A Study to Assess the Effectiveness of Back Massage on Pain Perception among Intranatal Women during Active Phase of Labour in Doon Medicle College and Hospital, Dehradun, Uttarakhand

(State college of nursing 107, Chandar Nagar, Dehradun , Uttarakhand/ H.N.B Uttarakhand Medical Education University, Dehradun)

jyoti joshi *(dept. obstetric and gynecological nursing),*
[2] poonam negi
Guide- Little Treesa associate professor (dept. obstetric and gynecological nursing)   state college of nursing, Dehradun.

ABSTRACT

- **BACKGROUND:** *Pregnancy is the special event not only in the life of women but also in the entire family. The Labor and birth process is an exciting, anxiety provoking but rewarding time for the woman and her family. Labor is a health state that most women aspire to, at some point in their lives. The first thought comes to the mind of an expecting woman regarding her delivery is the pain of labor. The pain of the labor is the central and universal part of the woman's experience of childbirth. Labor is a normal physiological process, which while should be an occasion for rejoicing, it also accompanies with it, lots of pain, agony and discomfort and certain risks, Thus although being a joyful and empowering experience it can end with negative and tragic results , leaving the woman filled with fear and anxiety for future birth.***OBJECTIVE:** *of this study is to assess the effectiveness of back massage on pain perception during active phase of labour among intranatal women in experimental group.* **MATERIAL AND METHODS:** *Quantitative research approach and quasi experimental, nonrandomized control group design was used, purposive sampling techniques was utilized to select the sample. The study was conducted in Doon medical college and Hospital, Dehradun, Uttarakhand. Sample size of the research study was 60 intranatal women. Labour pain was measured before and after the back massage in the experimental group. control group received the regular intervention and care. The data was collected using stuructured interview schedule,numerical pain rating scale and stuructured rating scale. Data was analysed using desriptive and inferential statistics in terms of mean deviation and chi- squire test.* **RESULTS**: *In regards to the present study majority 24(80%) women experienced severe pain and 3(10%) each in moderate and worst possible pain. Similarly in post test 27(90%) with severe pain and 3(10%) women experienced worst possible pain as progress in the labour in control group .Majority 25 (83.3%) women experienced severe pain and 5 (16.7%) women's having moderate pain. Similarly in post test 20 (66.7%) with severe pain and 10 (33.3%) women experienced moderate pain as progress in the labor in experimental group.The pre-test mean score for control group was 7.93, mean % 79.3% with SD 1.14 similarly in experimental group 7.60, mean % 76% with SD 1.19.The post-test mean score for control group was 8.43, mean% 84.3% with SD 0.85 similarly in experimental group 6.90, mean % 69% with SD 1.09.* **CONCLUSION:** *Based on the findings of the present study it was concluded that there is significant difference between the level of pain perception among intra natal women in experimental and control group. Hence,* **H1** *hypothesis is accepted.*
KEYWORDS: *EFFECTIVENESS, BACK MASSAGE, PAIN PERCEPTION, ACTIVE PHASE OF LABOR, INTRNATAL WOMEN.*

I.   Introduction

"My Dream is that every women everywhere will know the joy of a truly safe, comfortable, and satisfying birthing for herself and her baby.[1] "(Marie Mongan)
Pregnancy is the special event not only in the life of women but also in the entire family.[2] The Labor and birth process is an exciting, anxiety provoking but rewarding time for the woman and her family.[3]

Labor is a health state that most women aspire to, at some point in their lives. The first thought comes to the mind of an expecting woman regarding her delivery is the pain of labor. The pain of the labor is the central and universal part of the woman's experience of childbirth. Labor is a normal physiological process, which while should be an occasion for rejoicing, it also accompanies with it, lots of pain, agony and discomfort and certain risks, Thus although being a joyful and empowering experience it can end with negative and tragic results , leaving the woman filled with fear and anxiety for future birth.[4] The causes of labor pain can be either physical or psychological. Physical factors include uterine contractions, cervical dilations, cervical effacements etc. psychological factors include fear and anxiety, previous experiences, inadequate support, inadequate knowledge. Pain perceived during labor may be different for each woman.[5]

Labor if often thought of as one of the more painful events in human experience and in primiparous, it is more severe than multiparous woman.[6] The expending of Labor pain duration induces anxiety that would affect the function of respiratory and circulation system which may increase dystocia and Labor manipulation.[6-7] Pain during labor is caused by constriction of the muscle of the uterus and by pressure on the cervix. This pain may be felt as strong cramping in the abdomen, groin, and back, as well as an achy feeling.[6]

Some woman experience pain in their sides or thighs as well. Other causes of pain during labor include pressure on the bladder and bowel by the baby's head and the stretching of the birth canal and vagina. Pain during labor is different for every woman and it ranges widely from woman to woman and even from pregnancy to pregnancy.[7]

Most pain during childbirth results from normal physiologic events. If nurses understand the nature and effects of pain during the labor process, they will be better prepared to provide supportive care physical comfort includes offering a variety of non pharmacologic and pharmacological intervention. Among the Non-pharmacological Labor pain relief measures such as continuous labor support, baths, touch and back massage, maternal movement and positioning, and intra dermal water blocks for back pain (O, HARA M 2002).[4] The pain and discomfort of labor have two origions – visceral and somatic. During the first stage of labor, uterine contractions cause cervical dilation and effacement. Uterine ischemia (decreased blood flow and therefore local oxygen deficit) results from compression of the arteries supplying the myometrium during uterine contractions. Pain impulses during the first stage of labor are transmitted via the T10 to T12 and L1 spinal nerve segments and accessory lower thoracic and upper lumbar sympathetic nerves. These nerves originate in the uterine body and cervix.[8]

Massage is a cost effective nursing intervention that can decrease pain and anxiety during labor and partner's participation in massage can positively influence the quality of woman's birth experience.(Chung-hey Chen, 2002).[9]

The essence of midwifery can be with woman providing comfort in labor. Touch communicates caring and reassurance. Manual healing methods used today during delivery include touch and massage therapy. Painful uterine contractions can be treated by applications of pressure with hands to woman's back, hips, thighs and sacrum. By massage therapy, pharmacological management during the first stage of labor can be reduced. So less negative effects will be there on foetus and mother.[10]

Massage stimulate the body to release endorphins, which are natural pain killing substances and stimulates for the production of oxytocin, decrease stress hormones and neurological excitability.[11]Endorphins are endogenous opioid polypeptide compounds. They are produced by the pituitary gland and the hypothalamus in vertebrates during strenuous exercise, and they resemble the opiates in their abilities to produce analgesia and sense of well being.[12]

Endorphins called as "enkephalins" (derived from Greek word egkephaos "in the head"). The word endorphins itself are abbreviated from endogenous morphine, which means morphine produced naturally in the body. All of these would stimulate the sympathetic system and relax the skeletal muscle.[13]

Massage is found to be an effective therapy to decrease the pain anxiety, and a depressed mood during labor. In addition, it is reported that massaged mother significantly shorter labor and decrease pain level.(Change et ai,2002). So massage therapy can change the labor into a pleasant and delivery to reduce the labor pain. The current study was fulfilling to evaluate the effect of massage therapy on severity of labor pain.[9]

Significance of the study:

Child birth is a natural biological process and therefore the pain associated with it is also perceived as normal and natural. The nature of the pain experienced during labour depends on the physical and emotional status of women. Parity also plays a part in women's pain perception and experience during labour. In normal labour, primigravida women usually experience more pain than multigravida women.[14]

Both pharmacological and non-pharmacological methods are used to reduce the pain perception during labour. Labour and delivery medications may pose risk for the mother, such as hypertension and fetus bradycardia, so their must always be against the alternative risk to mother. The job of nurse in labour and delivery is not only to ensure a safe delivery but also to create a positive and satisfying experience. Many

simple and low -cost methods to relieve labour pain can be initiated by nurses, midwives with the potential benefits of improved labour progress, reduction in the use of riskier medications, patient satisfaction, and lower costs.[15]

Massage has been a vital part of prenatal and postnatal in much culture for centuries. In India, women have recently only begin to experience the pleasures and benefits of massage.[16] Back massage has been shown to improve circulation and sleep pattern, enhance sense of wellbeing, increase energy and vitality. It has also been shown to decrease chronic back pain, reduce anxiety and to improve sleep pattern.[17] Studies indicate that back massage performed during pregnancy can reduce anxiety and relieve muscle aches and joint pains.[18]

DR.E.Premila,2015 conducted a experimental study to assess the effectiveness of back massage with olive oil on pain in first stage of labour among primi gravid mothers at government maternity hospital, Karaikal. Preferred the purposive sampling technique for the study the sample size is 20 primigravida mothers (20 experimental). During pretest in experimental group majority 60% of mothers having moderate pain in experimental group .whereas during post test that is after application of olive oil majority around 60% mothers having mild level of pain in experimental group. over all mean score of pre test was 7.4, SD 1.875, mean percentage 37% and post test mean score 3.55 and SD 1.395, mean percentage 17.75% post test SD was reduced to 1.395; this proved that olive oil massage is effective to reduced the labour pain during first stage.[19]

KimberL,2006 conducted a study to evaluate the effectiveness of various massage ,(circular hip massage , whole back massage, upper back massage, lower circular back massage, leg massage) for childbirth at John redcliffl Hospital, U.K. the sample were 30 nulliparous , 30 were multiparous women followed proper massage techniques. The tool used for the study was numerical pain intensity scale. There was 100% spontaneous vaginal delivery in the multiparous women whereas 81.4% in nulliparous. The results shows that massage had a positive feeling during labour.[20]

Need for the study:

Labor pain is the one of the most severe human pains, which has physiological and psychological side effects on pregnant women and their fetuses. One of the most ancient complementary methods used to relive labor pain massage.[21]

Labor is a frightening experience for many pregnant woman. There are a variety of methods through which to cope with pain. Some of these methods work by carrying labor pain. Naturally rather than medically. Pharmacological and complementary pain management strategies provide woman with specific techniques they can use to cope up with discomfort of labor, thereby increasing their feeling of pain control. [22]

C.Bhargavi (2009) conducted a study on effectiveness of lower back massage during first stage of labour, study conducted on 60 primi para mothers. Experimental (30) and control group (30), lower back massage administered for experimental group throughout first stage of labour. The findings show that the lower back massage was found to be an effective strategies in reducing pain, "t" value computed (t= 33.15) which was significant at p,0.01. [19]

Padmawati (2002) conducted A study on effects of back massage during the first stage of labour in Raichur. On experimental group(n=30); control group (n= 30). The't'- Test shows that significant differences between experimental and control group. This study concluded that continuous back massage from beginning till the end of first stage of labour had significantly reduced pain, anxiety and fatigue levels in experimental group.[8]

Statement of problem

A study to assess the effectiveness of back massage on pain perception among intranatal women during active phase of labour in Doon medical college and Hospital, Dehradun, Uttarakhand.

Objectives

- To assess the pain level perceived by intranatal women in experimental and control group during active phase of labor.
- To assess the effectiveness of back massage on pain perception during active phase of labour among intranatal women in experimental group.
- To compare the level of pain perceived by intranatal women in control and experimental group.
- To find the association between level of pain perception in control and experimental group with their selected demographic variables

Operational definitions
Effectiveness:
Outcome or result of the back massage on the intranatal women in terms of pain perception during active stage of labour .

Back Massage:
It is also known as back rub which comprises of deep strocking and superficial strocking .It is very relaxing and helpful to treat for an aching and painful back . The techniques used for back massage are strocking, efflurage, double handed kneading ,whole back massage , circular back massage , and sacral pressure massage .

Pain perception:
It refers to level of pain experienced by mothers admitted in labour room during active phase of labour in term of verbal response as measured with numerical pain scale. This is a subjective report of intensity as measured by numerical pain intensity scale.

Active phase of labor:
The active phase of labor continues from 4cm until the cervix is dilated to 9 cm.
Intranatal women:
In this study, it refers to the mothers who are in active phase of labor.
Assumptions:
Massage therapy may help to reduce the level of pain perception by stimulating the sympathetic nervous system.
Hypothesis: at the level of $p < 0.05$
• H_1 – There will be significant difference between the level of pain perception among intranatal women in experimental group and control group.
• H_2 – There will be significant association between the level of pain perception in control and experimental group with their selected demographic variables.
Delimitations:
• The study was delimited to Intranatal women who are in active phase of labor.
• The study was delimited to intranatal Women who are not at high risk category.
• The study was delimited to intranatal women who are admitted in labor room.

