfortable when there is reduced pain and stress, which makes the mother to deliver the baby happily.

The management of labour pain is a major goal of nursing care. There are two general approaches pharmacological and non-pharmacological. Pharmacological approaches are directed in eliminating the physical sensation of pain, whereas the nonpharmacological approaches are largely directed towards the prevention of suffering.

The non-pharmacological approach to pain management includes a wide variety of techniques that address not only the physical sensation of pain, but also attempt to prevent suffering by enhancing the psychoemotional and spiritual components of care reassurance, guidance, encouragement and unconditional acceptance of coping style.

There are various complementary therapies which are available to induce the labour process and reduce pain during child birth. One of the best ancient form of healing therapy is the reflexology.

The human body has tremendous energy to heal itself. This healing energy surges through the body in specific pathways and could be tapped at different points which are called reflex points.

Reflexology is the technique of massage which has a definite effect on the internal organ. When pressure is applied on the reflex points the functioning of the corresponding internal organs could be rectified and regulated. Reduction of pain in response to reflexology is documented in thirty six studies including individuals of all ages and health status.

According to the National Centre for Complimentary and Alternative Medicine (NCCAM), maternity reflexology was effective in inducing labour, to reduce pain and to treat other common ailments during various stages of labour. A survey of 170 reflexology studies from 21 countries shows that reflexology was effective in reducing the labour pain.

Reflexology eases pregnancy, delivery and post-partum effects. Women who received reflexology has experienced short duration of labour and used less analgesia. Reflexology was also used as an alternative to labour- stimulating drugs. Reflexology is found to be safe during pregnancy in terms of helping the mothers to go all the way to term and beyond, with a reduction of common symptoms of pregnancy.

Need for the Study

Complementary and alternative medicine is a field encompasses a vast number of practices and system of health care. Complementary therapy helps to restore the body's natural equilibrium and balance and cope with the stress and strains of life.

Reflexology is one of the simple complementary therapy which includes applied pressure and stretching movement. The midwives are able to find the deposits and blockage and break up patterns of stress, restoring balance and relieving tension.

Reflexology also improves the mother's circulation thereby maintaining good health and well being.

In the research conducted by **Barbara and Kevin Kunz**, reflexology given to women during labour showed a 90% effective rate as a pain killer during delivery. Another study showed an effective analgesia rate of 94.4%.

Gobriella Bering Liisberg, conducted a study at Gentofte County Hospital (Great Britain), 103 women who gave birth chose reflexology as an alternative therapy to reduce pain and to stimulate labour. Out of which 89.71% stated that reflexology had helped them to reduce pain.

Dr. Gowri Motha and Dr. Jane McGrath, Forest Gate, London, conducted a study on free reflexology for 64 pregnant women. The researcher concluded that the average first stage was 5 hrs, second stage 16 minutes and third stage 7 minutes and total duration of labour is 5 hrs 23 minutes.

The comfort of the mother during labour process is the main focus of the midwives. First stage of labour is the long phase in the labour process during which the mother experiences more pain and discomfort. So, the midwives has to provide some measures to induce labour and to reduce pain.

Since, there is an excessive benefit of reflexology on the labour process, the researcher felt that there is a need to conduct a study on effectiveness of reflexology on progress of first stage of labour.

Statement of the Problem

"A Study to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".

Objectives

1. To assess the progress of first stage of labour among primiparturients in experimental and control group.
2. To evaluate the effectiveness of reflexology on progress of first stage of labour among primiparturients in experimental group.
3. To find out the association between the progress of first stage of labour with their selected demographic variables among primiparturients in experimental and control group.

Operational Definitions

Evaluate:

It refers to the statistical measurement of progress of first stage of labour among primiparturients in experimental group after reflexology.

Effectiveness:

It refers to the significant reduction on progress of first stage of labour in response to reflexology as determined by the differences between pretest and posttest scores.

Reflexology:

It is the technique of massage applied on the pressure point in the foot for the primiparturients during the first stage of labour. It helps in releasing oxytocin from the pituitary gland and blocks the transmission of pain impulses to the CNS, thereby reduces the duration and level of pain during first stage of labour.

Progress of first stage of labour:

Progress refers to the reduction in the duration and level of pain during first stage of labour which starts from 4cms dilatation of cervix and ends with full dilatation of cervix (10cm).

First stage of labour:

It refers to the active and transitional phase of labour which starts from 4cm dilatation and ends with 10cm dilatation of cervix.

Primiparturients :

Women who are in labour for first time.

Labour pain:

It is a painful uterine contractions at regular intervals with increasing intensity and duration during first stage of labour, which is measured by Numerical Pain Intensity Scale.

Assumption

1. Reflexology will have significant effect on the duration and level of pain during first stage of labour.
2. Reflexology will have a significant effect on the progress of labour.

Hypotheses

H_1: There will be a significant difference on level of pain during first stage of labour among primiparturients in experimental group before and after reflexology at $p<0.05$ level.

H_2: There will be a significant difference in the post-test score on progress of first stage of labour among primiparturients in experimental and control group at $p<0.05$ level.

H_3: There will be a significant association on progress of first stage of labour among primiparturients in experimental and control group with their selected demographic variables at $p<0.05$ level.

Delimitations

1. Data collection period is limited for a period of 4 weeks.
2. Study is limited only to primiparturients.
3. Women who are at term.
4. Women who are in the active and transitional phase of first stage of labour.

Projected Outcome

The study was conducted to evaluate the effectiveness of reflexology on progress of first stage of labour among primiparturients. Non-pharmacological approaches incorporating traditional method of massaging with appropriate technique will help in reducing the level of pain and duration of first stage of labour.

Conceptual Framework

A conceptual framework is constructed with concepts, which are the mental images of phenomenon. These concepts are connected together to express the relationship between them. A model is used to denote symbolic representation of the concepts.

The researcher adopted J.K.Kenny's Open System Model (1990) based on input, throughput and output. The investigator adopted open system model which is aimed to focus on the effectiveness of reflexology on progress of first stage of labour among primiparturients.

Input:

Based on J.W.Kenny's Open System Model input can be matter, energy and information from the environment. In the present study, environment refers to clinical set up.

Throughput:

According to the model, the matter, energy and information are continually processed through the system, which is also called complex transformation known as throughput process is used of input (i.e) energy and information for the maintenance of homeostasis of the system.

Output:

J.W.Kenny's noted after processing the input and throughput, the system returns to the output matter, energy, information to the environment in an altered state change is a feature of the process that is observable and measurable as output which should be different from that which is entered into the system.

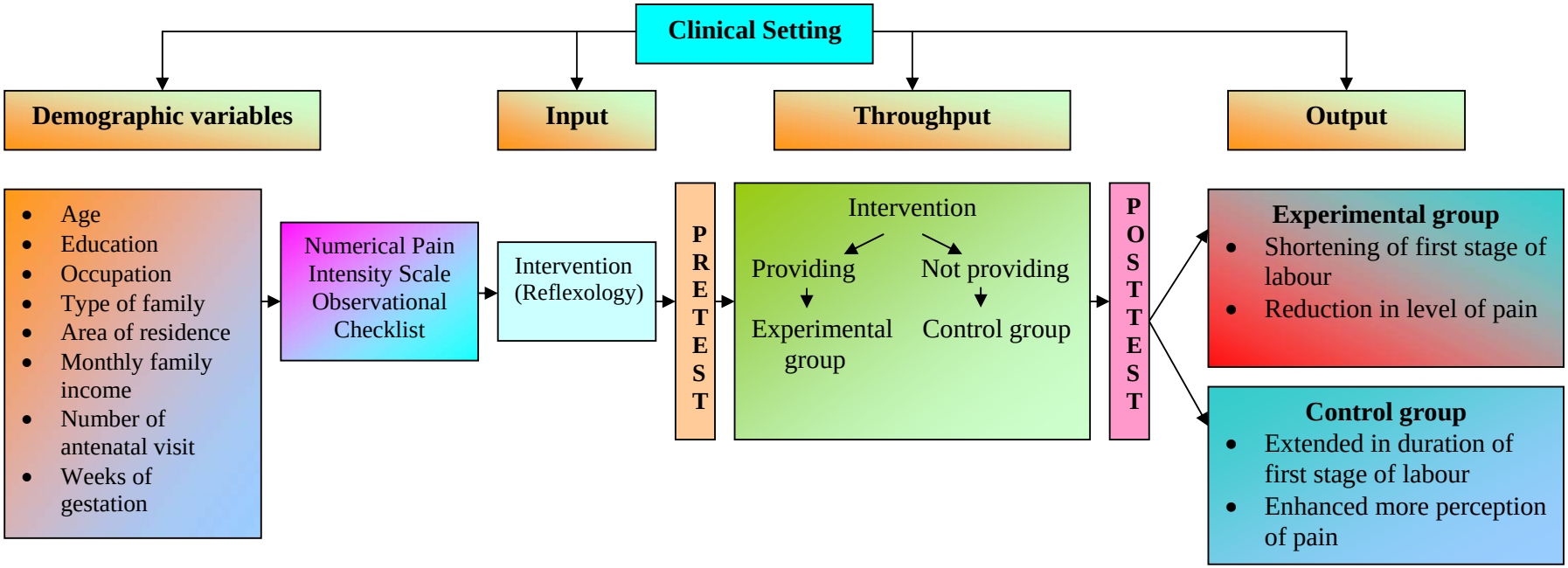


Figure-1.1: Conceptual Framework Based on J.N.Kenny's Open System Model

Summary

This chapter dealt with introduction, need for the study, statement of the problem, objectives, operational definitions, assumptions, hypotheses, delimitations, projected outcome and conceptual framework for the study.

