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A Comparative Study to Evaluate the Impact of Olive Oil Versus Coconut Oil Back Massage on Pain Endurance Among Primigravida Women During First Stage of Labor Admitted in Tertiary Level Teaching Hospital, Dharwad

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ABSTRACT

BACKGROUND OF THE STUDY: One of the most severe pains a woman can experience in her life is labor pain, which worsens both physically and psychologically. The nurse's primary responsibilities include diagnosing the laboring woman's issues and giving pertinent information about alternative methods of pain management. Manual healing method utilized today during labor which includes therapeutic back massage with the application of oil. By massage therapy, pharmacological management during first stage of labor can be minimized. Thus, detrimental effect on mother and fetus can be reduced.

OBJECTIVES:

The objectives of the study were:

1. To assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.
2. To evaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.
3. To evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.
4. To compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

METHODS: In order to compare the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor. A Quantitative Evaluation Research Approach with factorial research design was applied, also to guide the study in a proper direction systematically; the conceptual framework applied for the study was Modified Katharine Kolcaba's Comfort Theory. A total of 40 subjects (primigravida mother) were enrolled for the study by applying non-probability sampling technique and were divided into experimental group-I and experimental group-II. The tool comprised of Universal Pain Assessment Tool. The data was analyzed by using descriptive and inferential statistics to know and compare the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor.

RESULTS AND INTERPRETATION: The mean post-interventional scores of labor pain endurance of primigravida women in experimental group-I (6.2) with SD of 0.5 was significantly higher than the mean post—interventional scores of labor pain endurance of primigravida women in experimental group-II (5.3) with SD of 0.4. It indicates that, at 0.05 level of significance the intervention given experimental group-II was more effective than experimental group-I.

CONCLUSION: The overall mean interventional scores of experimental group-I &II differed significantly from one another. The results of the study that giving primigravida women, a back massage with coconut oil was very beneficial for reducing labor pain during first stage of labor.

KEYWORDS: Back massage, Pain endurance, primigravida women

INTRODUCTION

CHAPTER-I INTRODUCTION

"The pain of childbirth is not remembered, It's the child that's remembered".

Most women perceive labor pain and child birth as excruciating event. Every woman who goes through the process of childbirth, experiences labor pain and severity of pain is more among primigravida women.

'Lower back pain is the most common symptom during labor. It is normally ascribe due to the pressure of fetal head over the back.[1]

The women express labor pain through crying, screaming, and shouting. While some women encounter the pain unaccompanied by showing any outwardly signs. However, both type of expressions in initial stage of labor leads to exhaustion in many cases. Also, sometimes the pain is treated with the pharmacological interventions which may have a deleterious effect on outcome of labor. To avoid such complications, it is always advisable to emptying non-pharmacological measures and nurses are at the advantage to do so. Hence, professional assistance during lying-in period is very essential to help the mother.[2]

Primigravida women are not able to control painful labor. They suffer with pain and become exhausted and if there is loss of energy before the descent of fetal head.[3] During this time proper management is not followed then it results in early rupture of membrane and complicated labor in women. This also leads to fetal complications like fetal distress, low apgar scores, intrauterine fetal death, etc.

Currently pharmacological and non-pharmacological pain relief measures are available for women to manage labor pain. The non-medical interventions such as Therapeutic back massage, ambulation, hydrotherapy, lateral position, relaxation technique, breathing techniques, acupressure and music therapy are comfort measures that woman can use to attain labor pain.[4]

Labor pain experiences in woman is shared by past occurrence, birth habitat and psychological elements. Parturition is joyous moment to the mother.[5] Alternative course lessen bearing by strengthening women for effective coping strategies'.[6]

Massage is an ancient method to reduce pain. Therapeutic massage restores release of endorphins that has analgesic properties and stimulates oxytocin production, lowers stress and central nervous system excitability. The importance of labor support through therapeutic touch that is back massage cannot be underestimated. Hence, this can be achieved.

NEED FOR THE STUDY

"Giving birth is an incredible act of nature and power".

- Michelle Obama

"Era of evidence-based practice". Since many years various attempts have been made about massage therapy with application of oils to manage childbearing process effectively. Hence, such type of studies is needed specifically from nursing fraternity who are forefront in managing whole process of delivery. The study undertaken will throw light on following:

The therapeutic touch of a nurse will definitely make a difference to relieve the mother from physical and psychological agony and also will help to conserve her energy.

The purpose of the study is to avoid pharmacological intervention as far as possible to lessen the complications related to mother and baby.

During the complete process of parturition, mothers are accompanied by skilled midwives and hence priory stands to provide relief to woman during the labor process. If nurse recognize the consequences and nature of labor pain, they are able to prepare themselves to come up with supportive and adjunctive therapy. In relation to Gate theory the back massage blocks sympathetic gates in the spinal cord impending pain impulses by physical stimulation.

Pain management during labor is most important aims of motherhood care. The objective is to get rid of labor pain not only requires analgesic, but also need further methods to protect well-being of women. To control undesirable complication, skillful personnel are required. Therapeutic back massage with application of olive oil set ups distinct efficacious to lessen pain intensity during labor. Olive oil owns analgesic effects and enact like non steroid anti-inflammatory drugs.

A quasi-experimental study was conducted in Nepal with an aim to recognize the outturn of back massage on perception of labor pain during the first's stage in the middle of 56 first-time mothers. Purposive sampling technique was used to select and assign 28 subjects in experimental group and 28 in control group. Subjects in experimental group received regular labor care along with mustard oil back massage and control received routine labor care. Data was collected by visual analog scale. Data analysis was done by using descriptive and inferential statistics. The Study results revealed that there was a significant difference in pain perception before and after intervention in experimental group and control group ($P<0.001$) and back massage was found effective.[7]

In Chennai, cross-cultural research was conducted with an aim to evaluate the impact of olive and sesame oil back massage on pain perception of pain in the course of cervical stage of labor. Total of 60 subjects enrolled by simple random sampling technique. Research tools were structured questionnaires and a universal pain assessment scale. Study findings revealed that antenatal women's in the olive group and sesame oil group showed a significant reduction in pain. Therefore, the hypothesis was rejected. Study showed that either olive or sesame oil can be applied adequately to lower the perception of pain during the labor process.[8]

Throughout experience of patient care in the birthing room, researcher observes woman in parturition are extremely worried &anxious. Ascribable to uncertainty, there is a lack of coping strategies during labor. Therapeutic oil massage is a successful non-medical therapy modality which helps in enhancing the pain endurance during labor. Supportive study have been discussed in literature review for providing relevant significance of the problem to find out which oil has a greater impact in the study. Therefore, investigator is interested to conduct a research study to compare the impact of olive and coconut oil back massage included in primigravida woman during the first stage of labor.

SUMMARY:-

This chapter dealt with introduction and need for the study which focused about the therapeutic back massage with the application of olive oil and coconut oil on pain endurance during first stage of labor among primigravida woman. It is a simple, cost-effective, non-pharmacological intervention that can be cope up and utilized. Supportive studies have been discussed in need for study for providing relevant significance for the problem.

CHAPTER-II OBJECTIVES

This chapter handout with research problem statement, study targets, functional description, study hypotheses conceptual framework.

PROBLEM STATEMENT:

"A comparative study to evaluate the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor admitted in tertiary level teaching hospital, Dharwad."

OBJECTIVES:

The objectives of the study were: -

1. To assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.
2. To evaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.

3. To evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.
4. To compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

OPERATIONAL DEFINITIONS:

1. **EVALUATE:** It refers to the process of determining the effectiveness of back massage on pain endurance, as evidenced by pain assessment scale.
2. **IMPACT :**Refers to alteration of pain endurance during labor carried out by olive and coconut oil back massage as expressed verbally by subjects.
3. **OLIVE OIL: Refers** to interventional group-I, primigravida women who receives back massage with olive oil.
4. **COCONUT OIL:** Refers to interventional group-II, a primigravida woman who receives back massage with coconut oil.
5. **BACK MASSAGE:** It comprises of therapeutic circular stroking. The technique used for back massage is effleurage.
6. **PAIN ENDURANCE: It** refers to level of labor pain experienced by primigravida women during first stage of labor are measured in terms of universal pain assessment tool.
7. **FIRST STAGE OF LABOR:** It refers to "level begins with normal endometrial waves or contractile waves and cease with absolute dilatation of cervix".

- **Latent period**: Dilatation of cervix between 0-3cm.
- **Activeperiod**: Dilatation of cervix between 4-7cm.
- **Transition period:** Dilatation of cervix between 7-10cm

HYPOTHESES:

The hypothesis is tested at 0.05 level of significance.

- **H1**: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-I.
- **H2:** Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-II.
- **H3**: Mean post-interventional pain scores of group-I will be significantly higher than group-II.

VARIABLES UNDER STUDY:

A Variables are characteristics, numbers or quantities that can count measurements or numbers. Variables can be called as data elements.[9]

In this study, the variables were-**Independent variable:** Olive oil, coconut oil **Dependent variable:** Back pain

Extraneous variable: Massage

Demographic variable: Socio-demographic variables of the primigravida women.

CONCEPTUAL FRAMEWORK:

A conceptual framework is a systematic description of an object that shares important characteristics with another object, symbolic representation of some phenomenon or a concept. Conceptual framework

are theoretical construct that are made up of various concepts and proposition that represent something with a set of variables and logical and quantitative relationship between the concepts.[10]

INTRODUCTION

Conceptual framework provides elucidation of the phenomenon of interest, philosophical views and reflects assumptions. The proposed study titled **"Compare The Impact Of Olive Oil Versus Coconut Oil Back Massage On Pain Endurance Among Primigravida Women During First Stage Of Labor** "aims at efficacy of oil back massage on pain endurance. This study's conceptual framework which was chosen to explain its structure was based on **Modified Katharine Kolcaba's Comfort Theory which was developed in 1990's**. For health practice education and research, it is a middle range theory. According to this theory, comfort could become a priority in medical treatment. As per the model, the immediate result of a nursing care is comfort.

Concepts and definition of Kolcaba's theory

Kolcaba's distinguished between three types of comfort: relief, ease and transcendence. Kolcaba's also outlined the 4 domains: physical, psycho-spiritual, environmental and socio-cultural in which patient can find the comfort. There are 3 technical comfort zones in the theory.

- **Relief:** Is given when a client's specific need is satisfied.
- **Ease**: A client in a state of ease is one of calmness and contentment.
- **Transcendence** is when the client transcends their comfort need.

The goal of achieving enhanced comfort for primigravida women can be achieved in all contexts of the human experience including physical, psycho-spiritual, environmental and socio-cultural ones. Comfort theory is dependent on health care needs, comforting interventions, interviewing variables, enhanced comfort, health seeking behavior and institutional integrity.

MAJOR CONCEPTS OF KOLCABA'S THEORY

Health care needs: - Identified by the client in specific practice setting. The study evaluates it in context **Physical needs: -** willingness of primigravida women to participate in the study.

- **Psycho-spiritual need: -** Reduction on labor pain endurance.
- **Socio-cultural need: -** Support from the investigator.

Comforting interventions is closely linked to the nursing profession. Traditionally, nurses have used interventions known as comfort measures to offer consolation to clients and their families. In this study, a primigravida woman receives olive oil and coconut oil massages for 15 mins every 3rd hourly for four times in the experimental group I and II.

Enhanced comfort: According to comfort theory, improved comfort is an immediate desirable result of nursing care. The enhanced comfort was assessed by using relief, ease and transcendence. Universal pain assessment tool for pain endurance.

- **Relief**: - Reduction on labor pain endurance.
- **Ease**: - Increased comfort.
- **Transcendence**: - Attainment of energy for normal progress of labor process.

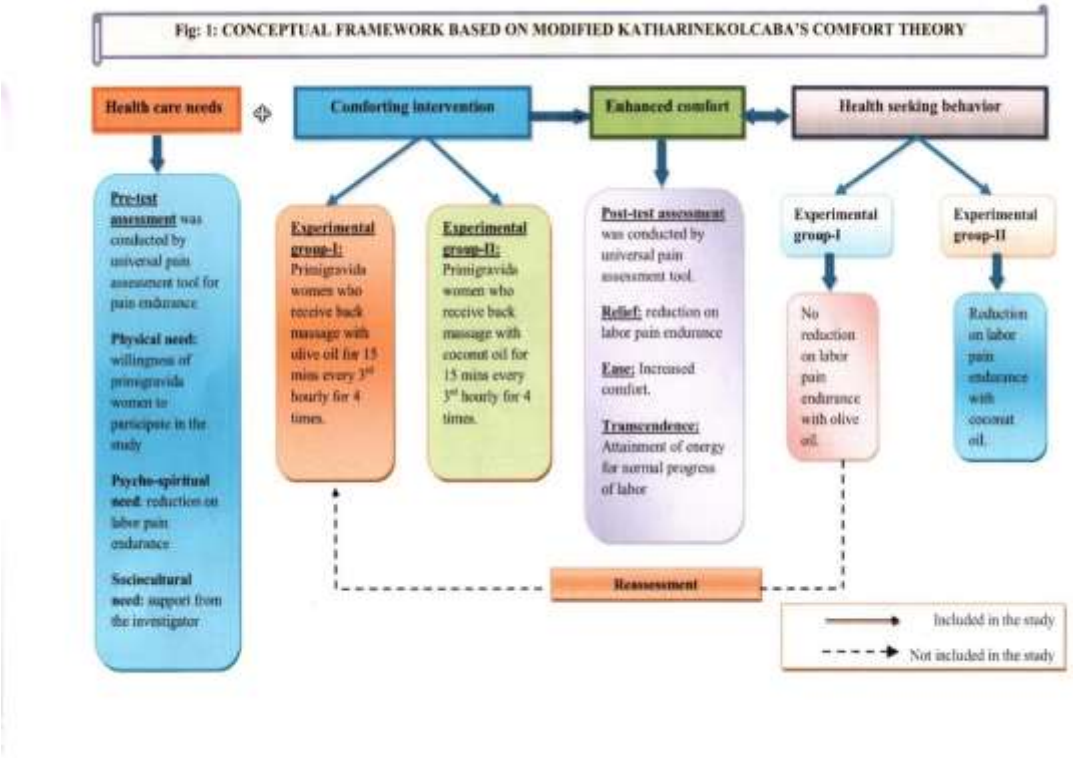
Health seeking behaviors: The use of health care services and facilities. Therefore, more primigravida women will be able to become better sources as a result and the health care system will be enhanced.