Conceptual Framework
WIDENBACH'S PRESCRIPTIVE HELPING ART OF CLINICAL NURSING THEORY(1964)
The conceptual framework or model is a phenomenon made up of concepts that are the mental images of a phenomenon. These concepts are linked together to express their relationship between them .A model is used to denote symbolic representation of concepts.
This study intends to evaluate the effectiveness of back massage on pain perception during first stage of labour among intranatal mothers .The Ernestine Widenbach's prescriptive helping art of clinical theory (1964). Widenbach's prescriptive theory directs action towards an explicit goal.
Ernestine wiedenbach's helping art of nursing which theory for nursing which describes a derived situation and way to attain it.

This theory has 3 factors
• Central purpose
• Prescription
• Realities

Central purpose
It refers to what the nurse to accomplish in the study, the investigator identified the central purpose is the effective management of pain perception during active phase of first stage of labour.
Prescription
It refers to plan of care of the mother it will specify the nature of action that will fulfill the nurse central purpose. In the study the investigator adopted back massage as a intervention on management of labour. .
Realities
It refers to physical, physiological, emotional, spiritual factors that come in to play in situation involving nursing action. The five realities identified by wiednbach,s are agent, recipient goal, mean of nursing intervention and frame work.
Agent
Who in the practicing nurse or investigator delegate characterized by personal attributes, problem, capacities, commitment and competence in nursing in the research the agent was investigator.
Recipient

In the patients is characterized by the personal attributes, problem, capacities, aspiration and ability to cope with the concern or problem being experienced. In the study intranatal women with normal vaginal delivery in first stage of labour.

Goal

Is defined outcome, the nurse wishes to achieve. In the study effective management by reduction of pain perception.

Means

Comprise the activities and devices through which the practitioners attain the goal. The mean include skills , techniques, procedure and devices that they may be used to facilitate nursing practice in this research it is selected nursing intervention such as back massage.

Frame work

Consist of the human, environment, professional, organizational facilities that not only make up the context which nursing practice but also constitutes the currently existing limits, in this study facility was labour room.

The conceptualization of nursing according to this theory consist of 3 steps as follows

Step-1 Identifying the need for help

Step-2 Ministering the needed help.

Step-3 Validating that the need for help was met.

Step-1: Identifying the need for help

This step involves determining the need for help. The intranatal women are identified based on the inclusive and exclusive criteria. Non randomized purposive sampling technique is used to assign intranatal women in experimental and control group. The assessment level of pain perception is assessed in both groups by using numerical pain rating scale.

Step -2: Ministering the needed help

After the assessment of pre test levels of pain perception during first stage of labor among experimental and control group of intranatal women given selected intervention of back massage to the experimental group and no intervention for control group.

Step-3: Validating that the need for help was met

Its accomplish by mean of pre and post assessment level of pain perception among experimental and control group. It followed by analysis of the findings.
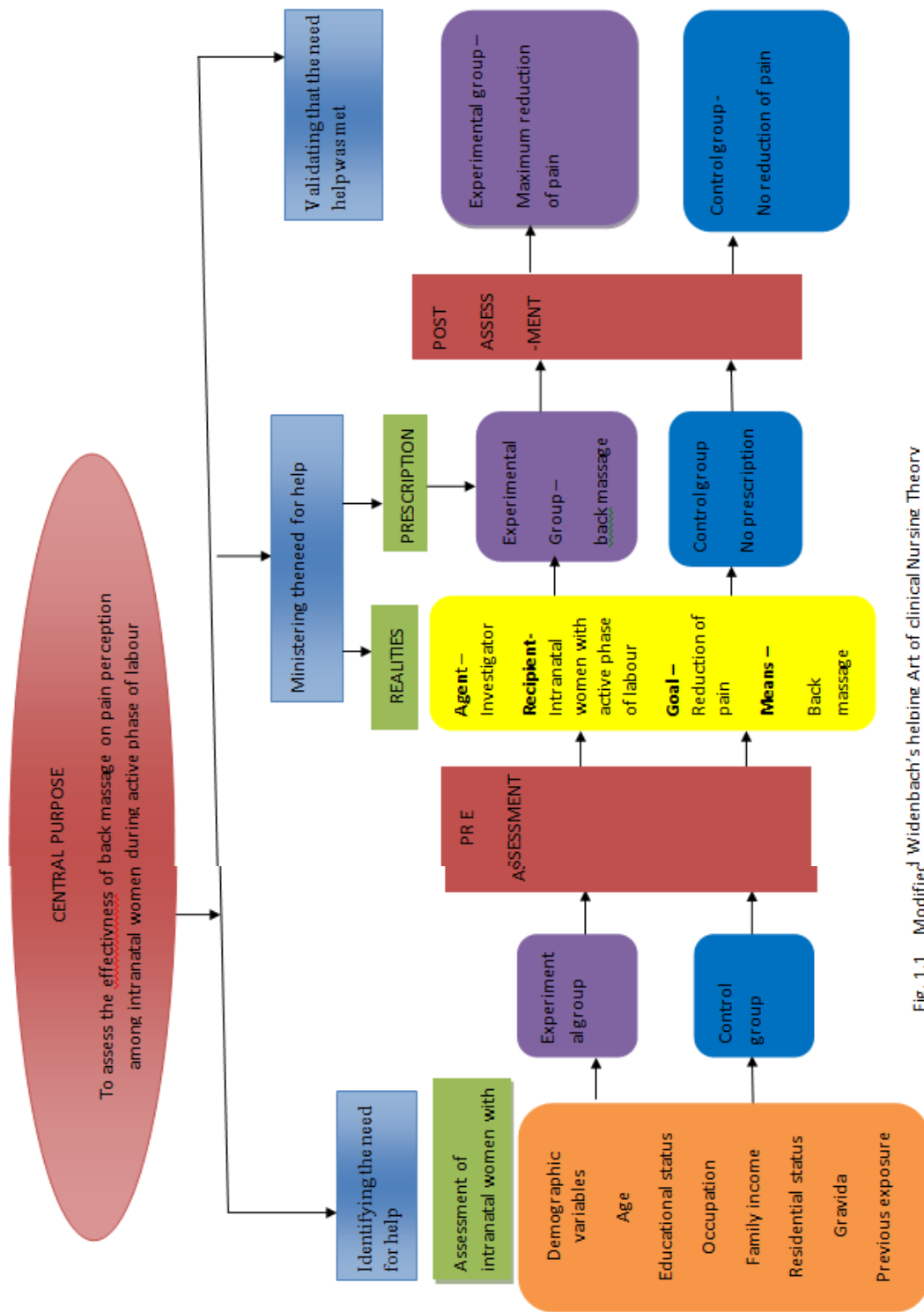
CENTRAL PURPOSE

To assess the effectiveness of back massage on pain perception among intranatal women during active phase of labour

Identifying the need for help

Validating that the need help was met

Ministering the need for help

Assessment of intranatal women with

REALITIES

PRESCRIPTION

Agent – Investigator

Recipient – Intranatal women with active phase of labour

Goal – Reduction of pain

Means – Back massage

PRE ASSESSMENT

POST ASSESS -MENT

Experimental group

Control group

Demographic variables

Age

Educational status

Occupation

Family income

Residential status

Gravida

Previous exposure

Experimental Group – back massage

Control group No prescription

Experimental group – Maximum reduction of pain

Control group - No reduction of pain

Fig. 1.1   Modified Widenbach's helping Art of clinical Nursing Theory

II. REVIEW OF LITERATURE

"Knowledge is of two kinds. We know a subject ourselves or we know where we can find information up on it." [23]

(Samuel Johnson)

Review of literature is an important step in the research process. It helps to investigator to analyze what is already known about the topic and to describe methods of inquiry used in earlier work including the success and short caring. The chapter deals with the information collected with relevant to the present study through published and unpublished materials. These publications were the foundation to carry out the research work. Highly extensive review of literature pertaining to research topic was done to collect maximum information for laying foundation of the study. [24]

A literature review is a body of text that aims to review the critical points of knowledge on a particular topic of research. (ANA,2000)

Research literature were reviewed and organized under the following headings.

Section A: **Literature related to first stage of labor**

Section B: **Literature related to perception of labor pain**

Section C: **Literature related to non-pharmacological pain relief intervention during first stage of labor.**

Section D: **Literature pertaining to back massage as a complementary therapy for pain management in labor.**

Literature related to first stage of labor:

       Fried man and sachtleben 1965, pearson 1981 the cervico graph in the diagrammatic representation of the cervix charted against the hours in labor. Some studies) have shown that the cervical dilatation time of normal labor has a characteristic sigmoid curve. The curve can be divided into two distinct parts- the latent phase and the active phase. The active phase has been said to proceed at a rate 0.5 to 1 cm per hour. But more recent work has challenged the rigid view (Albers 1999, Lavender at al 2006).

       The severity of labor pain varies greatly among women in labor. If women are asked during or shortly after birth to score their labor pain, most rated it as severe while few mentioned little or no pain. Using the McGill pain questionnaire, Melzack in Canada found that labor pain usually rated a high score particularly among primipara, those with a history of dysmenorrhoea and those belonging to low socio-economic status.

       One of the cause of pain is body's natural response to stress. As a part of the normal stress response, uterine contractions are decreased and available oxygen for the uterus and baby are also decreased. The women's fear increases her anxiety and muscular tension which increases the pain she feels.

       There are many choices for pain releaf, both pharmacological (drugs) and non- pharmacological (without drugs) to manage first stage labor. They are narcotic analgesia, epidural, tranquilizers and sedatives, intrathecal narcotics (pharmacological methods) breathing techniques and relaxation, position change, massage, hydrotherapy, local application of heat or cold, music therapy (non-pharmacological methods) [25]

Literature related to perception of labour pain

       Meharunnisa K Shahla B (2010) conducted a descriptive study to examined the women's self perception of labour pain, understanding satisfaction during child birth with 400 laboring women at Liaquat University Hospital Hyderabad. Four hundred low risk healthy labouring women were participated in the study. All the complicated and high risk mothers were debarred from the investigation. The study showed that majority of women experienced the child birth was an exhausting experience and few were reported that the childbirth was an acceptable pain experience. Finally it was concluded that childbirth can be an excellent occurrence with efficient prenatal counseling. A high skilled approach and tender loving care may be the solution to a painless childbirth. [26]

       O. Kuti, and A.F. Faponle (2006) assessed the mothers sensitivity of pain during labour and to find out the factors influencing the pain. Throughout the course of study, 281 participants who had normal delivery were questioned before 2 hours after childbirth; it was to evaluate the cruelty of labour pain and also recognize there need for analgesia. Intensity of pain during childbirth was recorded by the use of a three point verbal rating scale. Most of the women were described that labour pain was severe and only few described was not severe. Majority (86%) of the participants wished to have any pain relief methods during child birth. The study also suggested that demographic variables like age, parity and educational level were not having association with labour pain. It depends only on perception and pain tolerance of women. [27]

       Carola E (2006) described how the fear about childbirth affects the perinatal outcomes. The study was conducted in Sweden with 20 mothers and their age group was limited to 24 -41.The experience of fear was illustrated in relation to their perceptions towards labor pain the selected participants were asked to express their opinion about labor pain. Majority of women described as labor pain was not an easy thing to explain verbally. it was only understood by the one who experienced it. Midwife was the one taking a vital rule in alleviating the tension and fear about the childbirth. The study report revealed that prenatal health care staffs has to get

additional training to help and support the mothers those who are having extreme anxiety related with labor and birth.[28]

Pirdel M and Pirdel L conducted a descriptive comparative study among 600 primiparous and multiparous women, who had vaginal deliveries in Tabrize Alzahra Hospital in Iran during 2005-2006. The purpose of this study was to explore selected aspects of labour stress and specially study the relationship between environment factors and pain perception. The study reported that significant positive correlation were found between pain and tension from environment factors in primiparous (r= 0.16, p< 0.01) and in multiparous (r= 0.22, p< 0.05) women.[29]

Abushaikha L, (2005) evaluated the experience of childbirth and severity of pain with 100 mothers who were not having any complications and who had normal vaginal delivery from the post natal ward of a major hospital in Jordan.The tools used for the study were ,the Numeric pain intensity scale (NIPS) to examine the pain intensity ,a pain assessment questionnaire it contains questions to answer about the pain experience and a demographic questionnaire to assess the participants demographic characteristics. The greater part of Jordanian laboring women did not obtain pain relief methods. 81 parturient were stated that pain perception score was nearly 8 according to NPIS. The average pain score in second stage of labor was more than 8. Majority of Jordanian parturient was reported that labor or childbirth was a painful experience and it cannot be explained verbally.[30]