CHAPTER – II

REVIEW OF LITERATURE

Review of literature provides the background for understanding the significance of new study. It equips the investigator to be familiar with the existing studies, provides basis for future investigator and also helps in the development of methodology.

The literature was reviewed and presented under the following headings,

- Literature related to labour pain
- Literature related to reflexology
- Literature related to effectiveness of reflexology on labour pain.
- Literature related to effectiveness of reflexology on duration of labour process.

Literature related to Labour Pain

Kuti, et.al., (2006) conducted a prospective study on mothers perception on labour pain and to determine the factors that influences the labour pain in Wesley Guild hospital, Nigeria. The samples were 281 mothers who had normal vaginal delivery in that hospital. The data was collected, after 2 hours of delivery through interview method and the perception of labour pain was assessed using 3 point verbal rating scale. The study reported that majority of women (68.3%) experienced severe labour pain and 5.3% experienced mild labour pain. The labour was not influenced by any factors like age, parity and education.

Abushaikha, et.al, (2005) conducted a descriptive study on labour pain among postpartum women from a major hospital in the city of Amman. The samples were 100 low risk mothers who delivered vaginally in that particular hospital. The data was collected using Numerical Pain Intensity Scale and pain assessment questionnaire. The study findings concluded that 81 women experienced the pain

intensity level of ≥ 8 in the numerical pain intensity scale and the mean pain intensity level during the second stage of labour was 8.83.

Aye, et.al., (2004) conducted an observational study on perception of labour pain. Samples were 272 nulliparous women with uncomplicated pregnancy at University hospital, Nimes, France. Visual Analogue Pain Scale was used to analyse the level of labour pain. The study reported that labour pain perception was very severe [75.6(15.1() at p<0.0001] and special care has to be taken to assess or treat labour pain for parturient women.

Baker, et al., (2001) conducted a study on perception of labour pain among mothers in labour and their attending midwives at antenatal clinic of Queen Elizabeth Hospital in Adelaide, South Australia. 13 primiparous and 8 multiparous aged between 23±39 years were selected through simple random sampling technique. The data was collected using McGill Pain Questionnaire, Visual Analogue Scale, Verbal Response Scale and a present pain intensity scale. The study findings revealed that there was a significant difference between mean sensory verbal response scale scores for mothers and midwives (t (67) = 6.896 at P<0.05 level) and between mean presence pain intensity scores during severe pain (t (25) = 2.301 at P<0.05 level). Significant correlation was found between presence pain intensity scores of the mothers and midwives (r = 0.75). The researcher concluded that the perception of labour pain was very severe and intolerated by the mother at the end of labour.

Literature related to Effectiveness of Reflexology

Lakshmi Chandran, (2011) conducted a experimental study on the effect of reflex zone therapy on milk secretion among postnatal mothers within 12 hours after delivery at Sree Mookambika College of Nursing, Kulasekharam. Quasi experimental pre test post test with control group design was used. 40 samples were selected

through non probability purposive sampling technique. The data was collected using checklist for breast milk availability. The 't' value was 60.5, df=19 at P<0.05 level. The research concluded that reflex zone therapy has a significant effect on milk secretion among postnatal mothers.

Glory S. Kosby, (2010) conducted a randomized controlled trial to evaluate the effectiveness of foot reflexology on menopausal symptoms among women with menopausal symptoms at rural areas in Udupi District, Karnataka. 40 samples were selected through cluster sampling technique. The data was collected by using modified menopause specific quality of life questionnaire. The 't' value was 20.08 at P<0.05 level. The study findings reported that 90% of women had decreased menopausal symptoms after reflexology.

Beulah Mavis, (2009) conducted a comparative study to evaluate the effectiveness of reflexology vs relaxation technique on fatigue reduction and relaxation in clients undergoing haemodialysis at Father Mullers Medical College Hospital, Mangalore. Pre experimental (two group pretest posttest) design was used. 50 samples who were undergoing haemodialysis twice in a week were selected through purposive sampling technique. The data was collected using self expressed relaxation rating scale and modified piper fatigue scale. The 't' value was 17.38 at P<0.05 level. The study findings revealed that 84% of the clients had reduction on fatigue during haemodialysis after reflexology.

Sheela Paul, (2009) conducted a experimental study to evaluate the effectiveness of foot massage on pain among patients with cancer at G.Kuppuswami Naidu Memorial Hospital, Coimbatore. Quasi experimental one group pre test post test design was used. 40 samples were selected through non-probability purposive sampling techniques. The data was collected using Structured Interview Schedule and

Numerical Pain Intensity Scale. The 't' value was 22.03 at P<0.05 level. The researcher concluded that foot massage was very effective on reducing pain among patients with cancer.

Arthi P.Kumar, (2008) conducted a experimental study to evaluate the effectiveness of structured teaching programme on knowledge and attitude regarding alternative modalities (reflexology, chiro practice) among staff nurse at selected hospital. One group pretest and post test design was used. 30 samples were selected through purposive sampling technique. The data was collected using 25 multiple choice questions to assess the level of knowledge and 30 questions to assess the attitude of the staff nurse. The 't' value was 5.046 at P<0.05 level. The researcher concluded that, structured teaching programme was effective on gain in knowledge and change in attitude regarding alternative modalities.

William T. Jarvis, (2004) conducted a study to evaluate the effectiveness of reflexology on premenstrual syndrome. Samples were 35 women with premenstrual symptoms. The data was collected through questionnaire method. The mean value were 4.36±1.07. The study findings reported that the reflexology had 90% significant effect on reducing the post menstrual symptoms.

Shweta Choudhary (2004) conducted a experimental study to evaluate the effectiveness of Reflexology on level of pain among post operative patients at All India Institute of Medical Science, New Delhi. 60 patients were divided into Group I and Group II using simple random sampling technique. Group I received Foot Reflexology with standard drugs and Group II has received only standard drugs. Standard drugs include NSAID (Diclofenac) and Opioids (Pethidine and Fentanyl). The data was collected using Visual analog scale. The study result showed that the 't' value was 2.301 at p<0.05 level and it was concluded that the Group I who received

Foot Reflexology had significant reduction on level of pain when compared to Group II.

Literature related to Effectiveness of Reflexology on Labour Pain

Jaya Bharathi (2010) conducted a experimental study to evaluate the effectiveness of foot massage on labour pain among primi mothers at Meenakshi hospital, Chennai. True experimental before and after only design was used. 60 primi mothers were selected through simple random sampling technique. The data was collected using structural questionnaire and visual analog scale. The mean value was 5.66±2.23 in experimental group and 5.75±2.43 in control group. The 't' value were 0.158. The study findings revealed that foot massage has a significant effect on labour pain.

Mahboubeh Valiani, (2010) conducted a experimental study to evaluate the effectiveness of reflexology on labour pain and outcome of labour among primiparous mother at Isfahan University of Medical Science, Isfahan. 88 primiparous mothers were selected through simple random sampling technique. The data was collected using McGill questionnaire and pain rating index. The mean value were 40.55 ±12.49, 43.63 ±14.79 and the 't' value were 9.049 at $P<0.05$ level. The researcher concluded that reflexology has a significant effect on labour pain and labour outcome.

Margret. C, (2009) conducted a experimental study to evaluate the effectiveness of reflexology on labour pain among parturient mothers at Government hospital, Tambaram. Pretest posttest design was used. 60 samples were selected through systematic random sampling technique. The data was collected using modified pain intensity scale. The 't' value was 32.399 at $P<0.001$ level. The researcher concluded that reflexology has a significant effect on reducing the level of labour pain.

Padma, (2007) conducted a experimental study to evaluate the effectiveness of reflexology on labour pain among primigravid women at Seethalakshmi Maternity Centre, Coimbatore. One group pretest posttest design was used. 60 samples were selected through non-probability purposive sampling technique. The data was collected using Numerical Pain Intensity Scale. The 't' value was 10.562 at $P<0.05$ level. The study findings reported that reflexology has a significant effect on level of pain during first stage of labour.

Zhang Changlong, et.al., (2001) conducted a randomized control study to evaluate the effectiveness of reflexology on level of labour pain among primiparous mother. They were divided into two groups through simple random techniques. Group-I received foot reflexology and Group II received intravenous drip of 500ml of 100% glucose plus Vitamin C injections. The data was collected using numerical pain intensity scale. The study findings reported that the effectiveness of foot reflexology were 94.4% and the average birth process of Group-I is shorter than the Group-II.

Literature related to effectiveness of reflexology on duration of labour process

Mohana. L, (2008) conducted a experimental study to evaluate the effectiveness of reflexology on labour outcome among primiparturients at Sri Ramakrishna Vivekananda Urban Maternity Centre, Chennai. Non-equivalent control group pretest posttest design was used. 50 samples were selected through non-probability purposive sampling technique. The data was collected using Numerical Pain Intensity Scale. The 't' value was 10.11 at $P<0.001$ level. The study findings revealed that reflexology was effective on labour outcome.

