# DISSERTATION ON

## " A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI"

**M.SC (NURSING) DEGREE EXAMINATION**
**BRANCH- III OBSTETRICS AND GYNAECOLOGICAL NURSING**

**COLLEGE OF NURSING**
**MADRAS MEDICAL COLLEGE, CHENNAI - 600 003**

*A dissertation submitted to*
**THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI- 600 032**

*In partial fulfillment of the requirement for the award of degree of*
**MASTER OF SCIENCE IN NURSING**

**OCTOBER – 2019**

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# CERTIFICATE

This is to certify that this dissertation titled **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI "** is a bonafide work done by ANGELIN SHEEBHA.R, M.Sc. (N) II year student, College of Nursing, Madras Medical College, Chennai submitted to The Tamil Nadu DR.M.G.R Medical University, Chennai. In partial fulfillment of the requirements for the award of degree of Master of Science in Nursing, Branch III- OBSTETRICS AND GYNAECOLOGICAL NURSING, under our guidance and supervision during the academic period from 2017 – 2019.

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# ABSTRACT

The postnatal period refers to 6 weeks period after childbirth and this period is termed as fourth trimester of pregnancy. It comprises an amazing variety of complex physiologic and psychological adaptations. Protecting a women health as these changes occur is important for preserving the future childbearing function and for ensuring that she is physically well enough to incorporate her new child into her family. Episiotomy is routinely done to ease the birthing process and to prevent perineal tear, but there are many complications related with episiotomy wound. Proper episiotomy care can prevent Infection and healing is enhanced. This surgical procedure is largely executed globally. The international episiotomy rate was 27%, 54%, are nulliparous and 6% are multiparous women (WHO).The rate of episiotomy ranges from 50%-90% in developing countries.

**TITLE:** "A study to assess the effectiveness of **dry heat** versus **moist heat application** on episiotomy pain perception among postnatal mothers in Institute of Obstetrics and Gynaecology and Government hospital for women and children, Egmore, Chennai "

**OBJECTIVES:** To assess the effectiveness of dry heat application on episiotomy pain perception, to assess the effectiveness of moist heat application on episiotomy pain perception, to compare the effectiveness of dry heat and moist heat on episiotomy pain perception and to associate the level of episiotomy pain perception status among postnatal mothers in dry heat and moist heat with their selected demographic variables.

**METHODS AND MATERIALS:** This study was conducted with 80 (post natal mothers) samples in quantitative approach, randomized control trials by random sampling technique. Episiotomy pain

perception was assessed using Numerical pain scale and Modified short form Mc Gill pain questionnaire in dry heat group and moist heat group. After pre-test, infrared was administered to dry heat group mothers and warm sitz bath was administered to moist heat group. After 3 days of intervention post-test was conducted using the same tool in both groups.

**RESULTS:** On an average, Dry heat group pain reduction percentage is 45.30% in Numerical pain score assessment, 44.60% in Modified short form Mc Gill pain questionnaire and 40.60% in Present pain intensity. Whereas in Moist heat group 35.10% in Numerical pain score assessment, 35.44% in Modified short form Mc Gill pain questionnaire and 34.00% in Present Pain Intensity. This difference shows the effectiveness of the Dry heat application is more effective in reducing the pain perception than moist heat application

**CONCLUSION:** Dry heat is more effective in reducing the pain perception among the postnatal mothers with episiotomy than moist heat. The effect of dry heat lasts for a longer time and keeps the wound dry and reduces pain perception. Heat from the lamp increases blood circulation to the sutures and reduces the pain hence the patient is more comfortable. The study recommended that joining infrared therapy as a main part of post-partum instructions for the women for its imperative role in improving quality of life during post-partum period.

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# LIST OF ABBREVIATION

| Abbreviation | Expansion |
|---|---|
| WHO | World health organization |
| ANOVA | Analysis of variance |
| SF-MPQ | Short form Mc Gill pain questionnaire |
| IRR | Infra red radiation |
| BPT | Birth Perineal Trauma |
| HRRCs | Human Reproduction Research Centers |
| DF | Degrees of Freedom |
| RBC | Relationship-Based Care |
| LMIC | Low - and middle-income countries |
| 0ASIS | Obstetric anal sphincter injury |
| N | Total Number of Sample |
| NS | Not Significant |
| VE | Vaccum extraction. |
| P | Probability (Level of Significance) |
| SD | Standard Deviation |
| RCTs | Randomized control trails |
| VAS | Visual Analogue Scale |
| PPI | Present pain intensity. |
| USA | United States of America. |
| REEDA | Redness, Edema, Ecchymosis, Discharge, Approximation |

# CHAPTER – I
# INTRODUCTION

*Children are a gift from the Lord; they are a reward from him.*
*–Psalm 127:3-4*

To become "mother" is a beautiful gift given by God to woman. The most powerful and life changing event that lasts impact on women and their families is giving birth. An average Indian woman considers pregnancy and child birth as a natural process today. Episiotomy is routinely done to ease the birthing process and to prevent perineal tear, but there are many complications related with episiotomy wound. Proper episiotomy care can prevent Infection and healing will be enhanced.(**Rattan, 2014).**

Episiotomy is the common surgical procedure that is performed during second stage of labour and it was first performed in 1742, it is when perineal incision was made to smooth the progress of difficult deliveries. **(Grass, Dunn and stys 1986).**

Episiotomy is done to widen the perineum and to prevent severe perineal tears. More than 200 years ago episiotomy was introduced as an obstetric procedure. However this procedure became a common practice only from the beginning of $20^{th}$ century. It is now very important to improve new birthing technique that maintains the integrity of the perineum which does not involve surgical procedure. **(Dutta D.C, 2011).**

Through an incision in the perineum, episiotomy can be delineated as the procedure in which vaginal orifice is enlarged. It is a procedure that is commonly indicated for almost all women to help for a safe and easy labour particularly during their first delivery process. This incision befalls either through the second phase of labour. Episiotomy

consists of some types such as: medio-lateral, median, lateral and J shaped episiotomy. Of these, the most commonly repeated is a medio-lateral episiotomy.

Episiotomy is carried out to prevent tearing of the perineum and to free pressure on the fetal head with birth (Lawsan and Bienstock, 2007). The only procedure in obstetrics is performed without the patient's specific consent and the main advantage of an episiotomy is that it substitutes a clean cut for a ragged tear, minimizes pressure on the fetal head, and may reduced the second stage of labour **(Incerpi, 2007).**

Episiotomy inhibits more extensive Perineal injury during childbirth .The apparent advantages of episiotomies include: being clean incisions adjacent to decrease in the occurrence of perineal tears particularly third grade perineal cuts. They are easy to mending and recovered well than tears. They are believed to maintain muscle relaxation of the pelvic floor and perineum result in improved sexual role and a lessened hazard of faecal and/or urinary incontinence

Less frequent problems related to episiotomy are discomfort, edema, bleeding, hematoma, infection and mental upset. Discomfort resulting episiotomy seems to be widespread. Women experienced episiotomy usually at danger of inadequate lesion curing at the beginning of Puerperium. **Unfortunately, obstetricians usually carry out episiotomies habitually as it was thought to hasten the second phase of delivery and decrease the danger of impulsive perineal damaging**.

Postpartum period is a crucial period of caring for mothers, especially those who had undergone episiotomy. Episiotomy is very painful during puerperal period. injury to the perineum can cause distress and discomfort for many women following childbirth that can

also affect their mental, social and physical well being . majority of the mothers will experience postpartum pain and discomfort, that will predispose to chronic pain and painful intercourse and further adding on, infection, wound breakdown, faecal and urinary incontinence and other spectrum of adverse effects of treatment of trauma in perineum which make the postpartum period very unpleasant. While factors like suture techniques, operator skills and suture materials may affect pain and pain perception, different strategies have been used in order to promote perineum pain perception**.** Therefore it is very important to give special attention to maintain perineal hygiene and episiotomy care.

Perineal pain is most commonly associated with vaginal delivery with episiotomy. Episiotomy care is an important aspect of postnatal care and dry heat is one of the most popular methods of relieving episiotomy discomfort and pain (**Behmanesh, 2013**).

Countless interventions are obtainable to support the episiotomy wound healing process during puerperium. They include: using cold compresses, topical use by dry heat (Infrared therapy), sitz bath, carrying out of kegel's exercise and perineal care. Infrared rays have therapeutic effect of aggregate the blood supply and releasing the pain. This will increase the supply of oxygen and nutrient accessible to the tissues accelerate the removal of the waste products and help to bring about the resolution of inflammation. When the heat is mild, the relief of pain is almost certainly due to the sedative effect on the superficial sensory nerve endings. It also aids to accomplish muscular relaxation and for the release of muscle spasm associated with injury or inflammation.