In this study health seeking behavior refers to the effectiveness of therapeutic back massage on labor pain endurance among primigravida women during first stage of labor process in the experimental group

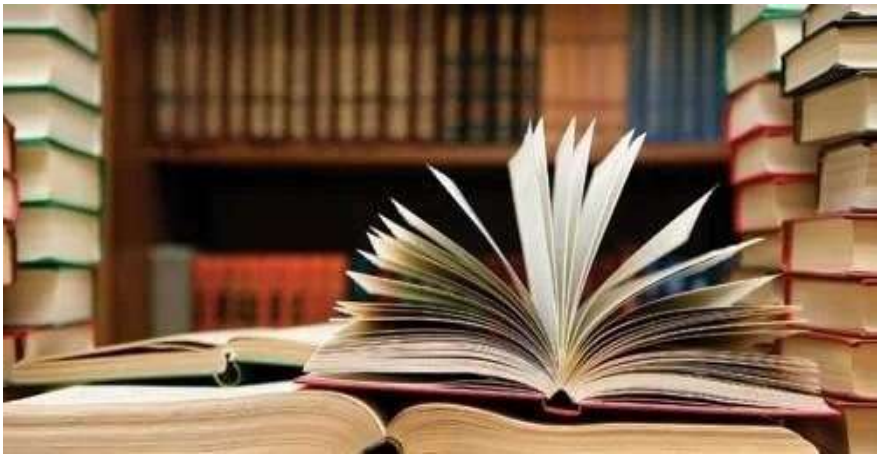
I and II.

SUMMARY:

This chapter covered the study objectives, operational definitions, hypotheses, variables being investigated and the conceptual framework that was used.



III
REVIEW OF LITERATURE



CHAPTER-III REVIEW OF LITERATURE

Literature review is a vital step in research process. "It provides us with broad and critical review of previous research on a topic of interest. The literature review includes survey, scholarly articles, books, and other sources those are relevant to a particular area of research". [11]

The present study is undertaken to evaluate the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor. The researcher conducts a comprehensive literature review to gain a deeper understanding of the problem and gather as much relevant information as possible to prepare the study.

In jamia hamdard, a pre-post intervention conducted to evaluate the efficacy of olive oil back massage on labor pain reduction during cervical stage. Total of 60 subjects were selected by using non-probability purposive sampling technique. Tools for data collection were structured interview schedule, labor assessment Performa, numerical pain-rating scale. And, data was analyzed by using descriptive statistics and inferential statistics. The study findings showed that back massage with olive oil was significantly effective in lowering the pain in labor during the first stage of labor.[12]

In Punjab, a pre-experimental research study was carried out to judge the impact of back massage on labor pain during the initial stage. Non-probability sampling technique was used to choose 40 subjects in first stage of labor. The tools used were the modified Labor Pain Relief Tool and Participants' Opinionnaire. The study findings concluded that mean pre-test score was 5.83 while the mean post-test score was 3.75. And, it proves back massage was effective to lessen the pain level .[13]

A comparative Study was conducted at puducherry aims to appraise the efficacy of olive massage and back massage on the intense labor pain reduction in group of first-time mothers. Sixty primi women were selected by using simple random technique (30 in each group). Research tool used was visual analog scale. The results of the study showed that olive oil back massage in experimental group and back massage in control group which found to be effective.[14]

In Maharashtra, an experimental study was conducted to assess the effectiveness of back massage for pain relieving during cervical stage in first-time women's. All together 40 mothers were selected by simple random sampling technique. The data was analyzed by using two independent samples t-test and one-way ANOVA.The results of the study showed that in primipara mothers back massage was effective in pain reduction during the first stage of labor.[15]

A study was conducted in Kashmir with quasi-experimental research design aims to assess the efficacy of back massage with application of olive oil on labor pain intensity among primi mothers during stage of cervical dilatation. 60 samples were selected by using non-probability purposive sampling technique. Research design used was pre-test post-test control group design. Tools for data collection were structured interview schedule, labor pain assessment Performa and Abbey pain scale. The study concluded that olive oil back massage was effective to lessen the intensity of labor pain among primigravida women.[16]

In Tehran, a clinical trial was conducted to evaluate the effectiveness of massage therapy on pain and pregnancy outcome which was carried out on 60 primi Para women's. Subjects in experimental group received massage therapy by using technique effleurage and routine care without intervention was received by control group. Data was collected by using questionnaire and visual analog scale. The study findings were severity of pain during the first stage of parturition was significantly different between the experimental and control group.[17]

A experimental study was Performed to evaluate the impact of jasmine oil massage on labor pain during cervical dilatation stage. The study included 40 primi women in total as participants. Demographic Profile was collected by interview method and to measure the degree of pain visual analog scale was used in the both the groups. The study findings say that in experimental group and control group there was a significant difference. And the association between them the degree of pain and demographic

profile in experimental group found no significance.[18]

In southern Taiwan, a study was conducted that was randomized controlled. Sixty primiparous were enrolled in the experimental group received intervention whereas no intervention in the control group. Data was collected by visual analog scale for anxiety and present behavioral intensity. Study findings come about as labor progressed, rise in anxiety and intensity of pain. The study concluded that in experimental group, out of 30, 26 subjects (87%) give an account of massage was considerate and psychological assistance during process of labor.[19]

In Brazil, a randomized trial was conducted with concealed allocation. Participants were 46 pregnant women at greater to 37 weeks of gestation. Physiotherapist gave massage in lumbar region for 30 minutes of duration in experimental group. For same period, physiotherapist attended control group subjects. Routine care received by both groups, the inferior and subsequent outcome was measured by McGill Pain Questionnaireand VAS.The study findings wasseverity of pain in the experimental group was 52mm and in the control group was 72mm which shows a significant difference with mean of 20mm.[20]

A clinical interventional study was conducted at Shiraz .120 subjects were divided intogroups of 3. The first 40 participants got stroking massage, second 40 subjects got vibration massage and third group was the control group. The study findings found no significant difference among three groups. Before and after intervention, 2 experimental groups shows intensity of low back pain was significantly different in 3 phases. After massage intervention pain intensity of all three stages was significantly lower than control group.[21]

In northeast Iran, a clinical trial study was conducted aims to evaluate back massage on pain during parturition. Participants were 62 pregnant women with 32-42 weeks of gestation. They are divided in two groups and the women were randomized every other day. There was a firm and continuous back massage in experimental group (n=32) and routine nursing care in control group for 30 minutes.Visualanalogue scale was used to measure pain intensity before and after the intervention. The collected data was analyzed by using statically tests by using software SPSS. Conclusion of study was back massage lessen intensity of pain during the first stage of labor.[22]

A clinical trial study was conducted at Tehran to evaluate the impact of massage therapy on severity of pain during labor process among primiparous women.60 subjects were enrolled by non-probability sampling technique and divided into case and control groups. Before intervention, pain severity was measured by visual analog tool.). Byapplication of independent‘t’ and Chi-square test data in the two groups were compared.Results of the study found that no significant difference between 2 groups and study comes to an end that effects of massage lessen the labor pain.This concludes that impact of massage therapy in both lowering acceleration of the delivery, education and then using of the method in labor centers would result in decreasing of proposed caesarean sections.[23]

In Tehran, a pre-post intervention was performed with goal to evaluate the efficacy of massage on labor pain severity between primipara women. A convenient sampling technique was used to select 60 subjects. The tool used were questionnaire and pain evaluation scales. Massage technique used was effleurage. Data was analyzed by using software SPSS, inferential and descriptive methods. Study findings shows in both experimental and control group, duration of firstphase of labor were different. Finally, study concludes non-pharmacological methods is recommended highly to reduce labor pain.[24]

In Iran, a randomized clinical study was conducted to ascertain the outcome of massage in pain intensity among primi mothers during cervical stage of labor process. 75 subjects with gestational week 38-42

were enrolled and divided into 3 different groups. Group-I received effleurage massage for 20 minutes at 4cm-10cm of dilatation of cervix. For 2nd group, only emotional support was allowed. Routine care was received by group-III during parturition process. Research tool used to collect the data was visual analog scale, inspection form and checklist. The results of the study revealed that pain intensity was significantly lower in massage therapy group($p<0.001$). The study concludes that back massage therapy was more effective than routine and supporting care.[25]

A cross-sectional study conducted at North Ethiopia to evaluate the practice of childbearing pain management methods and correlated factors between skilled attendants. Structured questionnaire, interview method was used to collect the data. To find the association of independent and dependent variablesdescriptive analysis and logistic regression were used. A result of the study was 43.3% practice of labor pain management techniques. Study concluded there should be need to built good attitude and understanding of skilled attendants towards positive application of pain management during labor.[26]

A quantitative approach with multiple series design was conducted to assess the effectiveness of childbirth support measures on perception of pain among mothers in labor. 60 subjects were randomly selected by non-probability sampling technique and grouped into experimental and control. Research tools for data collection were numerical pain intensity scale, demographic and verbal response questionnaire. Study findings shows there was significant difference in both the group and labor supporting measures were effective.[27]

Astudy was conducted to assess the efficacy of paced respiration and back massage in management of pain during labor. Pre-post intervention research design was used with 2 groups. Judgmental sampling technique was used to select 200 subjects in which 100 samples for each group. Visual analogue scale was the tool used for data collection. Paced respiration suggested for the group-I and for group-II only back massage was given. Descriptive and inferential statistics was used for analysis of data. The study findings shows that significant difference between pre and post-assessment degree of pain in group-I ('t' value=16.066) and group-II(t' value=12.961s).[28]

In university of Ismailia, a quasi- experimental research study was conducted with aim to evaluate the effect of effleurage on labor pain severity and labor duration. Tools used were VAS, partogram and maternal interview schedule. Group A got intervention by effleurage technique for duration of 30 minutes at 4cm-10cm cervical dilatation and group B encountered with routine care. The study concludes that group who received intervention with technique of effleurage associated with low pain score perceived than another group and showed statistically significant difference.[29]

In Telangana, a quantitative research approach was performed with goalto impact of back rub with application of Olive oil for relieving the pain among antepartum mothers during thefirst stage of childbirth. Modified Ludwig and Bertalanffy's, general system theory was used to construct the conceptual framework. Study subjects were selected by random sampling technique. Pre and post interventional scores was collected by numerical pain rating tool and structured questionnaire were used to collect demographic profile. The study concludes olive oil was bettering in lowering the pain during parturition.[30]

In turkey, a randomized controlled trial was conducted. 60 women were enrolled, each 30 in 2 groups. In experimental group women received sacral massage intervention for 30 minutes and research data was collected by using VAS, postpartum interview form and questionnaire and state trait anxiety inventory. The findings of the study were found statistically significant in experimental group than those of controls. The Study concludes that during labor sacral massage is applied to lower the pain, anxiety and

led to high grade of satisfaction between pregnant womens.[31]

A study was conducted in Chennai with two group pretest – posttest, time series research design to evaluate the effect of massage with lavender oil on lumbosacral region for pain and progress of labor among primiParamothers. Samples undergo the lavender oil massage by using 3-4 drops of oil with2.5 ml of coconut oil. The findings of the study were endurance of pain and progress of labor among primi mothers was reduced by lumbosacral regionback massage. In comparison to the control group, the study group's overall labor duration was shorter($p<0.001$). Hence, midwives can provide massage as a routine care for childbearing mothers, which in turn will assist the mother to cooperate and conveyher emotions.[32]

In Bangalore, a pre-post intervention research was administered to evaluate the impact of regular massage contrary to jasmine oil massage versus back massage with coconut oil during parturition. Study participants were 60 mothers who randomly assigned into three different groups. Numerical pain screening tool and visual analog scale for data collection. The study findings showed that the following t values for back massage were effective at the 0.05 level of significance. Regular back massage (t value=7.75)(t value=4.05), Jasmine oil back massage(t value=14.24) (t value=7.55), Coconut oil back massage (t value=11.82) (t value=8.82). A comparison among 3 groups was found significant. So, the present findings proves that there is not much difference in routine back massage, jasmine oil back massage and coconut oil back massage but the study shows that back massagewith application of oil during labor process helps in lowering the pain intensity.[33]

