"A STUDY TO ASSESS THE EFFECTIVENESS OF ABDOMINAL EFFLEURAGE ON THE PAIN PERCEPTION OF PARTURIENT MOTHERS DURING THE FIRST STAGE OF LABOUR IN A SELECTED HOSPITAL AT COIMBATORE."

M.Sc (NURSING) DEGREE EXAMINATION

BRANCH III – OBSTETRICS AND GYNAECOLOGICAL NURSING

R.V.S. COLLEGE OF NURSING

SULUR, COIMBATORE

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

CHENNAI-32

MASTER OF SCIENCE IN NURSING

APRIL 2012

"A Study to Assess the Effectiveness of Abdominal Effleurage on the Pain Perception of Parturient Mothers During the First Stage of Labour in a Selected Hospital at Coimbatore."

Examination : M.Sc (Nursing) Degree Examination

Examination Month & Year : _____

Branch & Course : **III – Obstetrics and Gynaecological Nursing**

Register No : _____

Institution : RVS College of Nursing, Sulur, Coimbatore

Sd: _____ Sd: _____

Internal Examiner External Examiner

Date: _____ Date: _____

The Tamilnadu Dr.M.G.R. Medical University

Chennai-32.

"A Study to Assess the Effectiveness of Abdominal Effleurage on the Pain Perception of Parturient Mothers During the First Stage of Labour in a Selected Hospital at Coimbatore."

Approved by the Dissertation Committee on : _____

1. Professor in Nursing Research **:** **----------**

   Dr. Annamma Prabhakar, M.Sc (N), PhD.,
   Visiting Professor,
   R. V. S College of Nursing,
   R. V. S Institute of Health Sciences,
   Sulur, Coimbatore.

2. Professor in Clinical Speciality : ……

   Mrs. P. Jessy Rani, M.Sc (N),
   Reader,
   HOD, Obstetrical and Gynaecological Nursing Department,
   R. V. S College of Nursing,
   R. V. S Institute of Health Sciences,
   Sulur, Coimbatore.

3. Medical Expert : ……

   Dr. Latha Prasanna, M.B.B.S., DGO,
   Consultant,
   Obstetrician and Gynaecologist,
   R. V. S. Hospital, Coimbatore.

A Dissertation submitted to the Tamilnadu Dr. M.G.R. Medical University, Chennai – 32.

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

April 2012

CERTIFICATE

This is to certify that the dissertation **"A STUDY TO ASSESS THE EFFECTIVENESS OF ABDOMINAL EFFLEURAGE ON THE PAIN PERCEPTION OF PARTURIENT MOTHERS DURING THE FIRST STAGE OF LABOUR IN A SELECTED HOSPITAL AT COIMBATORE."** is the bonafide work done by Mrs. Binsy Cherian, R.V.S college of Nursing, R.V.S Educational Trust, Sulur, Coimbatore, submitted to The Tamil Nadu Dr.M.G.R Medical University, Chennai-32, in partial fulfillment of the requirement for the award of the degree of M.Sc (Nursing) Branch III –Obstetric and Gynaecological Nursing under our guidance and supervision during the academic period from 2010-2012.

Prof.Saramma Samuel M.Sc (N)
Principal
R.V.S College of Nursing,
R.V.S Educational Trust,
Sulur, Coimbatore,
Pin Code – 641 402.

"A Study to Assess the Effectiveness of Abdominal Effleurage on the Pain Perception of Parturient Mothers During the First Stage of Labour in a Selected Hospital at Coimbatore."

Approved by the Dissertation Committee on : _____

1. Professor in Nursing Research **:** **----------**

   Dr. Annamma Prabhakar, M.Sc (N), PhD.,
   Visiting Professor,
   R. V. S College of Nursing,
   R. V. S Institute of Health Sciences,
   Sulur, Coimbatore.

2. Professor in Clinical Speciality : ……

   Mrs. P. Jessy Rani, M.Sc (N),
   Reader,
   HOD, Obstetrical and Gynaecological Nursing Department,
   R. V. S College of Nursing,
   R. V. S Institute of Health Sciences,
   Sulur, Coimbatore.

3. Medical Expert : ……

   Dr. Latha Prasanna, M.B.B.S., DGO,
   Consultant,
   Obstetrician and Gynaecologist,
   R. V. S. Hospital, Coimbatore.

A Dissertation submitted to the Tamilnadu Dr. M.G.R. Medical University, Chennai – 32.

In partial fulfillment of the requirements for the degree of
Master of Science in Nursing
April 2012

ABSTRACT

"A Study to Assess the Effectiveness of Abdominal Effleurage on the Pain Perception of Parturient Mothers During the First Stage of Labour in a Selected Hospital at Coimbatore".

The aim of the study is to assess whether abdominal effleurage during the first stage of labour makes any difference in the pain perception of parturient mothers compared to the woman who do not receive abdominal effleurage

The Conceptual framework used in the study was Callista Roy's Adaptation Theory (1996). A quasi experimental control group time series design with multiple treatments was used in the study. The study was conducted in a private setting. 60 women who were in the first stage of labour were randomly assigned to experimental group (30) and control group (30).

The experimental group received the abdominal effleurage whereas the control group did not. The Wong's Baker visual analogue pain scale was used as a measure of labour pain on admission, 3cms, 5cms and 7cms of cervical dilatation. An observational checklist was used to record the presence and absence of non verbal pain behaviour of the mothers. Structured questionnaires were used to find the views on abdominal effleurage and the presence of nurse during the first stage of labour. The data were analyzed by using descriptive and inferential statistics.

In the results, for both the groups, there was relatively a steady increase in the level of pain as the labour progressed. A't' test demonstrated that the experimental group had significantly lower pain and non verbal pain behavioural response than the control group. The mean pain score percentage of the experimental group was found to be in the range of 20.30% to 48.60%, whereas in the control group the mean pain score percentage was found to be in the range of 20.30% to 90.00%. In both the groups, on admission there was no significant difference in the pain, whereas at 3cms, 5cms and 7cms of cervical dilatation, statistically there was a marked difference in the pain.

Pain is manifested through non verbal pain behaviour. In statistical analysis, significant difference was found in the non verbal pain behavioural response, as the obtained chi-square of the presence of non verbal pain behavioural response, facial

expression was 141.6, vocalization was 100.02 and body movement was 195.8, which was found to be greater than the table value (3.84) significant at 0.05 level at one degree of freedom.

Majority of the experimental group mothers felt that the abdominal effleurage had promoted comfort reduced the level of pain and provided support to a greater extent. Most of the mothers also stated that they felt relaxed, satisfied and not felt anxious to a great extent due to the presence of nurse during the first stage of labour.

The findings suggest that abdominal effleurage is cost effective nursing intervention that can decrease pain and anxiety during labour. The results supported that abdominal effleurage is a suitable and practicable therapy for reduction of labour pain.

ACKNOWLEDGEMENT

I thank the **Lord Almighty** with whole heart and soul for His abundant grace and care which strengthened me in each and every moment throughout this endeavor.

I express my affectionate thanks to my beloved **husband, in laws, parents, sister** and my **friends** for their valuable prayer and encouragement throughout the project.

I appreciate and thank the **Respondents** for their active participation and co-operation to conduct this study successfully.

I extend my sincere gratitude to the **Doctors, Nurses, Ward staff and Office staff** of my study setting for their consideration, co-operation and help.

I express my sincere gratitude and whole hearted thanks to **Prof. Mrs. Sara Samuel, M.Sc (N),** Principal of RVS College of Nursing, Sulur for her excellent guidance and motivation.

I express my sincere respectful and whole hearted gratitude to Prof**. Dr. Annamma Prabhakar M.Sc (N), Ph.D,** RVS college of Nursing, for her innovative, expert guidance, suggestion, encouragement and support which helped me to broaden my thoughts and accomplish this task successfully.

I extend my roses of gratitude to Mrs. **Emerensia X. MSc (N)**, Vice Principal, **Mr. N. Meenakshi Sundaram, M.Sc (N),** MBA Associate Professor, **Mrs. Jessy Rani M.Sc (N),** Associate Professor, HOD, obstetric and gynaecological nursing, RVS College of Nursing, Coimbatore, for their guidance, personal support and valuable suggestions throughout the study.

I extend my gratitude to **Mrs. Annapoorani M.Sc (N)** Associate Professor, RVS College of Nursing for her guidance and valuable suggestions.

My sincere gratitude to **Dr. Latha Prasanna, M.B.B.S., D.GO** Consultant Obstetrician and Gynaecologist R.V.S Hospital Coimbatore, **Dr. Gowri, M.B.B.S., D.GO** Consultant Obstetrician and Gynaecologist R.V.S Hospital Coimbatore, **Mrs. Kalpana Jayaraman M.Sc (N),** Principal Professor in Obstetrics and Gynaecological Nursing, Annai Meenakshi College of Nursing Coimbatore, **Mrs. Latha, M.Sc, (N),**

Principal, Professor in Obstetrics and Gynaecological Nursing RVS College of Nursing, Kannampalayam Coimbatore for validating the tool and valuable suggestions.

I express my sincere thanks to **Mrs. Suja Santhosh, M.Sc (Biostatistics)** Lecturer for extending necessary guidance and support throughout the study.

I express my sincere thanks to **Mr. Thompson Varghese MA (Eng)** for spending his valuable time with me and providing necessary guidance and suggestions.

I am deeply grateful to **Mr. Kannan, Librarian,** R.V.S. College of Nursing, Sulur for his help in availing reference materials.

I am thankful to **SRS computer centre and Mr. Renji** for their excellent help to bring this manuscript effectively.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

INTRODUCTION

CHAPTER-I
INTRODUCTION

"Childbirth is a time when a woman's power and strength emerge in full force to tolerate the intense pain, but it is also a vulnerable time of many changes demanding essential care and support to cope the labour pain".

- ANNEMARIE VAN OPLOO

BACKGROUND OF THE STUDY

Motherhood is the most precious gift to every woman. Giving birth is the unique strength of womanhood. Pregnancy and labour are the two major milestones in a woman's life. For the women it is the moment of excitement and anticipation. Not only to the woman as an individual, but for the whole family the pregnancy and labour brings surplus joy as it enlightens the power of productivity and continuity. All the members of the family are overwhelmed with excitement and expectation to welcome a new member to the family.

Inspite of the happiness contributed by the child birth process, it is true facts that labour is a very painful experience. In some instances, pain may cause much traumatizing experience to the mother and the fetus even costing their life. Perception of the pain varies from individual to individual. Pain in labour may sometimes cause untoward complications.

Pain is the characteristic feature as well as the starting point of the labour. Pain is caused by a stimulus, which may cause tissue damage. As the pregnancy reaches the term, there is a change in the hormone levels. Oxytocin and prostaglandins are increased which appear to sensitize and stimulate the uterus to contract. Contraction of the uterus causes pain in labour contributing to cervical dilatation and expulsion of the fetus. (**Burroughs, 1997**).

The painful stimuli are said to be transmitted by thoracic, lumbar and sacral nerves. The nerve supply of the uterus passes through the last thoracic nerves T11, T12 via the paracervical plexus. These nerves transmit the pain caused by cervical dilatation. In the later stage T10 and the first lumbar nerve L1 is also involved. This

causes intense pain in the lower abdomen, sacral and thighs due to the uterine contraction contributing to cervical dilatation (**Wall Smelzack, 1994**).

The labour is divided into three stages. The pain in the first stage of labour is caused by uterine contractions and stretching of the cervix.

Pain in the second stage is due to all the first stage factors along with distension of vagina, perineum (most pronounced during birth of baby, fatigue, anxiety and fear).

Pain in the third stage of labour is due to separation and expulsion of the placenta, episiotomy, laceration and extreme exhaustion.

The pain will persist from the first stage to till the birth of the child. The characteristic and intensity of pain differ from one stage to another. First stage of labour is divided into three phases, latent phase, active phase and transitional phase. Latent phase last for 6-8 hours in primi mothers with cervical dilatation from 0 cm to 3-4cms. The intensity of contraction begins mild and becomes moderate (**Stables, 1999**).

The active phase causes the women different degree of discomfort. The contractions are stronger and last longer with the cervical dilatation progressing from 3-4cms to 7cms. As the contractions increases, her anxiety and discomfort also increases. She may begin to doubt her ability to cope with the labour pain. Transition phase is the last phase of the first stage of labour. Cervical dilatation continues at a slower rate (8-10cms) and become fully dilated. The contractions become more frequent longer and stronger during this phase (**Burroughs-1989, Sherblom-2001**).

Labour is a very painful process, but in the olden days, the women in labour tried harder and harder to tolerate the pain. Due to their sophisticated culture they were not allowed to scream, cry or shout during the pain rather the mothers used to manage the labour pain by biting some cloth, holding anything tight and clinging to any surface in response to tolerate the pain. Family members of the women in labour managed the labour pain by encouraging her, narrating their own experience. Sometimes the untrained dais treated them by beating and using harsh words for their cooperation.

In addition to the physical discomfort there are physiological responses to pain over which women have little control. These physiological responses may have

negative impact on the fetus and the labour process. Pain during labour increases anxiety causing abnormal production of cortisol, glucagon and catecholamines resulting in high metabolism and oxygen consumption. Increased levels of catecholamines have been shown to cause hypo-perfusion to the uterus leading to uterine irritability, preterm labour, dystocia and fetal asphyxia. It may also influence the labour process by reducing strength, duration and coordination of uterine contraction which may alter the fetal heart rate pattern due to the pressure changes (**Lederman et al, 1989**).

When we look back to the previous phenomenon of deliveries, an interesting fact about child birth is that until about 1926, the majority of the women gave birth at home and deliveries were conducted by experienced hands that laid their foundation from generation to generation with available facilities. Due to the untrained practices maternal and infant mortality and morbidity prevailed in those days.

The most prominent factor was the emotional support given to the mother by the untrained attendant staying there, not to force or demand anything of the women, but to serve the needs of the women who was in labour. The family members were also allowed to encourage and help the women. There was only little pain relief and medical intervention in home birth, with no restriction on eating, positioning, no limits placed on the length of labour and least chance of cesarean birth. It was only a small handful of women who were using hospitals as their primary place to have their babies (**Lane B, 2006**).

Even though the home delivery was the most accepted practice it had disadvantages of increased mortality and morbidity rates, but the people saw this as fate. The first emphasis on Maternal and Child Health was made years ago in 1965 by the Planning Commission **(Park K, 2009).** As the days passed by changes occurred, more clinics everywhere for women and children were established, antenatal and postnatal education was given emphasis, provision of Primary Health Centers to the rural area made giving birth safer for the women than in previous years. Presently, according to **Child Birth Delivery (2006)** the World Health Organization estimates that more than 5 lakhs women die from complication related to pregnancy and child birth each year, with 99% of these deaths in developing countries and an additional 300 million suffer complications related to child bearing.

Increased rate of maternal and newborn deaths therefore became the topic of discussion among the health administration services, as these vulnerable group are the strength of a country with the concept “a healthy mother brings up a healthy child, a healthy child becomes citizen and a healthy citizen makes a country wealthy-health is wealth. Nowadays the views on pregnancy and child birth have changed as a result of modernizations and technological advancements. Pregnancy and labour are much of medical concern and most of them are institutional delivery.

In the last two decades advancement in facilities has increased and people have become more aware that brought in more deliveries to the hospital with advanced facilities. This also made people to face child birth and approximately 90% of all deliveries took place in hospitals or maternity centers. The rate of maternal morbidity and mortality decreased due to the adoption of these modern practices and also by the best equipped treatment for the women. According to the **University of Texas Medical branch (2009)**, hospital deliveries have advantages, as it is best equipped to diagnose any maternal or fetal complications at the earliest and to take appropriate measures. In case of emergency, expertise personal is immediately available, neonatal deaths are less, covered by insurance policy, newer diagnostic measures, increased use of antibiotics and sterile technique attracted more women to come to the hospital to give birth. Effective pain management also promoted the statistical increase in the adoption of hospital deliveries.

The amount of pain experienced may vary from individual to individual. It depends on the factors such as level of pain tolerance, size and position of the baby, strength of uterine contractions and prior birth experiences. It helped to bring out the pharmacological management of labour pain but it had some of the hazards on the fetus. The pharmacological methods of pain control are opiate drugs, inhalation analgesia and epidural analgesia. But these methods have its adverse effect on the labour by lengthening the first stage, less sensation, less expulsive force with increased rate of instrumental and operative deliveries. Nowadays women are again reconsidering the idea of natural birth without medications, using pain relief measures which will help them to experience a more comfortable child birth. (**Shinger and Levinson-2002)**

Several studies document that non pharmacological methods like continuous labour support, maternal support, maternal positions, breathing and relaxation techniques, hydrotherapy, touch and massage reduces pain, increases maternal satisfaction and improve other obstetric outcomes. **(Simkin, Penny-2002)**

Various women empowering societies have evolved, who encouraged the labour pain as strength of women. Some health organization also contributed their views on limiting the side effects caused due to the pharmacological agents. With the advent of AYUSH various non pharmacological measures were developed. Many researches also found these non pharmacological measures as effective in limiting the adverse effects and making the labour process comfortable to the mother.