Alderdice, et.al, (2006) conducted a retrospective cohort study to findout the association of reflexology with different outcomes during intranatal period. 150 low risk primigravid women were selected through convenience sampling technique and

divided into experimental and control group. Reflexology was given to experimental group and was withdrawn to control group. The research findings revealed that the experimental group had less pain when compared to control group and the researcher concluded that reflexology has a significant effect on labour pain.

McNeill, et.al, (2006) conducted a retrospective cohort study on exploring the relationship between the reflexology and labour outcome in Royal Group of Hospital Trust, Ireland. Two groups were selected. One group has received reflexology and the other group has not received reflexology. The study findings reported that the group who had reflexology treatment has a significant reduction on the length of labour, when compared to other group.

Dr.Gowri Motha, (2004) conducted a study to evaluate the effectiveness of reflexology on pregnancy and on labour outcome at Walsgrace Hospital. Samples included in this study were 64 pregnant women from 20 weeks of gestation to term. Thirty seven women have completed the set course of 10 treatments. The study revealed that the effects of reflexology on labour outcome were outstanding. Some mother had the labour time of only 2 – 3 hrs (an average time was 5-6 hrs) and 89% of women had normal delivery after reflexology.

Summary

This chapter dealt with the literature related to labour pain, reflexology and effectiveness of reflexology on labour pain and duration of labour process.

CHAPTER – III

METHODOLOGY

The methodology of research indicates the general pattern of organizing, the procedure for gathering valid and reliable data for the problem under investigation.

This chapter describes the research approach, research design, setting, variables, population and sample, sampling technique and sample size, criteria for sample collection, description of the tool, validity and reliability, data collection procedure, pilot study and data analysis.

Research Approach

Quantitative evaluative research approach was adopted for this study.

Research Design

Research design is a master plan specifying the methods and procedures or collecting and analyzing the needed information. **(Ahuja R, 2001)**

Quasi experimental time series design was used for the study.

$E = O_1 X_1 O_2$	$O_3 X_2 O_4$	$O_5 X_3 O_6$	$O_7 X_4 O_8$
$C = O_1 - O_2$	$O_3 - O_4$	$O_5 - O_6$	$O_7 - O_8$

E : Experimental group.

C : Control group.

X_1, X_2, X_3, X_4: Reflexology

O_1, O_3, O_5, O_7 : Pain assessment before intervention

O_2, O_4, O_6, O_8 : Pain assessment after intervention

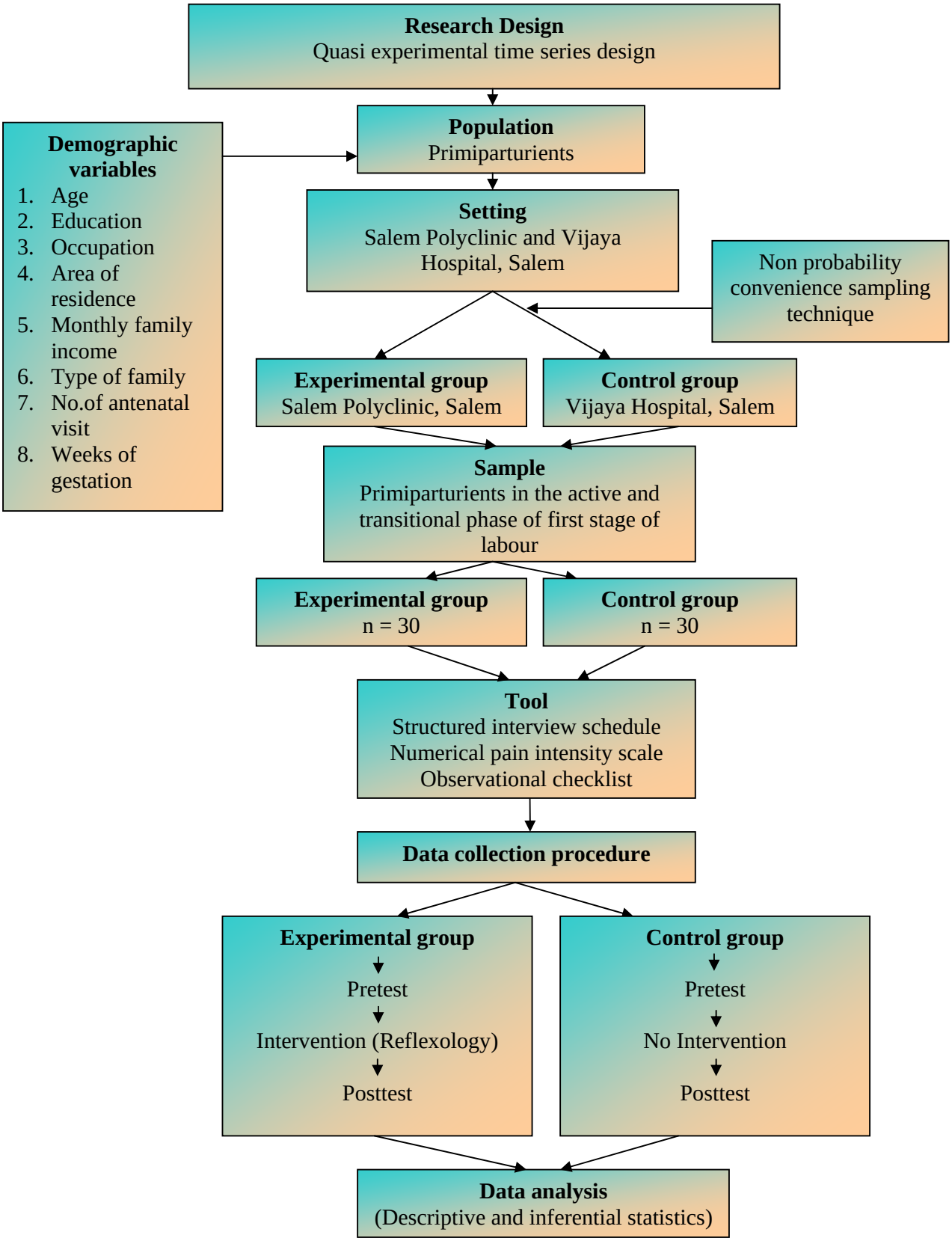


Figure- 3.1: Schematic Representation of the Research Methodology

Description of the Setting

Setting is the location and condition in which data collection takes place for the study. **(Polit and Hungler, 2003)**

The primiparturients were selected from Vijaya Hospital and Salem Polyclinic which are located 2 kms away from Salem New Bus stand.

Population

Population is defined as the entire aggregation of cases that meet a designated set of criteria. **(Polit and Hungler, 2003)**

The population under this study includes all primiparturients, who were selected depending on the availability and who fulfill the inclusive criteria.

Sampling

Sampling refers to the process of selecting the portion of population to represent the entire population. **(Polit and Hungler, 2003)**

- **Sample**

  Samples of the study were primiparturients of selected hospitals, Salem.

- **Sample size**

  Sample size were 60 primiparturients, 30 in experimental group and 30 in control group.

- **Sampling technique**

  The samples were selected by using Non-probability convenience sampling technique.

- **Criteria for Sample Selection**

  Inclusive criteria:

  Women who are,

  1. willing to participate in the study.
  2. completed 37- 40 weeks of gestation.

3. undergoing normal vaginal delivery.
4. in 4 cm to 10 cm dilatation of cervix.

Exclusive criteria

1. women who have an history of high risk pregnancy.
2. women who are receiving oxytocin infusion.

Variables

Independent Variable: Reflexology

Dependent variable : Progress of first stage of labour

Extraneous variables: Age, education, occupation, area of residence, monthly family income, type of family, number of antenatal checkup and weeks of gestation.

Description of Tool

The structured interview schedule was prepared by the investigator after an extensive study of the related literature and with the guidance of experts.

The tool for collection of data consists of two sections, Section A and Section B.

Section-A:

The structured interview schedule was used to collect demographic variables such as age, education, occupation, area of residence, monthly family income, type of family, number of antenatal checkup and weeks of gestation.

Section-B:

It consists of Numerical Pain Intensity Scale to assess the level of pain during first stage of labour and observational checklist to assess the duration of first stage of labour among primiparturients.

Scoring procedure

Table-3.1: Scoring Procedure

Score	Level of pain
0	No pain
1 – 3	Mild pain
4 – 6	Moderate pain
7 – 9	Severe pain
10	Worst possible pain

Level of pain was assessed before and after the interventions. The primiparturients were placed a score between 0 to 10 after the verbalization of women about her level of labour pain.

Validity and Reliability

Validity:

Validity refers to the degree to which an instrument measures what it is supposed to be measured. **(Polit and Hungler, 2003)**

Validity of the tool was established with the consultation of the guide and experts. The tool was validated by One Medical Expert in the field of obstetrics and Gynaecology and 6 Nursing Experts. The tool was found adequate and suggestions in demographic variables given by the experts were incorporated.

Reliability:

Reliability of an instrument is the degree of consistency with which an instrument measures an attributes. **(Polit and Hungler, 2003)**

Reliability of the tool was established by inter-rater method. It was tested on 6 primiparturients. The reliability test was calculated by using Spearman's formula and

it was found r =0.96, which indicates the reliability of the tool. Hence, the tool was considered for proceeding the study.