In Loni(BK), a pre-posttest design was conducted among 60 primigravida mothers and samples were selected by non-probability sampling technique as per criteria's of inclusion. Data was collected by VAS, structured questionnaire Trait Anxiety inventory tool. The findings depicted that they found statistical significance at P=0.01 on parturition pain and anxiety level of primiparous mothers in group-I and group-II. Study concluded that back massage and breathing exercises was cost-effective, non-medical and non-invasive technique that helps to lower the labor pain intensity and anxiety.[34]

A experimental study was conducted at Indonesia to assess the effectiveness of abdominal lifting massage andeffleurage method against reduction on pain among pregnant mothers. Total of 36 subjects were selected and divided in two groups I.e. case group who undergoes effleurage as well as abdominal lifting massage and controls received no intervention. The tool used for data collection was numerical rating scale. The study findings was reduction of pain was found significantly higher in the group of child bearing women. The study concluded that effleurage and abdominal lifting massage is an effective, feasible method in labor pain reduction.[35]

In Egypt, arandomized trial was conducted to evaluate the impact of aromatherapy massage with lavender oil on pain and anxiety level during process of labor among primigravida mothers. 60 pregnant women were selected by non-probability judgmentalsampling technique and arbitrarily allocated in two different groups: Group-I (n= 30) received back massage with aromatherapy along with 2 drops of lavender oil and group-II (n = 30) received regular back massage. The research tool used was Interview Assessment Sheet, Visual analog pain scale, partogram and \and state-trait anxiety inventory. The study outcome illustrated that there is a statistical significant difference between the two groups after the intervention and it can also reduce anxiety as well as pain during childbirth.[36]

SUMMARY:

This chapter deals with review of literature related to effectiveness of back massage on pain endurance

among primigravida women during first stage of labor. The literature review was relevant to the study that was conducted and gave investigator guidelines for understanding the issues and creating and choosing the appropriatetool.

METHODOLOGY

CHAPTER-IV METHODOLOGY

Research methodology is an organized approach to problem solving. It is a science of comprehending the methods used in scientific research. It incorporates the general pattern of organizing the procedure for gathering valid and reliable data for the problem under investigation.[37]

This chapter includes research methodological aspects adapted for research experiment. It contains research design and approach, settings of research study, criteria's for sample collection, study population, sampling method, tool description being used for trial study, data collection and plan for analysis of data.

RESEARCH APPROACH:

Quantitative evaluation research approach be taken account for being appropriate for the study. The selection of approach depends on the purpose of the study.

RESEARCH DESIGN:

The research design is a framework or blue print for conducting the research as it refers to overall strategies that a investigator can choose to integrate the different components of the study in a coherent and logical way.[38]

The Present study aimed to evaluate the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor. Hence, the factorial research design

was adopted for the study.

Group-I	**Pre-test (O1)**	**Intervention back massage with olive oil (X1)**	**Post-test (O2)**	**Comparison**
Group-II	**Pre-test (C1)**	**Intervention back massage with coconut oil (X2)**	**Post-test (C2)**	

KEYS:-

O1: Pre-testamong olive oil group **C1:** Pre-testamong coconut oil group **X1:** Intervention with olive oil
X2: Intervention with coconut oil
O2: Post-test among olive oil group
C2: Post-testamong coconut oil group

RESEARCH STUDY SETTING:
The study was conducted in the Labor Room of Shri Dharmasthala Manjunatheshwara College of Medical Sciences and Hospital, Dharwad.

POPULATION:
In current study population were primigravida women with back pain during first stage of labor admitted in Labor Room of Shri Dharmasthala Manjunatheshwara College of Medical Sciences and Hospital, Dharwad.

SAMPLE SIZE:
40 subjects were enrolled, 20 in experimental group-I and 20 in experimental group-II.

SAMPLING TECHNIQUE:
Non-probability purposive sampling technique was used to select the subjects for the present study.
SAMPLE SELECTIONCRITERIA's:
INCLUSION CRITERIA:
Primigravida women:

- the subjects who are experiencing latent phase of first stage of labor with 0-degree cervical dilatation and gestational age between 36-40weeks.
- available during the data collection period.
- consents to participate in the study.

EXCLUSION CRITERIA:
Primigravida women:

- with high-risk pregnancies (GDM, Gestational HTN, Oligohydramnios, Polyhydramnios, etc.)

- with high-risk labor (Previous C-section, Pre-term labor, Prolonged labor, CPD, etc.)
- IVF conception.

SELECTION AND DEVELOPMENT OF THE RESEARCH TOOL

The utmost vital characteristics of any scientific research investigation are the gathering of adequate data which provides required information to know answers for the questions raised in research study. The instruments selected in a research study should be that vehicle which provides data for drawing conclusion relevant to the study.

RESEARCH TOOL DESCRIPTION:

On account of current study, the tool was classified as follows:

Section - A: Socio-Demographic Proforma

It comprised of 7 components that are age (in years), educational status, occupation, type of family, area of residence, family income and membrane status, which obtained information of primigravida women during first stage of labor.

Section - B: Universal Pain Assessment Tool

The scale was formulated by Donna Wong and Connie Baker in the year 1983. This is a standardized tool used to assess the level of pain endurance among primigravida women during first stage of labor.

Interpretation of scale

- Score 0: No pain
- Score 1-3 : Mild pain
- Score 4-6 : Moderate to severe pain
- Score 7-9 : Very severe pain
- Score 10 : Worst pain.

CONTENT VALIDITY:

Validity refers to the degree to which an instrument measures what it is supposed to be measuring.[39] The content validity of the instrument was acquired by submitting the preferred instrument attached with research study statement, objectives, research hypotheses, blueprints to 8 specialists from fields of obstetric and gynecological nursing, obstetricians. Slight moderation were made on precise of recommendation and suggestion of the experts'. Following discussion, the guide determinative instruments was reframed and was found to be legitimate and appropriate for the study.

PILOT STUDY:

Pilot study is a small-scale preliminary investigation of the common traits of the main research. The main purpose of the pilot study to find out the feasibility, practicability and reliability of the tool, refine the instruments and determine the method of data analysis.[40]

After obtaining ethical clearance from central ethical committee and administrative approval from Shri Dharmasthala Manjunatheshwara College of Medical Sciences and Hospital, Dharwad to conduct pilot study, the data was collected in Labor room conducted from 23/10/23 to 30/10/23. The procedure was introduced and informed consent was obtained from primigravida women who were in first stage of labor ,10 subjects were selected by non-probability purposive sampling technique in which 5 were

assigned to group-I and other 5 were assigned to group-II. The investigator assessed the level of pain endurance of each subject before the procedure by using universal pain assessment tool. After assessing, the investigator took 10 ml of olive oil (group-I) and coconut oil (group-II) back massage was given for 15 minutes in left lateral recumbent position every 3rd hourly for 4 times till the women was eased off into labor. The pain was assessed by a Universal pain assessment tool and the impact of the intervention was assessed and compared between 2 groups. The data collected was tabulated by using descriptive and inferential statistics. The study findings disclosed that instrument expanded was adequate for the research study. No considerable issues were encountered during pilot study. Hence, research tool n and design were set up to be feasible, practicable and reliable for conducting the main study.

RELIABILTY OF THE INSTRUMENT:

It is the degree of consistency with which an instrument measures the attributes that it supposed to measure.

In pilot study, to setup the tool reliability and the content, collected data of 10 primigravida women was subjected to analysis by split half method. The reliability computed for universal pain assessment tool was r= 0.99. In consequence, the executed tool was highly reliable.

DATA COLLECTION PROCEDURE:

The process of data collection for the main study was done in labor room of Shri Dharmasthala Manjunatheshwara College of Medical Sciences and Hospital, Dharwad from 05/02/2024 to 16/03/2024.

- The study proposal discussed and prior permission was obtained from Head of department of OBG.
- The source of background information related to study was collected from literature review and expert's advice.
- The study proposal was sent and obtained clearance from institutional ethical committee.
- Primigravida women who were in first stage of labor ,40 subjects were selected by purposive sampling in which 20 were assigned to group-I and other 20 were assigned to group-II.
- The informed consent was obtained after selecting the subjects.
- The study was conducted in labor room at tertiary level teaching hospital, Dharwad.

Intervention outline:

- The investigator assessed the level of pain endurance of each subject before the procedure by using universal pain assessment tool.
- After assessing, the investigator took 10 ml of olive oil (group-I) and coconut oil (group-II) back massage was given for 15 minutes in left lateral recumbent position every 3rd hourly for 4 times till the women was eased off into labor.
- The pain was assessed by a Universal pain assessment tool and the impact of the intervention was assessed and compared between group-I and group II.
- The same procedure was followed for the consecutive weeks.

PLAN FOR DATA ANALYSIS:

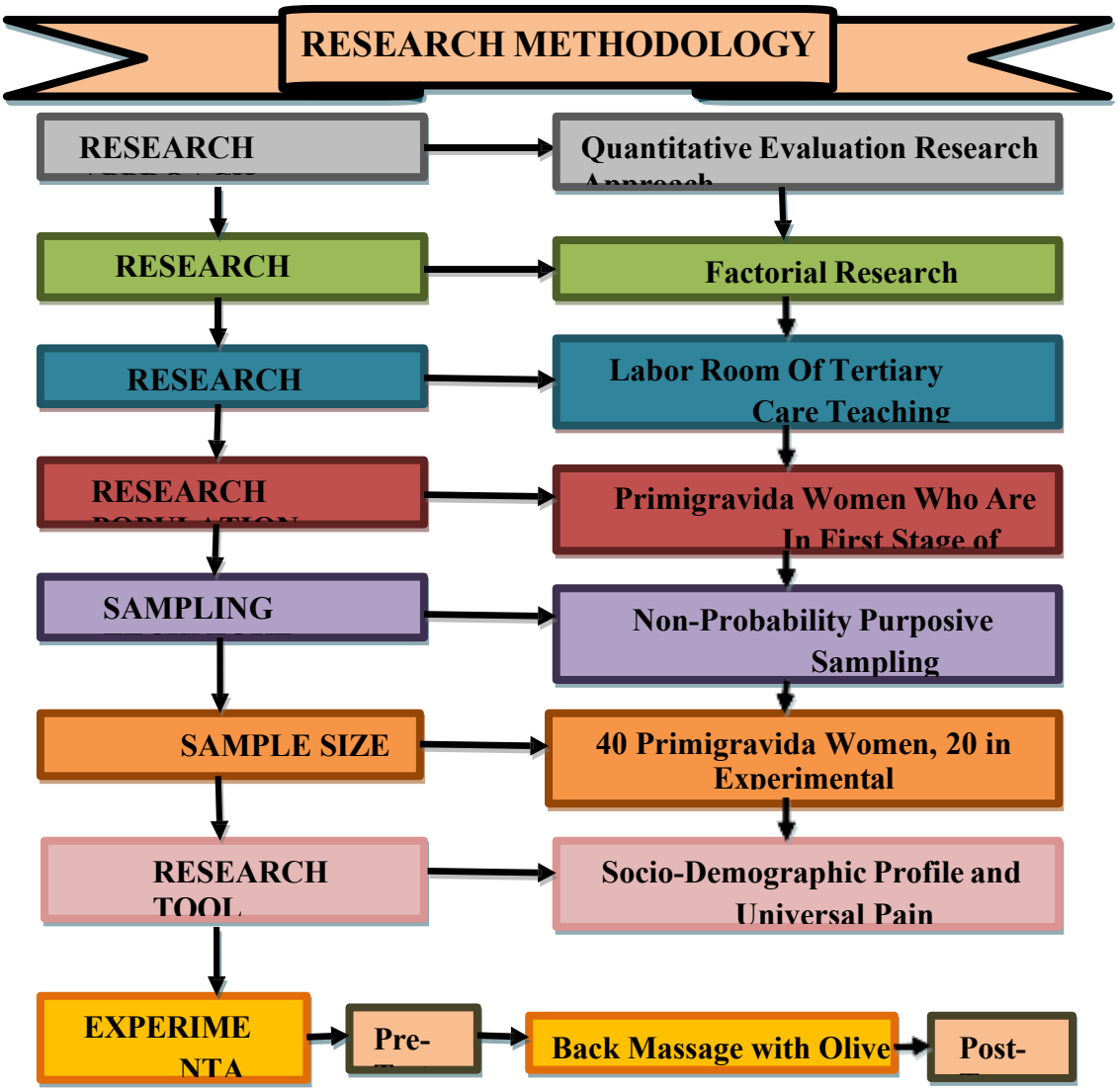
In order to achieve the objectives of the study, the data collected was organized on a master sheet and figure out by descriptive and inferential statistics in order to attain the stated study objectives.