Effleurage and the counter pressure are the two methods that have brought relief to many women during the first stage of labour. The gate control theory may supply the reason for the effectiveness of these measures. Effleurage is light stroking, usually of the abdomen in rhythm with breathing during contractions. It is used to distract the woman from the pain. **(Lowdermilk-1999)**

Even though pain is a component of labour, the intensity of pain experienced varies a great deal from one woman to another. The way in which an individual perceives and reacts to pain is affected by different factors. Hence pain is a complex component involving physiological, social, psychological and cultural influences. Some of the factors are include fear and anxiety, cultural beliefs and values, fatigue, personality, expectations and support.

Fear and anxiety: It will heighten the individual's response to pain. Fear of the unknown, fear of being left alone to cope with such experience such as labour, self doubt, lack of education will increase anxiety. Anxiety often increases the perception of pain.

Cultural beliefs and values: It affect how individual deals with the pain. Individuals learn what is expected and accepted by their culture including how to react to pain. In Asian cultures it is important for individuals to act in a manner that will not bring

shame on the family; therefore Asian women may not express pain outwardly. The absence of expression does not necessarily mean that the client is not in pain.

Personality: It plays a part as the women who are naturally tense and anxious will cope less with the stress than the one who is relaxed and confident.

Expectations: The women who is realistic in her expectations of labour and about her response to it, is probably the best equipped, as long as she feels confident of receiving the help and support needed and assured to receive appropriate measures for minimizing the pain intensity will also influence the labour pain perception.

Fatigue: Women who are already fatigued by several hours of labour perhaps preceded by a period when sleep was disturbed by discomfort and late pregnancy will be less tolerable.

Support: Support during the labour is important for coping with the pain continuous presence of midwife, partner and mother makes the women feel psychologically relaxed. It helps in reducing the pharmacological pain relief measures and motivates the women to tolerate the pain in order to prove her strength and affection towards her child. Increased anxiety also makes the labour pain more adverse due to the release of catecholamines, hence support provided to the mother contribute in relieving the pain (**Kiersa, Hodnett et al, 1995**).

NEED FOR THE STUDY

Midwife term means “with women”, recognized worldwide as being the person who is alongside and supporting women giving birth. The key role of the midwife is to promote the health and well being of the child bearing women, understand and empathize individual needs and encourage her to have confidence in her own body. Childbirth is a natural and normal process, but it is one of the most painful experiences for the women. The vital responsibility of the midwife is to make the labour process as much as comfortable to the women without any complications.

Previously the deliveries were conducted in home settings by untrained dais and the mothers used to carry their routine activities immediate after the delivery. Such type of practices caused increased rate of maternal and neonatal morbidity and mortality. Over the years, with the technological advancement the home deliveries migrated to the hospital settings. Recent advancement in the technology, approximately 90% of all deliveries took place in hospitals as it is best equipped place to diagnose any maternal or fetal complications at the earliest and to take appropriate measures.

Increasing rates of admission in the hospitals made it difficult for the health personnel to provide efficient care to the mother. The nurses are unable to give individual attention. This leads to shouting and panic in the hospitals, the air is filled with anxiety and stress. In some instances workload and stress make the nurse to react in a rude manner to the women in labour. In hospitals today every laboring women is hooked up for some period of time to a fetal monitor, given vaginal examinations, and told where and in what position she must give birth. She is restricted to see her relatives or family members due to the fear of transmission of diseases. If the women are not able to tolerate the pain immediately analgesics are provided. After provision of the medicines the nurse has to rush to attend another patient. The women in labour are left alone due to clinical responsibility, paper work, inadequate staff ion the labour settings.

Perception of pain varies from individual to individual. Due to the fear about the pain of the labour as well as the story regarding the hospital experience of most of the women, nowadays elective caesarean sections and anesthesia are of great demand. Though the pharmacological measures helped in reducing the labour pains but it had some or the other adverse effect for the mother and the fetus.

Various researches have been done in these non pharmacological measures for the reduction of the labour pain but still labour pain is the area of much concern. The main focus is to provide quality care to make the child birth experience comfortable for the woman without any complications.

Non pharmacological methods like continuous labour support, maternal support, maternal positions, breathing and relaxation techniques, hydrotherapy, touch and

massage help in reducing pain, increasing maternal satisfaction and improving other obstetric outcomes.

It is incumbent for nurses to identify and test interventions that will enhance the physical and psychological support for women during the labour process. Effleurage is light stroking, usually of the abdomen in rhythm with breathing during contractions. It is used to distract the woman from the pain.

The investigator found abdominal effleurage to be effective in the clinical settings, without much change in position like sacral massage. As in sacral massage mother has to take side lateral position for the massage but in abdominal effleurage mother can adopt any position without much interference or discomfort.

STATEMENT OF THE PROBLEM:

A study to assess the effectiveness of abdominal effleurage on the pain perception of parturient mothers during the first stage of labour in a selected hospital at Coimbatore.

AIM OF THE STUDY:

The aim of the study is to assess whether abdominal effleurage during the first stage of labour makes any difference in the pain perception of parturient mothers compared to the woman who do not receive abdominal effleurage.

SPECIFIC OBJECTIVES

- To assess and compare the level of pain in experimental and control group at 3cms, 5cms, and 7cms of cervical dilatation during the first stage of labour.
- To compare the pain behavior in the experimental and control group from 3cms to 7cms of cervical dilatation during the first stage of labour.
- To assess the association of the level of pain with the demographic variables in the experimental group and the control group.

- To determine the views of mothers in the experimental group regarding abdominal effleurage.

OPERATIONAL DEFINITIONS:

1. EFFECTIVENESS:

In this study, effectiveness is the reduced level of pain during the first stage of labour, which is the anticipated or the desired outcome.

2. ABDOMINAL EFFLEURAGE:

Abdominal effleurage is the form of massage in which the researcher places both palms on the fundal area of the uterus over the abdomen, stroking in anti-clockwise direction using both the hands, circling the outer limits of the abdomen and gradually work inwards to cover the whole abdomen in a rhythmic and gentle manner.

3. PAIN PERCEPTION:

In this study, pain is the discomfort or uneasiness experienced by the women in labour, which is expressed by her through self reporting on a 6 point visual analogue pain scale. It is also observed by non verbal pain behaviour categorized as facial expression, vocalization and body movements.

4. FIRST STAGE OF LABOUR:

The labour starts with the onset of pain at a regular interval, gradually increasing in its intensity. The experience of pain is due to the contraction of the uterus. The contraction of the uterus progress from mild to moderate accompanied by the increment in the pain, thereby enabling the closed cervix(0cms) to dilate full (10cms). Hence, the first stage of labour is the period of regular and rhythmic uterine contraction facilitating the cervical dilatation from 0cms to 10cms.

In this study, the first stage of labour is referred as the time when the mother is admitted to the labour ward with pain to the time when she achieves a cervical dilatation of 7cms

5. PARTURIENT MOTHERS:

Parturient mothers are the mothers in the process of labour.

HYPOTHESIS

H1: There is a significant difference between the mean pain score of experimental group and control group at 3cms, 5cms, and 7cms of cervical dilatation during first stage of labour.

H2: There is a significant difference between the pain behavior in the experimental and the control group from 3cms to7cms of cervical dilatation during first stage of labour.

ASSUMPTIONS

- Threshold of pain will vary from individual to individual.
- Pain perception is influenced by various factors such as personal, emotional, psychological environmental and social factors.
- Perception of labour pain can be altered by using the pharmacological and non pharmacological measures.

DELIMITATION

- The samples were selected from the age group of 20-30 years.
- The sample size is 60, hence generalization is not possible.
- The samples were selected from one hospital setting.
- The sample for the study included the primi gravida mothers only.

LIMITATION

- Data on pain perception is gathered through self report and observation which may not be accurate.

SCOPE OF THE STUDY

Abdominal effleurage is a form of massage. Massage stimulates the body to release endorphins, which are natural pain-killing and mood-lifting substances and it also helps in reducing the psychological stress due to the presence of the supporting person. Because of this reason massage is recommended by most of the experts, especially during the first stage of labour to ease pain and anxiety.

In this study the investigator wants to assess the effectiveness of the abdominal effleurage in reducing the labour pain during the first stage of labour. If the findings of the study are found to be effective, then the results of this study may provide nurses with one more intervention to make the labour process more comfortable and satisfying to the mother. Since the abdominal effleurage is a non pharmacological intervention, furthermore it will also help to prevent the side effects of various drugs.

CONCEPTUAL FRAMEWORK

Conceptual framework is a theoretical approach to the study of problems that are scientifically based and emphasizes the selection and clarification of its concepts. A conceptual framework states the functional relationship between events and is not limited to statistical relationships **(Polit and Hungler., 1999).**

Theoretical model for this study was derived from Callista Roy's Adaptation Theory (1991); Roy throws the light on adaptation as a dynamic state of equilibrium towards the stressors. The stressors are the stimuli from the environment that requires a person to adapt. There are three types of stimuli. Focal stimuli, which are immediately confronted by the person, contextual stimuli which are the other stimuli of the person's internal and external world that influences the situation and residual stimuli are those that are present and relevant to the situation but are difficult to measure objectively.

The adaptive modes are the ways that a person adapts through physiological needs, self concepts, role functions and interdependence relations. Adaptive system is regarded as the holistic system which means that the human system has the capacity to adjust effectively to the environment. This system is regulated by two major internal control process called regulators and cognators. Such mechanisms are considered as innate coping mechanisms that are genetically determined and viewed as an automatic process.

The regulator is controlled by the neural, chemical, and endocrine coping process. The cognator is controlled by the internal and external stimuli. The regulator and the cognator activity is manifested through the coping behavior in the four adaptive modes through the physiological needs, self concepts, role functions and interdependence relations.

The modified theory in the study explains the input as the focal stimuli (internal stimuli) namely the pain perception during labour. The contextual stimuli (external stimuli) are the age, education, occupation, presence of support person, previous antenatal attendance, previous antenatal education and the antenatal education given by whom. The coping mechanism of the cognator and the regulator takes place through the abdominal effleurage. The investigator has given abdominal effleurage from admission to 7cms continuously over 10 minutes followed by behavioural observation. The adaptive responses among the experimental group women were perception of less pain. In the control group investigator has not done any intervention.

Figure: I represent the conceptual framework based on modified Roy's Adaptation Model (1991)

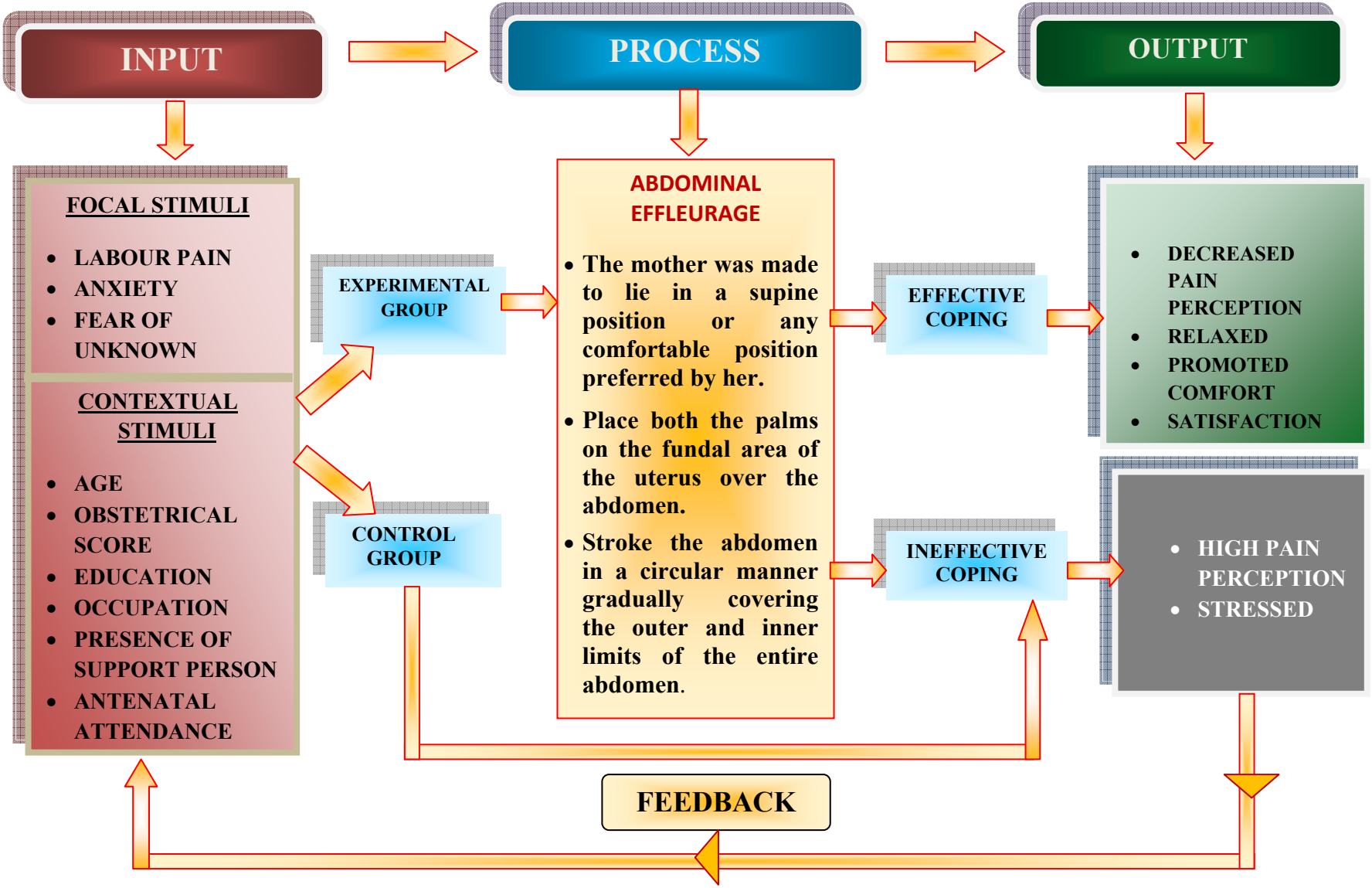


Figure: I Conceptual framework based on Modified Roy's Adaptation Model (1991)

REVIEW OF LITERATURE

CHAPTER-II
REVIEW OF LITERATURE

Review of literature is the key step in the research process. Review of literature refers to an extensive and systematic examination of publications relevant to the research project. It is a critical analysis of a segment of a published body of knowledge through summary, classification, and comparison of prior research studies, and theoretical articles. Review of literature helps the investigator to develop insight into the problem under study and to collect the information in a scientific manner to bring up the desired results.

This chapter presents the literature found relevant to the present study. The literatures have been grouped under the following headings:

1. **Literature related to the effect of massage on labour pain.**
2. **Literature related to the presence of support person on labour pain.**
3. **Literature related to the non pharmacological pain relief measures for labour.**

1. Literature related to the effect of massages on labour pain:

A study was conducted by **Josphine Jacintha (1995)** to assess the effect of back massage on labour during the first stage of labour. She randomly assigned the samples into the experimental group (n=30) and the control group (n=30). The experimental group received back massage for 10 minutes per hour. She used non participatory observation technique to observe the maternal behaviours every hour. The experimental group was interviewed regarding their response towards the back massage before shifting them to the post natal ward. 76% of the mothers expressed the back massage as comfortable experience and 43.3% expressed the back massage as a relaxing experience. In the experimental group the researcher noted that the presence of non verbal behavior was lesser in the experimental group than the presence of non verbal behaviours in the control group.

A small trial conducted by **Field and Hernandez-Rief's (1997)** showed remarkable effects in the massage group including decreased depressed mood, anxiety

and pain. The results also emphasized that the group which received the massage had less agitated activity, shorter labours, shorter hospital stays and less post natal depression. However the investigator concludes that the small size merits the study being repeated with larger numbers.

Chang et al. (2002) conducted a randomized controlled study on 60 primiparous women expected to have a normal child birth. The samples were randomly assigned to the experimental group (n=30) and control group (n=30). Present behavioral intensity was used as a measure of labour pain. The experimental group received abdominal effleurage for 30 minutes during contraction first by the researcher and then by the partner during each phases of labour. The intensity of pain was compared in the latent phase, active phase and the transitional phase, between the experimental and the control group. A't' test demonstrated that the experimental group had significantly lower pain reactions in the 3 phases. Anxiety was measured using a visual analogue pain scale. 26 of the 30 mothers (80%) in the experimental group reported the massage was helpful in providing pain relief and psychological support during labour. Findings of the study suggest that massage is a cost effective nursing intervention that can decrease pain and anxiety during labour, and partner's participation can also positively influence the quality of women's birth process.

Motahareh Pilevarzadeh, Saadat Salari and Nematollah Shafiei (2002) carried out a study to evaluate the effect of massage therapy (sacral and thigh massage) on relieving pain and its harmful effects such as anxiety during labour. This clinical trial was performed on sixty nulliparous women selected randomly who were expected to have a normal childbirth in the Jiroft city hospital. Cases were randomly assigned to experimental (n=30) and control (n=30) groups. The experimental group received massage intervention (sacral and thigh massage). The nurse-rated Present Behavioral Intensity, Visual Analogue Scale for anxiety was used as a measure of labour pain. The intensity of pain and anxiety between these two groups were compared in the latent phase (cervix dilated 3-4cm), active phase (cervix dilated 5-7cm) and transitional phase (cervix dilated 8-10cm) of labour. In both groups, there was an increase in pain intensity and anxiety level as labor progressed. Results of 't' test analysis showed that the experiment group had significantly lower pain reaction in all three phases (Phase1 P=0.000, Phase2 P=0.002, Phase3 P=0.000) and anxiety

levels were significantly different between the two groups only in latent phase (P=0.00). Eighty seven percent (n=26) of cases in experimental group expressed that massage was helpful, provided pain relief and psychological support during labour (P<0.40). The findings suggest that massage is a cost effective nursing intervention that can decrease pain and anxiety during labour and nurse's intervention to perform massage could have positive effect on delivery experience. It is suggested that massage be used for decreasing pain and anxiety during labour.