Pilot Study

Formal written permission was obtained from Salem Polyclinic, Salem to conduct the pilot study from 27.06.2011 to 03.07.2011. 6 primiparturients, 3 experimental group and 3 control group were selected through Non- Probability Convenience sampling technique. After obtaining verbal consent from the primiparturients, the demographic variables were obtained using structured interview schedule. Cervical dilatation at 4 cm dilatation was noted. The Numerical Pain Intensity scale was used to assess the level of labour pain. Reflexology was given to the experimental group. Before and after the intervention the level of pain was assessed in both the groups. End of full dilatation of cervix was noted. The duration of first stage of labour was assessed using observational checklist. The data was collected, analyzed and interpreted. The pilot study was found feasible to the researcher and the researcher did not find any difficulties during the pilot study. Hence, the intervention reflexology was continued in main study.

Method of Data Collection

Ethical consideration:

Oral consent was obtained from the primiparturients who are willing to participate in the study.

Data collection procedure:

Formal written permission was obtained from the Managing Director of Salem Polyclinic and Vijaya Hospital, Salem to conduct the study from 13.07.2011 to 07.08.2011. 60 primiparturients, 30 experimental group and 30 control group were selected through Non-Probability Convenience sampling technique. After obtaining

verbal consent from the primiparturients, the demographic variables were obtained using structured interview schedule. Cervical dilatation at 4 cm dilatation was noted. Pretest was done for both experimental and control group. Reflexology was given for the experimental group by applying firm pressure using alternate thumbs along the sides of the foot, surface of the foot and on the toes for 15 minutes in every 45 minutes during active and transitional phase of first stage of labour. Post test was done for both the groups after the interventions. Time at full dilatation of cervix was noted and the total duration of first stage of labour was calculated using observational checklist. The effectiveness of reflexology was measured by comparing experimental group with the control group.

Plan for Data Analysis

A master data sheet was prepared with the responses given by the samples and the data was analysed using statistical methods such as descriptive analysis using frequency and percentage distribution and inferential analysis mean, standard deviation, independent ‘t’ test and chi-square.

Summary

This chapter dealt with the methodology which consists of research approach, the description of settings, sample and sampling technique, sample size, characteristics of the sample, selection and development of study instrument, validity and reliability, pilot study, method of data collection and plan for data analysis.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

The statistical analysis is a method of rendering quantitative information and elicits meaningful and intelligible form of research data. Analysis and interpretation of data of this study was done using descriptive and inferential statistics. **(Polit and Hungler, 2003)**

This chapter deals with analysis and interpretation of data collected on post-test score to evaluate the effectiveness of reflexology on progress of first stage of labour among primiparturients. The purpose of the analysis is to reduce the data to a manageable and interpretable form, so that the research problem can be suited and tested.

The data was collected through Numerical Pain Intensity Scale and observational checklist, which was analyzed by using descriptive and inferential statistics.

Data analysis

The data was analysed using descriptive and inferential statistics.

Section-A:

Distribution of primiparturients according to their selected demographic variables in experimental and control group.

Section-B:

a) Distribution of primiparturients according to their level of pain during first stage of labour before and after reflexology in experimental group.
b) Distribution of primiparturients according to their level of pain during first stage of labour in control group.

Section-C:

a) Mean, standard deviation, mean difference of level of pain among primiparturients in experimental and control group.

b) Mean, standard deviation, mean difference of duration of first stage of labour among primiparturients in experimental and control group.

Section-D: Hypotheses testing

a) Mean, standard deviation and 't' value on level of pain during first stage of labour among primiparturients before and after reflexology in experimental group.

b) Effectiveness of reflexology on progress of first stage of labour among primiparturients in experimental and control group.

c) Association on progress of first stage of labour among primiparturients with their selected demographic variables in experimental and control group.

Section-A

Distribution of primiparturients according to their selected demographic variables in experimental and control group.

Table-4.1:
Frequency and percentage distribution of primiparturients according to their selected demographic variables

n=60

S. No	Demographic variables	Experimental group (n=30)		Control group (n=30)	
		f	%	f	%
1.	**Age in years**				
	a. < 20	5	16.67	9	30
	b. 21 – 25	13	43.33	14	46.66
	c. 26 – 30	8	26.66	5	16.67
	d. > 31	4	13.34	2	6.67
2.	**Educational status**				
	a. Illiterate	12	40	10	33.33
	b. Primary education	4	13.33	5	16.66
	c. Secondary education	8	26.66	5	16.66
	d. Higher Secondary education	2	6.66	6	20.01
	e. Undergraduate	3	10.01	2	6.67
	f. Post graduate	1	3.34	2	6.67
3.	**Occupation**				
	a. Employed	10	33.34	7	23.34
	b. Unemployed	20	66.66	23	76.66
4.	**Area of residence**				
	a. Rural	18	60.0	21	70.0
	b. Urban	12	40.0	9	30.0
5.	**Monthly family income**				
	a. Rs.2000 – 5000	21	70.0	19	63.33
	b. Rs.5001 – 10000	8	26.66	8	26.66
	c. > Rs.10000	1	3.34	3	10.0
6.	**Type of family**				
	a. Nuclear	13	43.34	14	46.67
	b. Joint	17	56.66	16	53.33
7.	**No.of antenatal visit**				
	a. No visit	5	16.67	11	36.66
	b. 1 – 3 visits	14	46.66	11	36.66
	c. >3 visits	11	36.67	8	26.68
8.	**Weeks of gestation**				
	a. 37 weeks	9	30.0	5	16.66
	b. 38 weeks	5	16.66	9	30.01
	c. 39 weeks	8	26.67	11	36.66
	d. 40 weeks	8	26.67	5	16.67

The data presented in table-4.1 shows that in experimental group, 13(43.33%) of them belong to the age group of 21-25 years, 12(40%) of them were illiterate, 20(66.66%) of them were unemployed, 18(60%) of them were in rural area, 21(70%) of them have the monthly family income ranging from Rs.2000-5000, 17(56.66%) of them were in joint family, 11(46.66%) of them had 1-3 antenatal visits and 9(30%) of them were in 37 weeks of gestation.

In control group, 14(46.66%) of them belong to the age group of 21-25 years, 10(33.33%) of them were illiterate, 23(76.66%) of them were unemployed, 21(70%) of them were in rural area, 19(63.33%) of them have the monthly family income ranging from Rs.2000-5000, 16(53.33%) of them were in joint family, 11(36.66%) of them had no antenatal visits, 11(36.66%) of them had 1-3 antenatal visits and 11(36.66%) of them were in 39 weeks of gestation.

Section-B

a) Distribution of primiparturients according to their level of pain during first stage of labour before and after reflexology in experimental group