The scheme of data analysis is as follows-

1. The arrangement of data on the master sheet.
2. The data is grouped by frequency, percentage distribution, mean and standard deviation.
3. Paired t-test was applied to compare pre-test and post -test level scores on pain endurance among primigravida women within group-I and group-II.
4. Unpaired t-test was applied to compare pre-test and post-test level scores on pain endurance among primigravida women between group-I and group-II.

SUMMARY:

The focus of this chapter is on the research approach, research design, study setting, research population, sample size and sampling technique. The data collection tools, techniques and plan for data analysis have been elaborated. Furthermore there were notes on research tool selection and development, content validity and reliability. The chapter provided on overview of the conduct of main study through the resultsof the pilot study.



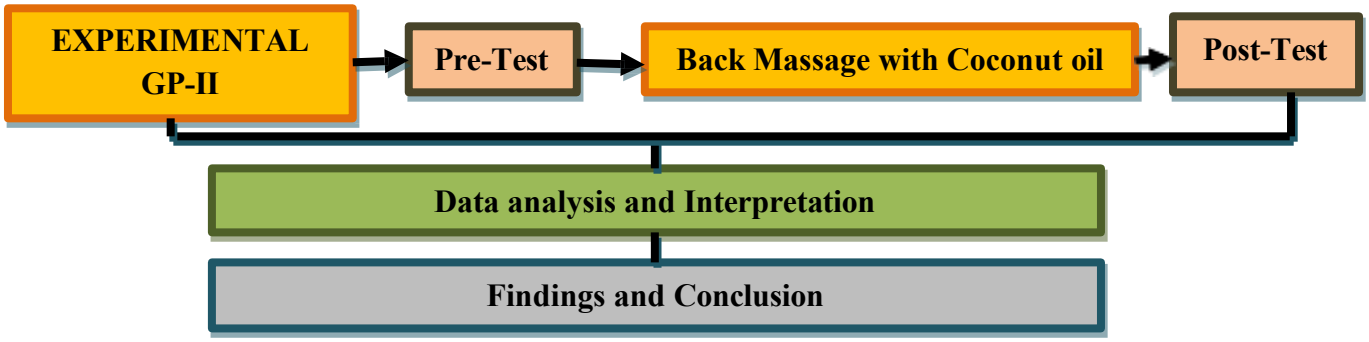


Fig2: Schematic Representation of Research Methodology

RESULTS

CHAPTER-V RESULTS

This chapter focuses on the collected data analysis and interpretation to compare the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor admitted in tertiary level teaching hospital. The data was organized and analysed by using relevant descriptive and inferential statistics.

OBJECTIVES

- To assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.
- To evaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.
- To evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.

- To compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

HYPOTHESES

The hypotheses were tested at 0.05 level of significance.

H1: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-I.

H2: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-II.

H3: Mean Post- interventional pain scores of group-I will be significantly higher than group-II.

ORGANIZATION AND INTERPRETATION OF THE FINDINGS

Following statistical analysis of the gathered data, the study's conclusions were organized into the following sections:

SECTION I: Illustrated the frequency and percentage distribution of the subjects according to their selected socio-demographic variables.

SECTION II: Assessment based on the pre-interventional scores of labor pain endurance amongprimigravida women during first stage of labor in experimental group-I and experimental group-II.

SECTION-III: Impact of back massage on labor pain endurance among primigravida women during first stage of labor in experimental group-I.

Comparison of pre and post interventional scores of labor pain endurance among primigravida women during first stage of labor in experimental group-I.

SECTION-IV: Impact of back massage on labor pain endurance among primigravida women during first stage of labor in experimental group-II.

Comparison of pre and post interventional scores of labor pain endurance among primigravida women during first stage of labor in experimental group-II.

SECTION-V: **Comparison of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.**

- Comparison of experimental group-I and experimental group-II with pre and post interventional scores of labor pain endurance by Mann-Whitney U test (Unpaired test).
- Comparison of pre and post interventional scores of labor pain endurance in experimental group-I and experimental group-II by Wilcoxon matched test (Paired test).

SECTION I: Frequency and percentage distribution of the subjects according to their selected socio-demographic variables.

Table 1: Frequency and Percentage distribution of the subjects according to their selected socio-demographic variables. **n = 40**

Demographic variables	Category	Experiment group 1		Experiment group 2	
		f	%	f	%
Age in years	20 and below	1	5	3	15

	21-25	10	5	13	65
	26-30	9	45	4	20
Educational status	Primary education	2	1	4	20
	Secondary education	5	25	5	25
	Graduation	13	65	9	45
	Post-graduation	0	0	2	10
Occupation	Working	3	15	2	10
	Home-maker	17	85	18	90
Type of family	Nuclear family	11	55	14	70
	Joint family	9	45	6	30
Area of residence	Rural	3	15	10	50
	Urban	14	70	10	50
	Semi-urban	3	15	0	0
Family income	Rs 2,000-5,000/-	0	0	0	0s
	Rs 5,000-10,000/-	3	15	1	5
	Rs 10,000-15,000/-	6	30	7	35
	>Rs 15,000/-	11	55	12	60
Membrane status	Intact	20	100	20	100

[n=40]

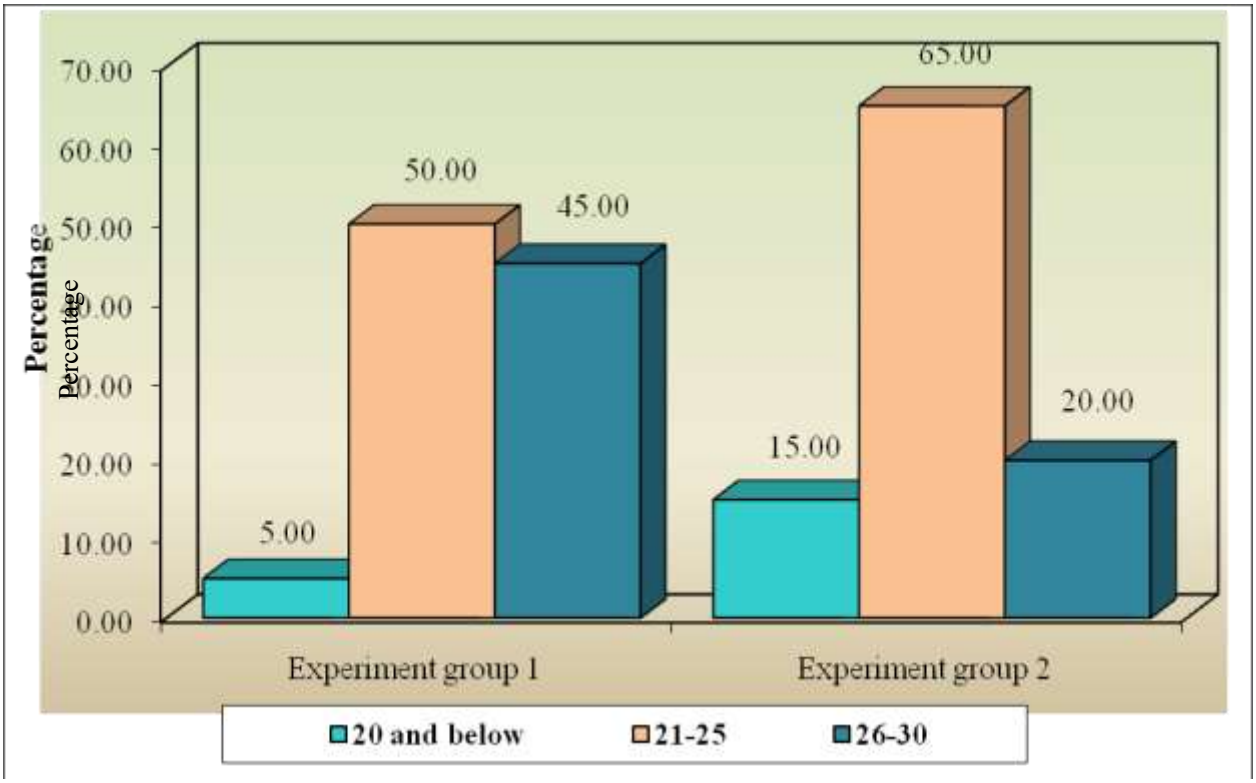
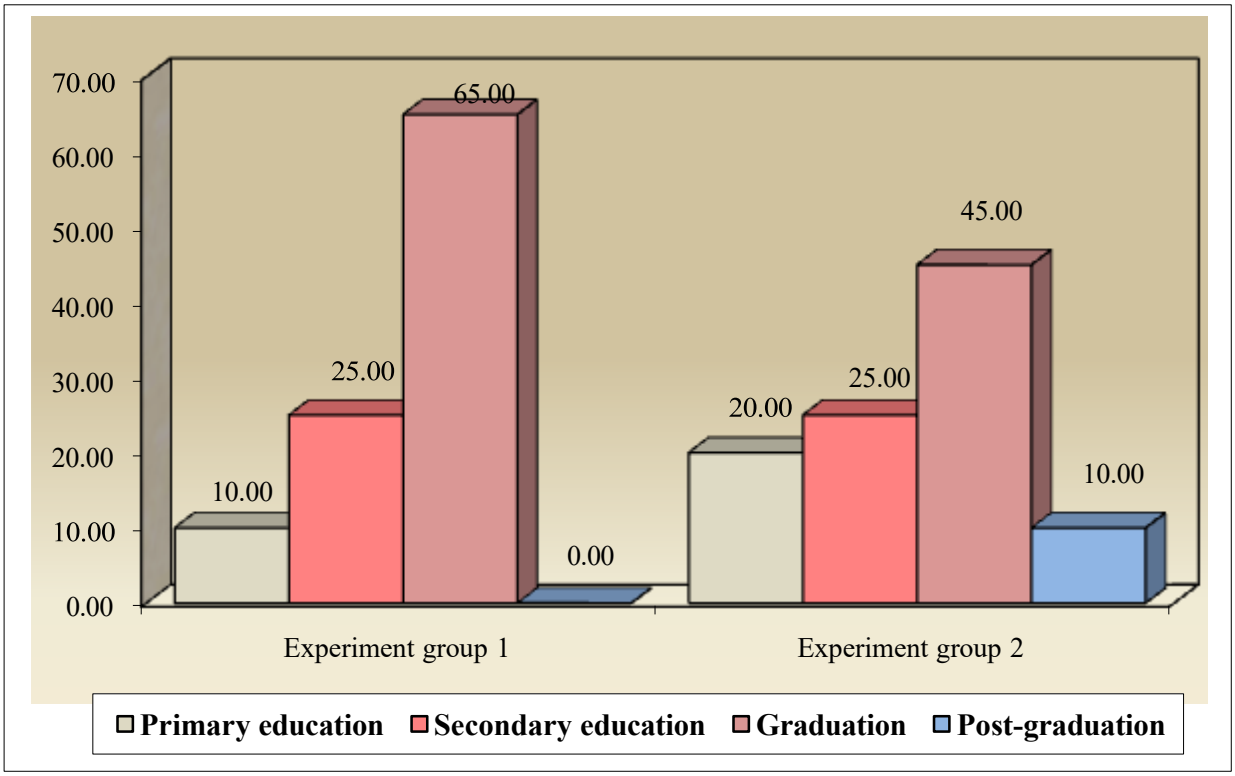


Figure 3: Bar diagram depicting percentage distribution of subjects according to their age group.

Table 1 and figure 3- with consideration to age, majority of primigravida women in experimental group I 10(50%) and experimental group II 13(65%) were in the age group of 21-25 years.



[n=40]

Figure 4:Bardiagram depicting percentage distribution of subjects according to their educational status.

Table 1 and figure 4- with consideration to educational status, majority of primigravida women in experimental group I 13(65%) and experimental group II 9(45%) had perceived graduation.