Green JM and Baston HA. (2003) Stated that self control was the foremost cause to a woman's experience of childbirth and it results in succeeding the well – being of the mother. Feedback form was sent to the participants 1 month prior to their birth to appraise their priority and expectations . The study revealed that parity was strongly associated with the childbirth experience as the multipara had their own experience where as primipara had the imagination about the pain experience, since the primipara had less satisfaction and more painful experience of childbirth than multipara women. This study also suggested that care givers also influence the experience of the pain during childbirth. Both self satisfaction and caregivers love together contributing to satisfaction and emotional well – being after childbirth.[31]

Waldenstrom U (2003) Conducted a longitudinal cohort study to evaluate experiences of labor pain and on the whole childbirth experience from the mothers after 2 months and 1 year following delivery ,the mothers were selected from the maternity hospitals in Sweden .The data was collected from the women by an opinion poll 2 months and 1 year following normal pain and they delivery by the use of the identical pain intensity seven point rating scale and the same query about the whole experience of their child birth . Majority of women reported that labor pain was a severe pain and they reported as a negative experience ,but after two years they reported that it was an acceptable and the experience was a challenged experience. The study reported that labor pain was an experience that could not be erased from their memory.[32]

Baker Angela (2001) conducted a study to describe the pain perception of mothers during childbirth from the onset of labour pain till the delivery of baby. The study was done with thirteen healthy pregnant women, among this 5 primipara women and 8 multipara women average age between 22-29 yrs. This study results reported that participants pain sensitivity scores were mild and moderate levels, but the care givers considerably miscalculated and they recorded the pain intensity were severe. The results were drawn from both verbal and nonverbal responses from the laboring women. The study finally reported that perception of pain during childbirth is severe, it can be perceived as similar by the midwives who are attending the labor and childbirth.[33]

Dannenbring D, 1997 Conducted a co-relational descriptive study on childbirth pain and satisfaction. The reports stated that pain intensity varies in parity because primipara mothers experience more pain than multipara mothers. Childbirth education would facilitate medication – free childbirth. Anticipated complications also reduced by complementary therapies during child birth. Childbirth satisfaction is more after one month of childbirth because the effect of pain during childbirth may remain in their mind for atleast one month.[34]

Literature related to non- pharmacological pain relief intervention:

Even though delivery is a natural phenomenon, it has been demonstrated that the accompanying pain is considered severe or extreme in more than half of cases. Complementary or Alternative Medicine (CAM) can be defined as theories or practices that are not part of the dominant or conventional medical system.

Acupuncture has been used in china for more than 2000 years. Specific anatomic parts of the body are stimulated for stimulated for therapeutic purposes. This can be done in the usual way with needles, but practitioners may also use heat, pressure, impulse of magnetic energy, electrical stimulation or surface electrodes at acupuncture loci.

Skilnand et al (2002) conducted study acupuncture in the management of pain in labour. 210 parturients were randomly assigned to receive either real acupuncture or false acupuncture. Real acupuncture consisted of a treatment protocol from the Norwegian school of Acupuncture. The same type and number of needles were used not on the classic meridians. Pain was assessed using a linear VAS (rated 0-10) recorded at

30, 60 and 120 min after treatment. There were significantly lower pain scores at 30, 60, 120 min after treatment (P<0.001).[34]

Chuntharapt, Petpichechian and Hatthakit (2008) conducted a randomized trail on yoga during pregnancy in terms of maternal comfort and perception of labor pain. 74 primigravida women were studied. The study reported that the experimental group had less pain perception and shorter duration of the first stage of labor than the control group.

Aromatherapy uses essential oils extracted from aromatic sources to treat and balance the mind, body and sprit.[8]

Kalaimathi (2007) conducted a study on effectiveness of slow breathing on pain perception during first stage of labor among 40 primiparas' women at KMCH. She reported that slow paced breathing was effective method for reduction of pair percepation of the mother than extravert personality.[8]

Cyan, McAuliffe and Andrew (2005) conducted a study to identify the effectiveness of hypnosis for pain relief in labor and child birth. 224 parturient were included in the study. The result of the study showed that women using hypnosis rated their labour pain less severe than controls (P<0.01) and reduced opioid requirements (P<0.001).[35]

Lee et al. (2004) evaluated the effects of SP6 acupressure on labor pain. 75 women in labor were randomly assigned to either the SP6 acupressure (n= 36) or SP6 touch control (n= 39) group using double-blinded method. Labor pain was measured four times using VAS. There were significant differences between the groups in pain scores at all times following the intervention: immediately after the intervention (P= 0.012),30 min after the intervention (P=0.021) and 60 min after the intervention (P=0.012). The total labor time (3 cm of dilation to delivery) was significantly shorter in the SP**6** acupressure intervention group than in the control group (P=0.00)[36]

Phumdoung and Good (2003), conducted a study on effectiveness of music therapy reduces sensation and distress of labor pain. 110 primiparous women,during the active phase of labor, were assigned to a soft music group for 3h (n=55) or a control group (n=55). Dual VAS was used to measure the sensation of pain before starting the study and every three hours. The results indicate that in the music group women had significantly less sensation of pain (P<0.001)

Adachi, Shimala and Usui (2003) conducted a study on effect of the maternal position on reduction of labor pain intensity. Pain intensity was measured with visual analogue pain scale to 39 primiparous and 19 multiparous women. Alternatively both group assumed the sitting and supine position for 15 minutes during cervical dilation of 6 cm to 8 cm. the study concluded that the sitting position offers an effective method to relieve lower back pain.[37]

Lenstrup et al. (1987) evaluated the effect of a warm bathtub on 88 parturients, and found that cervical dilatation rate and pain relief could be improved in patients who had a bath during the first stage of labor.[38]

Literature pertaining to back massage as a complementary therapy for pain management in labor:

Habeed Saima Jeelani and Chhughani Manju (2018) Conducted a quasi experimental research study on effectiveness of back massage on pain perception among primigravida mothers during first stage of labour. The sample consist of 30 primigravida women selected randomly from labour wards of selected hospital of J & K. the findings indicated that back massage helped in reduction of labour pain level in experimental group & the mother perceived less pain. Provision of back massage was effective in the reduction of labour pain.[39]

Sethi D et al.(2017) conducted a pre- experimental study to evaluate the effectiveness of back massage on pain among pregnant women in first stage of labor pains in a selected Hospital, Ludhiana, Punjab. The objectives of the study were to assess the pre-test level of pain in first stage of labor pains among pregnant women, to administer the back massage in first stage of labor pains, to assess the post- test level of pain and to compare the pre-test and post-test level of pain in first stage of labor pains among pregnant women and to determine the relationship of pre-test and post- test level of pain with the selected demographic variables. Findings of the study were in the pre- test mean score was 5.83 and post- test mean score was 3.75 which was statistically highly significant at p<0.01 level. Gravida had significant impact on level of pain. Back massage had impact on level of pain among pregnant women.[4]

Kaur J and Kaur H (2017) A pre experimental study to assess the effectiveness of massage therapy on severity of labor pains and anxiety among parturient mothers admitted in labor room during active phase of labor in selected hospitals, Jalandhar, Punjab. The aim of the study is to assess the effectiveness of massage therapy on severity of labor pains and anxiety among parturient mothers admitted in labor room during active phase of labor. Results depicted that the mean pre interventional score of severity of labor pains was 82.91 and mean post interventional score was 22.66. The calculated 't' value was 24.0039 which is significant at p<0.0001. The mean pre interventional score of anxiety.[40]

G.Sangeetha Jagdish and P.Abirami (2016) conducted a study to assess the circular hip massage on first stage of labor pain among primigravida mothers at Chrompet Government general hospital. For this study a Quasi Experimental Method was used. A sample of 60 primigravida mothers with labor pain was selected by using Non- probability purposive sampling techniques. The primigravida mothers with labor pain at 4-6cm cervical dilatation admitted in labor ward of Chrompet Government general hospital were selected for the study The findings showed that regarding experimental group 22 (73.3%) are annoying pain and 8 (26.7%)are uncomfortable pain. None of the mothers are dreadful pain, horrible pain and agonizing pain. Considering the control group 7 (23.3%) are dreadful pain and 23 (76.7%) are horrible pain. None of the mothers are agonizing pain. It was concluded that circular hip massage to the primigravida mothers was effective to cope up the level of labor pain.[41]

Kavitha.N.K,(2010), conducted a study to compare the effectiveness of sacral primigravid women were selected hospital Bangalore. The samples were 60 primigravid women were selected through convenience sampling technique. The data was collected through structured interview schedule and Numerical pain intensity scale was used. The result demonstrated 75.3% of participants suffered of low back pain during labor. One group receives massage therapy and other group receives music therapy. The result reveals that the mean pain scores 65.5% of the mothers were comfort with massage therapy and 45% of them were comfort with music therapy. The' t' value reveals that t=4.34 which is significant at p<0.05 level. It was concluded that massage was very effective in reducing the level of labor pain.[42]

Chandra.T.,(2010) conducted a Quasi experimental study to evaluate the effectiveness of olive oil back massage on labor pain during first stage of labor among primigravid women at selected hospital, Salem. Convenience sampling technique was used to 60 primigravid women,30 were assigned to experimental group and 30 were assigned to control group. The tool used for the study was numerical pain intensity scale. The data was analyzed by using descriptive and inferential statistics. In experimental group ,mean value pain score is 4.5333, which is 8.880 which is significant at p<0.05 level. This finding shows that olive oil back massage was very effective in pain relief during labor.[42]

Chang .Chen and Huang (2006) Conducted a study on comparison of massage effects on labor pain among sixty primiparous women. Self reported short –form McGill pain questionnaire (SF-MPQ) were used to assess the pain at 3 phases of cervical dilation. Phase 1 dilation (3-4 cm),phase 2 dilation (5 -7cm) and phase 3 dilation (8 -10 cm). The study concluded that massage cannot change the characteristics of pain experienced by women in labor, it can effectively decrease labor pain intensity at phase 1 and phase 2 of cervical dilation during labor.[43]

Khodakarami, Safazadh and FathiZadeh (2006) Conducted a study to evaluate of massage therapy on severity of labor pain .The clinical trial study of semi –experimental type which was carried out on 60 primiparous women. Cases were randomly allocated to one of the experimental and control groups. The control group received routine, standard care without any interventions; while the experimental group received massage therapy using effleurage technique during delivery. The massage is administered on sacrum, buttocks, shoulder, waist, foot and hand during different phases of labor. The severity of pain was measured by using visual analogue scale in both groups before any interventions at the cervical dilation of 4 centimeters the start of active phase and also after applying massage therapy . Also the severity of pain was assessed at 8 and 10 centimeters and compared with the control group . The result demonstrated that the mean of pain severity at the first stage of labor was significantly different between the experimental group and contol group at the start of active phase (p = 0.009),end of transitional phase * (p = 0.0141) also, the duration of the first stage of labor was differently in experimental group .

The control of labor pain and prevention of sufferings are major concerns of clinicians and their clients. Nonpharmacologic approaches toward these goals are consistent with midwifery management and the choices of many women. Adequate evidence of benefit in reducing pain exists for continuous massage during labor .The review helped the investigator to gain a deeper knowledge of the research problem and guided her in designing the study.[44]

Abhasi et.al (2005) Conducted a study on effect of back massage on pain intensity during first stage of labor among 62 primiparous women. Experimental group (n = 32) and control group (n =30).back massage in the experimental group for 30 minutes and the women in the control group received 30 minutes routine nursing care . The women in the experimental group had significantly lower pain perception than control group.[8]

Pilevarzadeh, Salari, Shafiei (2000) Conducted a study on effect of massage on reducing pain and anxiety during labor. This clinical trial was performed on 60 nulliparous women selected randomly who were expected to have a normal child birth .Cases are randomly assigned to experimental (n= 30) and control (n= 30) groups. The experimental group receives massage intervention. The study results was 87% (n= 26) of experimental group expressed that massage was helpful ,provided pain relief and psychological support during labor (P<0.040). This study suggest that massage be used for decreasing pain and anxiety during labor.[45]

Keenan (2000) Conducted study on benefits of massage therapy during labor and childbirth ,identified that massage group mother experienced shorter labor , good foeto maternal outcome.[46]

Mei–Yueh,Chang Yaw Wang and Chung – Hey Chen, (2000) Conducted a randomized controlled study to investigate the effects of massage on pain perception and anxiety during labor. Sixty primiparous women expected to have a normal childbirth at a regional hospital in southern Taiwan were randomly assigned to either the experimental (n=30) or the control group (n= 30) group did not. The nurse- rated present behavioral intensity (PBI) was used as a measure of labor pain. A t –test demonstrated that the experimental group had significantly lower pain reactions in the latent, active and transitional phases findings suggest that massage is a cost – effective nursing intervention that can decrease pain and anxiety during labor.[9]

Linda kimber, (1999) suggested that back massage during first stage of labor help to achieve a positive physical and psychological effect, it may also have a role in reducing the amount of analgesia and promoting women's ability in to coping in labor.[8]

Field et al. (1999) Conducted a study involved 28 middle socio-economic status women that were randomized to receive massage (head, shoulder/back, hand and foot)in addition to coaching in breathing or to receive coaching in breathing alone (control) in preparation for labor .The mothers self-rated their labor pains on five –point Likert scale before and after massage or control procedure. There was a significant reduction in pain from 5.0 to 3.5 in the massage group ($p<0.05$) and an increase in pain from 4.3 to 5.0 in the control group.[8]

Field. T, Hernandez-reif, Taylors (1997), stated that massaged mothers reported a decrease in depressed mood ,anxiety, and pain, and showed less agitated activity and more positive effects following the first massage during labor. In addition, the massaged mothers had significantly shorter labor, a shorter hospital stay and less post partum depression. [47]

SUMMARY

This chapter dealt with the review of literature adopted for the study. It included Review of literature related to first stge of labour, perception of labour pain, non pharmacological pain relief intervention during first stage of labour and back massage as a complementary therapy for pain management in labour.