A regular bath and acetaminophen for pain control are encouraged to take by the women. Also heat can be used to decrease the woman's discomfort. Heat increases circulation to the perineal area and relaxes

the tissue. Either moist or dry heat can be applied after the first 24 hours **(Kaur, 2013).**

Infrared is classified as superficial heat, although it is an electromagnetic energy modality rather than a conduction energy modality, depth of penetration of heat is 1 cm. IRR is a dry heat modality compared with other types of superficial heat therapy. Dry heat from an IRR tends to elevate superficial temperatures more than moist heat.

Heat transmission with IR radiation is governed by inverse square law; it states that the intensity of radiation varies inversely with the square of the distance between the source of radiation and the skin. Intensity of the radiation is reduced if the distance between the source and the target is increased and vice versa. The IR exposure should be 15 to 20 minutes once or twice a day. The treatment commences with the IR source placed at distance of 30" to 36" from the surface being treated. When the heat is mild, the relief of pain is probably due to the sedative effect on the superficial sensory nerve endings. It is also helps in achieving muscular relaxation and for the relief of muscle spasm associated with injury or inflammation. Infrared rays also have the physiological effect on cutaneous vasodilation due to release of chemical vasodilators, histamine and similar substance, as well as possible direct effect on the blood vessels.

The application of water externally to the body for therapeutic effect is a practice called Hydrotherapy or Water therapy." One of the most popular methods of using hydrotherapy is the sitz bath Originating in Germany, a sitz bath is natural method of soaking in very warm water. Doing this repeatedly is said to stimulate the lymphatic system, increase circulation and remove toxins. **(McGuinas, 2004).**

Sitz bath is the form of water bath, which is coming back into popularity as a low risk. Sitz bath-term comes from the German verbs "sitzen" meaning to sit. Local anesthesia in the form of sprays, creams and ointments penetrate into the sensory nerve endings and reduce the response to sensory stimuli by producing a depressant effect on the peripheral nerves. In this era of advanced modern technology all mothers are looking hopefully at nurses to help in bringing down the maternal morbidity rate and relieve them from suffering, pain and discomfort after child birth. Thus, it becomes the nurse's responsibility to identify the ways of preventing and reducing maternal morbidity as well as to identifying the cost effective measures in relieving pain **(Sheikhan, 2012).**

## 1.1. BACK GROUND OF THE STUDY

Episiotomy was introduced in the early 1920s, as a means to cut short second stage of labour and prevent to pernieal tears (PT) by widening the perineum. Published literature from developed countries found no clear benefit of routine episiotomy while it reportedly increased frequency as well as severity of perineal damage. Developed countries like Australia, Canada and Sweden made efforts to use episiotomy only for selected indications. However, in developing countries, the episiotomy rates continue to be high. A survey conducted among eleven developing countries including India across the Global Network for Women's and Children's Health Research sites (2003) reported over 90 per cent episiotomy rates among nullipara though overall rate was about 40 per cent .

Globally, approximately 140 million births occur every year . The majority of these are vaginal births among pregnant women with no identified risk factors for complications, either for themselves or their babies, at the onset of labour . However, in situations where

complications arise during labour, the risk of serious morbidity and death increases for both the woman and baby (WHO 2018).

**WHO recommendation on episiotomy policy 17th February 2018 cites that-** In the selective episiotomy groups, episiotomy rates ranged from 8% to 59% (median 32%), and in the routine or liberal episiotomy groups they ranged from 51% to 100% (median 83%).

Episiotomy can be protective for women under certain circumstances. For example, a study based on data from several facilities in sub-Saharan Africa concluded that **episiotomy was protective against anal sphincter tears and postpartum hemorrhage** among women who had undergone type 3 female genital mutilation. However, used inappropriately, it can **be detrimental to women's health.**

A recent Cochrane systematic review examining the evidence on selective versus routine episiotomies for vaginal birth concluded, Overall, the findings show that selective use of episiotomy in women (where a normal delivery without forceps is anticipated) means that fewer women have severe perineal trauma. Thus the rationale for conducting routine episiotomies to prevent severe perineal trauma is not justified by current evidence, and we could not identify any benefits of routine episiotomy for the baby or the mother."

**Despite this recommendation, health workers sometimes encounter institutional barriers that pressure them to perform the procedure. Fear of women developing a third or fourth degree perineal tear and lack of proper training can also contribute to high episiotomy rates.**

According to the American college of Obstetrics and Gynaecology, approximately one in three women having a vaginal delivery also have an episiotomy.

***Fig. 1.1 World map showing the frequency of episiotomy by country 2019***

## GLOBAL TRENDS AND DISPARITIES

The data on global episiotomy use are limited, especially in countries with weak health information systems. However, a paper from the 2016 Lancet Maternal Health series reported prevalence estimates for several middle- income countries based on the most recent available data.

***Table 1.1 Country wise distribution of episiotomy according to the year***

| Country | Episiotomy rate year |
|---|---|
| China | 44.9% (2002) |
| India | 45% (2003) |
| Indonesia | 53.5% (2005) |
| Iran | 79.2 (2012) |
| Malaysia | 46% (2005) |
| Philippines | 3.7%(2005) |
| Thailand | 91.8%(2005) |
| Southaf rica | 63.3% (2003) |

High episiotomy rates have been reported elsewhere, such as in Oman, Tibet and in several countries in Central and South America.

In settings where episiotomy rates have declined over time, socioeconomic, geographic and racial disparities persist. In the United States, for example, the national episiotomy rate decreased from 25% in 2004 to 14% in 2012. However, episiotomies are more common among white women compared to black women, among women with private insurance compared to those with Medicaid and in urban hospitals compared to rural ones. Other research has found that certain types of health care providers are more likely than others to perform episiotomy.

Asian race are assumed to have smaller and tighter perineum so the routine episiotomy may reduce the risk of perineal tearing during delivery (DUTTA, 2013). This surgical procedure is largely executed globally. The international episiotomy rate was **27%, 54%,** are nulliparous and **6%** are multiparous women (WHO 2003).The rate of episiotomy ranges from **50%-90%** in developing countries. In quite a few countries, monotonous episiotomy has been acknowledged medical practice for many years. In developing countries over and above Egypt, routine episiotomy abetted vaginal delivery is a common practice. The predominance of routine episiotomy is due to obstetricians' belief that it may prevent pelvic floor relaxation and its squeal, such as urinary incontinence, and accelerate vaginal delivery. **Younger doctors are also less likely to perform an episiotomy than older doctors and they found the rate of episiotomy performed by residents to be 17%, while the rate among doctors in private practice was 66%.**

Rates vary from 8% in the Netherlands, 13% in England to 25% in the USA. Among English speaking countries, the US had the highest episiotomy rate, varying greatly from region to region. One in three

mothers who delivered vaginally in the U.S from 1995 to 2003 had episiotomies.

Variations in rates of severe perineal tears and episiotomies in 20 European countries: a study based on routine national data in Euro-Peristat Project cites Episiotomy rates were over 60% in Cyprus, Portugal, Romania and Poland, and below 10% in Denmark, Sweden and Iceland.

**In India the birth rate is very high 56% of women had an episiotomy compared to the 46% of white women. The difference between these percentage (10%) is measure of the excess frequency of episiotomy in Indian women.**

**Singh et al** cites in Pattern of episiotomy use and its immediate complications among vaginal deliveries in **18 tertiary care hospitals in India** found Among 1,20,243 vaginal deliveries, episiotomy was performed in 63.4 per cent (n=76,305) cases. Nulliparous women were 8.8 times more likely to undergo episiotomy than multiparous women. The study concludes that there is significantly lower rates of third or fourth degree perineal tear were seen among nulliparous women undergoing episiotomy and the episiotomy rates are high in nulliparous women. **Episiotomy** is one of the most commonly employed procedures for women delivering in tertiary level public hospitals in **India** with an overall **episiotomy** rate of about 70 per cent

This observational study was carried out during January to December 2009 through the network of Human Reproduction Research Centers (HRRCs) of **Indian Council of Medical Research (ICMR), New Delhi**, located in the departments of Obstetrics and Gynaecology in 18 tertiary care hospitals in different parts of the country.