[n=40]

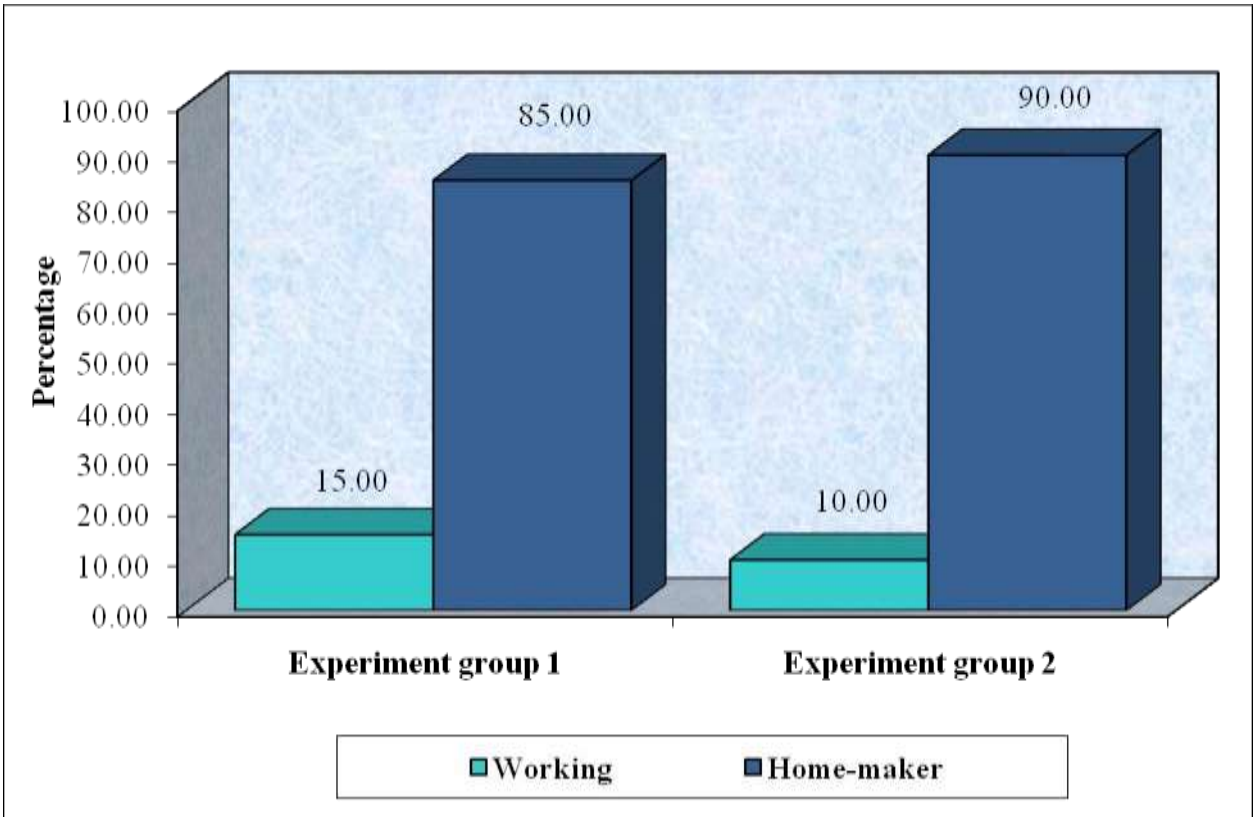


Figure 5: Bar diagram depicting percentage distribution of subjects according to their occupation.

Table 1 and figure 5- with consideration to occupation, majority of primigravida women in experimental group I 17(85%) and experimental group II 18(90%) were homemaker.

[n=40]

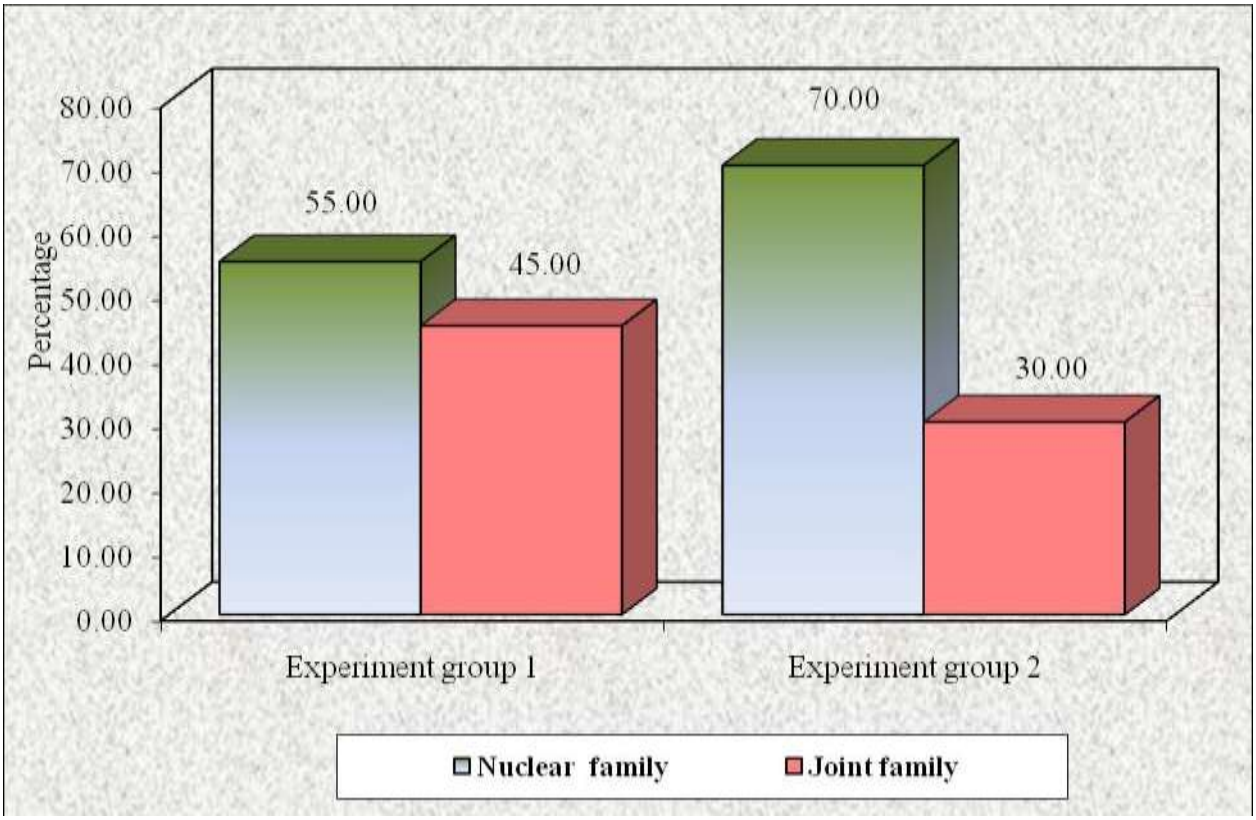


Figure 6: column diagram depicting percentage distribution of subjects according to type of family.

Table 1 and figure 6- with consideration to type of family, majority of primigravida women in experimental group I 11(55%) and experimental group II 14(70%) were nuclear family.

[n=40]

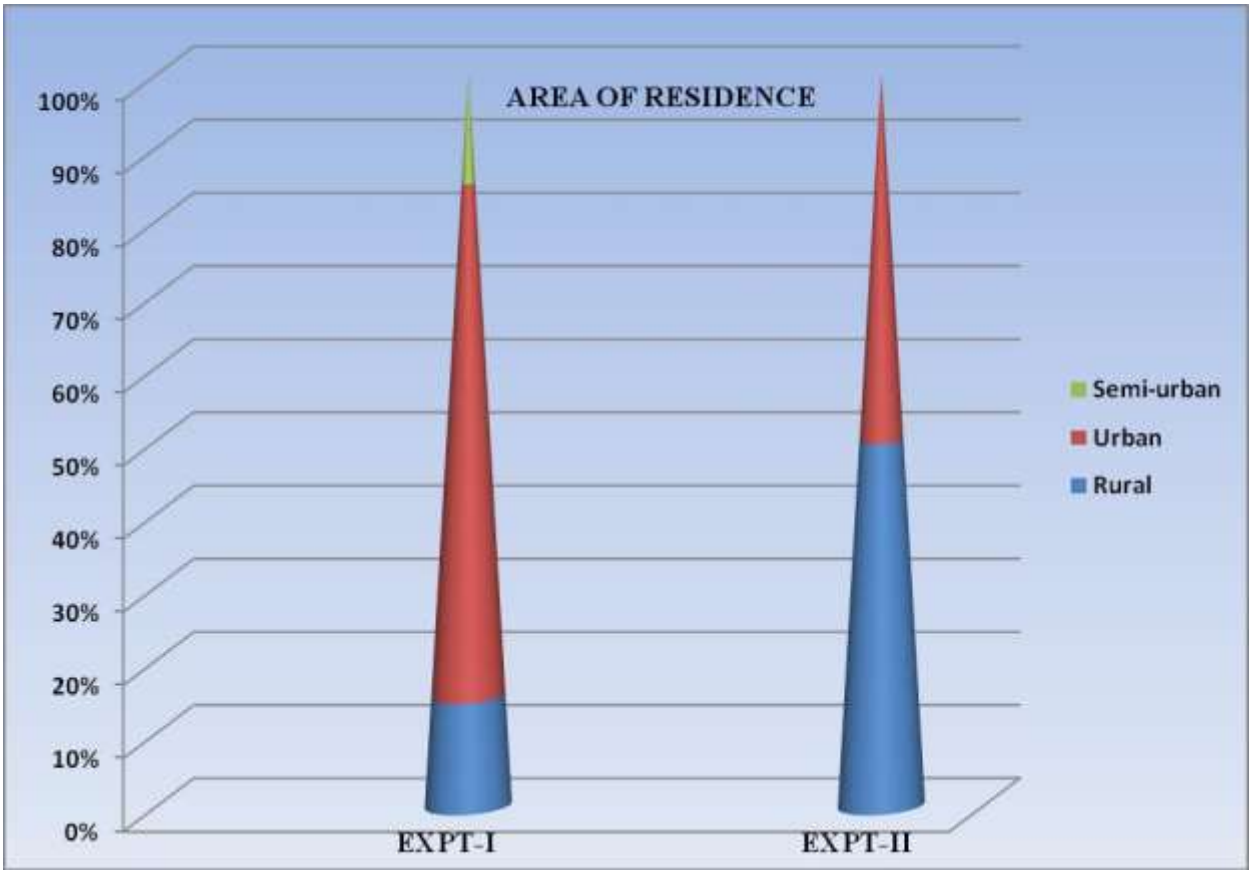


Figure 7: Cone diagram depicting percentage distribution of subjects according to area of residence.

Table 1 and figure 7- with consideration to area of residence, majority of primigravida women in experimental group I 14(70%) and experimental group II 10(50%) were from urban area.

[n=40]

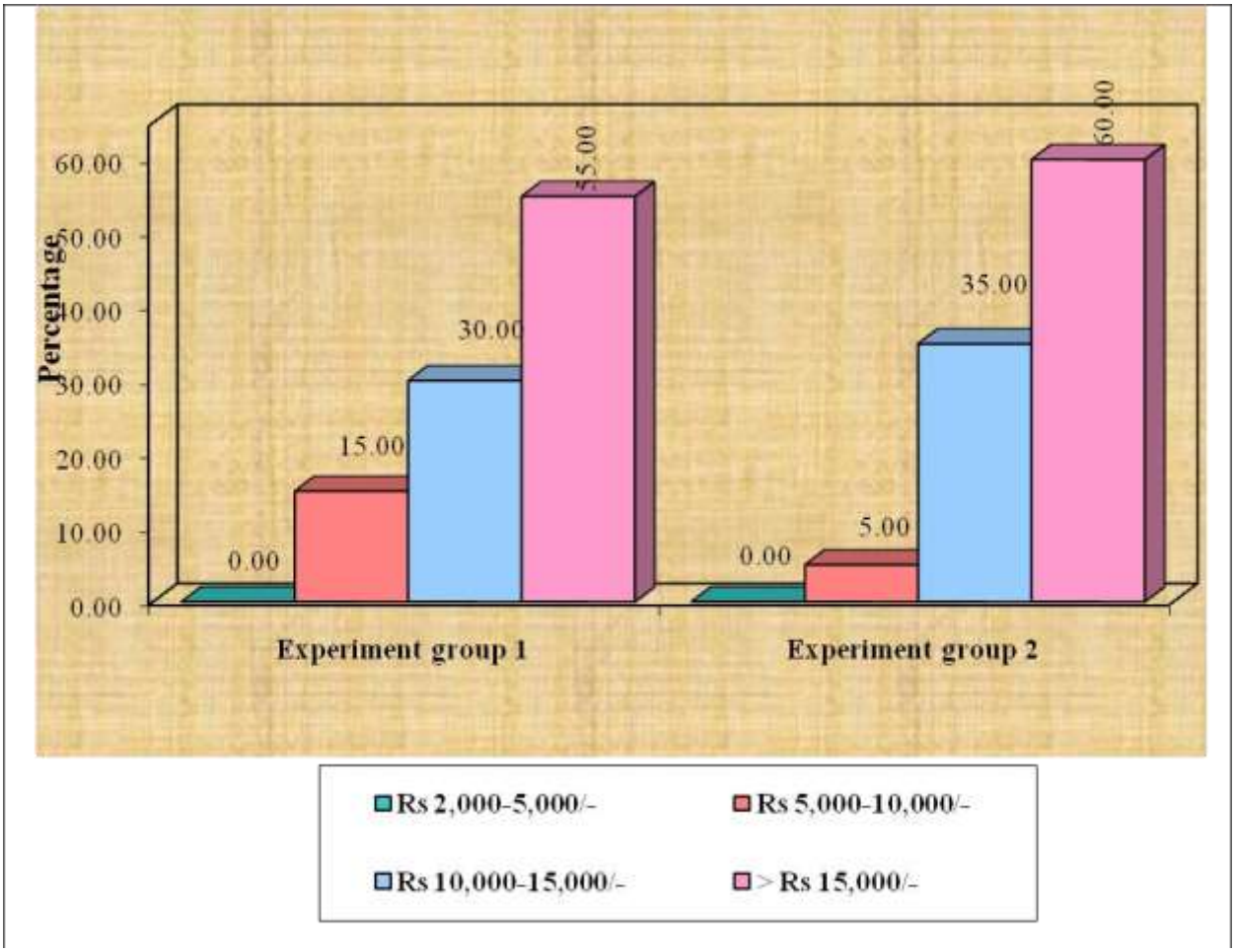


Figure 8: Bar diagram depicting percentage distribution of subjects according to family income.