III. RESEARCH METHODOLOGY

The methodology is the general research strategy that outlines the way in which   research is to be undertaken and, among other things, identifies the methods to be used in it. These methods, described in the methodology, describe, define the means or modes of the data collection or, sometimes, how a specific result is to be calculated.

This chapter deals with the methodological approach for the study. It includes description of research approach , research design ,study setting, description and development or development and description of tool, pilot stud, and procedure for data collection, and plan for data analysis.

Research approach

Research approach indicates the fundamental approach for conducting research which depends upon the purpose of the study. In order to achieve the objectives of the study, a quantitative approach is found to be appropriate and selected for the study.

The research approach tells the researcher from where the data to be collected, what to be collected, how to be collected and how to analyze them. It also suggests possible conclusion and helps the researcher in answering specific research questions in the acceptable and efficient way.

Research Design

Research design is a blueprint for conducting a study that maximizes control over factors that could interfere with the validity of the findings. Research design involves the description of the research approach , study setting, sampling size, sampling techniques, tools and methods of data collection an analysis to answer specific research questions or for testing research hypothesis. [24]

In this study the researcher has adopted quasi experimental, nonrandomized control group design. In this design, subjects are selected by purposive sampling techniques to the experimental and control group. Labour pain was measured before and after the back massage in the experimental group. control group received the regular intervention and care.

E   O1……………X…....……..O2

NR

C   O1…………...................O2
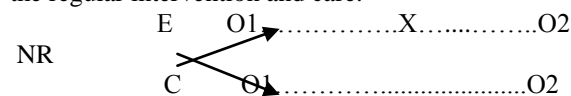
NR   Non Randomized
E   Experimental group
C   Control group
O1   Labour pain in pretest of experimental and control group.
O2   Post test labour pain experimental and control group.
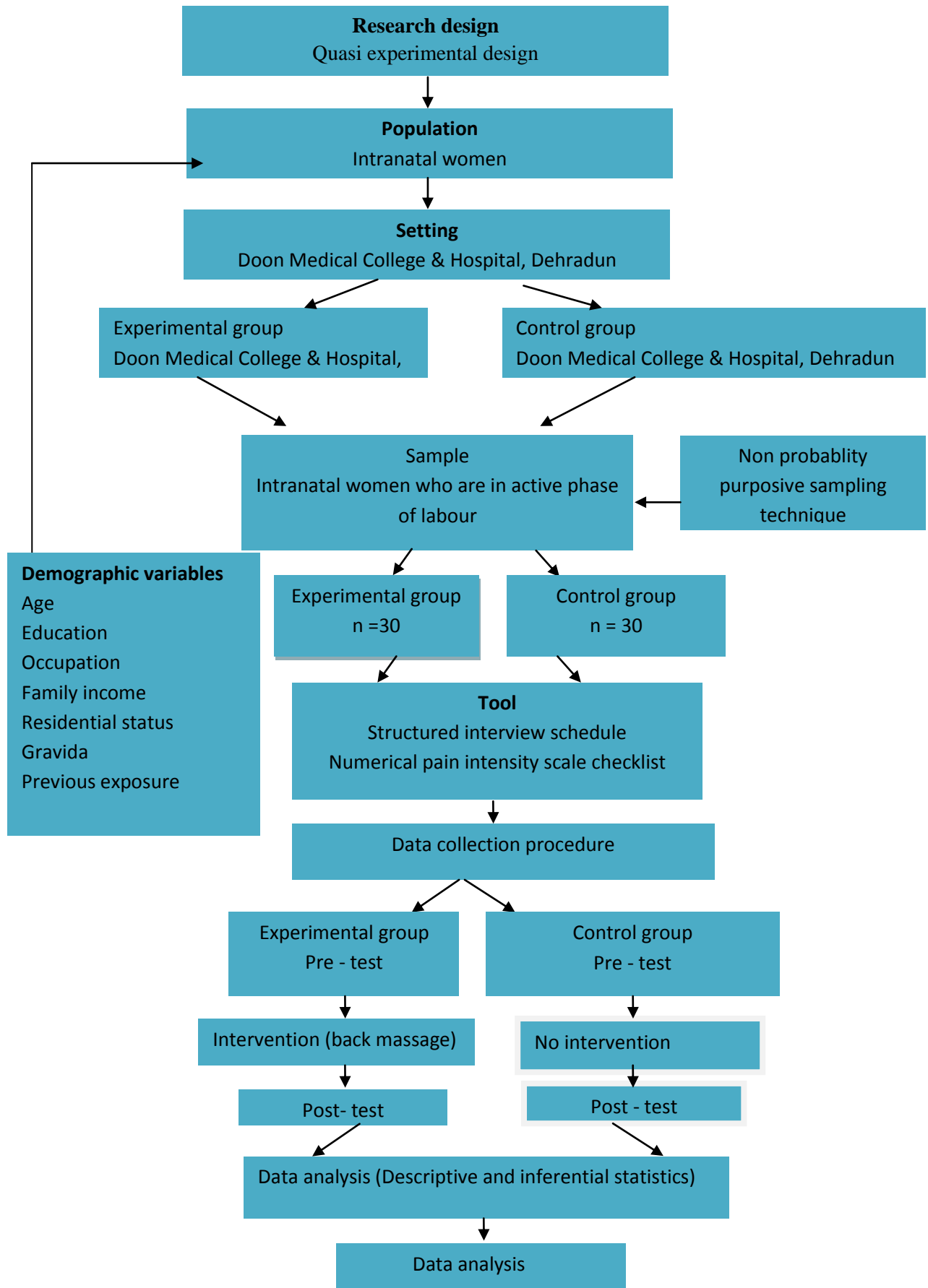X   Intervention (back massage)

Research design
Quasi experimental design

Population
Intranatal women

Setting
Doon Medical College & Hospital, Dehradun

Experimental group
Doon Medical College & Hospital,

Control group
Doon Medical College & Hospital, Dehradun

Sample
Intranatal women who are in active phase of labour

Non probablity purposive sampling technique

Demographic variables
Age
Education
Occupation
Family income
Residential status
Gravida
Previous exposure

Experimental group
n =30

Control group
n = 30

Tool
Structured interview schedule
Numerical pain intensity scale checklist

Data collection procedure

Experimental group
Pre - test

Control group
Pre - test

Intervention (back massage)

No intervention

Post- test

Post - test

Data analysis (Descriptive and inferential statistics)

Data analysis

Fig. 3.1: Schematic Presentation of the Research Design

Research Setting
Setting is the general location and condition in which data collection takes place for the study **(Polit, D.F., and Hungler, 1997).**
The study was conducted in Doon Medical college and Hospital Dehradun, Uttarakhand. This setting was selected on the basis of feasibility and availability of samples.

Population
The entire set of individuals or objects having some common characteristics selected for a research study. (**polit and hungler, 2008**)
Population may be classified into two types:
1.   Target population
2.   Accessible population

Target population
A target population consists of the total number of people or objects which are meeting the designated set of criteria.
In this study the target population is the intranatal women.

Accessible population
It is the aggregate of cases that conform to designated criteria and are also accessible as subjects for a study.
In this research, the accessible population are intranatal women who are in the active phase of labour.

Sample and sample size
Sample may be defined as representative unit of the target population, which   is to be worked upon by the researcher during their study.
The samples in the study are the intranatal women in the active phase of labour.

Sample size
The sample consist of 60 intranatal women (30 experimental and 30 control group).

Sampling technique
        Sampling refers to the process of selecting a portion of the population to represent the entire population (Polit and Hungler).
The method of sample selection of this study is non probability purposive sampling technique in the present study.

Criteria for sample selection
Inclusion criteria;
1.   Intranatal women on true labour pain.

Exclusion criteria;
1.   High risk intranatal women.
2.   Planned for any surgical procedure.
3.   Uncooperative women
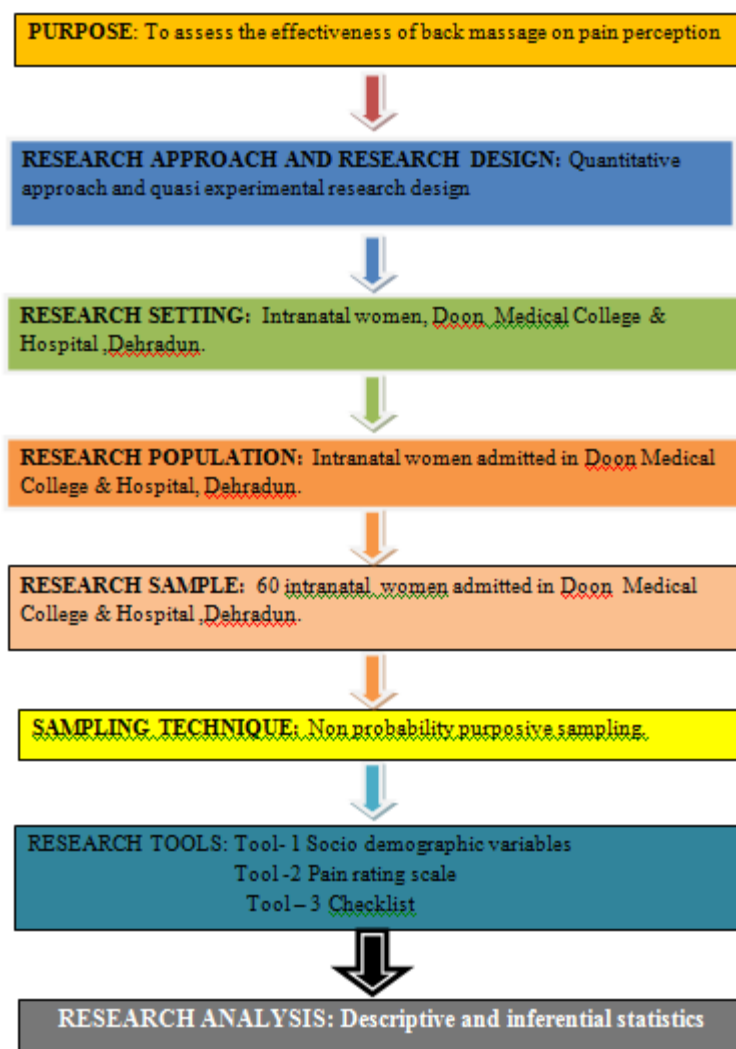4.   Women having specific musculo skeletal problem.

Figure- 3.2 Schematic presentation of research study

Tools for data collection
The researcher used a socio demographic tool which is used to collect the socio demographic data of the samples and a standard tool to assess the pain perception among intranatal women another tool that is self structured tool is developed by the researcher to assess the effectiveness of back massage on pain perception among intranatal women in experimental group. These tools were used to assess the pain perception and effectiveness of back massage among intranatal women. In this way three tools were used by the researcher for this study.

TOOL 1: Socio demographic Performa
This tool was developed to collect information regarding samples characteristics. It consist of 7 items (age, education, occupation, income, residential status, gravida and previous exposure).

TOOL 2: Pain rating scale
This tool was used by the researcher which consist of a scale ranging from
0- no pain, 1-3 mild pain, 4-6 moderate pain, 7-9 severe pain, 10- very severe pain.

TOOL 3: Opinionaire on back massage
Self structured checklist was used by the researcher to determine intranatal women opinion on back massage. The opinionaire assessed using a checklist.