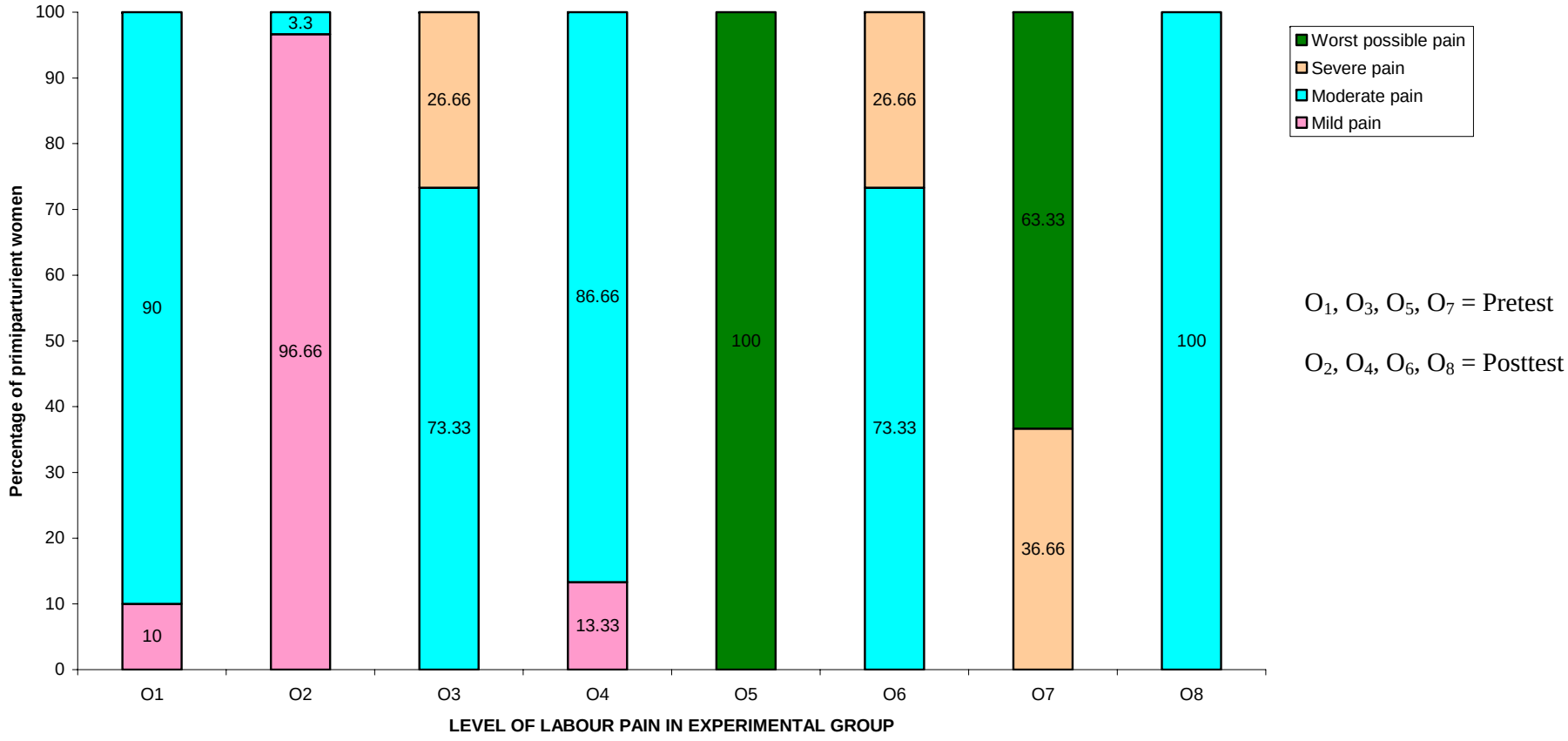
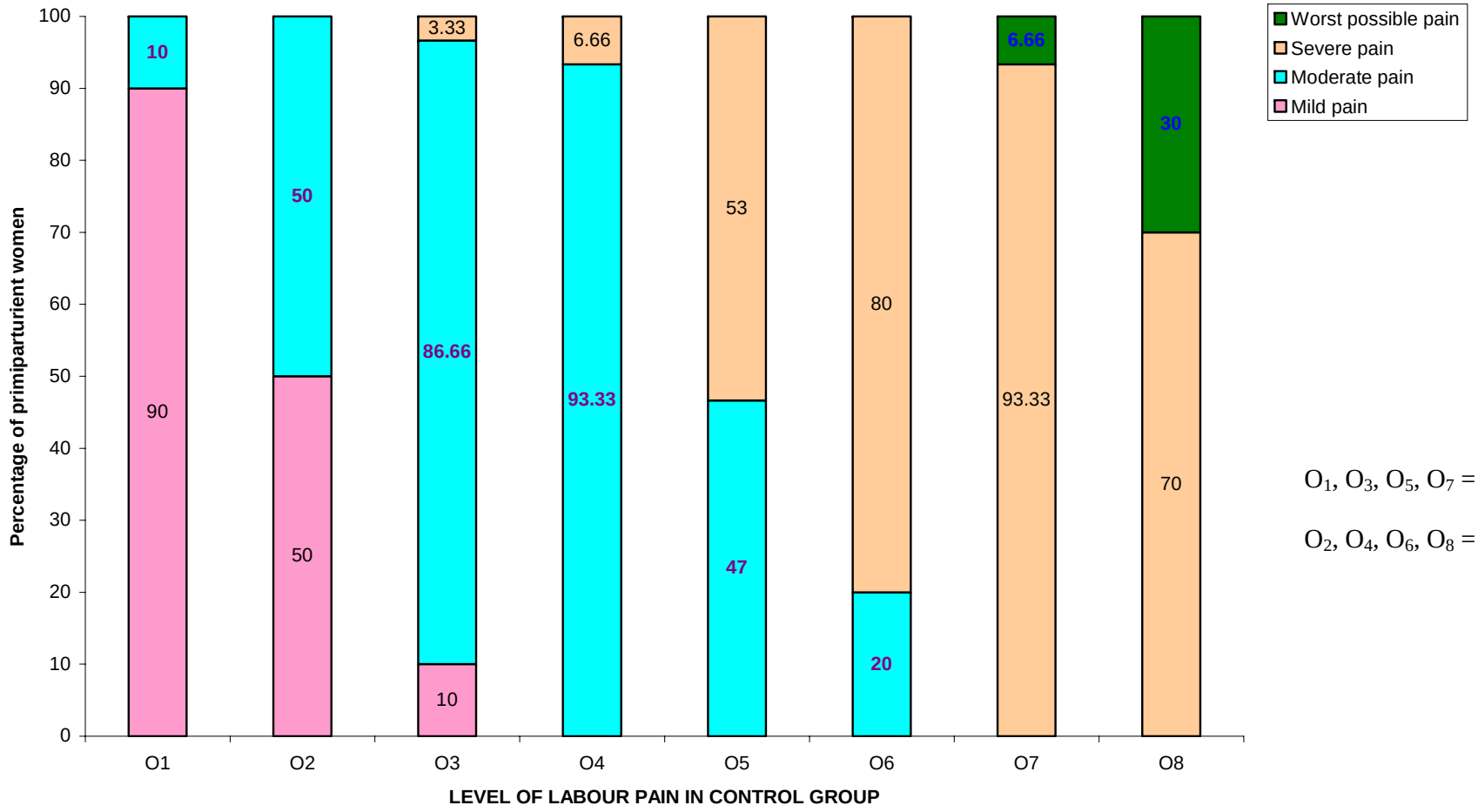


Figure-4.1: Percentage distribution of primiparturients according to their level of pain during first stage of labour in experimental group.

The above figure shows that, in experimental group, the pretest pain score observations were (O_1) 27(90%) had moderate pain (O_3) 22(73.33%) had moderate pain (O_5) 30(100%) had worst possible pain and (O_7) 19(63.33%) had worst possible pain.

The posttest pain score observations were (O_2) 29(96.66%) had mild pain, (O_4) 26(86.66%) had moderate pain, (O_6) 22(73.33%) had moderate pain and (O_8) 30(100%) had moderate pain respectively.

b) Distribution of primiparturients according to their level of pain during first stage of labour in control group



O_1, O_3, O_5, O_7 = Pretest

O_2, O_4, O_6, O_8 = Posttest

Figure-4.2: Percentage distribution of primiparturients according to their level of pain during first stage of labour in control group.

The above figures shows that, in control group, the pre-test pain score observations were (O_1) 27(90%) had mild pain, (O_3) 26(86.66%) had moderate pain, (O_5) 16(53.33%) had severe pain and (O_7) 28(93.33%) had severe pain respectively.

The post-test pain score observations were (O_2) equal number of samples 15(50%) had mild and moderate pain (O_4) 28(93.33%) had moderate pain, (O_6) 24(80%) had severe pain and (O_8) 21(70%) had severe pain respectively.

Section - C

a) Mean, standard deviation, mean difference of level of pain among primiparturients in experimental and control group.

Table-4.2:

Mean, standard deviation, mean difference of primiparturients on level of pain during first stage of labour.

n=60

Observation	Experimental group (n=30)			Control group (n=30)		
	Mean	SD	Mean difference	Mean	SD	Mean difference
O_1	2.53	0.97	1.43	2.73	0.62	0.70
O_2	1.10	0.55		3.46	0.86	
O_3	6.10	0.66	2.04	4.73	0.94	0.80
O_4	4.06	0.82		5.53	0.81	
O_5	7.83	0.46	1.70	6.66	0.95	0.74
O_6	6.13	0.62		7.40	0.89	
O_7	9.63	0.49	1.90	8.26	0.86	0.80
O_8	7.73	0.52		9.06	0.73	

O_1, O_3, O_5, O_7 = Pretest

O_2, O_4, O_6, O_8 = Posttest

The above table represents the mean difference value on level of pain in experimental and control group. The mean difference value in experimental group were 1.43, 2.04, 1.70 and 1.90 whereas in control group 0.70, 0.80, 0.74 and 0.80 respectively. So, it was concluded that the primiparturients in experimental group had less pain than the control group.

b) Mean, standard deviation, mean difference of duration of first stage of labour among primiparturients in experimental and control group.

Table-4.3:

Mean, standard deviation and mean difference of primiparturients on duration of first stage of labour.

n=60

Variable	Experimental group (n=30)		Control group (n=30)		Mean difference
	Mean	SD	Mean	SD	
Duration of first stage of labour	298.0	26.99	427.50	50.69	129.50

The above table represents the mean and mean difference value on duration of first stage of labour in experimental and control group. The mean score in experimental group was 298.0±26.99 and in control group was 427.50±50.69 and the mean difference was 129.0. So, it was concluded that the primiparturients in experimental group had less duration of first stage of labour than the control group.

Section-D

Hypotheses testing

a) Mean, Standard deviation and 't' value on level of pain during first stage of labour among primiparturients before and after reflexology in experimental group.

Table-4.4:

Mean, Standard deviation and 't' value on level of pain during first stage of labour among primiparturients in experimental group

n=30

Observation	Experimental group		
	Mean	**SD**	**'t' value**
O_1	2.53	0.97	13.20*
O_2	1.10	0.55	
O_3	6.10	0.66	15.50*
O_4	4.06	0.82	
O_5	7.83	0.46	17.40*
O_6	6.13	0.62	
O_7	9.63	0.49	19.00*
O_8	7.73	0.52	

*** significant at $p<0.05$ level; table value =2.01; df = 28**

O_1, O_3, O_5, O_7 = Pretest

O_2, O_4, O_6, O_8 = Posttest

The above table represents the 't' value on level of pain in experimental group. The 't' value in experimental group were 13.20, 15.50, 17.40 and 19.00 respectively. So, it was concluded that the reflexology was effective in reducing the level of pain during first stage of labour. Hence, the research hypothesis H_1 is retained.

b) Effectiveness of reflexology on progress of first stage of labour among primiparturients in experimental and control group

Table-4.5:

Mean, Standard deviation and 't' value on progress of first stage of labour among primiparturients in experimental and control group.

n=60

Variable	Experimental group (n=30)		Control group (n=30)		't' value	Table value
	Posttest		Posttest			
	Mean	SD	Mean	SD		
Level of pain	7.73	0.52	9.06	0.73	8.073*	2.01
Duration of first stage of labour	298.0	26.99	427.50	50.69	12.349*	

*** significant at p<0.05 level; df = 58**

The above table shows the 't' value on progress of first stage of labour among primiparturients in experimental and control group. The 't' value for level of pain was 8.073 and for duration of first stage of labour was 12.349. So, it was concluded that the reflexology was effective on progress of first stage of labour. Hence, the research hypothesis H_2 is retained.

c) Association on progress of first stage of labour among primiparturients with their selected demographic variables in experimental and control group.