G Yildrim, N H Sahin (2004) conducted a study to determine the effect of breathing techniques and nurse administered massage (sacral and thigh massage) on the pain perception of pregnant woman during labour. The study involved 40 cases, with 20 in the experimental and 20 in the control group by non random sampling method. Data were obtained through the visual analogue scale, inspection form, observation form, and postnatal interview form. The study investigators provided information about labour, breathing techniques and massage to the pregnant women in the experimental group at the beginning of the labour (latent phase). A study investigator accompanied them during labour. These women who received nurse administered massage (sacral and thigh massage) were encouraged to perform self administered breathing techniques and massage. They were also instructed to change their positions to relax. The study showed that nursing support and patient directed education concerning labour and non pharmacological pain control methods were effective in reducing the perception of pain by the pregnant women (especially during the latent phase), leading to more satisfactory birth experience.

Chang.M., Chen.C.H. and Huang.K.F. (2006) conducted a study to describe the characteristics of pain during labour, with and without massage. 60 primi parturient mothers were randomly assigned to the experimental group and the control group and were tested using the self reported response at 3 phases (latent, active and transition phase) of cervical dilatation. The experimental group received standard nursing care and massage intervention (sacral massage and thigh massage), whereas the control group received standard nursing care only. The results showed that there was a significant difference in the latent and the active phase, but no difference in the transition phase. The result of the study indicates that the massage intervention cannot change the characteristics of pain experienced by the woman in labour, but it can

decrease the labour pain intensity at the latent and the active phase. Hence the researcher suggested that the nurses and caregivers should consider using massage intervention to help laboring women to cope with the labour pain.

Karami.N.K, Safarzadeh and A.Fathizadeh N. (2007) conducted a study to assess the effect of massage therapy (abdomen, thigh and back massage) on the severity of pain and outcome of labour at selected hospitals in Tehran. The samples taken were 60 women having single fetus from the age group of 20 to 34 years with cervical dilatation of 4cms or less and a gestational age of 38-42 weeks. These samples were divided into two experimental group (n=30) and control group (n=30). Severity of the pain was measured in visual analogue pain scale and questionnaires were filled at the cervical dilatation 4, 8 and 10cms. The results showed that the pain in the experimental group was significantly lower than the control group. Hence the investigator suggested that massage therapy could be introduced as a new method during delivery, regarding its supportive role to reduce the labour pain.

2. Literature related to the influence of presence of support person on labour pain:

A study was conducted by **Sosa, Kennel, Klaus, and Robertson (1980)** on a group of Guttlemalan women to assess the contribution of companion support to reduce the complications during labour. Each woman in this study was assigned a companion who stayed until delivery, talking to the woman holding her hand, rubbing her back and providing encouragement during labour. The study helps to find that the women with companion had fewer complications, fewer signs of fetal distress during labour than the group of woman without companion. The mean length of labour was also found to be of shorter duration.

A review of controlled trials was undertaken by **Hodnett (1995)** to assess the effect of continuous support (by various people including midwives, nurses and lay women) in labour. The study concluded that the continuous presence of a trained support person reduced the duration of labour, the likelihood of pain relief medications, operative vaginal delivery and caesarean section, regardless of whether or not the support person was the woman’s chosen partner. It also showed the positive effect in the newborn, as the neonatal APGAR score for 5 minutes was found to be more than 7.

Kathryn D. (1999) conducted a randomized trial to review the evidence regarding the effectiveness of continuous support provided by a trained laywoman (doula) during the childbirth on obstetrical and postpartum outcomes. Comparison between the 12 randomized trials showed that emotional and physical support significantly shortened labor and decreased the need for cesarean deliveries, forceps and vacuum extraction, oxytocin augmentation, and analgesia. Doula-supported mothers also rated childbirth as less difficult and painful than the women who were not supported by a doula. Labor support by fathers does not appear to produce similar obstetrical benefits. Eight of the 12 trials showed early or late psychosocial benefits of doula support. Early benefits included reductions in state anxiety scores, positive feelings about the birth experience, and increased rates of breastfeeding initiation. Later postpartum benefits included decreased symptoms of depression, improved self-esteem, exclusive breastfeeding, and increased sensitivity of the mother to her child's needs. The results of these 12 trials strongly suggested that doula support is an essential component of childbirth.

Keenan P (2000) conducted a review to assess the effect of touch support and one-to-one support during labor and childbirth, as well as the positive and negative aspects of the traditional birth attendant. According to this study, the women supported by doulas or midwives were benefited by experiencing shorter labors and lower rates of epidural anesthesia and cesarean section deliveries. Also, a smaller percentage of their newborns experienced fetal distress and were admitted to neonatal intensive care units. Women whose husbands or partners provided massage to them during labor also experienced shorter labors.

Continuous labour support involves the presence of a support person to the laboring woman by providing emotional support, comfort measures, advocacy, information and advice. A midwife, nurse, a doula, a family member or anyone else close to the woman can provide the continuous support with the use of acupressure, massage, music therapy or therapeutic touch. **(Gagnon, Meier and Waghorn 2007).**

Million Teshome, Ahmed Abdella, Solomon Kumbi (2007) conducted a cross-sectional study to assess the attitude of women in response to labor support

based at institutional deliveries. Data on labor support was collected from 406 women who delivered at three University hospitals in Addis Ababa through trained nurses using a pre-tested questionnaire. The results of the study showed that 73% of the study women had fear of labor mainly due to associated pain (66.1%), 53% of them desired to have a companion during labor. The reasons given for wanting companion were emotional (49.5%), information (25%) and physical (21.7%) supports. About 54% and 37% of women at labor need to have respectively their mothers and husbands as companions. The need for labor companion was significantly associated with maternal age (x2=13.57, p=0.00), educational status (x2=8.7, p=0.000), monthly household income (x2=14, p=0.00), marital status (x2=16.77, p=0.00), and mode of delivery (x2=9.69, p=0.02). Hence the researcher concluded that there is a need of introducing labor companion system in the labor wards.

3. Literature related to the non pharmacological pain relief measures for labour:

Although the methods of non pharmacological management are varied, all methods focus on reducing painful stimuli, activating peripheral sensory receptors, or enhancing descending inhibitory pathways. **Enkin (2000).** Non pharmacological methods of labour pain management are becoming increasingly common; this is because these methods have few side-effects, these methods have been demonstrated to be effective, and inexpensive **McCool (2002)**.

Mitner R. S. (2002) conducted an observational study among 75 women in labour, with singleton pregnancy at 36 weeks of gestation or more. In the intra partum unit, twenty four registered nurses were provided supportive interventions like emotional support, back massage, breathing pattern, etc for women in labour. He concluded that this type of nursing interventions may offer best model for providing high quality intra partum nursing care.

A study was conducted by **Betty Watters.L. (2003)** to assess the effect of ice massage on the acupressure energy meridian point large intestine 4 (L14) to reduce the labour pain during contractions. L14 is located on the medial mid point of the first metacarpal, within 3 to 4 mm of the web of skin between the thumb and the forefinger. A one group pre-test and post test design was used in which 100mm visual analogue scale and the McGill pain questionnaire was used. The result of the study

showed significant difference in the mean pain score during labour, after the intervention. Hence the researcher suggested that ice massage was a non invasive, safe and non pharmacological method of reducing labour pain.

Jaisankar (2003) conducted a study on effectiveness of music therapy on labour outcome during the first stage of labour among 40 primipara mothers. She reported that, music therapy was an effective method for reduction of anxiety level of mother ($f=9.3$, $p<0.05$) positive behavior during labour ($t=12$, $p<0.05$) and also increased pain tolerance.

A study was conducted by **F Behmanesh, H pasha and M Zeinalzadeh (2009)** in which 64 nulliparous women were randomly divided into two groups (heat therapy and routine care group). The control group received routine care in the obstetrics ward but the heat therapy group used warm bag for the low back since the cervix dilated about 3-4 cm to the end of the first stage of labor and for perineum at the second stage as well as the routine care. The severity of pain was determined on dilatation of 3-4, 6-7 and 9-10 cm and at the end of the second stage of labor by Mc Gill pain questionnaire. Comparison of the two groups showed a significant decrease in the intensity (severity) of pain in the heat therapy group in the first stage, and on dilatation of 6-7 cm and 9-10 cm, and in the second stage of labor. It was also found that in the heat therapy group, duration of the first and third stages of labor decreased but the second stage of labor showed no significant difference between the two groups. The results of the study concluded that heat reduces the intensity of pain in the first and second stages of labor and shortens the first and third stages of labor.

Ozgoli G., Sedigh S. and Alavi Maid H (2010) conducted a study to determine the effect of right hand hegu acupressure (which located in the joint of the bones between thumb and index finger, on the top of the hand) on labour pain intensity on primi parous women in the first stage of labour. 70 parturient women were randomly assigned to the experimental group (n=35) and control group (n=35). Right hand hegu acupressure was done in 4-5, 6-7 and 8-10cms of cervical dilatation. Data was collected by numerical rating scale and analyzed by Mann Whitney and Wilcoxon methods. After the intervention, there was a significant difference between

the mean pain score of the experimental group and the control group. Hence the study concluded that acupressure on hegu point is effective in decreasing the labour pain.

Yu-Hsiang Liu, Mei-Yueh Chang, and Chung-Hey Chen (2010) conducted a study to assess the effect of music on pain reaction and anxiety during labour, sixty primiparous women expected to have a normal spontaneous delivery were randomly assigned to either the experimental group (n=30) or the control group (n=30). The experimental group received the routine care and music therapy, whereas the control group received the routine care only. A self report visual analogue scale for pain and a nurse rated present behavioural intensity were used to measure the labour pain. Anxiety was measured with a visual analogue scale for anxiety and finger temperature. Pain and anxiety were compared during the latent phase (2-4cms cervical dilatation) and active phase (5-7cms cervical dilatation) separately. The results showed that experimental group had significantly lower pain, anxiety and a higher finger temperature during the latent phase of labour than the control group. However no difference was found between the two groups on the outcome measures during the active phase.

A very recent study was done by **Schwartz (2010)** in Sweden to assess the effect of acupressure to reduce the labour pains. 71 women were randomized to receive acupressure at acupressure spleen 6 point on both legs during contractions for 30 minutes period, 71 women to receive light touch at acupressure spleen 6 point on both legs during the same time and 70 women to receive standard routine care. Experience of the labour pain was assessed by visual analogue scale at baseline before the treatment, immediately after treatment and at 30, 60, and 120 minutes after treatment. The results of the study showed a reduction in labour pain in the acupressure group immediately after the intervention. However the treatment effect was small, which suggested that the acupressure can be the most effective during the initial phase of labour.

The review of literature enlightened the investigator to develop an insight into the abdominal effleurage, its effects and the response of the patients towards the massage. The review thus helped the investigator to gain in-depth knowledge about the research problem and guided her in designing the study.

METHODOLOGY

CHAPTER-III
METHODOLOGY

This chapter explains the methods adopted by the researcher to assess the pain perception during the first stage of labour followed by abdominal effleurage. It deals with the research design, variables under the study, setting of the study, population, sample size, sampling technique criteria for selection of the sample, development of the tool, pilot study, data collection procedure and statistical analysis.

RESEARCH DESIGN

A quasi experimental control group time series design with multiple treatments was used

CERVICAL DILATATION	ON ADMISSION	1 HOUR	3cms	2HOURS	5cms	2 HOURS	7cms
EXPERIMENTAL GROUP	O1	x BO1..x BO5	O2	x BO1...x BO11	O3	x BO1...x BO11	O4
CONTROL GROUP	O1	BO1... BO5	O2	BO1...BO11	O3	BO1...BO11	O4

O1 - Pre intervention pain assessment using visual analogue pain scale on admission for experimental and control group

O2, O3, and O4 - Pain assessment using a visual analogue pain scale at 3cms, 5cms and 7cms of cervical dilatation for experimental and control group

X - Abdominal effleurage was continuously given from admission to 7cms of cervical dilatation irrespective of the contractions and the pain for the experimental group.

BO – Non verbal pain behavioural response.

BO1…BO5 - In the first one hour observation of non verbal pain behavioural response for 5 times, after every 10 minutes of abdominal effleurage for experimental and without abdominal effleurage for the control group.

BO1….BO11 – Non verbal pain behavioural response for 11 times from 3cms - 5cms and 11 times from 5cms-7cms, after every 10 minutes of abdominal effleurage for experimental group and without abdominal effleurage for control group.

VARIABLES IN THE STUDY

(a) Independent variable: abdominal effleurage

(b) Dependent variable: pain perception (level of pain and presence of non verbal pain behaviour).

SETTING OF THE STUDY

The study was conducted in a private hospital at Coimbatore. The total bed strength of the hospital is 100. It is a multispecialty hospital with efficient maternity services. The hospital has a well equipped labour room, antenatal ward, postnatal ward, and operation theatre, preoperative and postoperative wards. The medical services provided by the hospital were antenatal check up, immunization, and puerperal sterilization, normal, instrumental and operative deliveries .The labour room had two sections, one having six beds in preparatory section and the other section having four labour tables. An average of 3-4 mothers were admitted for delivery per day and nearly 60-90 normal deliveries were conducted per month.

The mothers were referred for admission in the labour ward by the OPD consultant on the basis of their expected date of delivery, labour pains and per vaginal examination. The mothers who had favourable conditions for normal labour and 2cms of cervical dilatation were induced with oxytocin in the preparatory section of the labour room. At 7cms of cervical dilatation, the mothers were shifted to the labour table in the other section of the labour room.

POPULATION

The population for the study included all the primi gravida mothers, who were admitted in the selected hospital for delivery during the time of the study.

SAMPLE SIZE

The sample consisted of 60 parturient mothers who were admitted in the hospital with

labour pain and fulfilled the inclusion criteria, 30 samples in experimental group and 30 in controlled group.

SAMPLING TECHNIQUE

Non probability purposive sampling technique was adopted for the selection of the sample. The samples were randomly assigned to the experimental and the experimental group

SAMPLING CRITERIA

The following criteria was used for the selection of the samples in the study

INCLUSION CRITERIA

- Woman aged between 20-30 years
- Primi gravida
- Woman who were willing for abdominal effleurage during first stage of labour.
- No obstetric and medical complications.

EXCLUSION CRITERIA

- Woman who had undergone previous caesarian section.
- Multi gravid and multipara women
- Woman who had pregnancy associated problems (Hypertension, Bleeding disorders, Diabetes Mellitus etc).
- High risk mothers.
- Poor obstetrical score.

DESCRIPTION OF THE TOOL

The tools used for the study were a visual analogue pain scale with a recording form one observational checklist and two questionnaires.

(i) VISUAL ANALOGUE PAIN SCALE

There are several scales for assessing the pain intensity. In this study Wong's Baker
scale (6point) is used as a visual analogue scale. It is a standardized scale which ranges from 0-10.

A recording form was used to record the time and duration of uterine contraction, intensity of pain and the number of massages given throughout the labour process. Columns were provided to record the self reported pain scale by mothers on hourly basis from 3cms to 7cms.

(ii) OBSERVATIONAL CHECKLIST

In order to observe the non verbal behavior of the subjects, an observational checklist was developed with 3 non verbal pain behavioural indicators (facial expression, vocalization and body movements). Columns were provided in order to observe and record the pain behaviour of the subjects throughout the process of labour.

(iii) QUESTIONNAIRES

There were two parts in the questionnaire. Part I was to gather demographic data. This part consisted of seeking information about age, education, occupation, presence of support person, previous antenatal attendance and antenatal education.

In the second part there were two questions. One question to find out the patient's views on abdominal effleurage during the first stage of labour. The second question was to find out the feelings of mothers regarding the presence of nurse throughout the labour. A three point scale (Great extent-score 2, some extent-score 1, not at all-score 0) was provided to record the response.

DEVELOPMENT OF THE TOOL

The tool was developed based on the objectives of the study, review of literature and discussion with the experts

SCORING AND INTERPRETATION

Scoring of pain:

Wong' Baker 6 point facial scale was used as a visual analogue scale. Scoring is done 0 to 10

SCORING	INTERPRETATION
0	No pain
1-2	Mild pain
3-4	Moderate pain
5-6	Severe pain
7-8	Very severe pain
9-10	Worst pain

Scoring of observation schedule:

The presence and absence of the non verbal pain behavior was done with the help of observation schedule. The presence and absence of the behavior was scored.

SCORING	INTERPRETATION
0	Absent
1	Present

Scoring of views of mothers regarding the abdominal effleurage:

Score for the views of mother regarding the effectiveness of abdominal effleurage and the presence of nurse was divided under three categories- great extent, some extent, not at all.

SCORING	INTERPRETATION
0	Not at all
1	Some extent
2	Great extent

METHOD OF ABDOMINAL EFFLEURAGE

Apart from developing the tool for data collection, it was also necessary to plan the definite technique of administering the abdominal effleurage to maintain uniformity. Prior to the conduction of the procedure, the investigator explained the procedure of abdominal effleurage to the mother. The mother was made to lie in the supine position, but was also free to choose the side lateral position according to her comfort. The abdominal effleurage was done in a stepwise manner.