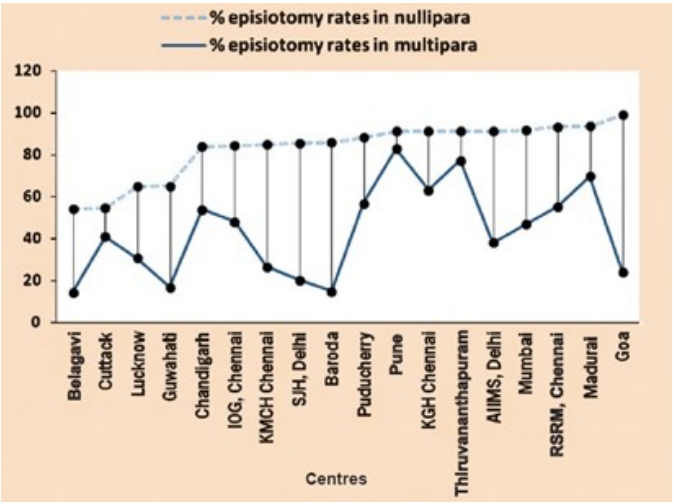
***Table 1.2 Centre wise distribution of episiotomy according to the parity***

| Centre name (No. of women undergoing vaginal delivery) | No. of nullipara | N (%) nullipara given episiotomy[1] | No. of multipara | N (%) multipara given episiotomy[2] |
|---|---|---|---|---|
| Safdurjung, New Delhi (18120) | 8865 | 7597 (85.7) | 9255 | 1868 (20.2) |
| KGH, Chennai (5255) | 2560 | 2340 (91.4) | 2695 | 1700 (63.1) |
| Goa Medical College, Goa (11989) | 8619 | 8542 (99.1) | 3370 | 809 (24) |
| SSGH, Baroda (2960) | 1249 | 1073 (85.9) | 1711 | 256 (15) |
| IOG, Chennai (7716) | 4140 | 3507 (84.7) | 3576 | 1724 (48.2) |
| RSRM, Chennai (7528) | 4189 | 3920 (93.5) | 3339 | 1852 (55.5) |
| SAT, Thiruvananthapuram (6317) | 3847 | 3519 (91.5) | 2470 | 1909 (77.3) |
| KEM, Mumbai (5176) | 2053 | 1880 (91.6) | 3123 | 1465 (46.9) |
| KMCH, Chennai (3663) | 1750 | 1484 (84.8) | 1913 | 122 (26.6) |
| Guwahati Medical College, Guwahati (15445) | 6884 | 4488 (65.2) | 8561 | 1435 (16.7) |
| JNMC, Belagavi (1691) | 842 | 457 (54.2) | 849 | 122 (14.4) |
| PGIMER, Chandigarh (3238) | 1397 | 1177 (84.2) | 1841 | 995 (54) |
| Queen Mary's Hospital, Lucknow (2533) | 1085 | 703 (64.8) | 1448 | 445 (30.7) |
| KEM, Pune (719) | 367 | 335 (91.3) | 352 | 292 (82.9) |
| SCB, Cuttack (5543) | 3138 | 1720 (54.8) | 2405 | 986 (41) |
| JIPMER, Puducherry (13271) | 7328 | 6461 (88.2) | 5943 | 3377 (56.8) |
| Madurai Medical College, Madurai (7875) | 4517 | 4231 (93.7) | 3358 | 2342 (69.7) |
| AIIMS, New Delhi (1204) | 611 | 559 (91.5) | 593 | 226 (38.1) |
| Total (120243) | 63441 | 53993 (85.1) | 56802 | 22312 (39.3) |

[1]Coefficient of variation (CV1) for episiotomy rates in nullipara=0.16 (not significant)
[2]Coefficient of variation (CV2) for episiotomy rates in multipara = 0.5 (not significant)

***Source Indian J Med Res 143, April 2016, pp 474-480***

A total of 1,77,252 births took place during the study period. Of these, 1,20,243 (67.8%) were vaginal deliveries and 57,009 (32.2%) were caesarean sections. Episiotomy was performed in 76,305 (63.4%, 95% CI=63.2 to 63.7%) of the vaginal deliveries. **The mean episiotomy rates among nullipara and multipara were 85.1 and 39.3 per cent, respectively.**




***Source: Indian J Med Res 143, April 2016, pp 474-480.***
***Fig.1.2 distribution of episiotomy in multipara rates with ascending rates of episiotomy in nullipara***

The **episiotomy rate in Tamil nadu is very high that is, about 88% in women who are undergoing difficult labour. In Chennai rates of episiotomy for vaginal birth ranged from 31% to 95% .**

Population based study of episiotomy cross sectional study conducted in Chennai Overall episiotomy rate was 67% (95% CI 62.6 – 71.4). For women whose delivery was conducted by **doctors** the **episiotomy rate was 77.4%** and conducted by **nurses** it was **53.1%.** Episiotomy rate was **very high (91.8%)** when delivery was conducted in **private medical college hospitals**, followed by **74.7** (95% CI 65.8 - 83.6) **Government medical college hospitals**, private hospitals, district hospitals, taluk hospitals, primary health centers and health sub centers. and the rates were lower when conducted in secondary and primary level institutions. Adjusted odds ratio for episiotomy was 38 when doctors conducted delivery compared to trained birth attendants and 8.9 when delivery was conducted at private medical college hospitals compared to primary health centres.

The **episiotomy rate in Institute of obstetrics and gynaecology and govt hospital for women and children Egmore Chennai** is listed in the table signifies that episiotomy rate in the higher side among nullipara women (84.7) and 48.2% among multipara table 1.3

***Table 1.3 Distribution of episiotomy in IOG according to the parity***

| Year | No.of nullipara | No % of nullipara given episiotomy | No.of multipara | No.% multipara given episiotomy |
|---|---|---|---|---|
| Jan-Dec (2009)(7716) | 4140 | 3507(84.7) | 3576 | 1724(48.2) |
| Jan- Dec (2018)(7094) | 4245 | 3,635(85.6) | 2849 | 1425(50.01) |

Approximately 70% of women with a vaginal birth experienced some degree of damage to the perineum due to tear (or) episiotomy and needed stitches. Like any other surgical incision, episiotomy results in some discomforts for most of postpartum patients (Hill,2000). Although relatively small in size, episiotomy sutures can cause considerable discomfort, because the perineum is an extremely tender area and the muscles of the perineum are involved in so many activities such as sitting, squatting, bending,urinating and defecating. Even without episiotomy women may experience bruising / tearing in the perineum. This is the most common source of infection in the days after giving birth.

## 1.2.NEED FOR THE STUDY

Episiotomy is the surgical incisions made between the vagina and anus during childbirth—have long been a topic of debate among clinicians, researchers and advocates. Outdated clinical guidelines previously recommended the routine use of episiotomy to avoid natural vaginal tearing. Over the past two decades, a growing body of literature and increased advocacy efforts have led to a general consensus that episiotomy should not be conducted as a standard practice. Nevertheless, in many parts of the world, the majority of women still undergo episiotomy during childbirth.

The frequency of episiotomy is on the **debility in developed countries however left over high in developing countries.** In developing countries, women's deliveries in hospitals become more common, where obstetricians continue to apply a policy of **"avoid tears - do episiotomies"** routinely.

The postnatal period refers to 6 weeks period after childbirth and this period is termed as **fourth trimester** of pregnancy. It comprises an amazing variety of complex physiologic and psychological adaptations.

Protecting a women health as these changes occur is important for preserving the future childbearing function and for ensuring that she is physically well enough to incorporate her new child into her family.

The physical care a women receives during the postnatal period can influence her health for the rest of her life. The nurse's role is vital as she assists the mothers through these adjustments and supports them as they make a novel start as a new family. Postnatal women are more prone for infection as a result of episiotomy which can be prevented by proper postnatal care.

Approximately 33% of women with vaginal deliveries received an episiotomy in 2000. However; the prevalence of episiotomy can vary between countries. Studies have reported that 10% of women experienced pain for more than two months following spontaneous vaginal delivery with the rate rising to 30% for those who had an assistant vaginal birth. One recent study revealed that episiotomies were performed in 97.3% of 510 Primiparous women undergoing vaginal deliveries. As advancement in science took place, dry heat applications came into existence like electric heat lamps, peri lights, infrared rays, etc. Studies say that dry heat applications are more effective than moist heat application, as the effect of the dry heat lasts for a longer time and keeps the wound dry and hastens healing.

The area of the episiotomy may be uncomfortable or even painful for several days. Several practices can relieve some of the pain. The remedies like moist heat application such as sitz bath and hot packs were in practice before.