Table-4.6:

Association on level of pain during first stage of labour among primiparturients in experimental and control group.

n=60

Demographic variables	Experimental group (n=30)			Control group (n=30)		
	df	χ^2	Table value	df	χ^2	Table value
1. Age in years	3	2.44	7.81	3	3.69	7.81
2. Educational status	4	2.67	9.48	4	10.39*	9.48
3.Occupation	1	0.65	3.84	1	2.41	3.84
4. Area of residence	1	0.40	3.84	1	2.85	3.84
5. Monthly family income	2	0.95	5.99	2	3.62	5.99
6. Type of family	1	0.01	3.84	1	1.20	3.84
7. No.of antenatal visit	2	0.77	5.99	2	4.07	5.99
8. Weeks of gestation	3	2.85	7.81	3	5.58	7.81

*** significant at p<0.05 level**

The data presented in Table-4.6 shows that in experimental group, there was no significant association between the selected demographic variables and level of pain during first stage of labour. In control group, educational status had an significant association with the level of pain and other variables like, age, occupation, area of residence, monthly family income, type of family, No.of antenatal visit and weeks of gestation had no significant association with the level of pain during first stage of labour. So, it was concluded that H_3 is retained only for educational status in control group.

Table-4.7:

Association on duration of first stage of labour among primiparturients in experimental and control group.

n=60

Demographic variables	Experimental group (n=30)			Control group (n=30)		
	df	χ^2	Table value	df	χ^2	Table value
1. Age in years	3	9.76*	7.81	3	3.06	7.81
2. Educational status	4	9.77*	9.48	4	6.52	9.48
3.Occupation	1	0.34	3.84	1	6.67*	3.84
4. Area of residence	1	1.40	3.84	1	2.85	3.84
5. Monthly family income	2	10.19*	5.99	2	8.91*	5.99
6. Type of family	1	4.98*	3.84	1	4.69*	3.84
7. No.of antenatal visit	2	7.70*	5.99	2	2.37	5.99
8. Weeks of gestation	3	7.68	7.81	3	7.12	7.81

*** significant at p<0.05 level**

The data presented in Table-4.7 shows that in experimental group, the demographic variables like age, educational status, monthly family income, type of family and no.of antenatal visit had a significant association with the duration of first stage of labour.

In control group the demographic variables like occupation, monthly family income and type of family had a significant association with the duration of first stage of labour. So, it was concluded that H_3 is retained for age, educational status, monthly family income, type of family and no.of antenatal visits in experimental group and occupation, monthly family income and type of family in control group.

Summary

In this chapter the investigator discussed about distribution of primiparturients according to their demographic variables, level of pain and duration of first stage of labour, mean and standard deviation, comparison of effectiveness of reflexology between experimental and control group and association with their selected demographic variables.

CHAPTER – V

DISCUSSION

The experimental study was done to evaluate the effectiveness of reflexology on progress of first stage of labour among primiparturients in selected hospitals, Salem.

Distribution of the demographic variables.

- In experimental group, 13(43.33%) of them belong to the age group of 21-25 years and in control group 14(46.66%) of them belong to the age group of 21-25 years. This finding was supported by **Beulah Mavis, (2009)** study. In her study she reported that 12(48%) of the primigravid women belong to the age group of 21-25 years.
- According to the educational status, in experimental group 12(40%) were illiterate and in control group 10(33.33%) were illiterate.
- Under occupational status, in experimental group 20(66.66%) were unemployed and in control group 23(76.66%) were unemployed.
- According to the area of residence in experimental group 18(60%) were residing in rural area and in control group 21(70%) were residing in rural area.
- Under monthly family income, in experimental group 21(70%) were in the range of Rs.2000 – Rs.5000 and in control group 19(63.33%) were in the range of Rs.2000 – Rs.5000.
- According to the No.of antenatal visit, in experimental group 11(36.66%) had more than 3 antenatal visit and in control group 11(36.66%) had no antenatal visit and 11(36.66%) had 1-3 antenatal visits.

- According to the weeks of gestation, in experimental group 9(30%) of them were in 37 weeks of gestation and in control group 11(36.66%) of them were in 39 weeks of gestation.

The first objective of the study was to assess the progress of first stage of labour among primiparturients in experimental and control group.

According to the level of pain in experimental group 26(86.66%) had moderate pain whereas in control group 24(80%) had severe pain.

According to the duration of first stage of labour, in experimental group, the duration was 4 hours and 58 minutes, whereas in control group, the duration was 7 hours and 7 minutes.

The present study was supported by **Mohana, (2008)** in her study it was reported that in experimental group 22(76.6%) had severe pain and in control group 27(90%) had severe pain. The level of pain during active stage of labour in experimental group is less than the control group.

The researcher found that the observation in experimental group is less than the control group, because of the effectiveness of reflexology on duration of first stage of labour. So, the remaining observation in the control group is excluded.

The second objective of the study was to evaluate the effectiveness of reflexology on progress of first stage of labour among primiparturients in experimental group.

The effectiveness of reflexology on progress of first stage of labour in experimental group. Reflexology is highly significant at $P<0.05$ level. The independent 't' value for level of pain was 8.073 and for duration of first stage of labour was 12.349. Hence the stated hypothesis (H_2) is retained and concluded that reflexology was significantly effective on progress of first stage of labour.

The present study was supported by **Margret.C, (2009)** found that 90% had a positive effect of reflexology as a pain killer during pregnancy and **Barbara and Kevin Kunz** reported that 70% of pregnant mother had progress of first stage of labour.

The researcher observed that, when the reflexology is given during first stage of labour, it reduces the level of pain by blocking the transmission of pain impulses to the CNS and reduces the duration of first stage of labour by releasing oxytocin from the pituitary gland.

The third objective of the study was to find out the association between the progress of first stage of labour with their selected demographic variables among primiparturients.

Association on progress of first stage of labour among primiparturients with the demographic variables was done by using chi-square test. It was found that there was a significant association between the progress of labour and their selected demographic variables like age, educational status, monthly family income, type of family and no.of antenatal visit.

The researcher observed that the demographic variable like educational status will make the mother to understand the normal labour process and thereby reduce the level of pain, number of antenatal visit will help in identifying the risk factors in the early stage, so the midwives can prevent the complication in the labour process.

Summary

The discussion was made in this chapter based on the objectives of the study and it was related with similar studies conducted by other investigators.

CHAPTER – VI

SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

This chapter consists of four sections. In the first two sections, the summary and the implications for nursing practice are presented. In the last two sections, the recommendations for further research and conclusions are present.

Summary

The purpose of this study is to evaluate the effectiveness of reflexology on progress of first stage of labour among primiparturients at selected hospitals, Salem. Quasi experimental time series design was chosen for the study. Samples were selected by Non Probability convenience sampling technique. The conceptual framework for the study was based on J.W.Kenny's Open system model. The instrument used in this study consists of two sections. Section A consist of demographic variables and Section B consist of Numerical Pain Intensity Scale and Observational Checklist. The data was analyzed using descriptive and inferential statistics.

Major Findings of the Study

- In experimental group, 13(43.33%) of them belong to the age group of 21-25 years and in control group 14(46.66%) of them belong to the age group of 21-25 years.
- According to the educational status, in experimental group 12(40%) of them were illiterate and in control group 10(33.33%) of them were illiterate.
- Under occupational status, in experimental group 20(66.66%) of them were unemployed and in control group 23(76.66%) of them were unemployed.

- According to the area of residence, in experimental group 18(60%) of them were residing in rural area and in control group 21(70%) of them were residing in rural group.
- In experimental group 21(70%) of them had the monthly family income ranging from Rs.2000-5000 and in control group, 19(63.33%) of them had the monthly family income ranging from Rs.2000-5000.
- According to the type of family, in experimental group, 17(56.66%) of them belong to joint family and in control group 16(53.33%) of them belong to joint family.
- In experimental group 14(46.66%) of them had 1-3 antenatal visit and in control group 11(36.67%) of them had no antenatal visit.
- According to the weeks of gestation, in experimental group 9(30%) of them were in 37 weeks of gestation and in control group 11(36.67%) of them were in 39 weeks of gestation.

The findings regarding to the progress of first stage of labour among primparturients

- In experimental group, the level of pain during first stage of labour in pretest observations were 27(90%) and 22(73.33%) of them had moderate pain, all (100%) of them had severe pain, 19(63.33%) of them had worst possible pain respectively.
- The level of pain during first stage of labour in posttest observation were 29(96.66%) of them had mild pain, 26(86.66%) and 22(73.33%) of them had moderate pain, all (100%) of them had severe pain respectively.
- In control group, the level of pain during first stage of labour in pretest observation were 27(90%) of them had mild pain, 26(86.66%) of them had

moderate pain, 16(53.33%) and 28(93.33%) of them had severe pain respectively.