STEPS FOR ABDOMINAL EFFLEURAGE:

STEP-1: Place both the palm on the fundal area of the uterus over the abdomen

STEP-2: Using both palms, stroke the abdomen in a circular manner covering the outer limits of the abdomen and gradually inner limits of the abdomen in anti-clockwise direction.

STEP-3: Use the entire palm to stroke the abdomen in such a manner that the entire area of the abdomen is covered.

STEP-4: Make the movements in a rhythmic and gentle manner.

CONTENT VALIDITY

Content validity refers to the degree to which an instrument measures what it is intended to measure (**Polit and Hungler-1999**)

In order to establish the content validity, the tool was given to 2 medical experts (MBBS DGO) working as chief consultants in one of the private hospital, 3 nursing experts with Masters qualification in nursing in OBG speciality among which 2 experts were working as the principal in a private college and 1 expert was working as a nursing superintendent in a private hospital.

Based upon the suggestions given by the experts, in the demographic data previous antenatal attendance and in the presence of the support person, husband was added. The numerical pain scale was also changed to visual analogue scale for the ease of measuring the labour pain. Final approval was sought from the guides and modified tool was prepared for the pilot study.

RELIABILITY

The reliability of the tool was established as follows:

- Reliability of the observational checklist was established by interrater method. The tool was given to another investigator and the observation was done by two investigators at the same time. The reliability was calculated by Karl Pearson's coefficient of correlation. The obtained r value was 0.842.

- Internal consistency of the questionnaires was checked by test retest method. The reliability was calculated by Karl Pearson's coefficient of correlation. The obtained value was 0.92.

PILOT STUDY

A formal permission was sought from the Dean of the hospital to conduct the pilot study. The pilot study was done in a private hospital in Coimbatore. 10 women who met the inclusion criteria were selected and assigned randomly to the experiment and the control group, 5 samples in each. The investigator gave explanations regarding the study to each primi gravida woman and her family members and obtained verbal consent from them.

On admission, the pretest pain assessment was done using the visual analogue scale. For the experimental group abdominal effleurage was done for every 10 minutes, followed by non verbal pain behavioral observations (5 observations), for 1 hour until 3cms of cervical dilatation. At 3cms cervical dilatation, pain assessment was done using

the visual analogue scale. Again effleurage was done for 10 minutes followed by non verbal pain behavioral observations (11 observations) and continued for 2 hours until 5cms and 7cms respectively. At 5cms and 7cms of cervical dilatation pain assessment was done using visual analogue scale.

For the control group pain abdominal effleurage was not done. The intensity of pain was assessed on admission, at 3cms, 5cms and 7cms using a visual analogue pain scale and the non verbal pain behavior on observational checklist was done with an interval of 10 minutes for one hour (5 non verbal pain behavioural observations) till 3cms and 2 hours (11 non verbal pain observations) till 5cms and 7cms of cervical dilatation respectively.

Considering the difficulty for assessing, pain was assessed only 4 times i.e. on admission, 3cms, 5cms, and7cms of cervical dilatation Through interview method mother's views on massage, feelings of presence of nurse throughout the labour were collected for the experimental group. The investigator found no difficulty with the tool of the study (visual analogue pain scale, one questionnaire and one observation schedule) and no modification was done. The period of pilot study was up to 5 days (i.e. from 22/04/2011 to 26/04 2011)

DATA COLLECTION METHOD

The study was done in a private hospital in Coimbatore. Before the commencement of data collection, permission for the main study was obtained from the Dean (HOD OBG) of the hospital. Then the investigator was advised to meet nursing superintendent. The investigator established adequate rapport with the labour ward staff and briefed the study, in order to conduct the study well.

First the investigator developed rapport with the mother, met all the basic needs and explained her about the study and the procedure of abdominal effleurage. The investigator gave explanations regarding the study to each primi gravida women and her family members and obtained verbal consent from them. 60 mothers who were willing to participate and who fulfilled the inclusion criteria were selected by purposive sampling technique with random assignment into the experimental group (30) and the control group (30).

In the experimental group, after the pre-intervention pain assessment on the visual analogue scale, the abdominal effleurage was done continuously from admission to 3cms with an interruption at each 10 minute to observe the non verbal pain behavioural response. So the investigator was able to observe 5 non verbal pain berhavioural responses, over duration of 1 hour, from admission to 3cms.

At 3cms of cervical dilatation the post intervention pain was assessed. Again the abdominal effleurage was continued from 3cms to 5cms in a similar manner with continuous administration of abdominal effleurage interrupted at each 10 minutes for non verbal pain behavior response. So the investigator was able to make 11 non verbal pain behaviour observations over duration of 2 hours between 3-5cms of cervical dilatation.

At 5cms of cervical dilatation the post intervention pain was assessed. Again the abdominal effleurage was continued from 5cms to 7cms in a similar manner with continuous administration of abdominal effleurage interrupted at each 10 minutes for non verbal pain behavior response. So the investigator was able to make 11 non verbal pain behaviour observations over duration of 2 hours between 3-5cms of cervical dilatation.

For the control group, same pattern was followed with no intervention (abdominal effleurage). On admission, at 3cms, 5cms, and 7cms of cervical dilatation pain was again assessed on the visual analogue pain scale. The mother's non verbal pain behavioural response of pain was recorded on the observational checklist at each 10 minute from admission to 7cms of cervical dilatation in such a way that, the investigator was able to make 5 observations of non verbal pain behaviour response over a duration of 1hour, from admission to 3cms of cervical dilatation and 11 observations over a duration of 2 hours between 3-5cms and 5-7cms of cervical dilatation.

Through interview method mother's views on massage, feelings of presence of nurse throughout the labour were collected for the experimental group after the delivery. The study was done from 22/08/2011 to 10/10/2011. The data was collected from 2-3 samples during the day. The researcher stayed in the labour room with the

mother for 6-8 hours. The investigator stayed in the hospital for 12 hours per day during the data collection period. Total period was 45 days. The mothers were cooperative in giving responses on the pain scale.

DATA ANALYSIS

Data obtained would be analyzed in terms of the objectives of the study, using descriptive and inferential statistics.

DESCRIPTIVE STATISTICS

- Frequency and percentage distribution were used to analyze demographic variables, to assess the degree of pain on admission and at different stages of cervical dilatation (3cms,5cms and7cms),to analyze the presence and absence of non verbal pain behavior of the experimental and the control group and to analyze the questionnaires on mothers views on the effect of abdominal effleurage and the presence of nurse during labour

- Mean and standard deviation for determining the difference in the degree of pain between the experimental and the control group at different stages of cervical dilatation.

INFERENTIAL STATISTICS.

- 't' test to determine significant difference in the degree of pain between the experimental and the control group during the first stage of labour.

- Chi square test to assess the association between the degree of pain and the demographic variables.

ETHICAL CONSIDERATIONS OF THE STUDY

- Permission was obtained from the authorities for the conduction of the study. Proper explanation about the procedure and the abdominal effleurage was given to the mothers.

- Consent was taken from the patients and the doctor in-charge for safety and comfort.

- When complications arose participants without cohesion were allowed to withdraw from the study and replacement of samples was made.

ANALYSIS AND INTERPRETATIONS

CHAPTER-IV
DATA ANALYSIS AND INTERPRETATION

Data analysis and interpretation is the process of assigning meaning to the collected information and determining the conclusions, significance, and implications of the findings. It is the application of statistical procedures to analyze specific observed or assumed facts of the study.

Kerlinger (1976) defines analysis as "the method of categorizing, ordering, manipulating and summarizing the data to intelligible and interpretable form so that, the research problem can be studied and tested including relationships between the variables". **Abdellah and Levine (1979)** have stated that interpretation of tabulated data can bring light to the real meaning of the data.

This chapter deals with the analysis and interpretation of data collected from 30 experimental and 30 control group mothers.

The data have been analyzed and presented under the following headings:

1. Demographic characteristics of the samples.

Demographic characteristics include the personal informations of the samples and the details on antenatal education and antenatal attendance.

2. Assessment of pain in the first stage of labour.

Pain has been analyzed in six degrees (no pain, mild, moderate, severe, very severe and worst pain) in the experimental and the control group, on admission, at different cervical dilatation (3cms, 5cms, 7cms) in frequency and percentage, and comparison of pain is also done by mean score and the level of significance using statistical test.

3. Assessment of non verbal pain behaviour of the samples.

Non verbal pain behaviour of the samples had been analyzed under three behavioural

indicators (facial expression, vocalization and body movements) by frequency and percentage on the basis of its presence and absence. The association between the experimental group and control group had been analyzed with the chi square test.

4. Assessment of views of experimental group on abdominal effleurage and presence of nurse.

The views of the experimental group on abdominal effleurage and the presence of nurse during the first stage of labour were analyzed in frequency and percentage on a 3 point scale (great extent, some extent, not at all).

5. Association of the demographic characteristics and level of pain in first stage of labour on admission.

The association between the demographic characteristics and the level of pain during admission was done with the chi square test.

1. DEMOGRAPHIC CHARACTERSTICS OF THE SAMPLES

TABLE-I

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP ACCORDING TO PERSONAL CHARACTERISTICS

N=60

Sl No:	Personal characteristics	Experimental group (N=30)		Control group (N=30)	
		f	%	f	%
1.	Age				
	• 20-25 years	11	36.70	18	60.00
	• 26-30 years	19	63.30	12	40.00
2.	Education				
	• Illiterate	2	6.70	4	13.30
	• Primary	6	20.00	6	20.00
	• Secondary	14	46.70	7	23.30
	• Graduate	8	26.70	13	43.30
3.	Occupation				
	• House Wife	22	73.30	17	56.70
	• Private employment	8	26.70	9	30.00
	• Self employment	-	-	4	13.30
4.	Presence of support person				
	• Mother	9	30.00	3	10.00
	• Mother in law	8	26.70	9	30.00
	• Husband	7	23.30	6	20.00
	• None	6	20.00	12	40.00

Table – I presents the personal characteristics of the sample in experimental and control group.

Age: Majority of the experimental group 19(63.30%) were in the age group of 26-30 years and the control group 18(60.00%) were in the group of 20-25 years.

Education: The level of education ranged from illiterate to graduation, the maximum of 14(46.70%) with secondary education in the experimental group and 13(43.30%) with education up to graduation in the control group.

Occupation: Majority of the experimental group 22(73.30%) and the control group 17(56.70%) were housewives.

Presence of support person: In both the groups majority of the samples had support either from the mother or mother in law or husband.

Most of the samples in the experimental group 9(30.00%) were supported by the mother, 8(26.70%) by mother in law, 7(23.30%) by husband and 6(20.00%) had no support whereas in the control group 3(10.00%) were supported by the mother, 9(30.00%) by mother in law, 6(20.00%) by husband and 12(40.00%) had no support.

TABLE-II

FREQUENCY AND PERCENTAGE DISTRIBUTION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP ACCORDING TO ANTENATAL ATTENDANCE AND EDUCATION

N=60

Sl No:	Antenatal information	Experimental group (N=30)		Control group (N=30)	
		f	%	f	%
1.	Previous antenatal attendance				
	• Yes	26	86.70	18	60.00
	• No	4	13.30	12	40.00
2.	Previous antenatal education				
	• Yes	24	80.00	17	56.70
	• No	6	20.00	13	43.30
3.	Sources of antenatal education				
	• Doctor	7	23.30	8	26.70
	• Nurse	19	63.30	9	30.00
	• Any family member	-	-	2	6.70
	• None	4	13.30	11	36.70

Table – II presents the demographic variables according to antenatal attendance and education.

Previous Antenatal attendance: Majority 26(86.70%) in the experimental group and 18 (60.00%) in the control group had previously attended antenatal clinic.

Previous Antenatal education: 24(80.00%) in the experimental group and 17(56.70%) in the control group had received antenatal education previously.

Sources of antenatal education: Majority 19(63.30%) in the experimental group were provided antenatal education by the nurses and remaining 7(23.30%) had antenatal education from doctor, 4(13.30%) had no antenatal education whereas in control group 9(30.00%) had antenatal education from nurse, 8(26.70%) from doctor, 2(6.70%) from family member and 11(36.70%) had no antenatal education.

2. ASSESSMENT OF PAIN OF THE SAMPLES IN THE FIRST STAGE OF LABOUR

TABLE-III

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL AND CONTROL GROUPS AT DIFFERENT CERVICAL DILATATION ACCORDING TO DEGREE OF PAIN DURING THE FIRST STAGE OF LABOUR

N=60

Sl No:	Degree of pain	CERVICAL DILATATION															
		ON ADMISSION				3cms				5cms				7cms			
		EG		CG		EG		CG		EG		CG		EG		CG	
		f	%	f	f	f	%	f	%	f	%	f	%	f	%	f	%
1	No pain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Mild pain	29	96.70	29	96.70	25	83.30	-	-	3	10.00	-	-	-	-	-	-
3	Moderate pain	1	3.30	1	3.30	5	16.70	20	66.70	26	86.70	-	-	17	56.70	-	-
4	Severe pain	-	-	-	-	-	-	10	33.30	1	3.30	12	40.00	13	43.30	-	-
5	Very severe pain	-	-	-	-	-	-	-	-	-	-	18	60.00	-	-	11	36.70
6	Worst pain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	63.30

EG – EXPERIMENTAL GROUP, CG – CONTROL GROUP

Table – III shows the degree of pain in the different levels of cervical dilatation (on admission, 3cms, 5cms and 7cms) in the experimental and the control group.

There was a similar pattern of pain increase in experimental and control group. On admission both the groups, 29(96.70%) had mild pain and remaining had moderate pain.

At 3cms of cervical dilatation in the experimental group, 25(83.30%) of the mothers had mild pain and 5(16.70%) of the mothers had moderate pain whereas in the control group 20(66.70%) of mothers had moderate pain and remaining had severe pain.

At 5cms of cervical dilatation in the experimental group, majority of the mothers 26(86.70%) had mild pain and remaining had mild and severe pain, whereas in the control group 12(40.00%) of the mothers had severe pain and 18(60.00%) of the mothers had very severe pain.

At 7cms of cervical dilatation in the experimental group, 17(56.70%) of the mothers had moderate pain and 13(43.30%) had severe pain, whereas in the control group 11(36.70%) had very severe pain and 19(63.30%) had worst pain.

This table concludes, the degree of pain in both the experimental group and the control group was found to be an increasing manner. On comparison, the experimental group had lesser pain than the control group, as the maximum intensity of pain in the experimental group was found to be in the range of mild to moderate while in the control from mild to worst pain.

TABLE-IV

MEAN PAIN SCORE AND STANDARD DEVIATION OF EXPERIMENTAL AND CONTROL GROUP AT DIFFERENT CERVICAL DILATATION AND THE LEVEL OF SIGNIFICANCE

N=60

Sl. No.	Cervical dilatation	Experimental group (N=30)			Control group (N=30)			Mean difference	Unpaired t test (p<0.0 5), df=58
		Mean S	Mean score %	SD	Mean Score	Mean score %	SD		
1.	On Admission	2.03	20.30	0.18	2.03	20.30	0.18	0.00	0.00 **NS**
2.	3cms	2.30	23.00	0.70	4.66	46.60	0.95	2.36	10.90*
3.	5cms	3.63	36.30	0.71	6.86	68.60	0.81	3.23	13.65*
4.	7cms	4.86	48.60	1.00	9.00	90.00	0.87	4.14	16.99*

***- Significant** **Table value = 2.00**

NS- non significant

Table – IV shows the mean score and standard deviation of pain in the different levels of cervical dilatation (on admission, 3cms, 5cms and 7cms) in the experimental and the control group and the level of significance.

There was a similar pattern of increase in the mean pain score, in both the groups. In the experimental groups the mean score percentage was found to be in the range of 20.30% to 48.60%, whereas in the control group the mean score percentage was found to be in the range of 20.30% to 90.00%. On comparison there was a drastic difference in the level of pain in both the groups.

In both the groups, on admission there was no significant difference in the level of pain, whereas at 3cms, 5cms and 7cms of cervical dilatation, the statistical test showed a marked difference in the level of pain. (at 3cms $t=10.90$, at 5cms $t=13.65$, at 7cms $t=16.99$). All the obtained t value was greater than the table value 2.00 ($p < 0.05$, $df=58$).

So, the research hypothesis **H1**: there is a significant difference between the mean pain score of the experimental and control group at 3cms, 5cms and 7cms of cervical dilatation during the first stage of labour, was accepted.

Figure 2 highlights the mean pain score of experimental and control group at different cervical dilatation.