Infrared light therapy is a form of photo therapy where infrared light is directly applied to our body to cure illness. These rays, on penetrating the skin, help in the release of nitric oxide thus relaxing the blood vessels and preventing blood clots due to injury/illness. In this

way, blood circulation to the affected area improves. As a result, more blood can reach the injured tissue, which in turn, increases the supply of oxygen and valuable nutrients to it. These essential components of the body speed up the healing process and provide comfort to the patient. Heat from the lamp increases blood circulation to the sutures and reduces the oedema hence the patient is more comfortable.

Care of the episiotomy wound begins immediately after delivery and should include a combination of local wound care and pain management. During the first 12 hours after delivery, an ice pack may be helpful in preventing both pain and swelling of the site of the episiotomy. The incision should be kept clean and dry to avoid infection. Frequent sitz baths (soaking the area of the wound in a small amount of warm water for about 20 minutes several times a day), can help keep the area clean. The episiotomy site should also be cleaned after a bowel movement or after urination; this can be accomplished with use of a spray bottle and warm water. Midwives have an important role to play in the care of perineal wounds following childbirth. A wide variety of practices are carried out in this area. However, some current practices may not be beneficial to the promotion of wound healing. Midwives must realize the relevance of their care and potential impact, both positive and negative, of advocated treatments in wound healing. The maintenance of effective pain relief must be balanced with the need to promote wound healing. It is important that midwives recognize the need for research-based practice and that an audit is set up nationally to evaluate the efficacy of treatments and practice. Research, audit and evaluation of services are the central processes involved in providing effective and efficient care, as advocated by the **Department of Health (1993).**

*Fig 1.3 Relationship-Based Care model*


**Relationship-Based Care (RBC)** is an overarching philosophy that focuses on three relationships for the provision of humane and compassionate care – the midwife's relationship with patients and families, colleagues, and self, engendering a culture of patient and family centered care. Midwife supports the values, rights, and beliefs of the patients and families, to excellence in patient care.

- RBC is a culture of caring where the **patient and family** are the **central focus**.
- The midwife and other team members of the health care team strive to understand what is most important to the individual patient, and actively engage them in all aspects of care.
- It is a culture that supports **healing and caring**.

Based on the above care model, the midwife/ investigator is interested in ensuring the professional nursing practice by investigating the study among postnatal mothers with episiotomy in reducing the pain perception by administering Dry heat and Moist heat.

## 1.3. STATEMENT OF THE PROBLEM

" A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI."

## 1.4.OBJECTIVES

- To assess the effectiveness of dry heat application on episiotomy pain perception
- To assess the effectiveness of moist heat application on episiotomy pain perception
- To compare the effectiveness of dry heat and moist heat on episiotomy pain perception
- To associate the level of episiotomy pain perception status among postnatal mothers in dry heat and moist heat with their selected demographic variables.

## 1.5. OPERATIONAL DEFINITIONS

***Effectiveness***

It refers to the outcome of the Infra red light therapy and warm water sitz bath on episiotomy pain perception status among postnatal mothers. It is measured in terms of the difference between the post- test and pre- test pain perception status and pain scores.

***Dry heat***

In this study it refers to infra red lamp which will be placed 45cm distance from the perineum and the heat produced with 230 volts will be

allowed to remain for twenty minutes for two times per day for about three days.

***Moist heat***

In this study it refers to Sitz bath which will be kept in warm water ($115^0$ F) in the basin and keeps over the perineum and allow to remain for twenty minutes for two times per day for about three days.

***Postnatal Mothers***

It refers to mothers who delivered their babies by spontaneous vaginal delivery with episiotomy immediately twelve hours after delivery.

***Episiotomy pain perception***

It refers to an unpleasant sensory and emotional experience arising from actual or potential tissue damage are described in terms of such damage during episiotomy was experienced by the postnatal mothers. The level of pain perception was assessed by Numerical pain scale and Modified short form Mc Gill pain questionaire SF-MPQ consists of 15 descriptors (11 sensory; 4 affective).

## 1.6. RESEARCH HYPOTHESES

**$H_1$** There will be a significant difference between dry heat and moist heat application on episiotomy pain perception status among postnatal mothers

**$H_2$** There will be a significant association between episiotomy pain perception of the postnatal mothers treated with dry heat and moist heat with their selected demographic variables.

## 1.7. ASSUMPTIONS

1) Perineal discomfort from episiotomy wound may continue to be a discomfort for many postpartum women.

2) Dry heat and Moist heat may sufficient to relax the muscle and stimulate circulation and promote reduction in pain perception for a patient with episiotomy.

## 1.8. DELIMITATIONS

1) The study is delimited to the postnatal mothers with episiotomy wound who were admitted in Institute of Obstetrics and Gynaecology and govt hospital for women and children

2) The study is delimited to a sample of 80 postnatal mothers with episiotomy wound.

3) The study is delimited to the period of four weeks.

## 1.9. CONCEPTUAL FRAMEWORK

A conceptual frame work is a group of concepts and a set of prepositions that spell out the relationship between them. The overall purpose is to make scientific findings meaningful and generalize. Concepts are the building blocks of the theory.

Polit and Hungler states that conceptual frame work is inter related concepts or abstractions that are assembled together in some rationale scheme by virtue relevance to a common thing. The device that helps to stimulate research and the extension of the knowledge of providing both direction and impetus.

It's a frame work which provides the investigator the guidelines to proceeds in attaining the objectives of the study based on theory. It is a scientific representation of the steps, activities and outcome of the study . The present study was aimed at assessing the effectiveness of dry heat vs Moist heat on episiotomy pain perception among post natal mothers with episiotomy

The conceptual frame work of the present study is based on Ernestine Wiedenbach's helping art of clinical nursing theory (Figure1.3), consists of three steps that is central purpose, prescription and realities.

Wiedenbach proposes a prescriptive theory for nursing which is described as conceiving of a desired situation and the ways to attain it. Prescriptive theory directs action toward an explicit goal. A nurse develops a prescription based on a central purpose and implements it according to the realities of the situation.In the present study Wiedenbach, nursing practice consists of identifying the patient's needed help and validating the provided help.

## CENTRAL PURPOSE

It refers to what the nurse (investigator) wants to accomplish. It is the overall goal which acts dynamically in relation to one's belief.

## IDENTIFICATION

The present health needs of postnatal mothers are the pain in the episiotomy wound. The nurse investigator identifies the level of pain status of postnatal mothers with episiotomy and sets a goal to reduce pain and enhance comfort of post natal mothers with episiotomy.

## PRESCRIPTION

Refers to the plan of activity directed. It specifies the nature of the action that will fulfill the nurse's central purpose and the rationale for that action. A prescription may indicate the broad general action appropriate to implementation of the basic concepts and suggest the kind of behaviour needed to carry out these actions in accordance with the central purposes. Here the investigator review interventions (Dry heat( infrared lamp therapy) and Moist heat (sitz bath), formulate plan for administration and develop Numerical Pain Scale and Modified Short

form MC Gill pain questionnaire (SF-MPQ) for the episiotomy pain perception.

## REALITIES

Refers to the physical, physiologic, emotional and spiritual factors that comes to play in a situation involving nursing actions. The realities are

- **Agent –** is the investigator
- **Recipients** – are the postnatal mothers
- **Goal** – to reduce episiotomy pain perception.
- **Means** : Infrared light therapy and Sitz bath
- **Frame work**: Institute Of Obstetrics and Gynaecology and Govt hospital for women and children, Egmore, Chennai. In this phase the investigator carry out interventions such as Dry heat (Infrared lamp therapy) and Moist heat (Sitz bath)

**Validation:** In this phase, the episiotomy pain perception level is reassessed by using Numerical Pain Scale and Modified Short form MC Gill pain questionnaire to determine the effectiveness of infrared lamp therapy and sitz bath. The pain level is categorised in to no pain, mild pain, moderate pain, and severe pain. Similarly pain questionnaire status divided into sensory and affective. These categorizations have been done to find out the extent of effectiveness. Reinforcement is suggested to the subjects with positive outcome, whereas negative outcome is again identified as a need for continuation of treatment (feedback)

## SUMMARY

This chapter deals with the statement of the problem, objectives, hypothesis, operational definitions and conceptual frame work.