Reliability of tool
Reliability is the degree of consistency and accuracy with which an instrument measures the attribute for which it is designed to measure. A tool only can be considered reliable if it measure an attribute with similar results on repeated use. Reliability of the pain rating scale was obtained by Test- retest Method (r =0.95) by using Karl Pearson's Correlation Coefficient formula.
Reliability of the self structured checklist was obtained by administered to 10 intranatal women in labour room by inter rater reliability method (r= 0.8)

Content validity
Content validity is concerned with scope of coverage of the content area to be measured. To ensure the content validity, tools along the objectives and criteria checklist were given to the five experts in department of obstetric and Gynecological snursing. The experts were given a criteria checklist and requested to give their opinion and suggestions regarding the relevancy, accuracy and appropriateness of the item.

Pilot study
Pilot study is a small- scale study conducted to test the plan and method of a research study carried out before the actual investigation is done. The researcher in this study conducted the pilot study in **Gandhi Satabadi Eye Hospital** , **Dehradun.** The inclusive criteria were taken into consideration during the sample selection. The study was conducted on 20 intranatal women. The verbal and written consent was taken by explaining the objectives of the study.

Ethical consideration
Written permission was obtain from the ethical committee and principle, State College of Nursing the written consent was also obtain from each study participant before the data collection procedure. Assurance was given to the subject that the anonymity of each individual will be maintain and the information obtain from them will be kept confidential.

Data collection procedure
Data was collected from the month of Jun with a formal permission was obtained from the principal, state college of nursing and from ethical committee. In this study intranatal women who are in active stage of labour in Doon Medical College & hospital Dehradun, fulfilling the purpose of the study. The intranatal women were approached and the informed consent were taken after explaining the purpose of the study .A standard tool perceived numerical pain rating scale was used to assess the level of pain and self structured checklist. All The questions were developed in English bytheresearcher and the translation was done in Hindi language, and the translation were found valid.

Data analysis is done to give meaning to the data. The analysis was done on the bases of the objective and hypotheses, using descriptive and inferential statistics. The findings of the investigations are presented in the form of tables and figures wherever required and possible.

The following descriptive and inferential statistics were planned to use.
- Frequency and percentage distribution of demographic variables of intranatal women
- Mean and standard deviation to assess the level of pain perception
- Chai square test to show the association between the level of pain and effectiveness of back massage.

IV. Summary

This chapter dealt with the research methodology adopted for the study it included research approach ,design population, Sample and Sampling techniques, research setting and tool of the data collection. It also included content validity, reliability, and pilot study process. The study adopted quasi experimental design. selection of the sample was done by non-probability sampling technique. The study was conducted with sample size of 60 intranatal women . The tools used were standard numerical pain rating scale and self structured checklist. The analysis were planned according to the stated objectives of the study.

V. ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data obtained from 60 (30 control group + 30 experimental group) intranatal women during active phase of labour in Doon Medical College & sHospital, Dehradun, Uttarakhand **.**

In order to find a meaningful answer to the research problem, the data was processed and analyzed on the basis of objectives and hypothesis formulated for the present study.

Quantitative research approach was adapted to A study to assess the effectiveness of back massage on pain perception among intranatal women during active phase of labour in Doon Medical College & Hospital, Dehradun, Uttarakhand**.** The data collected from the intranatal women was tabulated and analyzed. Manual, MS Excel and Graph Prism package were used to analyze the data.

Objectives of the study
- To assess the pain level perceived by intranatal women in experimental and control group during active phase of labor.
- To assess the effectiveness of back massage on pain perception during active phase of labour among intranatal women in experimental group.
- To compare the level of pain perceived by intranatal women in control and experimental group.

• To find the association between level of pain perception in control and experimental group with their selected demographic variables

Hypothesis

H$_1$: There will be significant difference between the level of pain perception among intranatal women in experimental group and control group.

H$_2$: There will be significant association between the level of pain perception in control and experimental group with their selected demographic variables.

Presentation of data:

The data collected was organized and presented under following sections:

Section 1: Description of the Socio demographic variables of the subjects.

Section 2:

Findings related to pain perception among intranatal women on pre-test and post-test score of control and experimental group

Section 3:

Effectiveness of back massage on pain perception during active phase of labour among intranatal women in experimental group

Section 4:

Part - 1: Findings related to pre-test and post-test pain level of intranatal women of control group.

Part - 2: Findings related to pre-test and post-test pain level of intranatal women of experimental group.

Section 5: Findings related to pain perception of intranatal women after back massage for experimental group.

Section 6:

Part – 1: Deals with association between levels of pain perception in control group with their selected demographic variables

Part – 2: Deals with association between levels of pain perception in experimental group with their selected demographic variables

Section – 1: - Description of Socio-demographic variables of the subjects

It deals with demographic data which consists of 07 items to collect the sample characteristics, which comprises Age, Education qualification, Occupation, family income, Residential status, gravid and do you have previous exposure to back massage during labour among multigavida.

Table 1: Distribution of Socio-demographic variables

(N= 60)

Age in years	Control group		Experimental group	
	F	**%**	**F**	**%**
18-23	14	46.7%	10	33.3%
24-29	12	40%	20	66.7%
30-35	4	13.3%	0	0%
>35	0	0%	0	0%
Educational qualification				
No formal education	8	26.6%	9	30%
Primary level	17	36.7%	4	13.3%
Secondary level	4	13.3%	11	36.7%
Graduation and above	1	3.3%	6	20%
occupation				
housewife	30	100%	29	96.7%
Private job	0	0%	1	3.3%
Government job	0	0%	0	0%
others	o	0%	0	0%

Family income				
≤4500/-	0	0%	1	
Rs. 5001/- Rs. 10,000	1	3.3%	1	3.3%
Rs. 10001/- 15000	11	36.7%	4	3.4%
≥15001	18	60%	24	80%
Residential status				
Rural	7	23.3%	2	6.7%
Urban	23	76.7%	28	93.3%
Gravida				
Primigravida	17	56.7%	17	56.7%
Multigravida	13	43.3%	13	43.3%
Previous exposure to back massage among multigravida				
Yes	0	0%	0	0%
No	13	43.3%	13	43.3 %
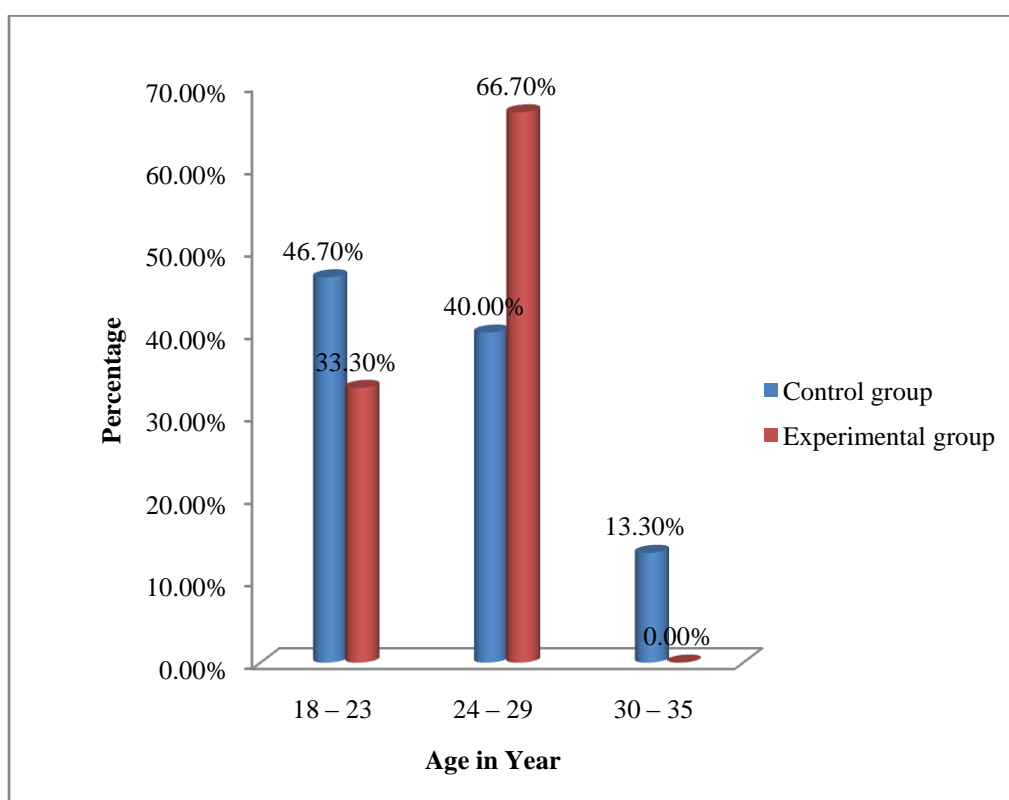
Figure - 1: Distribution of subjects by age
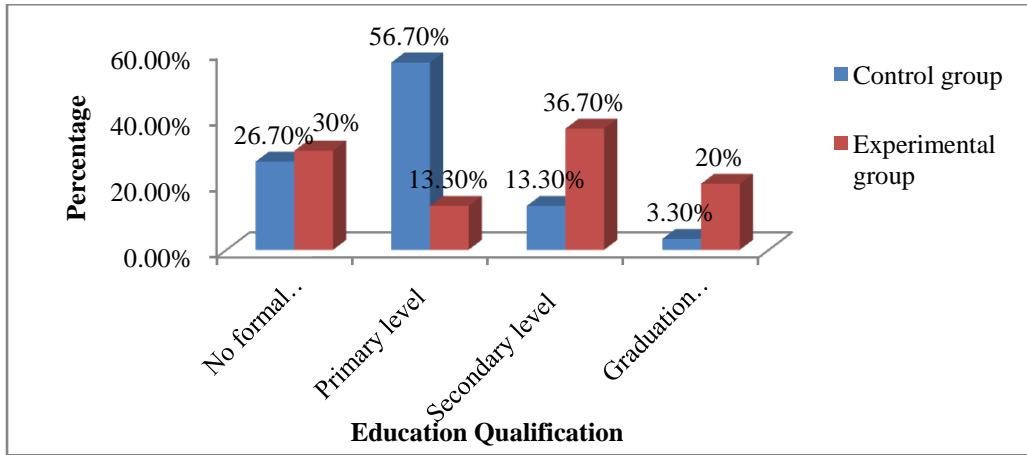
Figure- 2: Distribution of subjects by Education
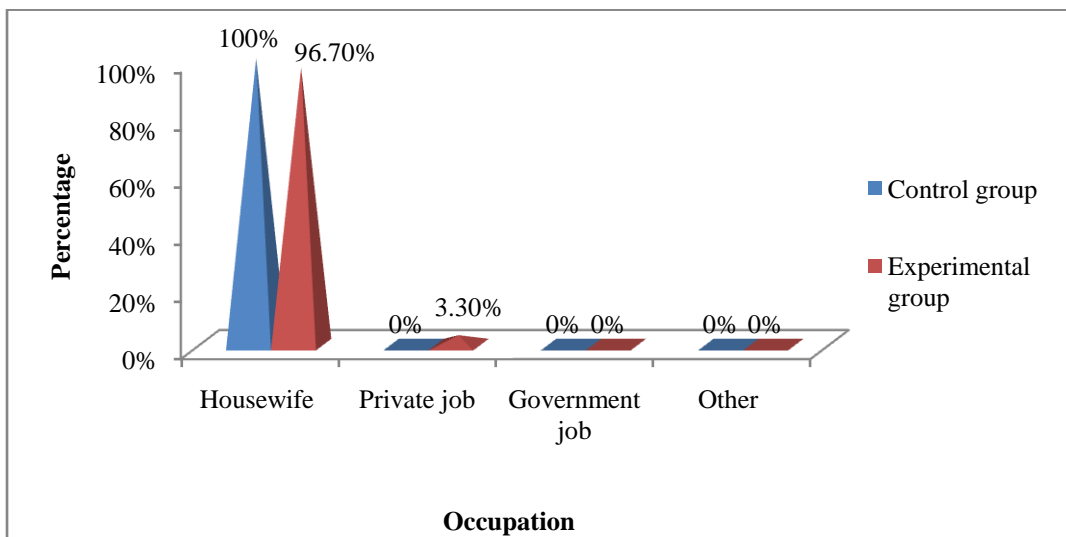
Figure - 3: Distribution of Subject by Occupation
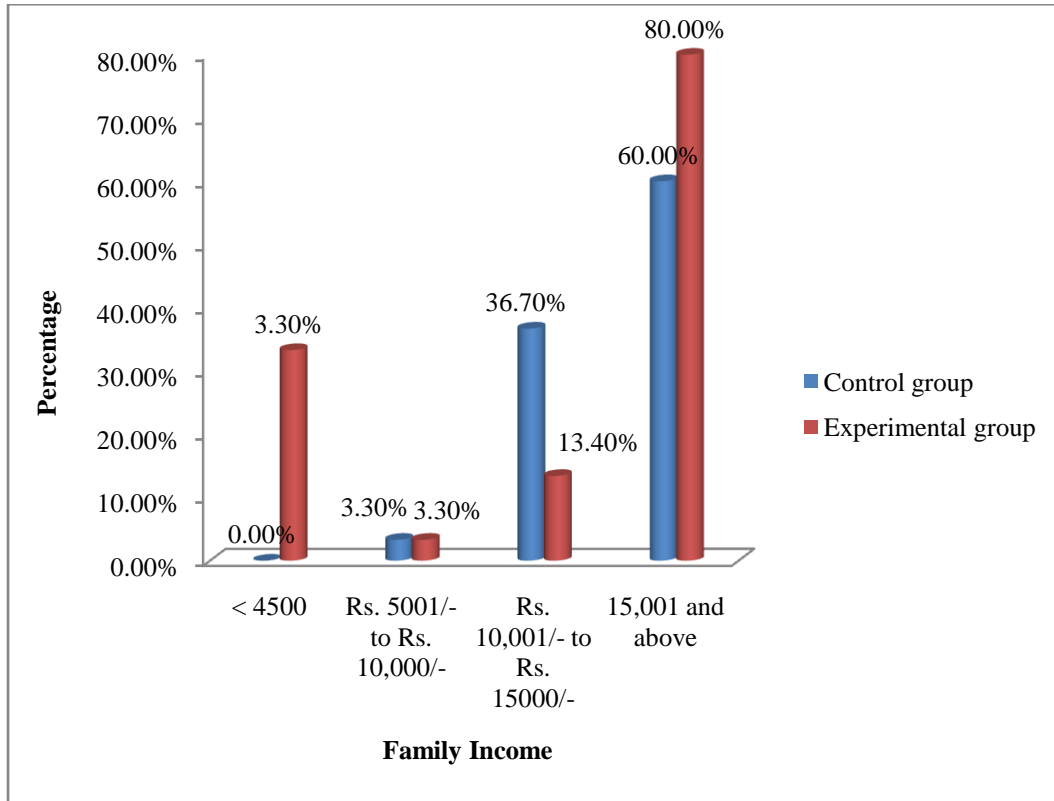
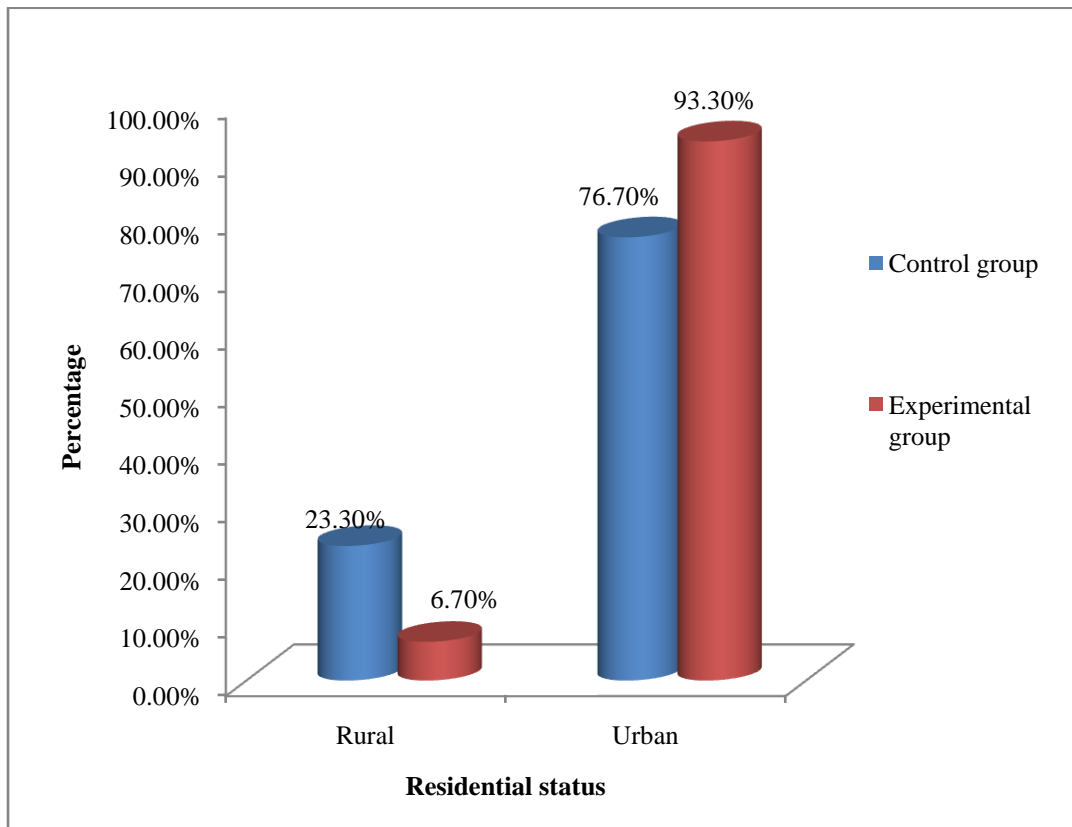**Figure- 4: Distribution of Subject by family income**