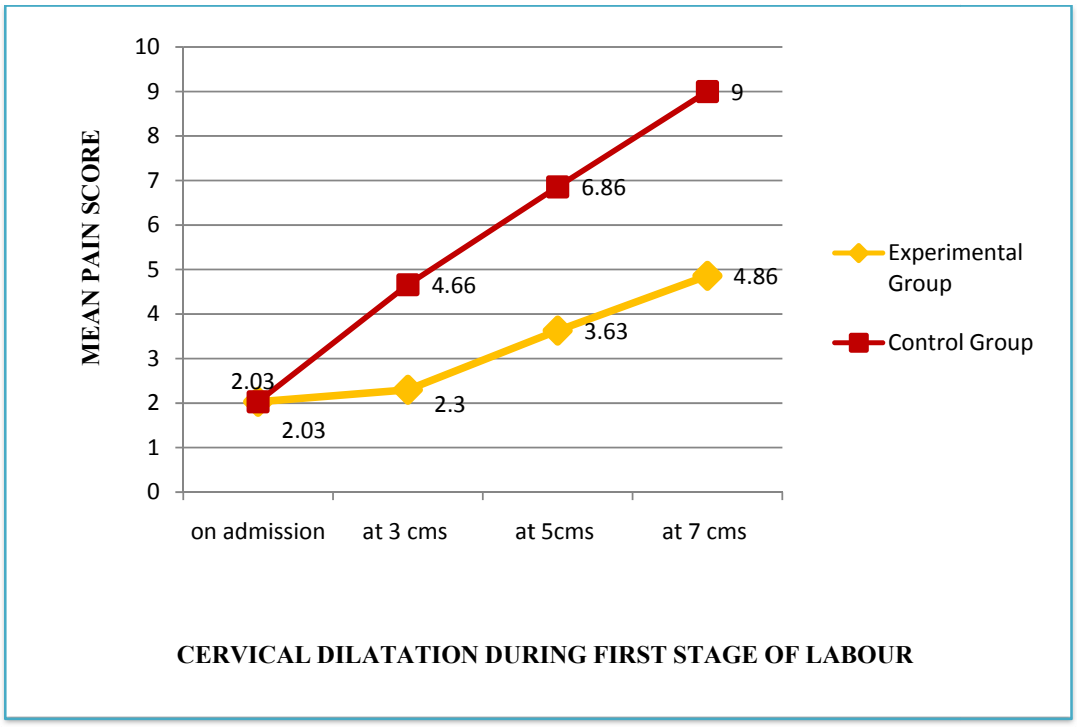


Figure-2: Mean pain score of experimental and control group at different cervical dilatation

3. ASSESSMENT OF NON VERBAL PAIN BEHAVIOUR OF THE SAMPLES

TABLE-V

FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRESENCE AND ABSENCE OF NON VERBAL PAIN BEHAVIOURAL RESPONSE IN EXPERIMENTAL AND CONTROL GROUP

N=60

Sl. No.	Non verbal pain behavior indicators	Experimental group (N=30)					Control group (N=30)				
		Present		Absent		Total	Present		Absent		Total
		f	%	f	%		f	%	f	%	
1	Facial expression	1226	25.23	3634	74.77	4860	1897	39.03	2963	60.97	4860
2	Vocalization	579	17.87	2661	82.13	3240	973	30.03	2267	69.97	3240
3	Body movements	357	11.02	2883	88.98	3240	1407	43.43	1833	56.67	3240

Table – V presents the frequency and percentage of the presence of non verbal pain behavior in the experimental and control group.

Facial expression, vocalization and body movements are the non verbal pain behavioural response, which increases with the increase in pain. There was a drastic difference in the non verbal pain behavioural response of the experimental and the control group. The facial expression and vocalization had more dominance in the experimental group, whereas in the control group all the three non verbal pain behaviour had dominance.

In the experimental group, the facial expression was 1226(25.23%), whereas in the control group the facial expression was 1897(39.03%). In the experimental group the vocalization was 57(17.87%), whereas in the control group the vocalization was 973(30.03%). In the experimental group, the body movement was 357(11.02%), whereas in the control group the body movement was 1407(43.43%).

This table concludes that the presence of non verbal behavioural response in the experimental group was lesser in the experimental group than the control group. There was a drastic difference mainly observed in the body movements, which depicts the severity of pain in the control group.

Figure-3 highlights presence of non verbal pain behavioural response in the two groups on the basis of percentage.

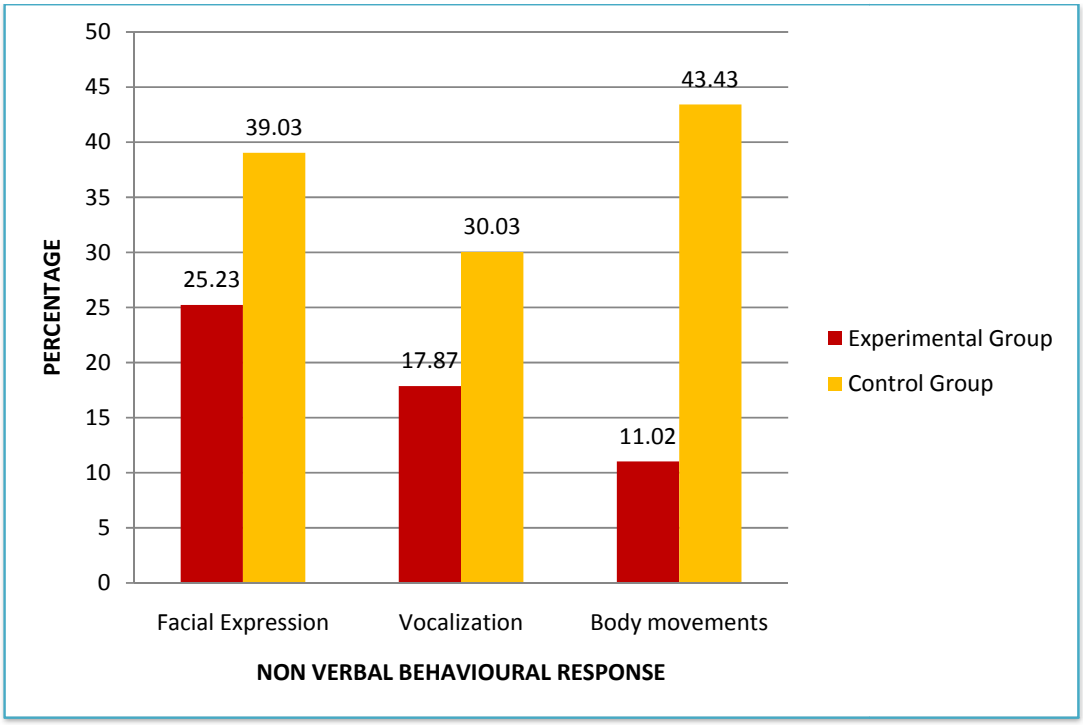


Figure-3: Presence of non verbal pain behavioural pain response in the two groups on the basis of percentage.

TABLE-VI

FREQUENCY AND PERCENTAGE COMPARISON OF EXPERIMENTAL AND THE CONTROL GROUP ACCORDING TO PRESENCE OF NON VERBAL PAIN BEHAVIOURAL RESPONSE AND LEVEL OF SIGNIFICANCE

N=60

Sl. No.	Non verbal pain behavioural response	Experimental Group N=30		Control Group N=30		$\chi 2$ value, $p<0.05$, df=1
		f	%	f	%	
1	Facial expression	1226	56.71	1897	44.35	141.6*
2	Vocalization	579	26.78	973	22.75	100.02*
3	Body movements	357	16.51	1407	32.90	195.58*

***-**Significant Table value = 3.84

Table – VI presents the comparison of the presence of non verbal pain behavioural response in the two groups in frequency and percentage and the level of significance.

Pain is manifested through non verbal pain behaviour. There will be a difference in the manifestation of non verbal pain behaviour with the increase of pain. In the experimental group majority of the samples 1226(56.71%) had facial expression, whereas majority of samples in the control group 1897(44.35%) had facial expression and 1407(32.90%) had body movements.

In statistical analysis, the obtained chi-square of the facial expression, vocalization and body movements were 141.6, 100.02 and 195.58 respectively. All the obtained values ware greater than the table value (3.84) significant at 0.05 level at one degree of freedom.

So, the research hypothesis **H2:** There is a significant difference between the non verbal pain behavioural response in the experimental and the control group from 3cms to 7cms of cervical dilatation during the first stage of labour was accepted.

Figure 4 highlights percentage distribution of non verbal pain behavioural response in the experimental group and the control group.

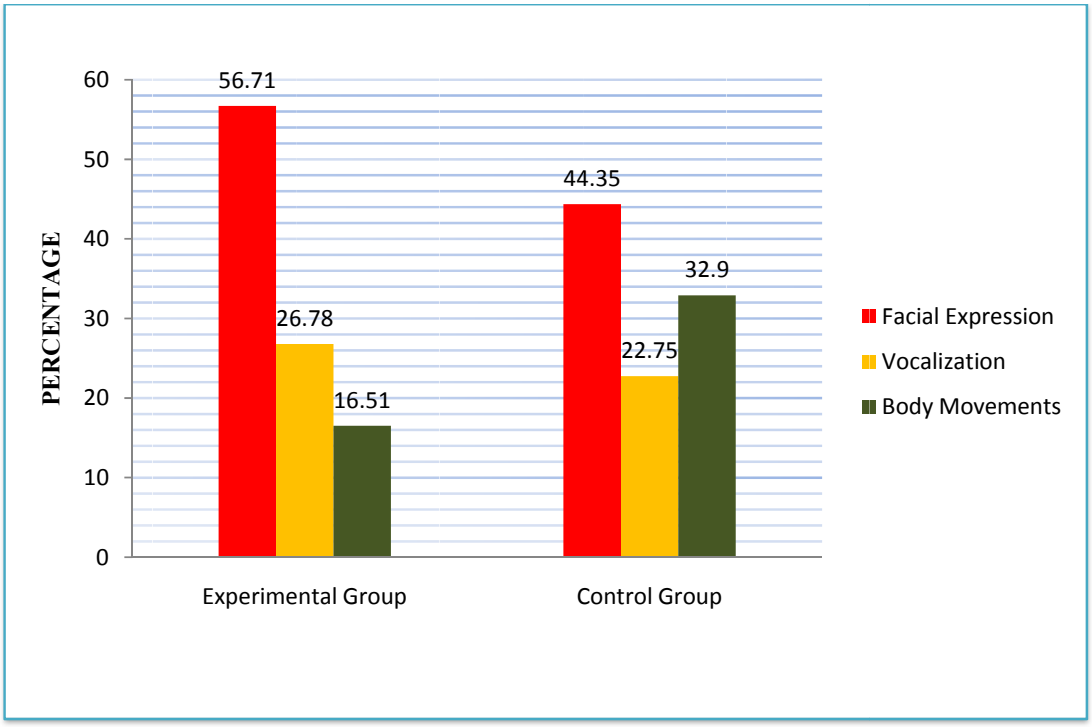


Figure-4: Percentage distribution of non verbal pain behavioural response in experimental group and control group

4. ASSESSMENT OF VIEWS OF EXPERIMENTAL GROUP ON ABDOMINAL EFFLEURAGE AND PRESENCE OF NURSE

TABLE-VII

FREQUENCY AND PERCENTAGE DISTRIBUTION OF EXPERIMENTAL GROUP ACCORDING TO VIEWS ON ABDOMINAL EFFLEURAGE AND THE PRESENCE OF NURSE IN THREE CATEGORIES

N=30

Sl No:	Views	Great extent		Some extent		Not at all	
		f	%	f	%	f	%
1	Abdominal effleurage						
	• Promoted comfort	29	96.70	1	3.30	-	-
	• Induced sleep	5	16.70	6	20.00	19	63.30
	• Reduced the level of pain	25	83.30	5	16.70	-	-
	• Supportive	30	100.00	-	-	-	-
2	Presence of nurse						
	• Felt relaxed	30	100.00	-	-	-	-
	• Satisfaction	30	100.00	3	-	-	-
	• Not felt anxious	27	90.00	-	10.00	-	-
	• Felt disturbance	-	-	-	-	30	100.00
	• Annoying	-	-	-	-	30	100.00

Table – VI presents the views of the experimental group regarding abdominal effleurage and the presence of nurse during the first stage of labour.

Almost all the samples in the experimental group experienced the effectiveness of abdominal effleurage, as majority 29(96.70%) of the samples expressed that it promoted comfort to great extent and the remaining showed it up to some extent. Most 19(63.30%) of the samples showed that it did not induce sleep. 25(83.30%) of the samples showed that the abdominal effleurage helped in reducing

the level of pain to great extent. All the samples in the experimental group felt abdominal effleurage as supportive to great extent.

The views of the experimental group on the presence of nurse during the first stage of labour showed that almost all the samples 30(100.00%) felt relaxed and satisfied, 27(90.00%) of the samples did not feel anxious to a great extent. Similarly almost all of them 30(100%) expressed that they did not feel the abdominal effleurage as a disturbance or annoying during the first stage of labour.

Figure 5 highlights views of the experimental group on abdominal effleurage during the first stage of labour.

Figure 6 highlights views of the experimental group on the presence of nurse during the first stage of labour.

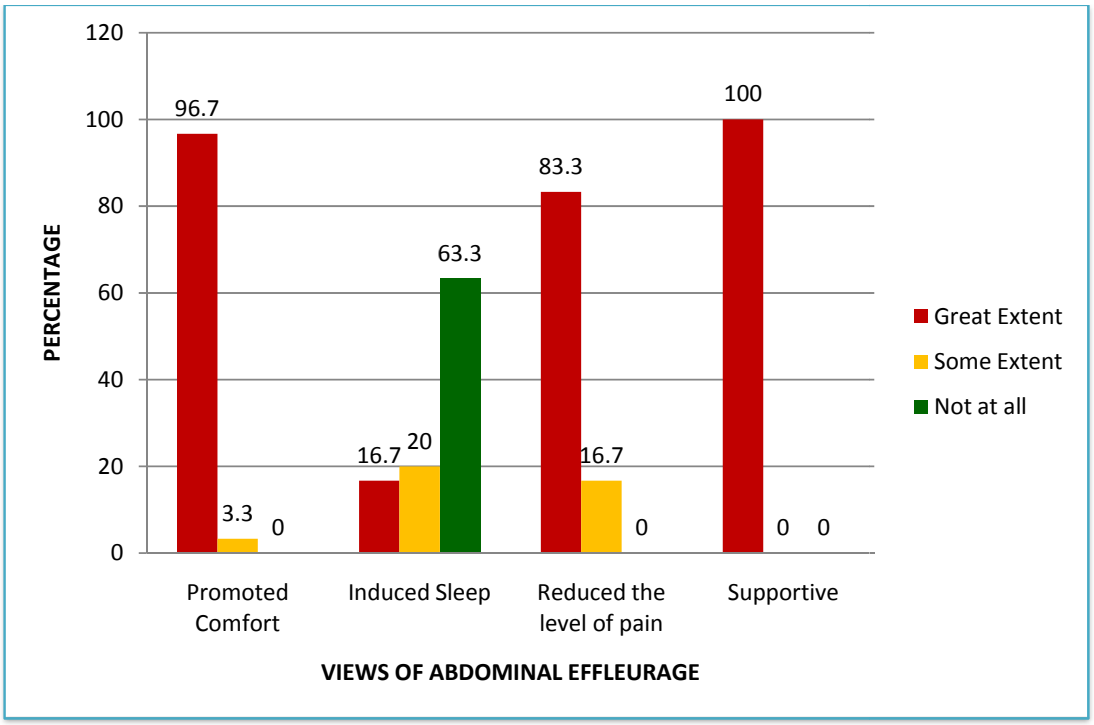


Figure-5: Views of the experimental group on abdominal effleurage during the first stage of labour

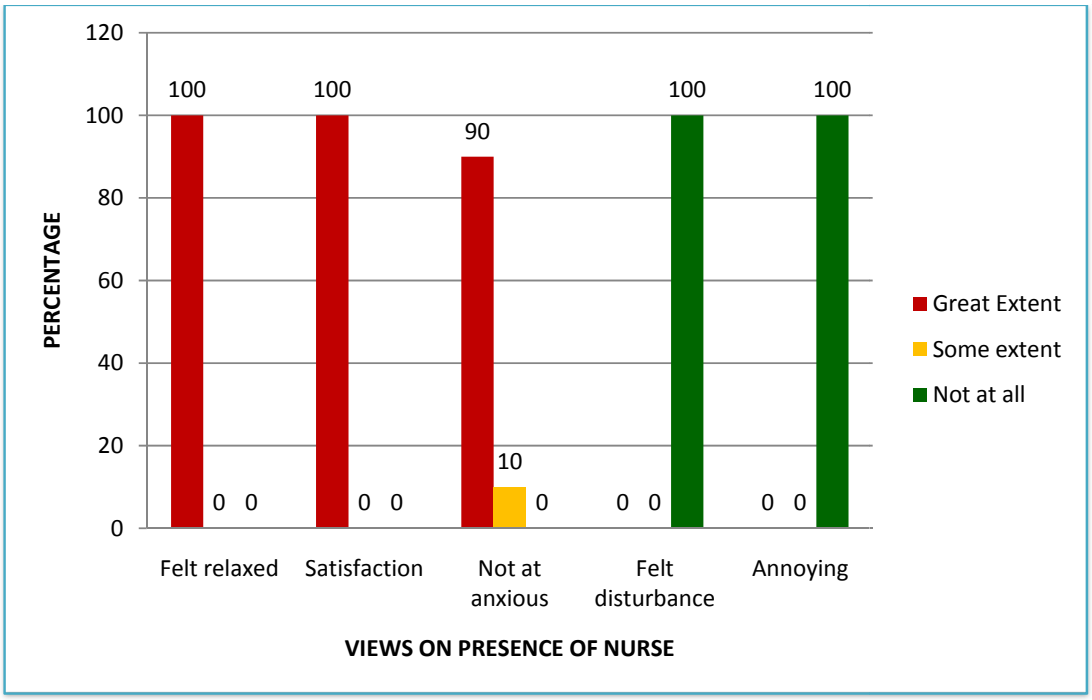


Figure-6: Views of the experimental group on the presence of nurse during the first stage of labour

5.ASSOCIATION OF THE DEMOGRAPHIC CHARACTERISTICS WITH THE LABOUR PAIN ON ADMISSION

TABLE-VIII

ASSOCIATION OF DEMOGRAPHIC VARIABLES AND DEGREE OF PAIN ON ADMISSION OF THE TOTAL SAMPLE IN FREQUENCY AND PERCENTAGE AND LEVEL OF SIGNIFICANCE

N=60

Sl No	Demographic characteristics	Level of pain				$\chi 2$ value, p<0.05	Table value, Degrees of freedom
		Mild pain		Moderate pain			
		f	%	f	%		
1	Age						
	• 20-25 years	24	40.00	5	8.30	0.32	3.84,
	• 26-30 years	28	46.70	3	5.00	**NS**	df=1
2	Education						
	• Illiterate	4	6.7	2	3.3		
	• Primary	12	20	-	-	6.76	7.82,
	• Secondary	17	28.3	4	6.7	**NS**	df=3
	• Graduate	19	31.7	2	3.3		
3	Occupation						
	• House Wife	35	58.30	4	6.70	8.83*	5.99,
	• Self employment	1	1.70	3	5.00		df=2
	• Private employment	16	26.70	1	1.70		
4	Presence of support person						
	• Mother	14	23.30	4	6.70		
	• Mother in law	11	18.30	1	1.70	1.82	7.82,
	• Husband	15	25.00	2	3.30	**NS**	df=3
	• None	12	20.00	1	1.70		
5	Previous antenatal attendance						
	• Yes	40	66.70	4	6.70	2.13	3.84,
	• No	12	20.00	4	6.70	**NS**	df=1
6	Previous antenatal education						
	• Yes	37	61.70	4	6.70	0.62	3.84,
	• No	15	25.00	4	6.70	**NS**	df=1
7	Sources of antenatal education was given by						
	• Doctor	12	20.00	3	5.00		
	• Nurse	12	20.00	3	5.00	1.00	7.82,
	• Any family member	26	43.30	2	3.30	**NS**	df=3
	• None	2	3.30	0	0.00		

***-Significant** **NS**- Non significant

TABLE-VIII shows the association of the demographic variables with the degree of labour pain on admission

Except occupation, all the demographic variables such as age, education, presence of support person, previous antenatal attendance, previous antenatal education and source of antenatal education had no association with the labour pain on admission.