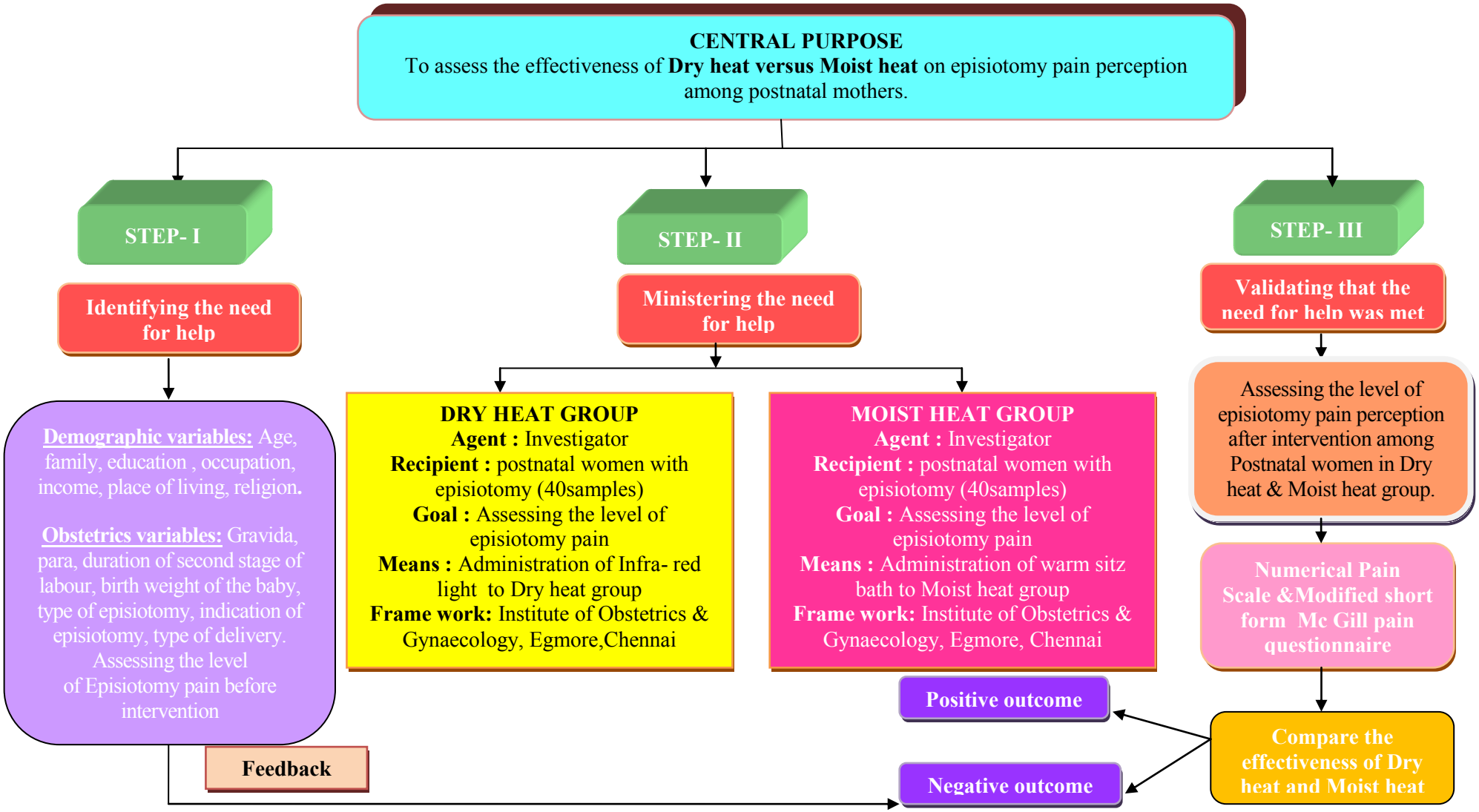



**FIGURE 1.4 Theoretical Framework to assess the Effectiveness of Dry heat versus Moist heat on Episiotomy Pain perception among Post natal mothers based on Wiedenbach's Helping Art Model for Clinical Practices (1964)**

# CHAPTER – II
# REVIEW OF LITERATURE

Review of literature is defined as a critical summary of review on a topic of interest, often prepared to put a research problem in contest (**Polit & Beck, 2006**).

The review of literature in the research report is a summary of current knowledge about a particular practice problem and includes what is known and not known about the problem. The literature is reviewed to summarize knowledge for use in practices or to provide a basis for conducting a study **(Burns, 1997)**.

This study examined the effects of infra red light therapy and warm water sitz bath on episiotomy wound healing status and pain perception among postnatal mothers. From the collected review of various associated literature and research studies, topics can be divided as follows

## *2.1 THIS SECTION CONSISTS OF THREE PARTS*

**2.1.1. SECTION-A**: Literature related to Episiotomy.

**2.1.2. SECTION-B:** Literature related to effectiveness of Infra red.

**2.1.3. SECTION-C:** Literature related to effectiveness of sitz bath.

## 2.1.1. SECTION-A: LITERATURE RELATED TO EPISIOTOMY

***Magda Aguiar et aL., (2019)*** aimed at collecting data on rates of birth related perineal trauma in low- and middle-income countries (LMICs), by systematic review and meta-analysis. Cross-sectional data on the proportion of vaginal births that resulted in episiotomy, second degree tears or obstetric anal sphincter injuries (OASI) were reviewed from studies carried out in LMICs by two independent reviewers.

Estimates were meta-analysed using a random effects model and the results were presented by type of Birth related perineal trauma (BPT), parity, and mode of birth. After reviewed from 1182 citations , 74 studies provided data on 334,054 births in 41 countries. Five studies reported outcomes of births in the community. In LMICs, the overall rates of BPT were 46% (95% CI 36–55%), 24% (95% CI 17–32%), and 1.4% (95% CI 1.2–1.7%) for episiotomies, second degree tears, and OASI, respectively. the study findings revealed that **Compared to high-income settings, episiotomy rates are considerably high in low- and middle-income countries LMIC medical facilities.**

***Khreshen R et aL., (2019)*** conducted a study to determine the knowledge of, attitudes towards and experience of episiotomy practice among clinicians working in public hospitals in Jordan. A cross-sectional study, conducted using a self-administered survey questionnaire, was conducted among midwives and obstetricians in three public hospitals in Jordan.112 (87.5%) clinicians responded to the questionnaire. Low knowledge level of evidence about overuse and risk of episiotomy was identified among participants with a significant difference among obstetricians and midwives ($P < 0.05$). The study findings revealed that both obstetricians and midwives have limited access to evidence which is not emphasised in their learning, practice, or hospital policy. **The majority of obstetricians (80%) and midwives (79%) thought an episiotomy rate of 81% is about right. The most common reason for performing episiotomy identified by both obstetricians (83.1%) and midwives (75.5%) was to reduce the risk of 3rd and 4th degree perineal laceration.** The most common obstacle to reducing episiotomy rate reported by obstetricians (78.0%) was lack of training on preventing perineal tears, while the most common obstacles reported by midwives were insufficient time to wait for the perineum to stretch (56.6%) and difficulty changing the conventional

practices in the labour ward (52.8%). **This study identifies that obstetricians and midwives in Jordan rely on non evidence-based beliefs to guide their practice on performing an episiotomy.**

***Serathi M et Al (2019)*** Cochrane library published a meta-analysis in the year 2000 regarding the role of the episiotomy in modern clinical practice, which concluded that a policy of selective episiotomy is acceptable with evidence-based maternal health improvement in compare with routine episiotomy, however, the newer version of the Cochrane meta-analysis changed the previous recommendations many years later in that they emphasised that the selective use of episiotomy could not be considered beneficial in all cases, because selective policy is associated with a statistically significant reduction in severe perineal and/or vaginal trauma, whereas routine episiotomy seems to protect against these complications only after instrumental deliveries. **The study concludes in the short and the long term, selective medio-lateral episiotomy has additional beneficial effects without clear evidence of causing harm to the mother or baby.**

***WHO recommendation on episiotomy policy (2018)*** The evidence was derived from a Cochrane systematic review that included 12 RCTs In 11 trials, participants were women in labour for whom a vaginal birth was anticipated. One trial involved women undergoing instrumental vaginal birth; data from this trial were analysed separately in the review and were not considered for this recommendation. The 11 trials relevant to this recommendation were conducted in Argentina (2 trials), Canada, Colombia, Germany, Ireland, Malaysia, Pakistan, Saudi Arabia, Spain and the United Kingdom (1 trial each). Seven trials included nulliparous women only, and four trials included both nulliparous and parous women. Differences in episiotomy rates between the study groups in the trials varied from 21% to 91%, with three trials reporting a difference of less than 30%. **In the selective episiotomy groups, episiotomy rates**

**ranged from 8% to 59% (median 32%), and in the routine or liberal episiotomy groups they ranged fro*m 51% to 100% (median 83%).***

***Sarah Hodin (2018)*** cites in her article on Advancing an Evidence-Based Approach to Episiotomy. Episiotomy can be protective for women under certain circumstances. a study based on data from several facilities in sub-Saharan Africa concluded that **episiotomy was protective against anal sphincter tears and postpartum hemorrhage** among women who had undergone type 3 female genital mutilation. However, used inappropriately, it can be detrimental to women's health.