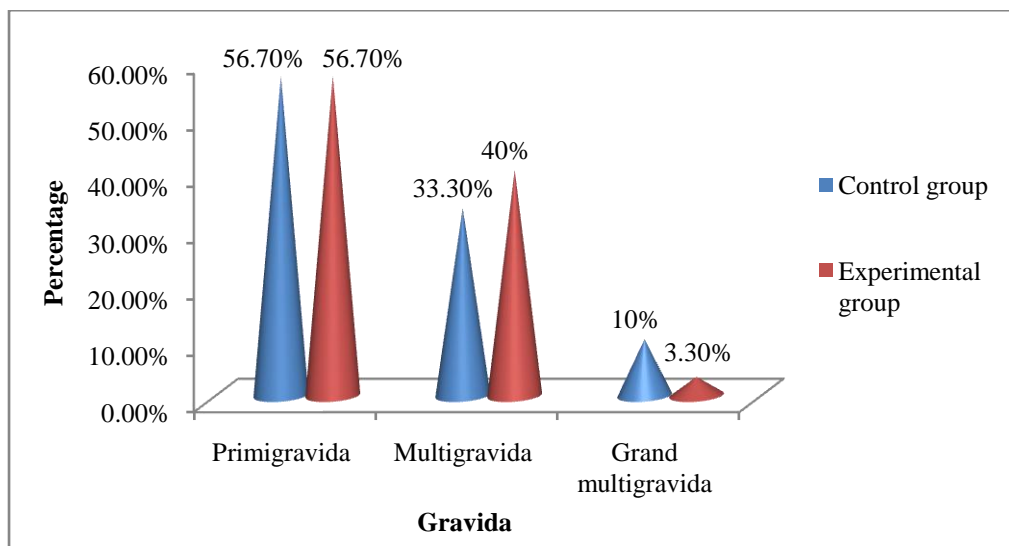**Figure - 5: Distribution of Subject by residential statu**
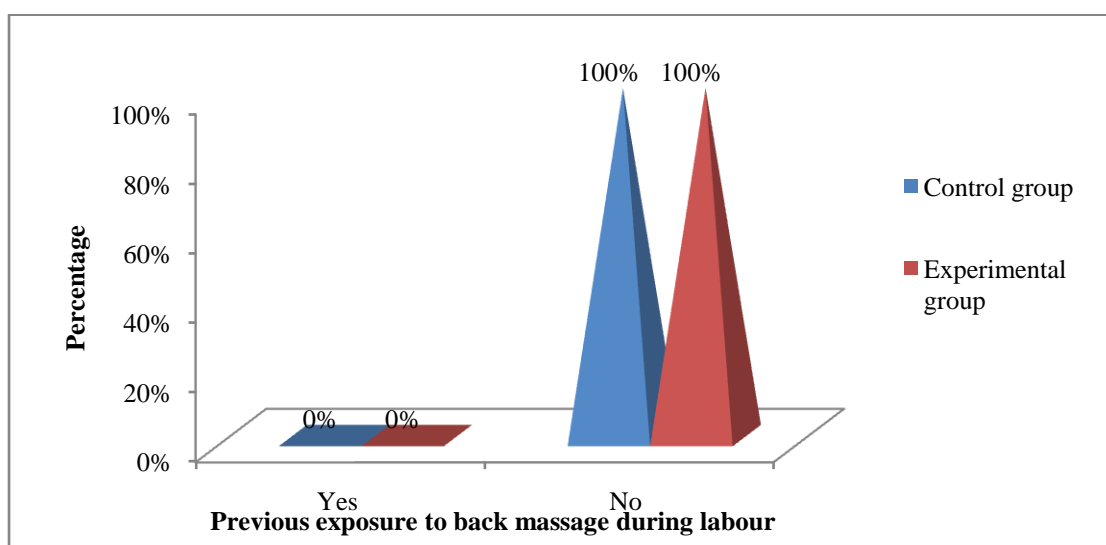
Figure - 6: Distribution of Subjet by gravid

Figure- 7: Distribution of Subject by Previous exposure to back massage during labour

Majority 14 (46.7%) subject belongs to 18-23 years where as 12 (40%) sample belongs to 24 – 29 years and 4 (13.3%) belongs to 30-35 years in control group. Similarly in experimental group 20 (66.7%) subject belong 24 – 29 years and 10 (33.3%) sample in 18 – 23 years. Majority 17 (56.7%) of them having primary level of education and only 1 (3.3%) graduate in control group. Similarly experimental group 11 (36.7%) having secondary education and 4 (13.3%) with primary education. all women's were house wife in control group where as in experimental group 29 (96.7%) were housewife and 1 (3.3%) working in private job. majority 18 (60%) respondent family income is 15,001and above and 1 (3.3%) with Rs. 5,001/- to Rs. 10,000/- and 11 (36.7%) with 10,001/-15,000/-in control group. Whereas in experimental group 24 (80%) with 15,001 and above and 1 (3.3%) each family income is Rs. 5001/- to Rs. 10,000/- and 4 (13.4 %) with 10,001-15,000/-. 23 (76.7%) women's were residing in urban area and 7 (23.3%) in rural area of control group, similarly 28 (93.3%) in urban area and 2 (6.7%) were in rural area of experimental group. majority 17 (56.7%) respondent were primigravida,in control group and similarly 17 (56.7%) were primigravida in experimental group ,13 (43.3%) multigravida in control group and similarly 13 (43.3%) in experimental group.None of the multigravida from control group as well as experimental group having previous exposure to back massage during labour.

SECTION- 2:
Findings related to pain perception among intranatal women on pre-test and post-test score of control and experimental group

Table 2: Finding relation to pain perception score

(N=60)

Pain perception	Pre-test		Post test	
	Mean ±SD	Mean %	Mean ±SD	Mean %
Control group	7.93±1.14	79.3%	8.43 ±0.85	84.3%
Experimental group	7.60±1.19	76%	6.90±1.09	69%

Table 2 shows the pain perception of intranatal women's. The pre-test mean score for control group was 7.93, mean % 79.3% with SD 1.14 similarly in experimental group 7.60, mean % 76% with SD 1.19.

The post-test mean score for control group was 8.43, mean% 84.3% with SD 0.85 similarly in experimental group 6.90, mean % 69% with SD 1.09.