Table 1 and figure 8- with consideration to family income, majority of primigravida women in experimental group I 11(55%) and experimental group II 12(60%) earning more than Rs.15, 000/-

[n=40]

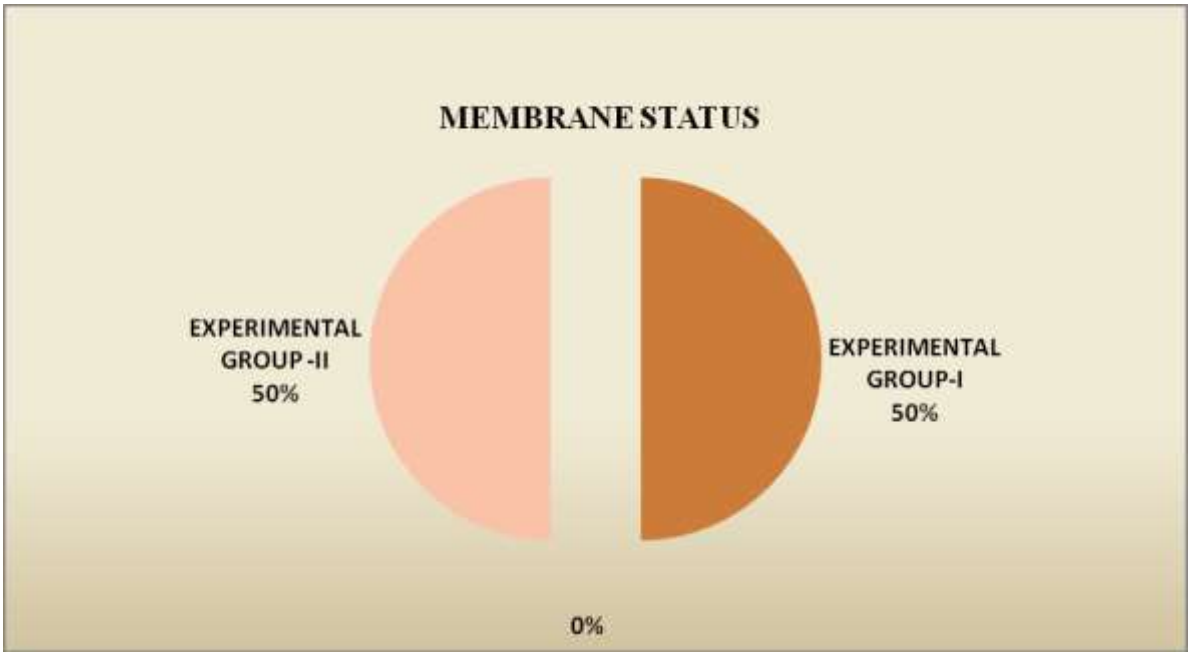


Figure 9: Pie diagram depicting percentage distribution of subjects according to membrane status.

Table 1 and figure 9- with consideration to membrane status, majority of primigravida women in experimental group I 20(100%) and experimental group II 20(100%) had intact membrane.

SECTION II: Assessment of the pre-interventional scores of labor pain endurance amongprimigravida women during first stage of labor in experimental group-i and experimental group-ii.

Objective 1: To assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.

Table 2:Frequency and percentage distribution of subjects according to their level of pain.

S.NO	LEVEL OF PAIN	EXPERIMENTAL GROUP-I		EXPERIMENTAL GROUP-II	
		PRE-TEST		PRE-TEST	
		f	%	f	%
1	No pain	0	0	0	0
2	Mild pain	0	0	0	0
3	Moderate to severe pain	5	25	3	15
4	Very severe pain	15	75	17	85
5	Worst pain	0	0	0	0

Table 2 & Figure 10- with consideration to level of pain, in experimental group-I majority 15(75%) of the primigravida women in pre-test experienced very severe pain whereas in experimental group-II, majority 17(85%) of primigravida women in pre-test had very severe pain.

N=40

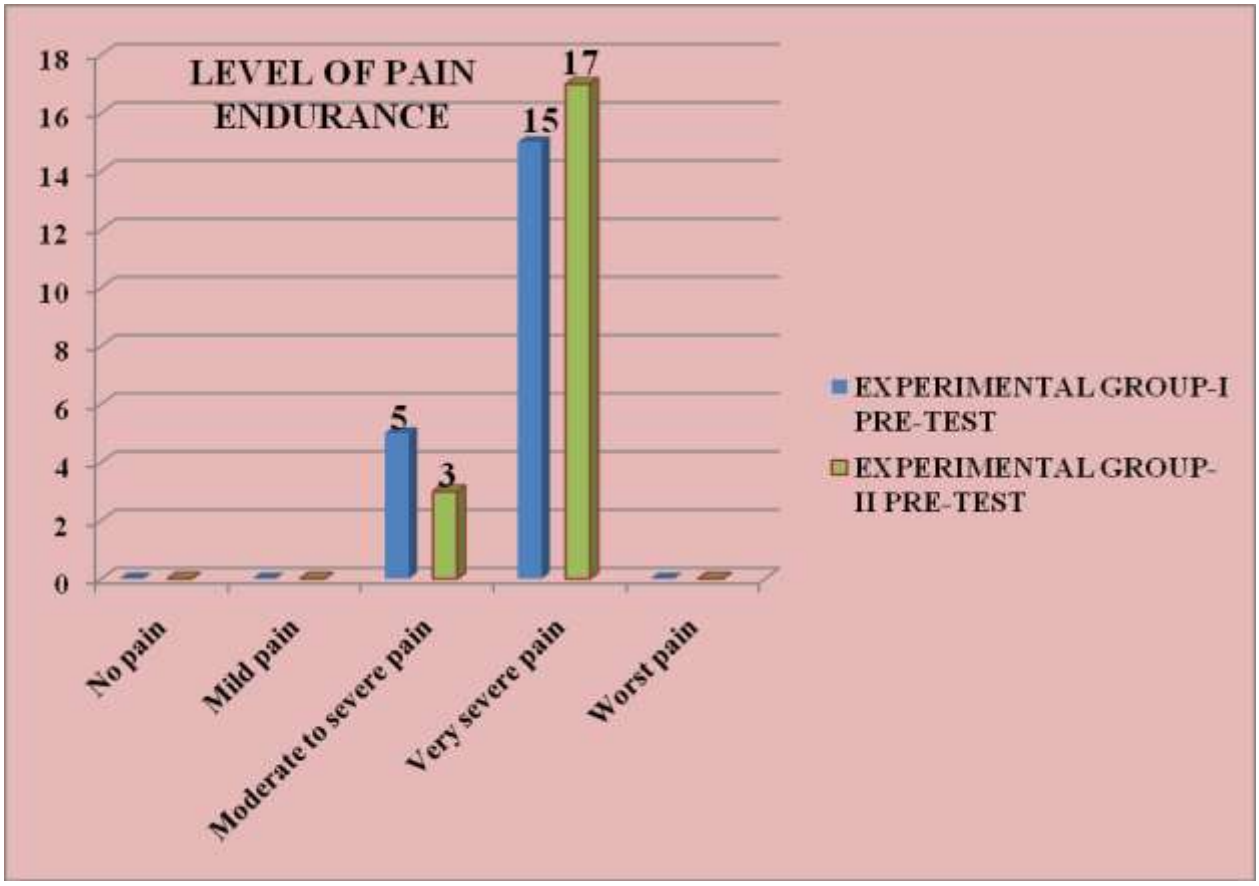


Figure 10: Column diagram depicting frequency and percentage distribution of subjects according to their level of pain endurance .

SECTION-III: Impact of back massage on labor pain endurance among primigravida women during first stage of labor in experimental group-i.

Objective II: To evaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.

To achieve this objective, the following hypothesis was stated and statistically tested.

H1: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-Iat 0.05 level of significance.

Table 3: Comparison of pre and post interventional scores of labor pain endurance among primigravida women during first stage of labor in experimental group-I.

Sl.No	Test	Mean	Standard Deviation	Mean Diff.	SD Diff.	% of effect	t-value	p-value
1.	Pre-test	7.81	0.46					

2.	**Post-test**	6.23	0.46	1.59	0.37	20.32	3.9199	0.0001*

***p<0.05, S=Significant**

Table 3 & figure 11: depicts that pre-test mean value was 7.81 with standard deviation of 0.46, & the post-test mean value was 6.23 with standard deviation of
0.46. The mean difference was 1.59. Referring to the tabulated 't' value was 3.9199. The calculated paired't'value was 20.32. The calculated paired 't' value was greater than the tabulated 't' value which implies that there was a significant difference between pre-test and post-test scores of pain endurance among primigravida women during first stage of labor in experimental group-I at 0.05 level of significance. Thus, **objective II** and **Hypotheses 1** was achieved.

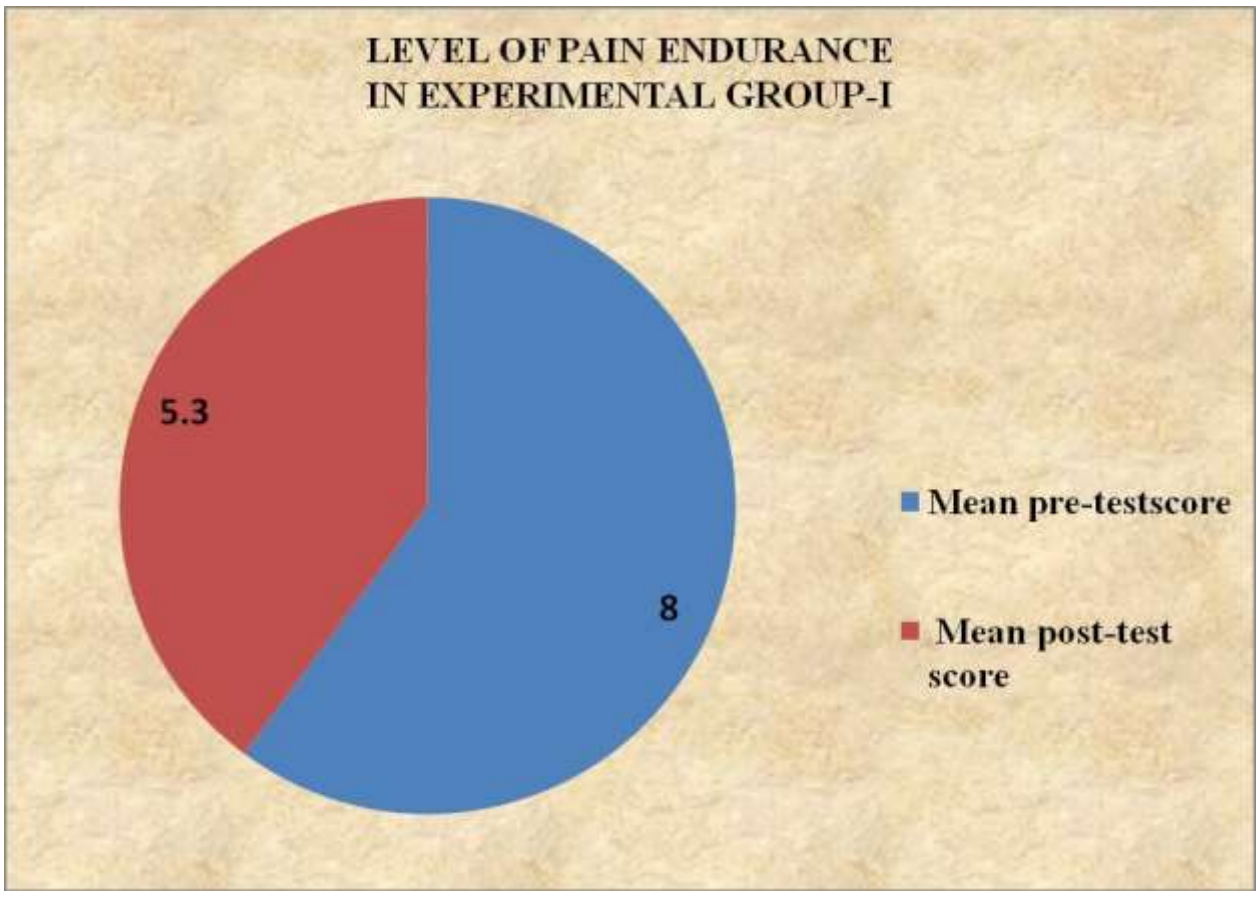


Figure 11: Pie chart depicting comparison of mean and standard deviation of pre and post interventional scores of labor pain endurance in experimental group-I.

SECTION-IV:Impact of back massage on labor pain endurance among primigravida women during first stage of labor in experimental group-II.

Objective II: To evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.

To achieve this objective, the following hypothesis was stated and statistically tested.

H2: Mean post-interventional scores of pain endurance will be significantly lower than pre-

interventional scores among group-IIat 0.05 level of significance.

Table 4: Comparison of pre and post interventional scores of labor pain endurance among primigravida women during first stage of labor in experimental group-II.