- The level of pain during first stage of labor in posttest observation were 15(50%) and 15(50%) of them had mild and moderate pain, 28(93.33%) of them had moderate pain, 24(80%) and 21(70%) of them had severe pain respectively.
- In experimental group, the duration of first stage of labour were 4 hours 58 minutes and in control group, the duration of first stage of labour were 7 hour 7 minutes.

Conclusion

The use of reflexology reduces the level of pain and duration of first stage of labour. Reflexology is an effective intervention on progress of first stage of labour. There was a significant association found between the progress of labour and their demographic variables like age, educational status, occupation, monthly family income, type of family and number of antenatal visit.

Implications

Nursing Service:

- Reflexology could be adopted in hospitals and maternity centre.
- Staff development programme need to be arranged.

Nursing Education:

- Educational programme on reflexology can be arranged for staffs and students working in labour room.
- Alternative pain relief management can be included in nursing curriculum.

Nursing Administration:

- The nurse administrator should coordinate her work with the midwives to practice alternative therapies (Reflexology).
- Nurse administrator should organize in service education programme regarding the importance of reflexology.

Nursing Research:

- Nursing research can be conducted to find out the progress of labour using various alternative therapies.
- Research can be conducted on different settings.

Recommendations for Further Research

- A similar study can be conducted to evaluate the effectiveness of reflexology on progress of labour in multiparous women.
- A similar study can be conducted to evaluate the effectiveness of reflexology on other stages of labour.
- A comparative study can be done to determine the effectiveness of reflexology on progress of first stage of labour among primiparous and multiparous women.
- A similar study can be done using large sample of primiparturients.
- A similar study can be done using other alternative therapies on progress of labour.

Limitation

Since the researcher is not allowed to perform per vaginal examination, the researcher has gained help from the staffs working in the labour room to assess the cervical dilatation.

Summary

This chapter dealt with summary, conclusion, implications, limitation and recommendations.

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ANNEXURE – A

LETTER SEEKING PERMISSION TO CONDUCT RESEARCH STUDY

From

F.Roselin Deva Mani,
M.Sc (Nursing) Final Year,
Sri Gokulam College of Nursing,
Salem.

To

The Principal,
Sri Gokulam College of Nursing,
Salem.

Respected Madam,

Sub: Permission to conduct a research project -Request reg.

I **Ms.F.Roselin Deva Mani**, Final Year M.Sc (Nursing) student of Sri Gokulam College of Nursing is conducting a research project which is to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfillment of University

Topic: "A Study to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".

I am conducting this project at Salem Polyclinic and Vijaya Hospital, Salem from 13.07.2011 to 07.08.2011.

Kindly do the needful.

Thanking You,

Date : 12.07.2011

Place : Salem.

Yours Sincerely

F. Roselin

(F.Roselin Deva Mani)

ANNEXURE – B

LETTER GRANTING PERMISSION TO CONDUCT RESEARCH STUDY

SRI GOKULAM COLLEGE OF NURSING
3/836, Periyakalam, Neikkarapatti, Salem - 636 010.
Phone : 0427 - 6544550,2272240,2272250 Fax : 0427 - 2270200, 2447077
Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date : .....

LETTER SEEKING PERMISSION TO CONDUCT A RESEARCH STUDY

To:

Dr. Resmi Rao., M.B.B.S, M.D, D.G.O,
Salem Polyclinic,
Salem.

Respected Madam,

Sub: Permission to conduct a research study request reg.

This is to introduce **Ms. F.Roselin Deva Mani**, Final Year M.Sc.,(Nursing) student of our college. She is to conduct research project which is to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfillment of University requirement for the award of M.Sc.,(Nursing) Degree.

Topic: "A Study to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".

I request you to kindly permit her to conduct the study in your esteemed hospital from 13.07.2011 to 07.08.2011. She will adhere to the hospital policies and regulations.

Thanking You

Place : Salem.
Date : 12.07.11

Yours Sincerely,

(Dr. A. JAYASUDHA)
PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

SRI GOKULAM COLLEGE OF NURSING
3/836, Periyakalam, Neikkarapatti, Salem - 636 010.
Phone : 0427 - 6544550,2272240,2272250 Fax : 0427 - 2270200, 2447077
Email : sgcon2001@yahoo.com, sgcon2001@gmail.com

Date : .....

LETTER SEEKING PERMISSION TO CONDUCT A RESEARCH STUDY

To:

The Managing Director,
Vijaya Hospital,
Salem.

Respected Madam,

Sub: Permission to conduct a research study request reg.

This is to introduce **Ms. F.Roselin Deva Mani**, Final Year M.Sc.,(Nursing) student of our college. She is to conduct research project which is to be submitted to the Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfillment of University requirement for the award of M.Sc.,(Nursing) Degree.

Topic: "A Study to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".

I request you to kindly permit her to conduct the study in your esteemed hospital from 13.07.2011 to 07.08.2011. She will adhere to the hospital policies and regulations.

Thanking You

Place : Salem.
Date : 12.07.11

Permission Granted
D. Narmada.
Dr. D. NARMADA, M.D. (O&G)
Regd. No : 83113,
VIJAYA HOSPITAL,
Rajaji Road, SALEM - 636 007

Yours Sincerely,

(Dr. A. JAYASUDHA)
PRINCIPAL
Sri Gokulam College of Nursing
SALEM – 636 010.

ANNEXURE - C

LETTER REQUESTING OPINION AND SUGGESTIONS OF EXPERTS FOR CONTENT VALIDITY OF THE RESEARCH TOOL

From

Ms. F.Roselin Devamani
Final Year M.Sc., (N)
Sri Gokulam College of Nursing,
Salem, Tamil Nadu.

To,

Respected Sir/ Madam,

Sub: Requesting opinion and suggestions of experts for establishing content validity of the tools.

I, **Ms**. **F.Roselin Devamani**, a Final Year M.Sc., (Nursing) student of Sri Gokulam College of Nursing, Salem. I have selected the topic mentioned below for the research project to be submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai for the partial fulfilment of Master's Degree in Nursing.

Topic: "A Study to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".

I wish to request you kindly validate the tool and give your expert opinion for necessary modification. I will be grateful to you for this.

Thanking you

Yours sincerely,

Place : Salem

Date : **(Ms**.**F.Roselin Devamani**,**)**

Enclosed:

1. Certificate of validation
2. Tool for collection of data
3. Procedure

ANNEXURE - D

TOOL

SECTION – A: DEMOGRAPHIC VARIABLES

Instructions to participants:

Dear participants,

This section consists of the personal information and you are requested to answer the questions correctly. The personal information's are collected using structured interview schedule. The data given by you will be kept confidential.

Sample: Experimental / control group ☐

1. Age in years

a) < 20 ( )

b) 21 – 25 ( )

c) 26 – 30 ( )

d) > 31 ( )

2. Educational Status

a) Illiterate ( )

b) Primary education ( )

c) Secondary education ( )

d) Higher secondary education ( )

e) Undergraduate ( )

f) Post graduate ( )

3. Occupation

a) Employed ( )

b) Unemployed ( )

4. Area of residence

a) Rural ( )

b) Urban ( )

5. Monthly family income

a) Rs. 2000 – 5000 ( )

b) Rs.5001 – 10000 ( )

c) > Rs. 10000 ( )

6. Type of family

a) Nuclear ( )

b) Joint ( )

7. Number of antenatal visit

a) No visit ( )

b) 1- 3 visits ( )

c) > 3 visits ( )

8. Weeks of gestation

a) 37 weeks ( )

b) 38 weeks ( )

c) 39 weeks ( )

d) 40 weeks ( )

SECTION – B

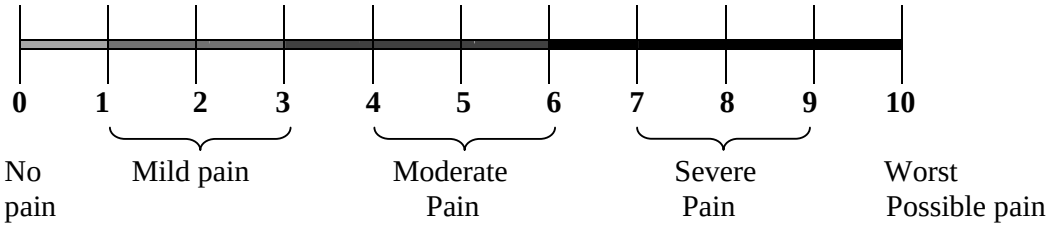
DESCRIPTION OF TOOL

It consists of numerical pain intensity scale and observational record. This tool is used to evaluate the effectiveness of reflexology on progress of first stage of labour among primiparturients.

I. NUMERICAL PAIN INTENSITY SCALE

Purpose:

This scale is used to evaluate the effectiveness of reflexology on level of pain during first stage of labour among primiparturients.