Hence the research hypothesis **H₁:** There will be significant difference between the level of pain perception among intranatal women in experimental group and control group was accepted.
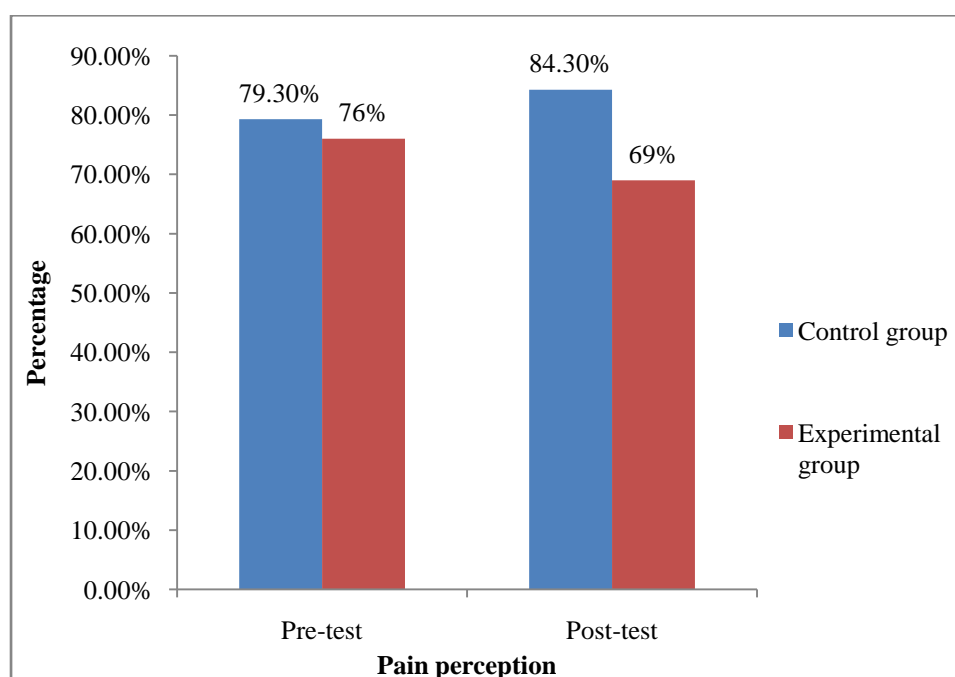

Figure- 8: Distribution of Subject by pain perception score
SECTION 3:
Effectiveness of back massage on pain perception during active phase of labour among intranatal women in experimental group
Table 3: Effectiveness of back massage on pain perception during active phase of labour among intranatal women

(N=30)

Component	Group	Mean±SD	Mean difference	't 'value
Pain perception during active phase of labour	Pre-test	7.60±1.19		7.167
	Post-test	6.90±1.09	0.70	df=29 P=0.000

*- Significant at 0.05 level

Table 3 reveals that post test mean for pain perception during active phase of labour among intra natal women is significantly lower the pre- test mean score with the difference of 0.70. The statistical "t" test for pain is found to be 7.167 for df =29 p value was 0.000 which implies that the difference in pre-test and post-test pain score is found statistically significant at 0.05level.

SECTION 4:
Part - 1: Findings related to pre-test and post-test pain level of intranatal women of control group.
Table 4: Finding relation to pain perception level of control group

(N=60)

Pain level	Score range	Pre-test		Post-test	
		F	%	F	%
No pain	0	0	0%	0	0%
Mild pain	1-3	0	0%	0	0%
Moderate pain	4-6	3	10%	0	0%
Severe pain	7-9	24	80%	27	90%
Worst possible	10	3	10%	3	10%

Table 4 shows the pre-test and post-test pain level of intranatal women of control group. Majority 24 (80%) women experienced severe pain and 3 (10%) each in moderate and worst possible pain. Similarly in post test 27 (90%) with severe pain and 3 (10%) women experienced worst possible pain as progress in the labour.
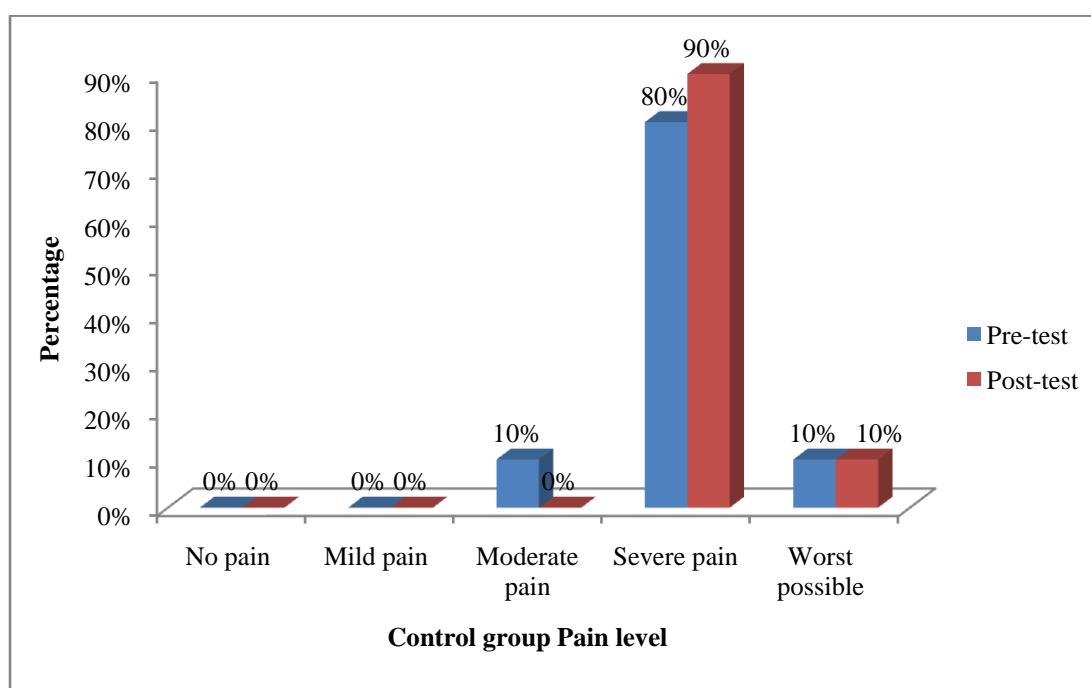

Figure- 9: Distribution of Subject by pain level
Part - 2: Findings related to pre-test and post-test pain level of intranatal women of experimental group.
Table 5: Finding relation to pain perception level of experimental group

(N=60)

Pain perception	Score range	Pre-test		Post-test	
		F	%	F	%
No pain	0	0	0%	0	0%
Mild pain	1-3	0	0%	0	0%
Moderate pain	4-6	5	16.7%	10	33.3%
Severe pain	7-9	25	83.3%	20	66.7%
Worst possible	10	0	0%	0	0%

Table 5 shows the pre-test and post-test pain level of intranatal women of experimental group. Majority 25 (83.3%) women experienced severe pain and 5 (16.7%) women's having moderate pain. Similarly in post test 20 (66.7%) with severe pain and 10 (33.3%) women experienced moderate pain as progress in the labour.
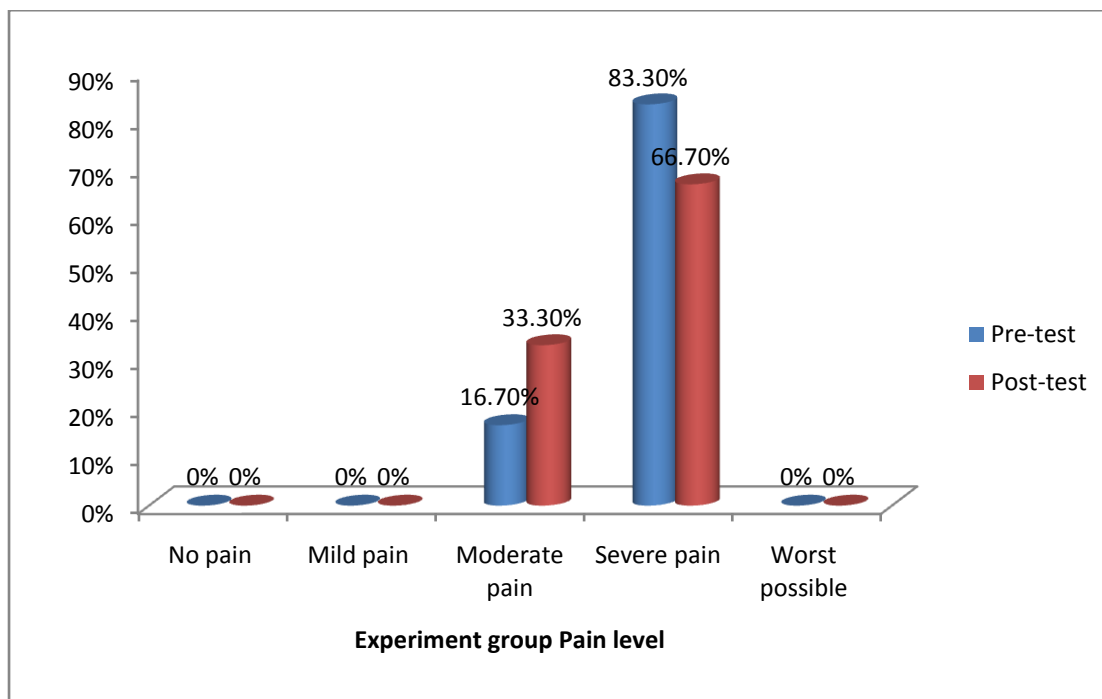
Figure- 10: Distribution of Subject by post-test score
Section 5: Findings related to pain perception of intranatal women after back massage for experimental group.
Table 6 : Finding relation to pain perception of intranatal women of experimental group

(N=30)

Sl. No	Pain perception	Yes		No	
		F	%	F	%
	Pain perception is reduced after back massage	10	33.3%	20	66.7%
	I feel a little more relaxed after back massage	17	56.7%	13	43.3%
	Back massage take away the labor pain	0	0%	30	100%
	With back massage the pain during labor was bearable	6	20%	24	80%
	Back massage reduced the stress of child birthing process	1	3.3%	29	96.7%
	Back massage created soothing effect	20	66.7%	10	33.3%

Table 6 depicts that majority 66.7% women's told that pain perception is not reduced after back massage, 56.7% were reported that they feel relaxed after back massage. All the women's told that back massage will not take away the labor pain. 80% of respondent told that with back massage the pain during labor was not bearable, 96.7% were reported that back massage will not reduce the stress of child birth process and 66.7% women's told back massage created soothing effect.
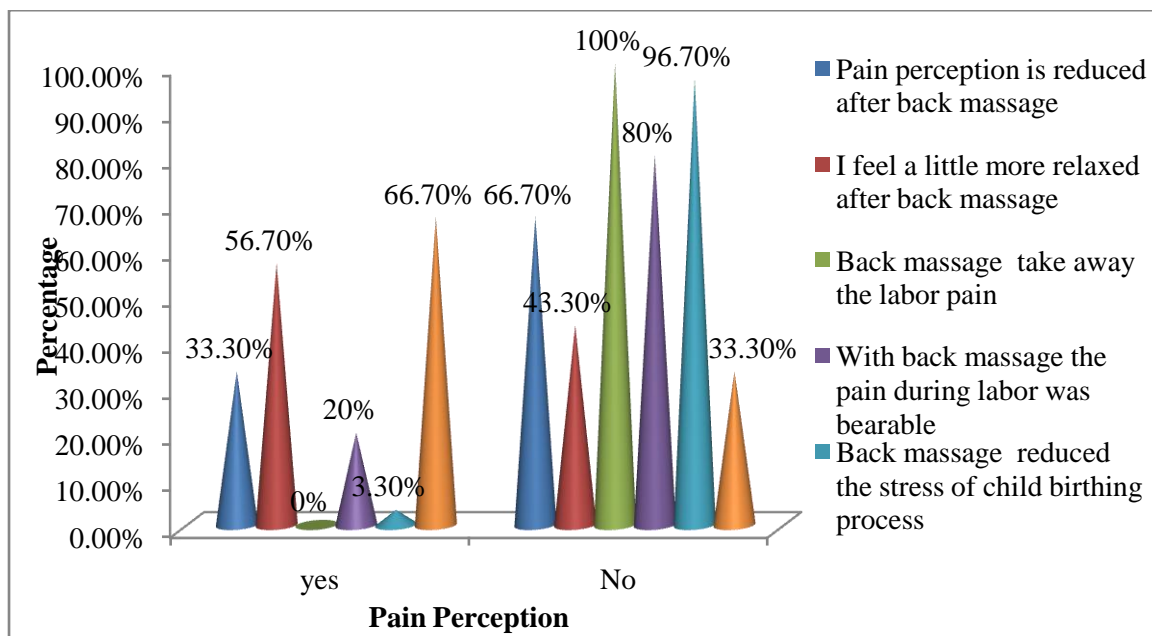
Figure 11: pain perception of intranatal women of experimental group
Section 6:
Part – 1: Deals with association between levels of pain perception in control group with their selected demographic variables
Table 7:- Association between levels of pain perception in control group with selected demographic variables.