***Kaled Zimmo et al., (2018)*** population-based cohort study among singleton vaginal births conducted regarding Episiotomy practice in six Palestinian hospitals. Women with singleton vaginal births (n=29 165) from 1 March 2015 until 1 March 2016. samples were divided into two groups: first vaginal birth group (n=9108), including primiparous women and women with their first vaginal birth after one caesarean section, and the multi parous group (n=20 057). Both group was analysed separately. The study concludes the overall episiotomy rate was 28.7%: 78.8% for women with first vaginal birth (range 56.6%–86.0%) and 5.9% for parous women (range 1.0%–9.5%). **The study highlighed that the most common indications for episiotomy were 'primiparity' in the first vaginal birth group (69.9%) and 'protecting the perineum' in the parous group (59.5%). prolonged second stage (1.5%) and fetal distress (6.9%), were the least common indications.**

***Francisca Camacho-Morell et aL., (2017)*** conducted a Descriptive, cross-sectional and retrospective study to analyze Factors affecting the performance of an episiotomy in spontaneous vaginal deliveries at La Ribera University Hospital (HULR). Data regarding spontaneous vaginal deliveries attended during 2015 were collected.

1,116 spontaneous vaginal deliveries were taken in to consideration and analyzed (62% of the total). In 83% of these cases no episiotomy was performed. **A statistically significant association was found between the performance of episiotomy and the variables: primiparity, use of epidural analgesia, stimulated/induced labour and lithotomy position.**

***Hong jiang et al.,(2017)*** conducted a study to assess the effects on mother and baby of a policy of selective episiotomy ('only if needed') compared with a policy of routine episiotomy ('part of routine management') for vaginal births. They searched Cochrane Pregnancy and Childbirth's Trials Register (14 September 2016) and reference lists of retrieved studies. Randomised controlled trials (RCTs) comparing selective versus routine use of episiotomy, irrespective of parity, setting or surgical type of episiotomy. Quasi-RCTs, trials using a cross-over design was used. This updated review includes 12 studies (6177 women), 11 in women in labour for whom a vaginal birth was intended, and one in women where an assisted birth was anticipated. Two were trials each with more than 1000 women (Argentina and the UK), and the rest were smaller (from Canada, Germany, Spain, Ireland, Malaysia, Pakistan, Columbia and Saudi Arabia). Eight trials included primiparous women only, and four trials were in both primiparous and multiparous women. The review thus **demonstrates that believing that routine episiotomy reduces perineal/vaginal trauma is not justified by current evidence**.

***Masoumeh Rasouli et aL., (2016)*** a descriptive cross-sectional study was conducted on a population consisting of all women that had vaginal childbirth over a six-month period (from October 2014 to April 2015) in Fatemieh Teaching hospital in Shahroud city. Participants were selected by census. Data were gathered using researcher-made questionnaire consisting of four parts, totally 978 cases of vaginal

childbirth were included out of this , 406 (41.5%) had undergone episiotomy and the Mean age of participating women was 27.32±5.14 years. **Episiotomy was found to have significant association with mother's age, parity, first and fifth minute Apgar scores, duration of the second stage of labor, birth spacing, use of oxytocin, vacuum deliveries and use of analgesics (P<0.05) Overall, prevalence of intact perineam was 34.7%. The overall rate of episiotomy in this study was 41.5%, which is much higher than the standards set by the World Health Organization (WHO).**

***Apurva et a., (2016)*** conducted a Prospective case control study in Obstetrics and gynaecology ward of Krishna Institute of Medical Sciences, Karad, from November 2013 to June 2015. 200 patients were given routine episiotomy and 200 patients were given restricted episiotomy. In the study group, 75% of women had first degree of tear and 22.5% women had second degree tear without any post-partum haemorrhage and in the control group; 95% pregnant women had episiotomy without any extension, 10 pregnant women had third degree of tear. On followup, only 2 of them reported dyspareunia in study group, while 3 patients reported faulty wound healing, 1 patient each reported having urinary incontinence and anorectal incontinence, wherelse also 4 patients reported dyspareunia among control group. As perineal pain, perineal tears and wound dehiscence and infections were all less frequent in study group, as compared to routine group, also pelvic muscle strength was better in study group, so overall maternal morbidity was less among study group. The study concludes that **routine episiotomy has less morbidity compared to the restrictive episitomy**.

***Singh et al (2016)*** evaluated the pattern of episiotomy use and its immediate complications among women delivering at tertiary level public hospitals in India. Prospective data of all women undergoing

vaginal delivery including instrumental delivery were collected daily from the labour room registers of the 18 tertiary care hospitals on a structured proforma. 1,20,243 vaginal deliveries, episiotomy was performed in 63.4 per cent (n=76,305) cases. Nulliparaous women were 8.8 times more likely to undergo episiotomy than multiparous women. The various genital tract injuries reported were first degree perineal tear (n=4805, 3.9%), second degree perineal tear (n=1082, 0.9%), third and fourth degree perineal tear (n=186, 0.2%), anterior vaginal trauma requiring suturing (n=490, 0.4%), extension of episiotomy/vaginal laceration/excessive bleeding from episiotomy or tear (n=177, 0.15%), vulval/vaginal haematoma (n=70, 0.06%) and cervical tear (n=108, 0.08%). The combined rate of third and fourth degree perineal tears was observed to be significantly lower P<0.001 among nullipara who received episiotomy (0.13%) compared to those who delivered without episiotomy (0.62%). the study concludes that there is significantly **lower rates of third or fourth degree perineal tear were seen among nulliparous women undergoing episiotomy** and the episiotomy rates are high in nulliparous women.

***Gün et al. (2016)*** conducted a study on Long- and short-term episiotomy complications, the study findings revealed though there is a substantial number of publications do not recommend the implementation of routine prophylactic episiotomy, it still continues to be widely performed. **However, the hitherto gathered data supports restrictive rather than routine episiotomy.** Moreover, data as to whether routine episiotomy reduces the incidence of severe obstetric lacerations is lacking, as well as whether episiotomy improves the long-term risks of pelvic floor relaxation, pelvic organ prolapse, urinary incontinence, and dyspareunia remains unclear, and further studies on this issue are still warranted.

***Carmen Ballesteros-Mesegue et al. (2016)*** determine study related to Episiotomy and its relationship to various clinical variables. A descriptive, cross-sectional, analytic study of 12,093 births conducted in a tertiary hospital.Variables included in the study are parity, gestational age, start of labour, use of epidural analgesia, oxytocin, position during fetal explusion, weight of neonate, and completion of birth. **The study concludes that the global percentage of episiotomies was 50%.** In the above study **the significant association is with primiparity (RR=2.98**. Furthermore, maternal age ≥35 years (RR=0.85) and neonatal weight were associated with a lower incidence of episiotomy, however the findings concludes that episiotomy is dependent on obstetric interventions that are performed during labor.

***Masoumeh Rasouli et al., (2016)*** conducted a study on Prevalence and Factors Associated With Episiotomy descriptive cross-sectional study was conducted on a population consisting of all women that had vaginal childbirth over a six-month period (from October 2014 to April 2015) in Fatemieh Teaching hospital in Shahroud city. Participants were selected by census. Data were collected using a researcher-made questionnaire consisting of four parts, whose validity and reliability had been confirmed.. Of the 978 cases of vaginal childbirth, 406 (41.5%) had undergone episiotomy. Mean age of participating women was 27.32±5.14 years. **Episiotomy was found to have significant relationships with mother's age, parity, first and fifth minute Apgar scores, duration of the second stage of labor, birth spacing, use of oxytocin, vacuum deliveries and use of analgesics**

***Mona Stedenfeldt et al., (2014)*** performed case–control study investigating 74 women with vaginal birth, all with an episiotomy. Among these, 37 women sustained Obstetric anal sphincter injuries OASIS were compared to 37 women without OASIS. The two groups

were matched for vacuum/forceps. Anal incontinence, Urinary incontinence and sexual problem symptoms were obtained from St. Mark's scoring-tool and self-administered questionnaires. The episiotomy characteristics were investigated and results assessed for the whole group. This study highlights **that the sequelae after episiotomy with preventive characteristics is not as bad as having a sphincter injury.**