In occupation, house wives showed the greatest association, as 35(58.30%) experienced mild pain than the self and privately employed mothers. Among self employment, majority 3(5.00%) had moderate pain. Among private employment, majority 16 (26.70%) had mild pain and very least had moderate pain

DISCUSSION

CHAPTER-V
DISCUSSION

The study focused on assessing the effectiveness of abdominal effleurage on the pain perception of the parturient mothers during the first stage of labour.

This chapter presents the findings and the discussion

1. Demographic characteristics of the sample

Table I explains the frequency and percentage of samples according to the personal characteristics. In the experimental group, majority of the samples 19(63.30%) were in the age group of 26-30 years and 11(36.70%) in the age group of 20-25 years, whereas in the control group 18(60.00%) were in the age group of 20-25 years and 12 (40.00%) were in the age group of 26-30 years.

The level of education ranged from illiterate to graduate. In the experimental group, the majority of the samples 14 (46.70%) had secondary education, 8(26.70%) were graduate, 6(20.00%) had primary education and 2(6.70%) were illiterate, whereas in the control group majority 13(43.30%) were graduate, 7(23.30%) had secondary education, 6 (20.00%) had primary education and 4(13.30%) were illiterate.

Majority of the samples in the experimental group 23(73.30%) were house wives, 8(26.70%) had private employment whereas in the control group 17 (56.70%) were house wives, 9(30.00%) had private employment and 4(13.30%) had self employment respectively.

In the experimental group, regarding the presence of the support person, majority 9 (30.00%) of the samples were supported by mother, 8(26.70%) by mother-in-law and 7 (23.30%) by husband, whereas in the control group 9(30.00%) of the samples were supported by mother-in-law, 6(20.00%) by husband and 3(10.00%) were supported by mother. In both the group 6(20.00%) and 12(40.00%) had no support during the first stage of labour.

Table II explains the frequency and percentage of the samples according to antenatal attendance and antenatal education. Majority of the samples 26(86.70%) in the experimental group and 18(60.00%) in the control group had previously attended antenatal clinic. Majority 24(80.00%) in the experimental group and 17(56.70%) in the control group had received antenatal education previously. Majority 19(63.30%) in the experimental group were provided antenatal education by the nurses and remaining 7(23.30%) had antenatal education from doctor, 4(13.30%) had no antenatal education whereas in control group 9(30.00%) had antenatal education from nurse, 8(26.70%) from doctor, 2(6.20%) from family member and 11(26.70%) had no antenatal education.

2. Assessment of pain in the first stage of labour

Table III explains the frequency and percentage distribution of the samples according to the degree of pain in different levels of cervical dilatation (on admission, 3cms, 5cms and 7cms,) in the experimental and the control group. There was a similar pattern of pain increase in both the groups. On admission both the groups, majority of the samples 29 (96.70%) had mild pain.

At 3cms of cervical dilatation in the experimental group, 25(83.30%) of the mothers had mild pain and 5(16.70%) of the mothers had moderate pain whereas in the control group 20(66.70%) of mothers had moderate pain and 10(33.30%) had severe pain.

At 5cms of cervical dilatation in the experimental group, majority of the mothers 26 (86.70%) had mild pain and remaining had mild and severe pain, whereas in the control group 12(40.00%) of the mothers had severe pain and 18(60.00%) of the mothers had very severe pain.

At 7cms of cervical dilatation in the experimental group, 17(56.70%) of the mothers had moderate pain and 13(43.30%) had severe pain, whereas in the control group 11(36.70%) had very severe pain and 19(63.30%) had worst pain.

Table IV explains the mean score and standard deviation of pain in the different levels of cervical dilatation (on admission, 3cms, 5cms and 7cms) in the experimental and the control group and the level of significance. There was a similar pattern of increase in the mean pain score, in both the groups. In the experimental groups the mean score percentage was found to be in the range of 20.30% to 48.60%, whereas in the control group the mean score percentage was found to be in the range of 20.30% to 90.00%. On comparison there was a drastic difference in the level of pain in both the groups.

The present study revealed that there was a similar pattern of increase in the degree of pain in both the groups. But on comparison, there was a reduction in the degree of pain in the experimental group than the control group. The present findings of the study was supported by the previous study conducted by **Karami.N.K, Safarzadeh and A.Fathizadeh N. (2007)** to assess the effect of massage therapy (abdomen, thigh and back massage) on the severity of pain and outcome of labour at selected hospitals in Tehran. These samples were divided into two experimental group (n=30) and control group (n=30). Severity of the pain was measured in visual analogue pain scale and questionnaires were filled at the cervical dilatation 4, 8 and 10cms. The results showed that the pain in the experimental group was significantly lower than the control group.

3. Assessment of non verbal pain behaviour of the samples.

Table V explains that the presence of non verbal behavioural response in the experimental group was lesser in the experimental group than the control group. The severity of pain is usually manifested by body movements, on comparison with facial expression and vocalization. In the control group the body movements was found to be high.

In the experimental group, the facial expression was 1226(25.23%), whereas in the control group the facial expression was 1897(39.03%). In the experimental group the vocalization was 579(17.87%), whereas in the control group the vocalization was

973(30.03%). In the experimental group, the body movement was 357(11.02%), whereas in the control group the body movement was 1407(43.43%).

Table VI explains the comparison of the presence of non verbal pain behaviour in the two groups in frequency and percentage and the level of significance. There was a significant difference in the manifestation of non verbal pain behaviour with the increase of pain. In the experimental group majority of the samples 1226(56.71%) had facial expression, whereas majority of samples in the control group 1897(44.35%) had facial expression and 1407(32.90%) had body movements. In statistical analysis, the obtained chi-square of the presence of non verbal pain behaviour was greater than the table value (5.99) significant at 0.05 level at one degree of freedom. The table concludes that there is a significant difference between the pain behaviour in the experimental and the control group from 3cms to 7cms of cervical dilatation during the first stage of labour was accepted.

The findings of the study showed that the presence of non verbal pain behavioural response was less in the experimental group who received the abdominal effleurage than the control group who did not receive the abdominal effleurage. The present study concluded that the manifestation of the non verbal pain behavioural response is decreased along with the reduction in the degree of pain. This describes the effectiveness of the abdominal effleurage.

The present findings were supported by the study conducted by **Josphine Jacintha (1995),** on the effect of back massage on labour pain during the first stage of labour. In that study, the researcher noted that along with the pain, the presence of non verbal behavior was lesser in the experimental group than the presence of non verbal behaviours in the control group.

4. Assessment of views of experimental group on abdominal effleurage and presence of nurse.

Table – VII explains the views of the experimental group regarding abdominal effleurage and the presence of nurse during the first stage of labour. Almost all the samples in the experimental group experienced the effectiveness of abdominal

effleurage, as majority 29(96.70%) of the samples expressed that it promoted comfort to great extent and the remaining showed it up to some extent. Most 19(63.30%) of the samples showed that it did not induce sleep. 25(83.30%) of the samples showed that the abdominal effleurage helped in reducing the level of pain to great extent. All the samples in the experimental group felt abdominal effleurage as supportive to great extent.

The views of the experimental group on the presence of nurse during the first stage of labour showed that almost all the samples 30(100.00%) felt relaxed and satisfied, 27(90.00%) of the samples did not feel anxious to a great extent. Similarly almost all of them 30(100%) expressed that they did not feel the abdominal effleurage as a disturbance or annoying during the first stage of labour.

The findings of the study suggest that the presence of nurse during first stage of labour provided a sense of relaxation, satisfaction and reduced the level of anxiety. These findings were supported by the study conducted by **G Yildrim, N H Sahin (2004)** to assess nurse administered massage (sacral and thigh massage) on the pain perception of pregnant woman during labour. The study showed that nursing support and patient directed education concerning labour and non pharmacological pain control methods were effective in reducing the perception of pain by the pregnant women (especially during the latent phase), leading to more satisfactory birth experience.

5. Association of the demographic characteristics and level of pain in first stage of labour on admission.

Table- VIII shows the association of the demographic variables with the level of

labour pain on admission. Accept occupation, all the demographic variables such as age, education, presence of support person, previous antenatal attendance, previous antenatal education and source of antenatal education had no association with the labour pain on admission.

In occupation, house wives 35(58.30%) experienced mild pain than the self employment 1(1.70%) and 16(26.70%) privately employed mothers.

SUMMARY, FINDINGS, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

CHAPTER VI
SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

INTRODUCTION

This chapter deals with the summary, conclusion, implication and recommendation.

SUMMARY OF THE STUDY

The aim of the study was to assess whether abdominal effleurage during the first stage of labour made any difference in the pain perception of parturient mothers compared to the woman who did not receive abdominal effleurage.

The conceptual framework of the study was based on Callista Roy's Adaptation Model. The research design used in the study was quasi experimental control group time series design with multiple treatments. The independent variable of the study was abdominal effleurage and pain perception was the dependent variable.

The study was conducted in a selected hospital at Coimbatore. The data was collected for 45 days. The total sample consisted of 60 parturient mothers (30 experimental and 30 control), selected by purposive sampling technique, randomly assigned to the two groups. The data was collected using a Wong's Baker Scale with a recording form to assess pain and two questionnaires for assessing the effectiveness of abdominal effleurage and presence of nurse. The reliability of the study was established by interrater (0.842), test and retest method (0.92). The data was analyzed using descriptive and inferential statistics.

SUMMARY AND FINDINGS

1. Demographic characteristics of the samples.

Data was collected as personal characteristics and on antenatal attendance and education.

Personal characteristics

Most of the samples 19 (63.30%) in experimental group were in the age group of 26-30 years and the rest in 20-25 year group, whereas in control group it was reserve. Most of the samples 18 (60.00%) were in the age group of 20-25 and the rest in the age group 26-30 years.

Most of the samples in the experimental group 14 (46.70%) had secondary education whereas in control group. Most of the samples 13 (43.30%) had graduate education. An equal number of 6 in both the group had primary education and 2 - 4 samples were illiterate in both the group.

Most of the samples in both the experimental group 22 (73.30%) and the control group 17 (56.70%) were house wives. In the experimental group 8 (26.70%) had private employment whereas in the control group 9 (30.00%) had private employment. There were no samples for self employment in experimental group whereas 4 (13.30%) in the control group had self employment.

Most of the samples in the experimental group 9 (30.00%) were supported by mother, 8 (26.70%) by mother-in-law, 7 (23.30%) y husband and a very least had no support, whereas in the control group majority 12 (40.00%) had no support, 9 (30.00%) were supported by mother-in-law, 6 (20.00%) and a very least were supported by the mother.

For the samples based on antenatal attendance and antenatal education, majority of the samples 26(86.70%) in the experimental group and 18 (60.00%) in the control group had previously attended antenatal clinic. Majority 24(80.00%) in the experimental group and 17(56.70%) in the control group had received antenatal education previously. Majority 19(63.30%) in the experimental group were provided antenatal education by the nurses and remaining 7(23.30%) had antenatal education from doctor, 4(13.30%) had no antenatal education whereas in control group 9(30.00%) had antenatal education from nurse, 8(26.70%) from doctor, 2(6.20%) from family member and 11(26.70%) had no antenatal education.

2. Assessment of pain in the first stage of labour

The level of pain was assessed on the visual analogue pain scale on admission, at 3cms, 5cms and 7cms dilatation. On admission in both the group, 29 (96.70%) samples had mild level of pain.

From 3cms-7cms there was gradual increase in the level of pain in both the group from mild to very severe pain. At 3cms, 25 (83.30%) and 5 (16.70%) in the experimental group had mild and moderate pain respectively, whereas in the control group the level of pain was moderate for 20 (66.70%) and for 10 (33.30%) the level of pain was severe.

At 5cms in the experimental group, there were 3 (10.00%) with mild, 26 (86.70%) with moderate and 1 (3.30%) with severe pain whereas in the control group there were 12 samples (40.00%) with severe pain and 18 (60.00%) with very severe pain.

At 7cms in the experimental group, there were 17 (56.70%) had moderate pain, and 13 (43.30%) had severe pain whereas in the control group 11 samples (36.70%) had very severe pain and 19 (63.30%) had worst pain.

The mean pain score of both experimental and control group on admission was 20.30%. From 3cms-7cms of dilatation, there was a gradual increase of 23.30%, 36.30% and 48.60% respectively in the experimental group, whereas in the control group the increase was 46.60%, 68.60% and 19.00% respectively.

The marked difference between the mean pain score of experimental and control group was 23.60% at 3cms, 32.30% at 5cms and 41.40% at 7cms.

3. Assessment of non verbal pain behaviour of the samples.

The presence of non verbal behavioural response in the experimental group was lesser in the experimental group than the control group. There was a drastic difference mainly observed in the body movements, which depicts the severity of pain

in the control group. In the experimental group majority of the samples 1226(56.71%) had facial expression, whereas majority of samples in the control group 1897(44.35%) had facial expression and 1407(32.90%) had body movements. In statistical analysis, the obtained chi-square of the presence of non verbal pain behavior (facial expression was 141.6, vocalization was 100.02 and body movement was 625) was greater than the table value (5.99) significant at 0.05 level at one degree of freedom.

4. Assessment of views of experimental group on abdominal effleurage and presence of nurse.

Almost all the samples in the experimental group experienced the effectiveness of abdominal effleurage, as majority 29 (96.70%) of the samples expressed that it promoted comfort to great extent and the remaining showed it up to some extent. Most 19 (63.30%) of the samples showed that it did not induce sleep. 25 (83.30%) of the samples showed that the abdominal effleurage helped in reducing the level of pain to great extent. All the samples in the experimental group felt abdominal effleurage as supportive to great extent.

The views of the experimental group on the presence of nurse during the first stage of labour showed that almost all the samples 30 (100.00%) felt relaxed and satisfied, 27 (90.00%) of the samples did not feel anxious to a great extent. Similarly almost all of them 30 (100%) expressed that they did not feel the abdominal effleurage as a disturbance or annoying during the first stage of labour.

5. Association of the demographic characteristics and level of pain in first stage of labour on admission.

Except occupation, all the demographic variables such as age, education, presence of support person, previous antenatal attendance, previous antenatal education and source of antenatal education had no association with the labour pain on admission.

In occupation, house wives 35 (58.30%) experienced mild pain than the self and privately employed mothers. Among self employment, majority 3 (5.00%) had moderate pain. Among private employment, majority 16 (26.70%) had mild pain and very least had moderate pain

SIGNIFICANT FINDINGS

There is a significant difference between the mean pain score of experimental group and control group at 3cms, 5cms, and 7cms of cervical dilatation during first stage of labour. (at 3cms $t=10.90$, at 5cms $t=13.65$, at 7cms $t=16.99$, $p < 0.05$, $df=58$)

There is a significant difference between the non verbal pain behavioral response in the experimental and the control group from 3cms to7cms of cervical dilatation during first stage of labour. (facial expression = 141.6, vocalization = 100.02, body movement = 195.8, $p < 0.05$, $df=1$)

CONCLUSION

The crux of this study finding lay open that the abdominal effleurage are highly beneficial in reducing labor pain.