Sl.No	Test	Mean	Standard Deviation	Mean Diff.	SD Diff.	% of effect	t-value	p-value
1.	Pre-test	8.00	0.29	2.70	0.48	33.75	3.9202	0.0001*
2.	Post-test	5.30	0.44					

***p<0.05, S=Significant**

Table 4& figure 12: depicts that pre-test mean value was 8.00 with standard deviation of 0.29, &the post-test mean value was 5.30 with standard deviation of
0.44. The mean difference was 2.70. Referring to the tabulated' value was 3.9202.
The calculated paired't' value was 33.75. The calculated paired 't' value was greater than the tabulated 't' value which implies that there was a significant difference between pre-test and post-test scores of pain endurance among primigravida women during first stage of labor in experimental group-II at 0.05 level of significance. Thus, **objective III** and **Hypotheses 2** was achieved.

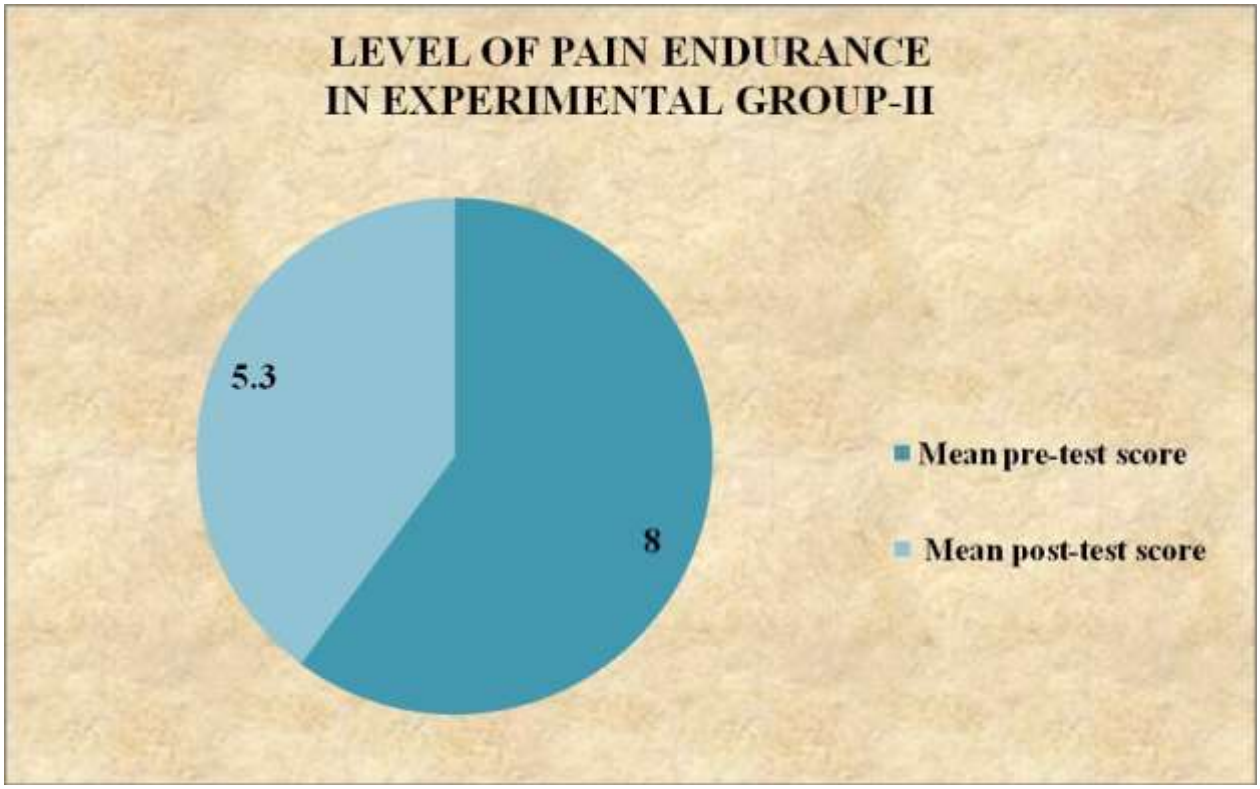


Figure 12: Pie chart depicting comparison of mean and standard deviation of pre and post interventional scores of labor pain endurance in experimental group-II.

SECTION-V: **Comparison of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.**

Objective IV: To compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

To achieve this objective, the following hypothesis was stated and statistically tested.

H3: Mean Post- interventional pain scores of group-I will be significantly higher than group-II at 0.05 level of significance.

Comparison of experimental group-I and experimental group-II with pre and post interventional scores of labor pain endurance by Mann-Whitney U test (Unpaired test).

Table 5: **n1+n2=40**

Time points	Experiment group 1			Experiment group 2			U-value	Z-value	p-value
	Mean	SD	Mean rank	Mean	SD	Mean rank			
Pre-test	7.8	0.5	17.9	8.0	0.3	23.1	147.5	-1.4066	0.1595
Post-test	6.2	0.5	29.2	5.3	0.4	11.8	25.5	4.7067	0.0001*
Difference	1.6	0.4	11.1	2.7	0.5	29.9	11.5	-5.0854	0.0001*

***p<0.05**

The data presented in the **table 5**shows that in the experimental group-I, the overall pretest mean scores value was 7.8 with standard deviation of 0.5and a mean rank of 17.9 .The post-test mean value was 6.2 with standard deviation of 0.5 and a mean rank of 29.2 with the mean difference between the pre and post interventional score of labor pain endurance in the experimental group I was 1.6 with standard mean difference 0.4and in experimental group-II, the overall pretest mean score value was 8.0 and standard deviation of 0.3 with mean rank of 23.1 and the posttest mean value was 5.3 with standard deviation of 0.4 and mean rank of

11.8.Overall mean difference in experimental group-I was 1.6 and mean standard difference was 0.4 with mean rank of 11.1.Overall mean difference in experimental group-I was 2.7and mean standard difference was 0.5 with mean rank of 29.9. Overall pre-test scores in experimental group-I and experimental group-II the u-value was 147.5, and the Z value is -1.4066 and p value is 0.1595.. Overall post-test scores in experimental group-I and experimental group-II the u-value were 25.5, and the Z value is 4.7067 and p value is 0.0001 it's significant. The overall mean difference of U value was 11.5, Z-value was -5.0854 and p value was 0.0001 it's significant. This shows there is significant difference in experimental group-I and experimental group-II.

Comparison of pre and post interventional scores of labor pain endurance in experimental group-I and experimental group-II by Wilcoxon matched test (Paired test).

Table 6: **n1+n2=40**

Group	Time	Mean	SD	Mean Diff.	SD Diff.	% of effect	t-value	p-value

Experiment group-I	**Pre-test3**	7.81	0.46	1.59	0.37	20.32	3.9199	0.0001*
	Post-test	6.23	0.46					
Experiment group-II	**Pre-test**	8.00	0.29	2.70	0.48	33.75	3.9202	0.0001*
	Post-test	5.30	0.44					

***p<0.05**

The data presented in the **table 6** shows that in the experimental group-I, the overall pretest mean scores value was 7.81with standard deviation of **0.46** and post-test mean score was 6.23 with standard deviation of **0.46**, overall the mean difference score of pretest and posttest in experimental group-I was 1.59, With standard difference of **0.37** and effect in percentage was **20.32** and t-value was **3.9199** and p-value of 0.0001 significant.

In the experimental group-II overall pretest mean score was 8.00 and the standard deviation of **0.29** and the posttest mean score was 5.30 and standard deviation was 0.44, overall the mean difference score of pre-test and post-test in experimental group-II was 2.70, with standard difference of 0.48 and effect in percentage was

33.75 and the t-value was 3.9202 and p value of **0.0001.** Thus Wilcoxon matched paired test value in the pretest and posttest in experimental group shown that there was significant difference in the post test scores at 0.05 level of significance.

The statistical difference of the mean difference between the pre and post experimental group-I and experimental group-II was tested in unpaired and paired t test, Mann-Whitney U test, Wilcoxon matched pair test , all test found significant at 0.05 levels. Hence the research hypothesis is supported. Thus, the **objective IV** and the **Hypothesis H3** have achieved.

SUMMARY:

This chapter focused on the data analysis and interpretation by utilization of descriptive statistics including frequency, percentage, diagrams and figures. Additionally, statistical significance to compare the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor was computed by using paired t-test and unpaired t-test. Reliability was confirmed through utilization of by using Karl Pearson's correlation co-efficient.

DISCUSSION

CHAPTER-VI DISCUSSION

The current chapter delves the vital verdicts of the study concerning the stated objectives and hypotheses, while also evaluating the outcomes of prior research studies.

The present study aimed to compare the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor.

OBJECTIVES

Objectives of the study were:

- To assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.
- To evaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.
- To evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.
- To compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

HYPOTHESES

The hypotheses were tested at 0.05 level of significance.

H1: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-I.

H2: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-II.

H3: Mean Post- interventional pain scores of group-I will be significantly higher than group-II.

The study findings were deliberated upon within the subsequent categories:

- Study Objectives
- Engage in discussion regarding hypothesis testing.

Description of the subject characteristics:

- **Age:** The majority of primigravida women in experimental group I **10(50%)**
- and experimental group II **13(65%)** were in the age group of 21-25 years.
- **Educational status: The**majority of primigravida women in experimental group I **13(65%)** and experimental group II **9(45%)** had perceived graduation.
- **Occupation:** The majority of primigravida women in experimental group I
- **17(85%)** and experimental group II **18(90%)** were homemaker.
- **Type of family:** The majority of primigravida women in experimental group I
- **11(55%)** and experimental group II **14(70%)** were nuclear family.
- **Area of residence**: The majority of primigravida women in experimental group I **14(70%)** and experimental group II **10(50%)** were from urban area.
- **Family income:** The majority of primigravida women in experimental group I
- **11(55%)** and experimental group II **12(60%)** earning more than Rs.15, 000/-
- **Membrane status:** The majority of primigravida women in experimental group I **20(100%)** and experimental group II **20(100%)** had intact membrane.

OBJECTIVES OF THE STUDY:

Objective 1:To assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.

Table 2 & Figure 10- Illustrate the level of pain endurance, in experimental group-I majority **15(75%)** of the primigravida women in pre-test experienced very severe pain whereas in experimental group-II, majority **17(85%)** of primigravida women in pre-test had very severe pain.

Objective II: To evaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.

To achieve this objective, the following hypothesis was stated and statistically tested.

H1: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-Iat 0.05 level of significance.

Table 3 & figure 11: depicts that pre-test mean value was **7.81** with standard deviation of **0.46**, & the post-test mean value was **6.23** with standard deviation of **0.46.** The mean difference was **1.59.** Referring to the tabulated‘t’ value was **3.9199.** The calculated paired‘t’ value was **20.32.** The calculated paired ‘t’ value was greater than the tabulated ‘t’ value which implies that there was a significant difference between pre-test and post-test scores of pain endurance among primigravida women during first stage of labor in experimental group-I at 0.05 level of significance. Thus, **objective II** and **Hypotheses 1** was achieved

Objective III: To evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.

To achieve this objective, the following hypothesis was stated and statistically tested.

H2: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-II at 0.05 level of significance.

Table 4 & figure 12: depicts that pre-test mean value was **8.00** with standard deviation of **0.29,** &the post-test mean value was **5.30** with standard deviation of

0.44. The mean difference was 2.70. Referring to the tabulated' value was **3.9202.**

The calculated paired't' value was**33.75**. The calculated paired 't' value was greater than the tabulated 't' value which implies that there was a significant difference between pre-test and post-test scores of pain endurance among primigravida women during first stage of labor in experimental group-II at 0.05 level of significance. Thus, **objective III** and **Hypotheses 2** was achieved

Objective IV: To compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

To achieve this objective, the following hypothesis was stated and statistically tested.

H3: Mean Post- interventional pain scores of group-I will be significantly higher than group-II at 0.05 level of significance.

The data presented in the **table 5** shows that in the experimental group-I, the overall pretest mean scores value was **7.8** with standard deviation of **0.5**and a mean rank of **17.9** .The post-test mean value was **6.2** with standard deviation of **0.5** and a mean rank of **29.2** with the mean difference between the pre and post interventional score of labor pain endurance in the experimental group I was

1.6with standard mean difference **0.4** and in experimental group-II, the overall pretest mean score value was **8.0** and standard deviation of **0.3** with mean rank of

23.1 and the posttest mean value was **5.3** with standard deviation of **0.4** and mean rank of **11.8.** Overall mean difference in experimental group-I was **1.6**and mean standard difference was **0.4** with mean rank of **11.1.**Overall mean difference in experimental group-I was **2.7**and mean standard difference was **0.5** with mean rank of **29.9.** Overall pre-test scores in experimental group-I and experimental group-II the u-value was **147.5**, and the Z value is **-1.4066** and p value is **0.1595**. Overall post-test scores in experimental group-I and experimental group-II the u-value was**25.5**, and the Z value is **4.7067** and p value is **0.0001** it's significant. The overall mean difference of U value was **11.5**, Z-value was **-5.0854** and p value was **0.0001**its significant. This shows there is significant difference in experimental group-I and experimental group-II.