***Trinh et al. (2014)*** surveyed about their practice, knowledge and attitudes towards episiotomy use among obstetricians and midwives in Viet Nam. Of these148 (88%) clinicians completed the questionnaire. Fewer obstetricians (52.2%) than midwives (79.7%) thought the current episiotomy rate of 86% was about right ($P < 0.01$). Most obstetricians (82.6%) and midwives (98.7%) reported performing episiotomies on nulliparous women over 90% of the time. Among multipara, 24.6% of obstetricians reported performing episiotomy less than 60% of the time compared with only 3 (3.8%) midwives ($P < 0.01$). Aiming to reduce 3rd-4th degree perineal tears was the most commonly reported reason for performing an episiotomy by both obstetricians (76.8%) and midwives (82.3%), and lack of training in how to minimize tears and keep the perineum intact was the mostly commonly reported obstacle (obstetricians 56.5%, midwives 36.7% $P = 0.02$) to reducing the episiotomy rate. the study concludes that there are several factors that may impede or facilitate episiotomy practice change were identified by our survey

***Leeman (2009)*** conducted a prospective study to find out the genital trauma during birth and assess the pain at postpartum period and the use of analgesic effect among 565 midwifery patients at University of new Mexico School of Medicine, USA. **Present Pain Intensity (PPI), visual analogue scale and McGill pain scales were used to assess perineal pain**. The results of the study showed that women who

had minor trauma with episiotomy women with spontaneous perineal trauma reported very low rates of postpartum perineal pain where as women who had major trauma with episiotomy reported higher level of pain scores ($p<0.001$) and were more likely to use analgesic medicines ($p=0.002$).

***Ana Carolina et al., (2009)*** conducted a study to characterized and measure perineal pain. They have selected 40 puerperal primiparous women who underwent normal vaginal delivery with episiotomy at Sao Paulo, Brazil. The intensity of the pain level was assessed by the **Brazilian version of the McGill questionnaire**. The researcher found out participants had a mean pain level of 4.2 and they concluded that they noted moderate intensity of perineal pain was reported

### 2.1.2. SECTION-B: LITERATURE RELATED TO EFFECTIVENESS OF INFRA RED.

***Elizabeth rani (2019)*** conducted a study aimed to assess the effectiveness of Infra-red radiation therapy on pain perception and wound healing among primi postnatal women with episiotomy in Christian mission hospital, Madurai. The study was conducted among 60 postnatal women, 30 in experimental group and 30 in control group, who were selected by using purposive sampling technique. Data collection was done as planned 6 weeks were taken for data collection procedure. The data gathered were analyzed and the interpretation was made on the study objectives. The paired‘t’ test and independent‘t’ test were used to find out the effectiveness of infrared radiation therapy. Comparison of pain perception and wound healing status values between pre-test and post-test, experimental and control group showed a significant difference at 0.05 levels. **The study concluded that the infrared radiation therapy was effective in reducing episiotomy pain and wound healing. Therefore, infra-red radiation therapy should be used to augment the therapy of episiotomy.**

***Reem Bassiouny Mahmoud et al., (2018)*** A non-randomized controlled clinical trial was conducted on 80 post-partum mothers having normal vaginal delivery with episiotomy who were admitted in Maternity ward at the National Medical Institute of Damanhour City. Women were randomly allocated in two groups. Where, every odd number was assigned to control group (receiving only normal routine care) and every even number was assigned to study group (applying infrared lamp therapy and normal routine care). Data were collected through a structured interview schedule, observational checklist for REEDA Scale and self-reported Numerical Pain Rating Scale. Restorative takes place within 4 days and the REEDA total Score was statistically significant. So, the study concluded that, infrared lamp therapy is an appropriate way of management episiotomy wound among women at puerperium. **The study recommended that joining infrared therapy as a main part of post-partum instructions for the women for its imperative role in improving quality of life during post-partum period.**

***Pratibha Khosla et Al., (2017)*** The study aimed to identify the effectiveness of dry heat on reducing pain and wound healing .With use of universal pain scale and REEDA scale were measured from sample of 20 from experimental and control group on 1$^{st}$ , 3$^{rd}$ and 5$^{th}$ postnatal day. The experimental group had a significant improvement in wound healing and level of pain. The study findings highlighted that the **Infrared lamp radiation therapy is an effective modality of treatment for pain relief of episiotomy wound.**

***Gomathi et Al., (2017)*** The aim of this study is to evaluate the effectiveness of infrared radiation lamp therapy for pain relief of episiotomy wound among postnatal mothers by comparing experimental and controlled group score. All patients aged 18 to 34 years were taken into the study after taking written consent, infrared radiation therapy

was given to the experimental group for three days and routine perinatal care given to the control group. Study Design- Non-randomised, controlled trial. - All postnatal mothers with episiotomy wound, first 3 days of postnatal period, right mediolateral and left mediolateral episiotomy, forceps or vacuum delivery. Postnatal mothers with Episiotomy wound pain relief was observed in experimental group as compared to control group. **Infrared lamp radiation therapy is an effective modality of treatment for pain relief of episiotomy wound.**

***Aruna et Al., (2017).,*** A study to assess the effectiveness of moist heat and dry heat application on healing of episiotomy wound among postnatal mothers. A quantitative experimental The design selected for the study was pre-test post-test quasi experimental design. The study was conducted in the postnatal ward of Narayana Medical college hospital of Nellore The target population of study is postnatal mothers. The samples for the present study include postnatal mothers. The sample size for the study consisted of 60 postnatal mothers. The samples were selected by non probability convenience sampling technique. **Dry heat is more effective than moist heat** for Redness by 9%, for Edema by 8%, for Discharge by 2% and for Approximation by 11%. For Ecchymosis the dry heat application and moist heat application are found to be equally effective.

***Premila et Al., (2016)*** Study to assess the effectiveness of infrared therapy on episiotomy pain among postnatal mothers. in selected Hospital Karaikal. 50 postnatal mothers from government general hospital Karaikal, by using simple randomized sampling techniques. Numerical Mc Caffery pain rating scale was used to assess the pain Data was collected and analyzed by using descriptive and inferential statistics. During pretest majority 40% of mother had severe pain, around 24% of mother had moderate pain and around 36% of mother had mild pain. Whereas during post test minority 18%

of mothers had severe pain, around 20% of mother had moderate pain and majority 62% had mild pain at episiotomy. Association of demographic variables with level of pain was done using Chi- Square test. Although there was no statistically significant association found between level of knowledge and demographic variables such as religion, type of family, place of living, educational status and monthly income. **There was a statistically significant association found between level of knowledge and demographic variables such as age, food pattern and occupation of primi mothers.**

***Nethravathi et al., (2015)*** conducted a study to assess the condition of episiotomy wound among post natal mothers in experimental and control group. To evaluate the effectiveness of infra red lamp therapy on healing of episiotomy wound among post natal mothers by comparing experimental and control group scores. Simple random sampling method was used for the present study to assign the post natal mothers admitted in post natal wards at Yadiyur maternity hospitals to control group and experimental group from Krishna Institute of Medical sciences hospital and research centre. Randomization was done through lottery method. Mothers who had undergone right or left medio lateral episiotomy were included in the study. The socio demographic data were collected by conducting structure interview schedule and episiotomy wound was assessed by using observational check list 'REEDA scale'. Total 3 days infra red lamp therapy was given to experimental group androutine treatment to control group. There was significant improvement in wound healing in experimental group as compared to control group. **Infra red lamp therapy is an effective method of treatment on healing of episiotomy wound among post natal mothers.**

***Navdeep Kaur et al., (2013)*** conducted a study aimed to assess the Effect of dry heat versus moist heat on Episiotomy pain and wound

healing in PGIMER, Chandigarh. Eighty-six subjects were enrolled by purposive sampling and later on allocated randomly into two groups (group 1- dry heat, group 2- moist heat). Tool for pain measurement was modified numerical pain rating scale and for wound healing was modified REEDA. Data collection was done as planned 6 weeks were taken for data collection procedure. The data gathered were analyzed and the interpretation was made on the study objectives. The paired't' test and independent't' test were used to find out the effectiveness of infrared radiation therapy. Findings of study revealed a highly significant difference between the groups in terms of pain scores and wound healing [$p<0.001$ on day 7 and $p<0.01$on day 14 for pain scores] and [$p<0.001$ on day 7 and $p<0.05$ on day 14 for wound healing scores]. **Though both the interventions were effective but dry heat was more effective than moist heat in relieving pain and promoting wound healing at the episiotomy site.**