IMPLICATIONS

The findings of the study have implications for nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

The findings of the present study have its maximum implication in the nursing practice. Labor pain is nearly a universal experience for child bearing women. Midwives working in the antenatal clinics and labor room should use the evidence, based practice of effleurage for reducing the perception of labor pain intensity among mothers during this 1st stage of labor.

Midwives should educate and encourage the mothers to practices effleurage during 1st stage which would help her in a reduced perception of pain intensity. For several decades midwives have focused on the alleviation of pain and suffering during the childbirth experience. The use of abdominal effleurage owes its benefit because of its attributes of being non-intrusive, noninvasive and low-cost method. Midwives should use abdominal effleurage as a simple and effective method for parturient pain management and overall sense of providing comfort to the mothers during their intense pain in the labor.

Education about the non-pharmacological pain relief measures to the mothers by the antenatal midwives would prove to be a boon to the mothers, as they can use this abdominal effleurage by understanding their benefits, during their labor process and perceive more control over their intense pain.

Labor room midwives should take initiative to boost up and encourage the mothers to practice abdominal effleurage. Midwives should also encourage the presence of family members (any 1) in the labor room along with the mothers during their 1st stage, as a constant family support would help them to perceive less pain during their labor suffering.

The finding of the study is relevant in a hospital setting but also in the community area. Community midwives should promote these parturient mothers, to practice abdominal effleurage, so as to reduce the pain perception in the 1st stage.

This paradigm shift from traditional pain management to newer evidence based passed non-pharmacologic practices like abdominal effleurage should be promoted among mothers and used by the midwives for controlling labor pain perceptions without harm to the mother.

Nursing Education

Health Care personnel's should be educated about the various non-pharmacological measures of pain relief specially the abdominal effleurage so that they can further educate the mothers during their last trimester in their antenatal

period and can practice the use of abdominal effleurage to the mothers during the 1st stage of labor for controlling their pain.

Midwives should be given an opportunity to regularly update their knowledge regarding the use of abdominal effleurage and various other non-pharmacological measures, their benefits, their pre-requisites', clinical implications and the newer techniques of counseling and providing confidence to the mothers for use of abdominal effleurage.

The implication of this study would find its base from the inclusion of these findings and conclusions in the curriculum of the student midwives, so that they can use abdominal effleurage, during their antenatal advices to the mothers and they can make use of abdominal effleurage, while caring for the mothers in the labor room, so as to reduce pain perception and provide comfort. Knowledge about these positions and their practice would help the student midwives in their future tenure of staff nurses, nursing administrators and nursing educators to carryout and imply abdominal effleurage and encourage the use of other non-pharmacological measures of pain relief for mothers fulfilling the primary objective of providing a positive child-birth experience to the mothers.

Nursing Administration

Nursing administrators should take an initiative in creating policies or plans in providing education to the women during her pregnancy and involve the parents themselves in the promotion of safe delivery and new born care. She should make the education department aware about the preventive health problems and should encourage them to include topics like prenatal care, parenthood preparation and child birth preparation as well as pain relieving measures to be included in the classes.

The nursing administrators can apply the findings of the study by promoting the use of abdominal effleurage in their labor rooms, advocating and encouraging the labor room midwives to use in it their practice.

Nursing administrators should ensure the use of various non-pharmacological measures in their departments and should foster in service education classes and special trainings for their midwives so as to promote the use of these non-pharmacological measures of pain relief.

Nursing administrators should enforce the maximum use of this cost-effective method of pain relief for the mothers during labor pain, thereby providing qualitative nursing care.

Nursing Research

A profession seeking to improve the practice of its members and to enhance its professional stature strives for the continual development of a relevant body of knowledge. Nursing research represents a critically important tool for the nursing profession to acquire such knowledge.

Nursing researchers should be aware about the existing healthcare system and the status of the nursing profession. By conducting research and by formulating new theories, researches could improve the knowledge, skill and attitude of the midwife and ultimately, improve the status and standard of nursing. There is a need for extensive and intensive nursing research in the areas of the non invasive, non-pharmacological methods of pain relief, especially the use of abdominal effleurage etc. not only on labor pain, but also other important obstetric factors such as descent of the head, progress of labor etc on both 1st & 2nd stages.

Research can also be conducted on comparative studies of the effect of abdominal effleurage and different non pharmacological measures to aid feasible, inexpensive and non-intensive pain relief measures which are free of adverse effects both for the mother and newborn.

RECOMMENDATIONS

On the basis of the findings of the study, it is recommended that:

- A similar study may be replicated on a larger scale.
- A similar experimental study can be conducted with more randomized selection of the samples.
- An experimental study can be conducted to compare the effect of two different non pharmacological measures on the reduction of the labor pain.
- An experimental study can be conducted to assess the effectiveness of abdominal effleurage on progress of labor.
- A study can be conducted to assess the knowledge and practices of the labor room nursing staff about the use of effleurage on pain relief, their advantages, risk factors and preliminary considerations etc. among mothers during their 1st and 2nd stage of labor.

BIBLIOGRAPHY AND REFERENCES

BIBLIOGRAPHY

BOOK REFERENCE

- Bare, Brenda. & Smeltzer, Suzanne.C., (2004) "Text Book of Medical Surgical Nursing" 10th edition), Mosby Publications, Elsiever, St. Louis, Missouri.

- Beische.N.A. & Mackay.E.V., (1995) "Obstetrics and newborn" 3rd edition, Saunders Company & Ltd, New York.

- Bobak.F.M. & Jensen.M.D. (1991) "Essentials of Maternity Nursing", 3rd edition, Mosby Publications, Elsiever, St. Louis, Missouri.

- Cunningham G. (2001), "William's obstetrics" 1st edition Tehran, Golban Publication.

- Daffary, Shirish. N. & Chakravarti, Sudip., (2002) "Manual of Obstetrics" 1st edition, Mosby publications, Elsiever, New Delhi.

- Dutta D.C., (2004) "Textbook of Obstetrics" 5th edition, New Central Book Agency, Calcutta.

- Francine, H. (2000) "Childbirth education" 2nd edition, Saunders company & Ltd, Philadelphia.

- Fritz S and Mosby S., (2000) "Fundamental and therapeutic massage" 2nd edition, Mosby Publications, Elsiever, St. Louis, Missouri.

- Iren, M. Boban. (1995) "Maternity Nursing" 4th edition, New York, Mosby Publications, Elsiever, St. Louis, Missouri.

- Kothari C.R. (2006) "Research methodology" 2nd edition, New Age International Limited Publishers, New Delhi.

- Ladewig Weiland Patricia, London Marcia L. Sally B. et al. (1994) "Maternal Newborn Nursing" 3rd edition, Addison Wesley Nursing, California.

- Loeser.J.D. (2001) "Management of Pain" 1st edition, Lippincott Williams Wilkins, Philadelphia.

- Lowdermilk Dietra Leonard, Perry Shannon.E., Piotrowski Karen.A., (2003) "Maternity Nursing", 6th edition, Mosby Publication, Elsiever, St. Louis, Missouri.

- Lowdermilk, D.L., Perry, S.E. & Bobak, I.M. (2000**).** "Maternity and women's health care" 7th edition, Mosby publication, New York.

- Mahajan.B.K. (1999) "Methods in Biostatistics for medical students and Research Workers" 6th edition, Jaypee Publications, New Delhi.

- Melzack.R., & Wall.P.D. (1999). "Textbook of pain mechanisms: A New Theory Science" 4th edition, Churchill Livingston, Edinburg.

- Murvay S.E., (2002) "Foundation of Maternal-newborn nursing" 3rd edition, Saunders Publication, Philadelphia.

- Myles, (1999) "Text Book for Midwives" 13th edition, Churchill, Livingstone London.

- Pillitteri, Adele, (1999) "Maternal and Child Health Nursing" 2nd edition J.B. Lipincott Company, Philadelphia.

- Polit Hungler, (1999) "Nursing Research Principles and Methods" 6th edition, Lippincott Publication, Philadelphia.

- Polit, Denise.F. & Hungler, Bernadette. P. (1999) "Nursing Research, Principles and Methods" 6th edition, Lippincott Publication, Philadelphia.

- Treece and Treece, (1999) "Elements of Research in Nursing" 5th edition, St.Louis,

Mosby Publication.

- Wong, Donna. L. & Perry, Shannon. E. (1998) "Maternal Child Health Nursing" 2nd edition St. Louis, Mosby publication.

- Wood, G.L. & Haber, J. (2002) "Nursing Research Methods, Critical appraisal and utilization" 2nd edition, Mosby publication, Philadelphia.

JOURNALS

- Cogan, R. & Spinnato, J. (2001) Social support during premature labour: effects on labour and newborn. Journal of Psychosomatic Obstetrics and Gynaecology 8(2), 209-216.

- E.Hemminki, A.-L.Virta, P. Koponen, M. Malim, H. Kojo-Austin and R.Tuimala (1990) "A trial on continuous human support during labor: feasibility, interventions and mothers' satisfaction", Informa Health Care Vol. 11, No. 4 , pp no. 239-250

- Julie Scott Taylor, M.D., M.Sc., 2002, "Caregiver Support for Women During Childbirth: Does the Presence of a Labor-Support Person Affect Maternal-Child Outcomes" A Peer Reviewed Journal of American Academy of Family Physicians," October 1,Vol:7 pp no:1205-1206

- Katherine D. (1999), "The Obstetrical and Postpartum Benefits of Continuous Support during child birth" Journal of Women's Health and Gender Based Medicine December 8, Vol:10, pp no. 1257-1264

- Kenan P. (2000), "Benefits of massage therapy and use of a doula during labour and child birth, Alternative Therapy of Health Medicine January: 6 Vol 1, pp no.66-74.

- Million Teshome, Ahmed Abdella and Solomon Kumbi (2007), "Parturients' need of continuous labor support in labor wards" Ethiop Journal of Health Development December21, Vol:1, pp no :35-39

- Williams D. (2003). Caesarean rates, Journal of Obstetrics and Gynaecology and Neonatal Nursing, 13(2), 16-19.

- Zelling E. (2001) Nursing support in laboring women, Journal of Obstetric and Neonatal Nursing. 24(5), 425-427.

ONLINE JOURNALS

- Baker ,A; Ferguson, S.A; Roach G.D. & Dawson ,D. (2001) Perceptions of labour pain by mothers and their attending midwives .Journal of Advanced Nursing 35(2), 171-179. Retrieved on Jan 18, 2010 from www.ncbi.nlm.nih.gov/pubmed/11442696

- Behmanesh ,F; Pasha ,H & Zeinalzadeh,M.(2007) Effect of heat therapy on labor pain and the time of labor in primigravida .Iranian Red Crescent Medical Journal.11(2):188-192. Retrieved Jan 2, 2010, from www.irmj.ir/journal-29.xml

- Brown, S; Douglas, C & Flood, L. (2001) Women's Evaluation of Intrapartum Nonpharmacological Pain Relief Methods Used during Labor .Journal of Perinatal Education. 10(3): 1–8. Retrieved on Jan 18, 2010 from www.ncbi.nlm.nih.gov.

- Chang ,M.Y; Chen ,C.H; Huang ,K.F.(2006) A comparison of massage effects on labor pain using the McGill Pain Questionnaire. Journal of Nursing Research.14(3): 190-197. Retrieved March2, 2010, from www.ncbi.nlm.nih.gov/pubmed/1696740.

- Chang M; Wang S; Chen C.(2002) Effects of massage on pain and anxiety during labour: a randomized controlled trial in Taiwan. Journal of Advanced Nursing.2002: 38(1):68-73. Retrieved March2, 2009, from www.ncbi.nlm.nih.gov/pubmed/1189532.

- Fischer , R. L; Bianculli, K. W; Sehdev , Harish ; Hedgier, M. L. (2000) Does light pressure effleurage reduce pain and anxiety associated with genetic amniocentesis? A randomized clinical trial. The Journal of Maternal-Fetal & Neonatal Medicine. 9(5), 294 – 297. Retrieved Jan 2, 2009, from www.informaworld.com/smpp.

- Huntley, A.L; Coon ,J.T; Ernst, E. (2003). Complementary and alternative therapies for labor pain. American Journal of Obstetric Gynecology. 191(1):36-44.Retrived on Jan 18, 2010 from www.ncbi.nlm.nih.gov/pubmed/15295342.

- Karami, N. K; Safarzadeh, A; Fathizadeh,N.(2007)Effect of massage therapy on severity of pain and labor of primiparous women. Iranian Journal of Nursing and Midwifery Research;12(1),6-9.Retrieved March2,2009 from www.journals.mui.ac.ir.

- Kun J. L; Chun , J.C & Hyun S. J. (2003) Effects of Full Body Massage on Labor Pain and Delivery Stress Reaction for Primipara during Labor. Korean Journal of Women Health Nursing.9 (3):224-234.Retrieved on April12,2010 from journal.women-health-nursing.or.kr.

- Kyong, Chang and Kang (2004); Evaluate the effects of acupressure on labor pain and delivery time on women in labor. Korean Journal of Women Health Nursing .11(2) Retrived on Jan 2 2010 from www.pub.med.gov.

- Lai, M.L; Lin, K.C ; Li, H. Y; Shey, K.S; Gau, M.L.(2009) Effects of Delayed Pushing During the Second Stage of Labor on Postpartum Fatigue and Birth Outcomes in Nulliparous. Journal of Nursing Research: 17 (1), 62-72. Retrieved on Jan12, 2010 from Women journals.lww.com.

- Larsen, K. E; O'Hara M. W; Brewer, K. K & Wenzel, A. (2001)A prospective study of self-efficacy expectancies and labour pain. Journal of Reproductive and Infant Psychology.19(3),203–214.Retrived on Jan12,2010 from www.informaworld.com/index/

- Lee, M.K; Chang,S.B; Kang, D.H.(2004). Effects of Sp6 acupressure on labour pain and length of delivery time in women during labour. Alternative Complimentary Medicine. 10(6), 959-965. Retrived on Jan 18 2010 from www.ncbi.nlm.nih.gov/pubmed/15673989

- O. Kuti & A. F. Faponle. (2006) Perception of labour pain among the Yoruba ethnic group in Nigeria. Journal of Obstetrics and Gynaecology. 26(4) , 332 – 334**.** Retrieved Jan 2, 2010, from www.informaworld.com/index/747685251.pdf

- Phumdoung, S & Good, M. (2003) Music reduces sensation and distress of labor pain. Pain Management Nursing. 4(2):54-61. Retrieved on Jan12, 2010 from www.ncbi.nlm.nih.gov/pubmed/12836149

- Suresh, Vinitha (2007). Effect of parturient position on labour pain among mothers. Indian Journal of Nursing Studies. (1), 11-15. Retrieved on May2, 2010 from www.cconursing.com.

- **Walton, Mary (2009).Immediate effects of effleurage back massage on physiological & psychological relaxation.** The Nursing Journal of India. 10, 230-232. . Retrieved Nov11, 2009, from www.tnaionline.org/thenursing_oct09.htm

- Waters BL & Raisler J. (2003)Ice massage for the reduction of labor pain. Journal on Midwifery & Women's Health. 48(5):317-321 Retrived on Jan18 2010 from www.find-health-articles.com/rec_pub_14526344-

- Yildirim G and Sahin NH. (2004) Effect of breathing and skin stimulation techniques on labour pain perception of Turkish women. Pain Research Management.9(4):183-187.Retrived on Jan18, 2010 from www.ncbi.nlm.nih.gov/pubmed/15605131.

- Young, Ryan; Gutnik, Boris; Moran, Robert W; Thomson, Rex W.(2005) The Effect of Effleurage Massage in Recovery From Fatigue in the Adductor Muscles of the Thumb. Journal of Manipulative and Physiological Therapeutics. 9(2), 696-701. Retrieved Jan 2, 2010, from linkinghub.elsevier.com/retrieve/pii/S0161475405.

DISSERTATION – UNPUBLISHED

- Lilly, C.D. (2005); Effectiveness of transcutaneous electrical nurve stimulation (TENS) application on pain and behavioural response of primigravid women during the 1st stage of labor in a selected hospital at Manglore; (Dissertation of Masters of Nursing; Father Muller College of Nursing; 2005)

- Saldanha H. (2004) Effectiveness of breathing exercises on duration, outcome of labour and behavioural responses of gravid women during the first stage of labour in a selected hospital at Mangalore (unpublished Dissertation of Masters Degree of Nursing; Rajiv Gandhi University, Karnataka. 2004).

- Yip, Y.B. & Tse, S.H.M. (2004) Effectiveness of relaxation acupoint stimulation and acupressure with aromatic lavender essential oil for non-specific low back pain I Hong Kong: A randomised controlled trial. Complementary Therapies in Medicine. 12(1): 28-37.

ONLINE ARTICLE

- Salem, M. (2004). Moon Dragon's Pregnancy Information: **Effleurage and Massage** Retrieved on Jan 12, 2009 from www.moondragon.org/pregnancy/effleurage.html.

- Steel, G. C. (2002) Obstetric Analgesia. Ideal pain relief in labor. Retrieved on Jan8, 2009 from pdfs.journals. www.com/anesthesiaclinics/1973/Obstetric_Analgesia.5.pdf

GOVERNMENT DOCUMENTS

- WHO Library Catalogue – in publication (2004).The health care needs of pregnant women and newborns and the WHO and ICM; Geneva.

APPENDICES

APPENDIX – i

LETTER REQUESTING PERMISSION TO CONDUCT THE STUDY

To

.

Respected Sir / Madam

Sub: Letter requesting permission for conducting the study.