Referring the **table 6** shows that in the experimental group-I, the overall pretest mean scores value was **7.81**with standard deviation of **0.46** and post-test mean score was **6.23** with standard deviation of **0.46**, overall the mean difference score of pretest and posttest in experimental group-I was **1.59,** With standard difference of **0.37** and effect in percentage was **20.32** and t-value was **3.9199** and p-value of **0.0001** significant.

In the experimental group-II overall pretest mean score was **8.00** and the standard deviation of **0.29** and the posttest mean score was **5.30** and standard deviation was **0.44,** overall the mean difference score of pre-test and post-test in experimental group-II was **2.70**, with standard difference of **0.48** and effect in percentage was

33.75 and the t-value was **3.9202** and p value of **0.0001.** Thus Wilcoxon matched paired test value in the pretest and posttest in experimental group shown that there was significant difference in the post test

scores at 0.05 level of significance.

The statistical difference of the mean difference between the pre and post experimental group-I and experimental group-II was tested in unpaired and paired t test, Mann-Whitney U test, Wilcoxon matched pair test , all test found significant at 0.05 levels. Hence the research hypothesis is supported. Thus, the **objective 4** and the **Hypothesis H3** have achieved.

SUMMARY:

This chapter dealt with the debate of research results based on the objectives and hypotheses of the research. Previous supporting studies have been added to this chapter to shed light on the results.

CONCLUSION

CHAPTER-VII CONCLUSION

This chapter discusses the conclusion drawn from the study results and their implication on different aspect on nursing profession. It also elucidates the limitation of the study and suggests recommendation for further research.

Based on the findings of the study, the conclusion infers that:

The overall Mean Post- interventional pain scores of group-I was significantly higher than group-II.

STUDYIMPLICATIONS

The implications of the study could be discussed in 4 broad areas,namely:

- Nursing practice
- Nursing education
- Nursing administration
- Nursing research

NURSING PRACTICE:

- Therapeutic back massage must have a more eminent aspect in the focus of care.
- Back massage with application of oil is a non-pharmacological intervention that alleviates the pain endurance during labor among primigravida women.
- Back massage provides and encourages physical and emotional support during first stage of labor among primigravida women.
- -It's cost effective, practical, easy to use this intervention.
- During the labor process, back massage can be provided by nurses as standard care.
- It can be followed as independent nursing intervention.

NURSING EDUCATION:

- The use of non-pharmacological modalities that is back massage can be easily incorporated in nursing education along with alternative therapies.
- Nurse educators should take an effort to provide an adequate training and skills for nursing students to perform back massage with application of oil.
- In order to keep their knowledge and abilities up to date and enable them to deliver quality care. Nurse educator should host workshops, seminars, and conferences on non-invasive complementary therapies.
- Enough clinical experience in labor rooms must be included in the nursing education curriculum for nursing students.

NURSING ADMINISTRATION:

- The nurse administrator should take initiative in conducting the continuing education programme on management of labor pain endurance for nursing personnel in both hospital and community setting.
- The nurse administrator must oversee the staff nurse for back massage in labor room.
- Nurses should be monitored for the standards of practice performed so as to promote excellence in nursing care.
- An in-service education program and conferences on various non-pharmacological measures of pain endurance during labor can be arranged by nurse administrator.

NURSING RESEARCH

- In the era of evidence based practice, nurse researcher has the potential to introduce novel and inventive procedures and should motivate clinical nurses to incorporate the research findings into their daily nursing care activities.
- It is recommended that nurse researchers encourage clinical nurses to carry out additional research on the effects of back massage with oil application on labor pain endurance.
- Current study will be a valuable asset in promoting non-pharmacological intervention in labor aspect.
- Similar studies can be conducted in larger scale.

LIMITATIONS:

- The study is limited to:

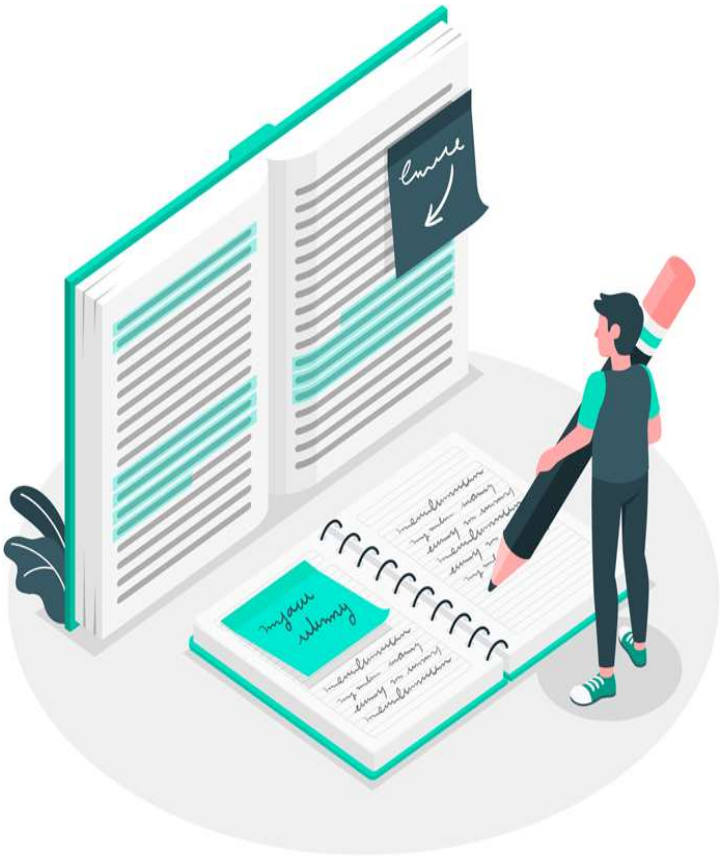
- Particular age group of primigravida women ranging from 18-30 years.
- In order to provide smoothing effect for the mother during the final stages of Pregnancy, this study can be started in the final weeks of pregnancy.
- Primigravida women who are experiencing latent phase of first stage of labor with 0-degree cervical dilatation and gestational age between 36-40weeks.

RECOMMENDATIONS:

- The present study conclusion led to the recommendations that were made below:
- For precise result and wide generalization, a similar study can be replicated on larger samples
- Conducted at different settings to rule out impact of the interventions.
- It is possible to perform "comparative research to evaluate the efficacy of back massage both on its own and in conjunction with other complementary therapies.
- A cross cultural research can be carried out to evaluate the efficacy of music therapy and back massage on pain perception during childbirth.

SUMMARY:

In light of the numerous study scopes in nursing practice, nursing education, and nursing administration. This chapter addressed the implications and even the recommendation that went along with it.



SUMMARY

CHAPTER-VIII SUMMARY

An overview of the research study is provided in this chapter. In this study, a factorial research design

was employed to evaluate the impact of olive oil versus coconut oil back massage on pain endurance among primigravida women during first stage of labor admitted in tertiary level teaching hospital, Dharwad.

The following objectives were the focus of the study:

- To assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.
- To evaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.
- To evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.
- To compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

Providing the following hypotheses was the aim of the study:

The hypotheses were tested at 0.05 level of significance.

H1: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-I.

H2: Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-II.

H3: Mean Post- interventional pain scores of group-I will be significantly higher than group-II.

CONCEPTUAL FRAMEWORK:

The conceptual framework for the present study was adopted from Modified Katharine Kolcaba's Comfort Theory. In this study, Kolcaba distinguished between 3 types of comfort: Transcendence, ease and relief. Kolcaba also outlined the four domains :- physical, psycho-spiritual, environmental and socio-cultural in which patient can find comfort.

RESEARCH METHODOLOGY:

Research design adopted for the study was a factorial research design. A total of 40 primigravida women with back pain during first stage of labor were enrolled, 20 in experimental group-I and 20 in experimental group-II by using non-probability purposive sampling technique.

In order to know the impact of the intervention universal pain assessment tool were used by the researcher to compare the findings of the study in experimental group-I and experimental group-II.

Seven experts in the field of obstetrics and gynecological nursing, skilled gynecologists and obstetricians, and the statisticians evaluated the tool to seek instrument validation. to seek validation. A pilot study was carried out from 29/10/23 to 30/10/23 to ascertain the tool's reliability as well as the study's viability and practicability. By using the split-half method to calculate Karl Pearson's coefficient formula, the reliability of the tool was determined to be r=0.99. Because of this, the prepared tool was highly reliable.

The main study was conducted from 05/02/2024 to 16/03/2024 in labor room of tertiary level teaching hospital, Dharwad. After receiving official approval and ethical clearance from the head of the department of OBG, SDMCMS&H, the data was collected. The procedure was introduced and informed consent was taken, 40 subjects(20 in each group) were enrolled to experimental group-I and

experimental group-II by considering their inclusion and exclusion criteria using non-probability purposive sampling technique.

INTERPRETATION:

The findings of the study revealed that:

Objective was to assess the pre-interventional scores of labor pain endurance during first stage of labor in both the groups.

The pre-interventional labor pain endurance in experimental group-I were 15(75%) of the primigravida women experienced very severe pain whereas in experimental group-II were 17(85%) of primigravida women had very severe pain.

Objective was toevaluate the impact of back massage with olive oil on labor pain endurance during first stage of labor.

The mean score for the Pre-test was 7.81 with standard deviation of 0.46, while the mean score for the post-test was 6.23 with the same standard deviation . The difference in mean was 1.59. The't' value as reported in the table was 3.9199. The calculated paired't' value was 20.32. In experimental group-I, there was significant difference between pre-test and post-test scores of pain endurance among primigravida women during first stage of labor as indicated by calculated paired 't' value being greater than the tabulated 't' value at 0.05 level of significance.

Objective was to evaluate the impact of back massage with coconut oil on labor pain endurance during first stage of labor.

Mean score before the test was 8.00 with standard deviation of 0.29.The mean score after the test was 5.30 with standard deviation of 0.44. There was a 2.70 mean difference. 3.9202 was the value that was tabulated.The paired't' value that was computed was 33.75. The calculated paired 't' value was higher than the tabulated 't' value suggesting that at 0.05 level of significance there was a significant difference between primigravida women's pre-test and post-test scores on pain endurance during first stage of labor in experimental group-II.

Objective was to compare the impact of olive oil massage and coconut oil massage on labor pain endurance during first stage of labor among primigravida women.

In the experimental group-I, the overall pretest mean scores value was 7.8 with standard deviation of 0.5and a mean rank of 17.9 .The post-test mean value was 6.2 with standard deviation of 0.5 and a mean rank of 29.2 with the mean difference between the pre and post interventional score of labor pain endurance in the experimental group I was 1.6 with standard mean difference 0.4 and in experimental group-II, the overall pretest mean score value was 8.0 and standard deviation of 0.3 with mean rank of 23.1 and the posttest mean value was 5.3 with standard deviation of 0.4 and mean rank of 11.8. Overall mean difference in experimental group-I was 1.6 and mean standard difference was 0.4 with mean rank of 11.1.Overall mean difference in experimental group-II was 2.7and mean standard difference was 0.5 with mean rank of 29.9. Overall pre-test scores in experimental group-I and experimental group-II the u-value was 147.5, and the Z value is -1.4066 and p value is 0.1595.. Overall post-test scores in experimental group-I and experimental group-II the u-value was 25.5, and the Z value is 4.7067 and p value is 0.0001 it's significant. The overall mean difference of U value was 11.5, Z-value was -5.0854 and p value was 0.0001 its significant. This shows there is significant difference in experimental group-I and experimental group-II.

The pretest mean scores for experimental group-I was 7.81 with standard deviation of **0.46** and the

post-test mean score was 6.23 with the same standard deviation .Overall the mean difference score of pretest and posttest in experimental group-I was 1.59, With standard difference of **0.37** and effect in percentage was **20.32** and t-value was **3.9199** and p-value of 0.0001 significant.

In the experimental group-II overall pretest mean score was 8.00 and the standard deviation of **0.29** and the posttest mean score was 5.30 and standard deviation was 0.44, overall the mean difference score of pre-test and post-test in experimental group-II was 2.70, with standard difference of 0.48 and effect in percentage was

33.75 and the t-value was 3.9202 and p value of **0.0001.** As a result at the 0.05 level of significance, the Wilcoxon matched paired test value the experimental group demonstrated a significant difference in the post-test scores. The statistical significance of the mean difference between the pre and post experimental group-I and experimental group-II was tested in unpaired and paired t test, Mann-Whitney U test, Wilcoxon matched pair test , all test found significant at 0.05 levels. Hence the research hypothesis is supported. Thus, the **objective 4** and the **Hypothesis H3** have achieved.

The research concludes with the following key findings:

The study findings revealed that overall Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-

I. Thus, **Hypotheses 1** was accepted and **objective 2** was achieved.

Mean post-interventional scores of pain endurance will be significantly lower than pre-interventional scores among group-II. Thus, **Hypotheses 2** was accepted and **objective 3** was achieved.

Mean Post- interventional pain scores of group-I will be significantly higher than group-II. Thus, **Hypotheses 3** was accepted and **objective 4** was achieved.

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