(N= 30)

Variable	Moderate	Severe	Worst possible	Df	Chi-square value	P value	Inference
Age in year							
18– 23	2	12	0				
24 – 29	0	9	3	4	6.964	0.138	NS
30 – 35	1	3	0				
Education qualification							
No formal education	2	6	0				
Primary level	1	14	2	6	12.978	0.043	S
Secondary level	0	4	0				
Graduate and above	0	0	1				
Family monthly income							
<Rs. 5,001- 10,000/	0	1	0				
Rs.10,001 - Rs.15,000/-	1	9	1	4	0.328	0.988	NS
≥15,001	2	14	2				
Residential status							
Rural	1	6	0				
Urban	2	18	3	2	1.118	0.572	NS
Total	3	24	3				
Gravida							
Primi gravid	1	16	0				
Multi gravid	2	8	3	4	8.912	0.063	NS

*Significant at 0.05 level.   S = Significant,   NS = Not – Significant

The table 7 shows chi – square value for Age (χ^2 = 6.964), family income (χ^2 = 0.328), Residential status (χ^2 = 1.118) and gravid (χ^2 = 8.912). The obtained p value for these variables is more than 0.05, which indicates that there is no significant association between levels of pain perception in control group women with selected demographic variable Hence, the research hypothesis H_2 is rejected and null hypothesis is accepted.
The table 7 shows chi – square value for Education qualification (χ^2 = 12.978). The obtained p value for this variable is less than 0.05, which indicates that there is a significant association between levels of pain

perception in control group women with selected demographic variable. Hence, the research hypothesis H_2 is accepted and null hypothesis is rejected.

Part – 2: Deals with association between levels of pain perception in experimental group with their selected demographic variables
Table 8 :- Association between levels of pain perception in experimental group with selected demographic variables.

Variable	Moderate	Severe	Df	Chi-square value	P value	Inference
Age in year						
18 – 23	3	7				
24 – 29	2	18	1	1.92	0.166	NS
Education qualification						
No formal education	2	7				
Primary level	0	4	3	1.018	0.797	NS
Secondary level	2	9				
Graduate and above	1	5				
Occupation						
Housewife	5	24				
Private job	0	1	1	0.207	0.649	NS
Family monthly income						
Rs.$\leq$4500/-	1	0				
Rs. 5001 - Rs.10,000/-	0	1	3	9.600	0.022	S
Rs.10,001 - Rs.15000/-	2	2				
$\geq$15001	2	22				
Residential status						
Rural	0	2				
Urban	5	23	1	0.429	0.513	NS
Gravida						
Primi gravida	3	14				
Multi gravid	2	11	2	0.212	0.900	NS

*Significant at 0.05 level.   S = Significant,   NS = Not – Significant

The table 8 shows chi – square value for Age (χ^2 = 1.92), Education qualification (χ^2 = 1.018), Occupation (χ^2 = 0.207), Residential status (χ^2 = 0.429) and gravid (χ^2 = 0.212). The obtained p value for these variables is more than 0.05, which indicates that there is no significant association between levels of pain perception in experimental group women with selected demographic variable. Hence, the research hypothesis H_2 is rejected and null hypothesis is accepted.

The table 8 shows chi – square value for family income (χ^2 = 9.600). The obtained p value for this variable is less than 0.05, which indicates that there is a significant association between levels of pain perception in experimental group women with selected demographic variable. Hence, the research hypothesis H_2 is accepted and null hypothesis is rejected.

VI. DISCUSSION

This chapter deals with the brief discussion of the major findings of the results obtained after analysing the data along with the conclusion drawn.the purpose of study was to assess the effectiveness of back massage on pain perception among intranatal women during active phase of labor in Doon Medical college & hospital Dehradun, Uttarakhand. Findings of the study are discussed according to the objectives with others findings.
The objectives of the study were:
• To assess the pain level perceived by intranatal women in experimental and control group during active phase of labor.
• To assess the effectiveness of back massage on pain perception during active phase of labour among intranatal women in experimental group.
• To compare the level of pain perceived by intranatal women in control and experimental group.
• To find the association between level of pain perception in control and experimental group with their selected demographic variables

Major findings of the study
1. Findings regarding sample characteristics
Majority 14 (46.7%) belongs to age group 18- 23 years where as 4 (13.3%) belongs to age group 30-35 years and 12 (40%) belongs to age group 24-29 in control group. similarly in experimental group majority 20(66.6%) subjects belongs to 24-29 age group and 10 (33.3%) sample belongs to age group 18-23 years.

Majority 17(56.7%) of the women having primary level of education in control group. Smilarly experimental group 11(36.7%) having secondary education. Majority of women's were house wife in control group where as in experimental group 29 (96.7%) were housewife and 1(3.3%) working in private job.

Majority 18 (60%) respondent family income is 15,001and above and 1 (3.3%) with Rs. 5,001/- to Rs. 10,000/- and 11 (36.7%) with 10,001/-15,000/-in control group. Whereas in experimental group 24 (80%) with 15,001 and above and 1 (3.3%) each family income is Rs. 5001/- to Rs. 10,000/- and 4 (13.4 %) with 10,001-15,000/-.

Majority 23 (76.7%) women's were residing in urban area and 7 (23.3%) in rural area of control group, similarly 28 (93.3%) in urban area and 2 (6.7%) were in rural area of experimental group.

Majority 17(56.7%) respondent were primigravida in control group, similarly 17 (56.7%) were primigravida in experimental group. None of the multigravida from control group as well as experimental group having previous exposure to back massage during labour.

2. Findings related to pain perception among intranatal women on pre- test and post- test score of control and experimental group
Majority 24(80%) women experienced severe pain and 3(10%) each in moderate and worst possible pain. Similarly in post test 27(90%) with severe pain and 3(10%) women experienced worst possible pain as progress in the labour in control group.

Majority 25 (83.3%) women experienced severe pain and 5 (16.7%) women's having moderate pain. Similarly in post test 20 (66.7%) with severe pain and 10 (33.3%) women experienced moderate pain as progress in the labor in experimental group.

The pre-test mean score for control group was 7.93, mean % 79.3% with SD 1.14 similarly in experimental group 7.60, mean % 76% with SD 1.19.

The post-test mean score for control group was 8.43, mean% 84.3% with SD 0.85 similarly in experimental group 6.90, mean % 69% with SD 1.09.

3-Effectiveness of back massage on pain perception during active phase of labour among intra natal women
The post test mean for pain perception during active phase of labour among intra natal women significantly lower the pre- test mean score with the difference of 0.70.The statistical "t" test for pain is found to be 7.167 for df= 29 p value was 0.000 which implies that the difference in pre- test and post- test pain score is found statistically significant at 0.05 level.

4- Findings related to pain perception of intra natal women after back massage for experimental group
Majority 66.7% women's told that pain perception is not reduced after back massage, 56.7% were reported that they feel relaxed after back massage. All the women told that back massage will not take away the labour pain. 80% of respondent told that with back massage the pain during labour was not bearable, 96.7% were reported that back massage will not reduce the stress of child birth process and 66.7% women's told that back massage created soothing effect.

Summary
The discussion was made in this chapter based on the objectives of the present study.The present study concluded that back massage therapy reduces labour pain among intra natal women. It is simple, non-pharmacological cost effective harmless and pain relieving therapy.

VII. SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with the summary of the study conclusion and its implication in nursing and health care services followed by limitations. This chapter ends with the extra findings and recommendation for future research in the same field.

The purpose of the study was to assess the effectiveness of back massage on pain perception among intra natal women during active phase of labor in Doon Medical College & Hospital Dehradun, Uttarakhand.

Objectives of the study were:
• To assess the pain level perceived by intranatal women in experimental and control group during active phase of labor.
• To assess the effectiveness of back massage on pain perception during active phase of labour among intranatal women in experimental group.
• To compare the level of pain perceived by intranatal women in control and experimental group.
• To find the association between level of pain perception in control and experimental group with their selected demographic variables.

Summary:
A quasi experimental design was adopted to evaluate the effectiveness of back massage on pain perception among intra natal women during active phase of labour.

Demographic variables included in the study were Age, Education, Qualification, Occupation, Family income, Residential status, Gravida and do you have previous exposure to back massage during labour.

The conceptual framework of the present study was based on Widenbach's Prescriptive Helping Art Of Clinical Nursing Theory(1964)**.**

The study sample consists of 60 samples. A purposive sampling techniques was selected as it was found feasible and suitable for the study.

The study tool consists of three sections: questionnaire to collect the demographic profile, standardized tool that is numerical pain rating scale and self structured checklist to assess the pain perception of the intranatal women in Doon Medical College & Hospital, Dehradun. Development of tool involved steps such as review of literature, consultations of the experts of the same field, organization of the available material and construction of the tool. Tool was given to experts for the validation. After the validation suggested modification were done and tool was translated to Hindi.

Pre-testing of the tool was done. The reliability of numerical pain rating scale was done (r= 0.95) The pretesting of self structured tool related to pain perception was done. Reliability of this tool done by using test retest method and it was found reliable (r=0.8) this indicated that the tool was reliable.

The pilot study was conducted from may 2019 in Doon Medical College & Hospital, Dehradun among intranatal women by purposive sampling technique.

Questionnaire method was used to collect the data with the socio demographic variables, Numerical pain rating scale and checklist related to pain perception among intra natal women.

The time taken to complete the data collection procedure was 1 month. After the completion of data collection the analysis was done on the basis of objectives of the study by using the descriptive and inferential statistics. A master data sheet was prepared we the responses given by the intra natal women.

Implications
The findings of the study have the following implication in nursing.
Nursing practice
• Back massage is a cost effective measure to block the pain path. Back massage helps in reducing the need and frequency of administration of analgesics.
• Midwives can educate the family members about birth companions .
• The presence of a female relative during labour is a low cost intervention that has proved to be beneficial to the women in labour. Birth companion provide emotional support, information about progress of labour and advice regarding coping techniques, comfort measures(comforting touch and massages)
• Back massage can be made to part as an routine nursing care among antenatal mothers during 1st stage of labour.
• Encourage and provide physical, emotional support to antenatal mothers during first stage of labour.
• Midwives can plan the goal of nursing management and enhance the nurse patient relationship and sense of wellbeing to the mother through the development of mutually agreed goals.
• Back massage classes can be conducted in hospital and maternity centers.
• Back massage can be included in parenthood class.

Nursing administration
• The nurse administrator can organize staff development programme in back massage.
• The nurse administrator can organize conference and in service education program on various non-pharmacological measures in the reduction of pain pain perception.
• Nursing administration should take an initiative in creating policies or plans in providing eduction to women during pregnancy and help in safe delivery.
• Midwifery department should have policy decision to use massage therapy as one of the essential nursing activity to reduce the labour pain.
• Administration must provide adequate training facilities for effective nursing care to the mothers in labour**.**
Nursing education
• Nurses with higher education and up- to-date knowledege will provide cost- effective and quality client care. One of the important aspects of nursing is alleviation of pain, provision of comfort and quality client care.
• The nurse educator should conduct workshop, seminars and conferences on non- invasive complementary therapies that help to update their knowledge to provide effective care.

- The nurse educator should courage the students to learn about the remedial measures to reduce pain perception.
- The nursing education curriculum must provide adequate clinical exposure of students in labour ward.

Nursing Research

- Nursing research needs to focus on supportive care techniques such as back massage, its provision and outcome of labour. The findings of research need to be disseminated through publications so the utelization of such research findings must be encouraged.
- The findings of the study would help to expand the scientific body of professional knowledge upon which further researcher can be conducted.
- The nurse researcher should motivate the clinical nurse to apply the research findings in their daily nursing care activities and can bring out new innovative procedures to reduce back pain on pain perception during first stage of labour among intranatal mothers.
- nurse researcher should conduct periodic review of research findings and disseminate the finding through conferences, seminars and publications in professional, national and international journals and also in the word wide web.

Conclusion

- Based on the findings of the present study it was concluded that there is significant difference between the level of pain perception among intra natal women in experimental and control group. Hence, **H1** hypothesis is accepted.
- Chi- square value for Educational qualification (χ^2 = 12.978). The obtained p value for this variable is less than 0.05, which indicates that there is a significant association between levels of pain perception in control group among intra natal women with selected demographic variable. Hence, the research hypothesis **H2** is accepted and null hypothesis is rejected.
- Chi- square value for family income (χ^2 = 9.600). the obtained p value for this variable is less than 0.05, which indicates that there is a significant association between levels of pain perception in experimental group among intra natal women with selected demographic variable. Hence, the research hypothesis H2 is accepted and null hypothesis is rejected.

Limitations

The study samples were selected from intranatal women during active phase of labour hence limiting the generalizations.
The samples were selected from labour room and hence limiting the generalization.

RECOMMENDATION

- A similar study can be replicated with larger samples for better generalization.
- A comparative study can be conducted to assass the effectiveness of back massage by individually and in combination with other complimentary therapies.
- A similar study can be conducted in other ways like massage with increased the frequency and the duration of back massage more than 15 minutes.
- A study can be carried out to determine the cost effectiveness of in- service education programmes for staff nurse.

SUMMARY

This chapter dealt with the brief summary of the study .This chapter summarized the methodology with discussion on the findings of the study and conclusion. The implication in nursing and health services, limitation of the study and recommendation for the future researches in the same field were included.

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