Reg no. 30104621 is a post graduate nursing student of our institution. She has selected the below mentioned topic for her research project to be submitted to Dr.MGR Medical University of Health Science as a partial fulfillment of Master Nursing degree.

"A study to assess the effectiveness of abdominal effleurage on the pain perception of parturient mothers during the first stage of labour in a selected hospital at Coimbatore."

Regarding this project, she is in need of your esteemed help and co-operation as she is interested in conducting a study of her project in your hospital. I request you to kindly permit her to conduct the proposed study and provide her the necessary facilities.

The student will furnish further details of the study if required personally. Please do the needful and oblige.

Thanking You

Yours Faithfully,

Place:

Date: Principal

R.V.S. COLLEGE OF NURSING

RVS INSTITUTE OF HEALTH SCIENCES

242-B,Trichy Road, Sulur, Coimbatore - 641 402.
Ph : 0422 - 2687421, 2687480, 2687603, Fax : 0422 - 2687604.
www. nursing.rvshs.ac.in
(Affiliated to the TN Dr. M.G.R. Medical University, Chennai
Recognized by the Indian Nursing Council, New Delhi.)

Mrs. Saramma Samuel
Principal

TÜVRheinland 85 100 001 08298 NABCB QMS 010
DINEN ISO 9001 : 2008
CERTIFIED INSTITUTION

Ref No :

Date..... 02.09.2011

To

DR. CHRISTY GANAPATHY, M.D., D.G.O.
OBSTETRICIAN AND GYNECOLOGIST
SHEELA HOSPITAL, EAST POWERHOUSE ROAD.
COIMBATORE, T.N.

Sub: Permission to do pilot study in your esteemed hospital

Respected Sir / Madam,

Ms. Bincy Cherian, I[st] year M.Sc Nursing student of RVS College of Nursing has to perform a main study as a part of their curriculum.

The topic of her study is:-

"A study to assess the effectiveness of abdominal effleurage on the pain perception during the first stage of labour among the parturient mothers, in selected Hospital, Coimbatore."

Therefore we humbly request you to grant her permission to do the study in your esteemed hospital from 22.08.2011 to 02.10.2011. We assure you that all details collected will be kept strictly confidential.

Thanking you

Yours faithfully,

2/9/11

SARAMMA SAMUEL
PRINCIPAL
R.V.S. COLLEGE OF NURSING
242/B, TRICHY ROAD,
SULUR, COIMBATORE - 641 402

Yes Christy

SHEELA HOSPITAL
(Old No.46), New No. 117, East Power House Road,
Ph: 0422-2498381-85, Fax: 0422-2499474

APPENDIX – ii

PERMISSION LETTER FOR CONTENT VALIDITY

From

Reg. no.30104621

II Year MSc Nursing

R.V.S College of Nursing,

R.V.S Institute of Health Sciences,

Sulur, Trichi road, Coimbatore.

To

Through the Principal

Respected Madam / Sir

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

I am a Master of Nursing student in RVS College of Nursing, Sulur in the Speciality of Obstetrics and Gynecological nursing. As per the requirement for the partial fulfillment of the Master of Nursing degree under the Tamil Nadu Dr.MGR Medical University, I have selected the following topic for dissertation.

"A study to assess the effectiveness of abdominal effleurage on the pain perception of parturient mothers during the first stage of labour in a selected hospital at Coimbatore."

I humbly request you to kindly validate the tool and give your valuable suggestion.

Thanking You

Yours sincerely

Enclosures:

1. **Statement of the problem**
2. **Objectives of the study**
3. **Hypothesis of the study**
4. **Research tool**
5. **Criteria rating for validation**
6. **Content validation certificate.**

APPENDIX – iii

CERTIFICATE OF CONTENT VALIDITY

This is to certify that tool developed by Reg. no. 30104621, M.Sc Nursing II year student, R.V.S. College of Nursing, Sulur, Coimbatore to collect data on the problem.

"A study to assess the effectiveness of abdominal effleurage on the pain perception of parturient mothers during the first stage of labour in a selected hospital at Coimbatore."is validated by the undersigned and she can proceed with this tool to conduct the main study.

Name and Address:

Signature :

Seal :

Date :

CRITERIA RATING SCALE FOR VALIDATING THE BASE LINE

APPENDIX-iv

OBSERVATIONAL SCHEDULE TO ASSESS THE EFFECTIVENESS OF ABDOMINAL EFFLUERAGE ON THE PAIN PERCEPTION DURING THE FIRST STAGE OF LABOUR AMONG PATURIENT MOTHERS IN SELECTED HOSPITAL AT COIMBATORE

Kindly go through this tool; please give your views regarding clarity, relevancy, adequacy, and remark.

Sl.No	Items	Clarity	Relevancy	Adequacy	Remarks
I	**SECTION - A** DEMOGRAPHIC DATA				
1					
2					
3					
4					
5					
6					
II	SECTION – B PAIN INTENSITY INSTRUMENT				
III	SECTION – C OBSERVATIONAL SCHEDULE FOR BEHAVIOURAL PAIN RESPONSE				
1	Facial expression				
2	Vocal expression				
3	Body movements				

Suggestion:

Name and Signature of Expert.

APPENDIX-v

REQUISITION LETTER FOR CO-GUIDE

From

Reg. no. 30104621
II Year MSc Nsg
R.V.S College of Nursing,
Sulur, Coimbatore.

To

Dr. Latha Prasanna, M.B.B.S., D.GO
Consultant Obstetrician and Gynaecologist
R.V.S Multi Speciality Hospital,
Sulur, Coimbatore-641402.

Through the Principal

Respected madam,

Sub : Request for Co-Guide

I wish to state that I am M.Sc (N) II year student of RVS College Of Nursing. I have selected the below mentioned topic for dissertation as a partial fulfillment of the Master of Nursing Degree to the Tamil Nadu Dr. M.G.R Medical university.

"A study to assess the effectiveness of abdominal effleurage on the pain perception of parturient mothers during the first stage of labour in a selected hospital at Coimbatore."Regarding this I am in need of your valuable help and cooperation by providing services to be a Co-Guide for my study.

I humbly request your highness to consider the same and do the needful.

Thanking you,

Yours sincerely

(Reg no. 30104621**)**

APPENDIX-vi

INTERVIEW SCHEDULE

INTRODUCTION

Every woman has to undergo the painful experience of child birth. A woman tolerates the pain to give birth to the child. The pain experienced will differ from one woman to the other. In the hospital doctors and nurses will have to assist the mother during labor for ensuring safe child birth. Some measures are practiced in order to minimize the discomfort caused due to the labor process and to make the mother to go through the labor more comfortably. One of such measure is abdominal effleurage.

INSTRUCTIONS:

- The abdominal effleurage will be given from admission to 7cms of cervical dilatation continuously.
- The pain of the mother will be assessed by Wong's Baker visual analogue pain scale.
- The recording will be done based on the observation.

SECTION – I
DEMOGRAPHIC DATA

✍ **Sample number :**

PART-I
PERSONAL INFORMATION

1. Age in years:
   - o 20-25 ☐
   - o 26-30 ☐
   - o 30 and above. ☐
2. Education
   - o Illiterate ☐
   - o Primary ☐

- Secondary ☐
- Graduate ☐

3. Occupation

- House Wife ☐
- Self employment ☐
- Government Employment ☐
- Private employment

4. Presence of support person during the first stage of labour

- Yes ☐
- No ☐

9. If yes, the family member is:

- Mother ☐
- Sister ☐
- Mother in law ☐
- Husband ☐

PART-II

INFORMATION REGARDING ANTENATAL ATTENDANCE AND EDUCATION

10. Do you have any previous antenatal attendance?

- Yes ☐
- No ☐

11. Did you get any antenatal education?

- Yes ☐
- No ☐

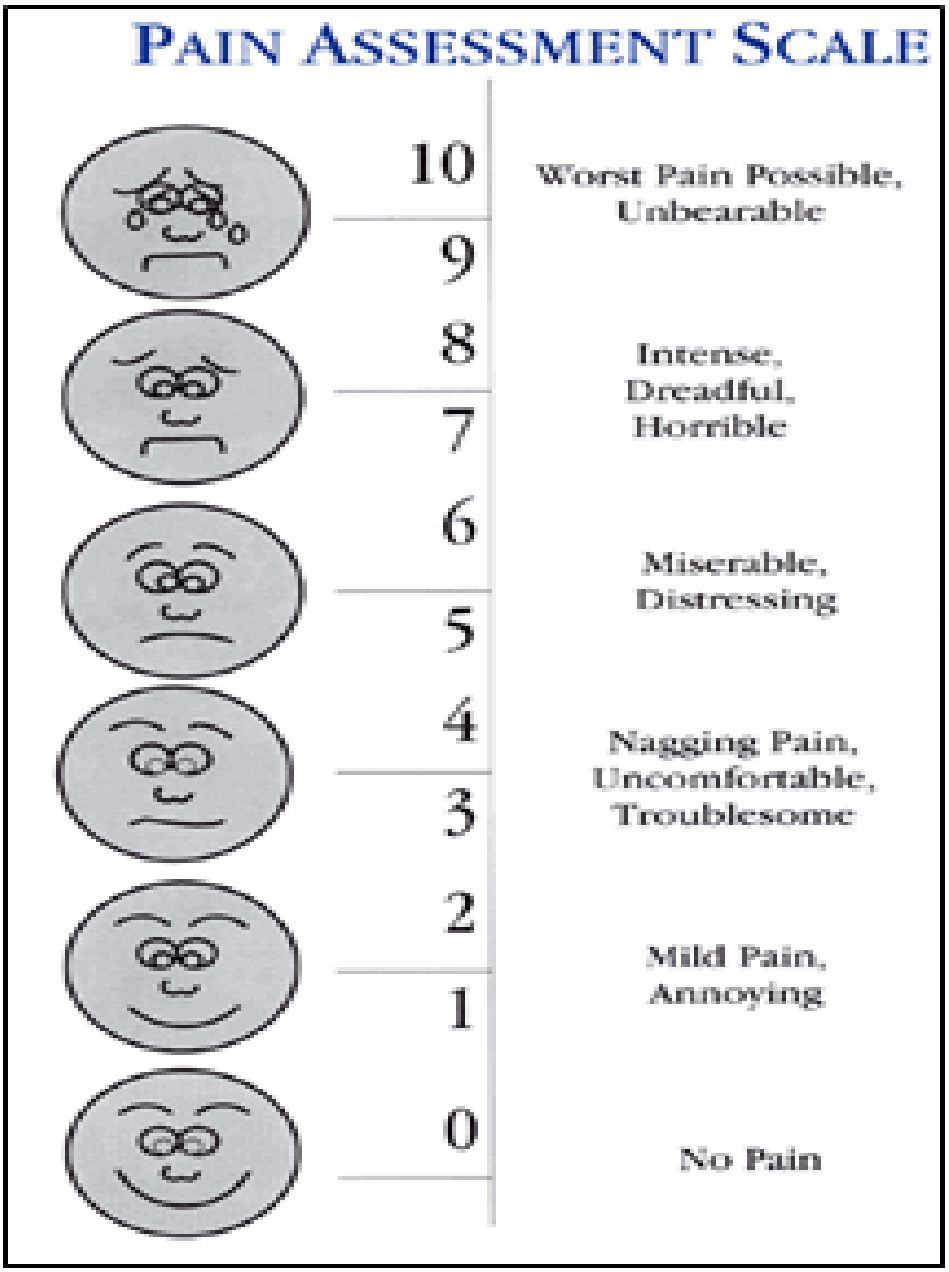
12. If yes, from whom you got

- Doctor ☐
- Nurse ☐
- Any family member ☐

SECTION – II

WONG'S BAKER FACE SCALE USED AS VISUAL ANLOGUE PAIN SCALE

PART I



Description of the tool: The tool was explained before using and the mother was asked to point the face which they considered as corresponding to their pain intensity. The 6 faces were shown to them and only even numbers were used for each face (2, 4, 6, 8, and 10) for easy administration

PART-II

OBSERVATION SCHEDULE ON UTERINE CONTRACTION AND PAIN.

S.No	Parameters	Observation schedule															
1	Cervical dilatation in cms																
2	Beginning of contraction																
3	Duration of contraction																
4	Intensity of pain in universal pain scale																
5	Massage																

Description of the tool: This observation schedule give an overall view of uterine contraction, intensity of pain and the number of abdominal effleurage given through out the labor process till 7 cms cervical dilation.

Part - III

OBSERVATION SCHEDULE FOR NON VERBAL PAIN BEHAVIOUR INDICATORS

Sl.No	NON VERBAL PAIN BEHAVIOUR INDICATORS	TIME													
	FACIAL EXPRESSION														
	Grimace														
	Clenched teeth														
	Clenched fists														
	Tightly closed eyes														
	Lip biting														
	No undue expression														
	VOCALIZATION														
	Gasping														
	Moaning														
	Crying														
	Screaming														
	BODY MOVEMENTS														
	Guarding abdomen														
	Rubbing abdomen, thighs and back														
	Rolling head side to side														
	Holding tight anything near														

Description of the tool: In order to observe the Non verbal pain behaviour, observation under three indicators are developed to mark the behaviors present in the samples with a √ mark.

SECTION – III

QUESTIONNAIRES ON PATIENTS VIEWS ON ABDOMINAL EFFLUERAGE AFTER DELIVERY

1. How do you find the abdominal effleurage given?

SL. NO.	EFFECT OF ABDOMINAL EFFLUERAGE	GREAT EXTENT	SOME EXTENT	NOT AT ALL
1.1	Promoted comfort			
1.2	Induced sleep			
1.3	Reduced level of pain			
1.4	It was supportive			

2. How do you feel about the presence of nurse throughout the labor?

SL. NO.	EFFECT OF PRESENCE OF NURSE	GREAT EXTENT	SOME EXTENT	NOT AT ALL
2.1	Felt relaxed			
2.2	Given more satisfaction			
2.3	Did not feel anxious			
2.4	Felt disturbance			
2.5	Annoying			

Description of the tool: There are two questions in the questionnaire, on question to find out views on abdominal effleurage during the first stage of labor.

The second question to find out the feelings of mother about the presence of nurse throughout the labor. A three point scale (Great extent score-3, some extent score-2 and not at all score-1) is provided to record the response.

APPENDIX-vi

CERTIFICATE OF ENGLISH EDITING

indus
WORLD SCHOOL
Founded by IIT/IIM alumni

Date: 20/1/12

TO WHOMSOEVER IT MAY CONCERN

This is to certify that I have done the English editing on the research project of Mrs. Binsy Cherian, "**A Study to Assess the Effectiveness of Abdominal Effleurage on the Pain Perception of Parturient Mothers During the First Stage of Labour in a Selected Hospital at Coimbatore.**". I have found it as satisfactory and wish her success for the future ahead.

Yours sincerely,

Sign Thomson

Name THOMSON VARGHESE

MA. ... IELTS

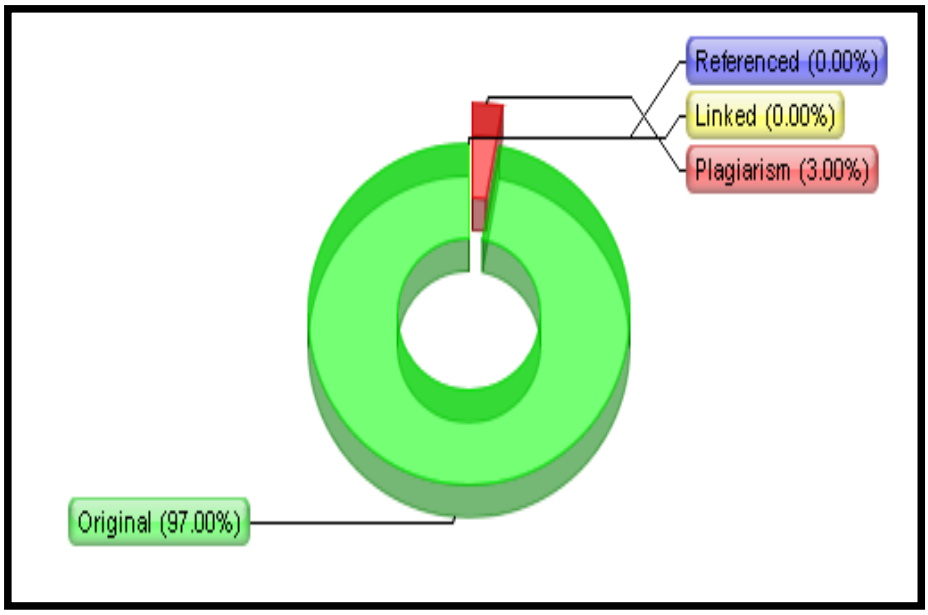
Seal

INDUS WORLD SCHOOL ★ INDORE ★

Indus World School
Survey No.85-86, Village Jhalaria, Near Countywalk Township, Bypass Road, Indore • Ph: 9301873999
Email: info.indore@indusworldschool.com • Website: www.indusworldschool.com

APPENDIX-viii

PLAGARISM REPORT USING PLAGIARISM DETECTOR



Top 3 Plagiarized Sources:

Words#:	Source url:
52	http://www.ijnmr.mui.ac.ir/index.php/ijn...
74	http://www.jbums.com/english/abstract.as...
18	http://essential-oils.most-effective-sol...

Report:

3.00% of the content matched plagiarized sources and 97.00% of the content is original