Score		Level of pain
0	-	No pain
1 – 3	-	Mild pain
4 – 6	-	Moderate pain
7 – 9	-	Severe pain
10	-	Worst possible pain

PAIN ASSESSMENT CHART

Assessment of pain	**Hours**	**1**	**2**	**3**	**4**	**5**	**6**
	Before						
	After						

II. OBSERVATIONAL RECORD

Purpose:

This record is used to evaluate the effectiveness of reflexology on duration of first stage of labour among primiparturients.

Sample No	Time at 4cm dilatation	Time at 10cm dilatation	Total duration

பகுதி - அ

அடிப்படை விபரங்கள்

குறிப்பு:

நேர் காண்பவர் தன்னை அறிமுகப்படுத்திக் கொண்டு தனது ஆய்வின் காரணத்தை விளக்குகிறார். நேர்காண்பவர் பின்வரும் வினாக்களை யாரைச் சந்திக்கிறாரோ அவரிடம் வினவுகிறார். ஒவ்வொரு வினாவிற்கும் உரிய பதில்களையும் வாசித்துக் காட்டுகிறார். நேர்காணப்படுபவர் அதற்கு தனது பதிலைக் கூறுகிறார். அவர் கூறும் பதிலில் நேர்காண்பவர் (✓) செய்து கொள்கிறார்.

1. வயது

அ. 20 வயதிற்கு கீழ் ( )

ஆ. 21 - 25 ( )

இ. 26 - 30 ( )

ஈ. 31 வயதிற்கு மேல் ( )

2. கல்வி தகுதி

அ. படிப்பறிவில்லாதவர் ( )

ஆ. தொடக்க கல்வி ( )

இ. உயர்நிலைக்கல்வி ( )

ஈ. மேல்நிலைக்கல்வி ( )

உ. பட்டப்படிப்பு ( )

ஊ. பட்ட மேற்படிப்பு ( )

3. தொழில்

அ. வேலை செய்பவர் ( )

ஆ. வீட்டில் இருப்பவர் ( )

4. இருப்பிடம்

அ. கிராமப்பகுதி ( )

ஆ. நகர் பகுதி ( )

5. மாத வருமானம்

அ. ரூ.2000 - ரூ.5000 வரை ( )

ஆ. ரூ.5001 - ரூ.10000 வரை ( )

இ. ரூ.10000க்கும் மேல் ( )

6. குடும்ப வகை

அ. தனிக்குடும்பம் ( )

ஆ. கூட்டுக்குடும்பம் ( )

7. கர்ப்பக்காலத்தின் போது தாயின் வருகை பதிவு

அ. ஒரு முறை கூட இல்லை ( )

ஆ. ஒன்று முதல் மூன்று முறை ( )

இ. மூன்றுக்கும் மேல் ( )

8. கர்ப்பக்கால வாரம்

அ. 37 வாரங்கள் ( )

ஆ. 38 வாரங்கள் ( )

இ. 39 வாரங்கள் ( )

ஈ. 40 வாரங்கள் ( )

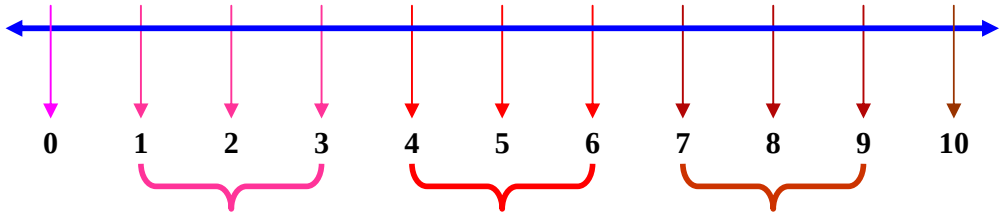
பகுதி - ஆ

எண்களிலான அளவுக்கோலைக் கொண்டு வலியினை அளவிடுதல்

குறிப்பு:

இப்பிரிவில் எண்களிலான அளவுகோல் வலியினை அளவிட பயன்படுகிறது.

வலியின் அளவினை எண்களின் மூலம் கணக்கிடும் அளவுகோல்



வலியில்லை **குறைவான வலி** **மிதமான வலி** **அதிகமான வலி** **மிகவும் அதிகமான வலி**

0 - வலியில்லை

1-3 - குறைவான வலி

4-6 - மிதமான வலி

7- 9 - கடுமையான வலி

10 - மிக கடுமையான வலி

PROCEDURE

Definition:

Reflexology is a technique of massage applied on the pressure point in the foot to reduce labour pain and outcome of labour.

Purpose:

1. Reflexology improves blood circulation.
2. Reflexology helps to reduce labour pain by blocking the transmission of pain impulses to the CNS.
3. Reflexology helps to reduce the duration of first stage of labour by releasing oxytocin from the pituitary gland.
4. Reflexology is a non-invasive procedure.
5. Reflexology has no side effects.

Principles:

1. Birth is natural normal and healthy.
2. Every women has the rights for giving birth free from usual medical interventions.
3. The confidence level and the ability of giving birth in every women is either improved or diminished by the practitioner and birth place.

Procedure:

1. Note the dilatation of cervix at 4 cm.
2. Advice the woman to adopt comfortable position.
3. Encourage the woman to keep the feet in relaxed condition.
4. Assess the level of labour pain before intervention.

5. Thumb walking: This technique is applied using alternate thumbs with firm pressure along the sides of each foot. Slide the thumb from the top to the bottom along the sides. Apply pressure over the tendon that run along the outside edges of the foot.

6. Sweeping and rubbing: Grasp the foot and begin to massage the surface of the foot move in one direction with medium pressure, pull the grasped hand to the end of the foot, work back in the opposite direction, repeat this reflexology several times.

7. Toe sweeping: Grasp the toes and begin to massage the upper, lower and each sides of each toes.

8. Cupping: Cup the foot with hands and squeeze with the appropriate amount of pressure move up and down as holding the foot.

9. Repeat the procedure for every 45 minutes and the intervention is given for 15 minutes each time.
10. Note the level of pain after each intervention.
11. Note the time at full dilatation of cervix.
12. Calculate the total duration of active and transitional phase of first stage of labour.

ANNEXURE – E

CERTIFICATE OF VALIDATION

This is to certify that the tool developed by **Ms.F.Roselin Devamani**, Final year M.Sc. Nursing student of Sri Gokulam College of Nursing, Salem (affiliated to Dr. M.G.R. Medical University) is validated and can proceed with this tool and content for the main study entitled **"A Study to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".**

Signature with Date

ANNEXURE - F

LIST OF EXPERTS FOR CONTENT VALIDITY

1. **Dr.P. Chellammal, M.D., D.G.O.,**
   Consultant, Obstetrician and Gynaecologist,
   Sri Gokulam Hospital, Salem.

2. **Prof.Dr.A.Jayasudha, Ph.D (N).,**
   Principal,
   Sri Gokulam College of Nursing,
   Salem.

3. **Prof. Dr.Selvanayagi, Ph.D (N).,**
   Principal,
   Vinayaka Mission College of Nursing,
   Salem.

4. **Mrs. Jemima, M.Sc(N).,**
   Professor,
   Deparment of OBG,
   Meenakshi College of Nursing,
   Chennai.

5. **Mrs. Thilagavathi, M.Sc(N).,**
   Professor, Department of OBG,
   Shanmuga College of Nursing,
   Salem.

6. **Mrs. R. Nalini, M.Sc (N).,**
   Associate Professor, Department of OBG,
   Sri Gokulam College of Nursing,
   Salem.

7. **Mrs. Sheela Theres, M.Sc (N).,**
   Assistant Professor, Department of OBG,
   Sri Gokulam College of Nursing, Salem.

ANNEXURE –G

CERTIFICATE OF TRAINING

AISHWARYAM NATURE CURE HOSPITAL
& YOGA CENTRE

(Aishwarayam Health & Educational Trust)

5/148-A, State Bank officer's Colony, Salem - 636 004. Mobile : 98657 12057

Tel : 0427 - 2331133, E-mail : aishwaryamhospital@gmail.com

Dr. A.M. Sudhakar, B.N.Y.S., Dr. Sujatha Sudhakar, B.N.Y.S.,

Date : 20/06/2011

CERTIFICATE OF TRAINING

TO WHOMSOEVER IT MAY CONCERN

I hereby certify that Miss.Roselin Devamani, MSc (N) Final Year Student, Sri Gokulam College Of Nursing, Salem, has undergone training on Reflexology and she is eligible to perform Reflexology for Mothers with labour pain.

Signature: 20/06/2011

PROPRIETOR

Seal: Aishwaryam Nature Cure Hospital
State Bank Officer's Colo.,
SALEM – 636 004.

"Nature Cure Detoxify the Body
Yoga Detoxify the Mind "

ANNEXURE –H

CERTIFICATE OF EDITING

Certified that the dissertation paper titled **"A Study to Evaluate the Effectiveness of Reflexology on Progress of First Stage of Labour among Primiparturients at Selected Hospital, Salem".** by **Ms.F.Roselin Devamani,** has been checked for accuracy and correctness of English language usage, and that the language used in presenting the paper is lucid, unambiguous, free of grammatical / spelling errors and apt for the purpose.

WINGS®
ENGLISH ACADEMY
1,2,3, IIrd Floor Ratna Complex,
Five Roads, SALEM-636 004.

Signature:

Name and designation:

ANNEXURE – I

PHOTOS

RESEARCHER COLLECTING THE DEMOGRAPHIC VARIABLES

RESEARCHER PROVIDING REFLEXOLOGY