***Helen Hema Bai et al., (2012)*** A comparative study to assess the effectiveness of infra red light therapy and warm water sitz bath on episiotomy wound healing status and level of pain perception among postnatal mothers in selected primary health centers at kanyakumari district Postnatal mothers in Group A who received **infra red light therapy administration showed a highly significant decrease in the level of pain perception** ($p<0.05$) and wound healing status ($p<0.05$) on episiotomy to compare with postnatal mothers in Group B who received warm water sitz bath. Infra red light therapy on episiotomy site significantly improved the wound healing status and reduced the level of pain perception and enhanced greater comfort of the postnatal mothers and for speedy recovery

***Budhi Baruah et al., (2010)*** conducted study to assess the effect of infrared radiation in episiotomy wound healing. Quasi experimental design was used, 50 postnatal mothers included in the study by using

purposive convenient sampling. Modified REED scale was used to assess the wound healing in experimental and control group. **The study findings concluded that infrared is more effective in reducing pain and wound healing. The demographic variables such as age, parity, body weight, Hb gm% has no association with wound healing.**

***Venkadalekshmi et al., (2010)*** conducted a study to assess the effectiveness of infra red therapy on episiotomy wound healing and pain in postnatal mothers at selected hospitals in Kovilpatti. The sample size was 60 were selected as randomly, control and experimental Group of 30 each. A pain intensity scale to measure episiotomy pain and REEDA scale was used to assess the episiotomy wound. The subjects of the experimental Group were provided with infra red therapy for ten minutes. Episiotomy pain was measured prior to immediately after and three hours after the application of three consecutive days. The results showed that the difference was statistically found ($p<0.001$).

***Dhanalakshmi.V (2010)*** conducted a study to assess the effectiveness of infra red light therapy and sitz bath on the perineum after episiotomy at selected corporation centre at Coimbatore. The sample size was 60 as experimental Group. Matched Group experimental design was adopted. The pain was assessed by verbal descriptor scale and the episiotomy wound was assessed by modified Southampton scale. The results showed that the mothers who had undergone the treatment of infra red light therapy expressed decreased pain intensity compared to mothers who had undergone the treatment of sitz bath ($p<0.05$)

### 2.1.3. SECTION-C: LITERATURE RELATED TO EFFECTIVENESS OF SITZ BATH

***Jyoti Kapoor, et al., (2018)*** conducted a study to assess the effectiveness of medicated and non medicated sitz bath on episiotomy wound healing among postnatal mothers at Govt. SMGS Maternity

Hospital, Jammu (J&K).The sample consisted of 40 postnatal mothers (20 in experimental and 20 in control group). Purposive sampling technique was used to select the sample. Socio-demographic profile, obstetrical history variables tool and REEDA scale were used to collect the data from subjects. **The results revealed that both medicated and non medicated sitz bath are equally effective in episiotomy wound healing among postnatal mothers.**

***Pratibha Khosla et al (2017)*** conducted a study to explore the effectiveness of sitz bath on episiotomy wound healing and level of pain. The study reveals that in experimental group (sitz bath) mean was 2.5 in 1st day,3rd day it was 2.05 and in 5th day it was 1.7. The rate of wound healing mean in moist heat was on 1st day 6.95, 3rd day it was 5.6 and in 5th day it was 2.5.Whereas in control group on 1st day the mean of the pain was 2.95, 3rd day it was 2.5 and in 5th day it was 2.05.The mean of the wound healing on 1stday was 11.3, 3rd it was 7.5.5th day was 2.95.The findings shows that the sitz bath has effect on Episiotomy wound healing and reduction of pain than without any intervention.

***Poonam Sheoran et al., (2016)*** The present study is aimed to compare the effectiveness of infra red light therapy vs. sitz bath on episiotomy in terms of episiotomy wound healing among postnatal mothers. The study was conducted in postnatal wards of Government multi speciality hospital, Chandigarh. A sample of 60 postnatal mothers with episiotomy was selected using purposive sampling; of these 60 postnatal mothers, 30 were treated with infra red light and remaining thirty postnatal mothers were treated with sitz bath. Data was collected using REEDA Scale. Analysis of data revealed that both sitz bath and infra red light therapy were effective in enhancing episiotomy wound healing, **however, sitz bath was significantly more effective in promoting episiotomy wound healing as compared to infra red light. No significant association was found between episiotomy wound**

**healing of the postnatal mothers treated with infra red light therapy and sitz bath and selected variables.**

***Ribie Annie Varghese et al., (2016)*** conducted a quasi experimental study to determine the efficacy of hot application on sixty postnatal mothers with medio lateral episiotomy of normal vaginal delivery that were selected by purposive sampling from postnatal ward of Government Taluk Hospital, Nedumangadu. The tools used for data collection were interview schedule to collect socio demographic Performa, clinical data sheet, and numeric rating scale for assessing the episiotomy pain. Thirty subjects in the experimental group received hot application for twenty minutes once a day after 24 hours of delivery with warm water 380C – 410C. Posttest was conducted twenty minutes after the intervention while breast feeding for both group. The result of the study shows the severity of episiotomy pain in the experimental group was lower than the control group at ($p < 0.01$). The study concluded that **hot application has significant effect on episiotomy pain and can use this non-invasive technique to decrease the episiotomy pain.**

***Ragania (2016)*** conducted a study on to assess the effectiveness of Povidone-Iodine Sitzbath versus Lavender Oil Sitzbath on episiotomy pain and wound healing among postnatal mothers. 30 postnatal mothers were allotted for Experimental group I and 30postnatal mothers were allotted for Experimental group II, by using the non-Probability Convenient sampling technique. The intervention of Povidone Iodine Sitzbath was given to Experimental group-I and Lavender Oil Sitzbath was given to Experimental group II (each patients 5 days care). Level of episiotomy pain and wound healing was assessed with the help of Jack Harich Verbal Descriptive Pain Assessment Scale and REEDA. Experimental group I and II, the mean value of episiotomy pain for Experimental Group I was 1.1 ±0.83. The mean value for Experimental

group II was 1.766± 0.918. The un-paired t test value was (2.9210) and the P value was 0.005. It was inferred that Lavender Oil Sitzbath was effective in reducing episiotomy pain among postnatal mothers undergone normal vaginal delivery.

***Amandeep et al., (2015)*** conducted a quasi experimental study to assess the effectiveness of sitz bath in reduction of episiotomy pain and wound healing among postnatal mothers admitted in postnatal units of DMC&H and Deep Hospital, Model town, Ludhiana, Punjab. The sample consisted of 60 postnatal mothers with episiotomy (30 in each experimental group and 30 in control group). Experimental group received sitz bath and control group received routine care. Assessment of pain was done with Numerical pain scale and assessment of wound healing was done with Modified Davidson REEDA scale. **The findings revealed that application of sitz bath was effective in relieving episiotomy pain and improving wound healing (p=0.001)**

***Bairavi et al (2015)*** conducted study was to assess the effectiveness of hot application on episiotomy wound healing and pain among the postnatal mothers in Thanjavur. Hot sitz bath with potassium permanganate was given. The research design used for the current study was true experimental post test only design. A total of sixty postpartum women (experimental and control groups each group consisted of 30 women) were recruited randomly for this study from the postpartum ward at Our lady and KRA hospital. Tools used for data collection consisted of interviewing sheet, the numerical rating scale, the standardized REEDA Scale. Finally, the statistical analysis revealed that, **Hot application is effective than routine care.**

***Gladis et al., (2013)*** conducted a study to assess the effectiveness of medicated and non medicated sitz bath in episiotomy healing on postnatal mothers admitted at Bangalore" quasi –

experimental Design was selected for the study. 50 post natal mother who had undergone episiotomy were taken as samples . Convenient sampling technique was used, observational checklist was used to assess the episiotomy wound healing by REEDA scale (Redness, Edema, Ecchymosis, Discharge, Approximation). In the Medicated group on Day1 the mean is 5 and when it reaches to Day 5 mean scores reduced to 0.64. In non-medicated group Day1 mean is 5.04 and on Day 5 mean scores reduced to 4.16. There is mean percentage of Day1 in Medicated group is 33.3 and on Day5 mean percentage reduced to 4.2 and 33.6 on Day1 in non-medicated group and Day5 shows small difference as 27.73. The obtained‘t’ value on Day 3(7.76), Day4(6.54) and Day5(7.17) is found to be significant.This reveals that episiotomy wound healing is faster in medicated group than in non-medicated group..

***Katayon Vakilian et al., (2014)*** conducted a study on healing advantages of lavender oil for episiotomy recovery by clinical trial on 12 primiparous women in Iran. The subjects were randomly allocated in study Group and the control Group. study Group received lavender oil and the control Group received povidone iodine. Incision site was assessed on the tenth day of postpartum. The findings of the study are, out of 60 women 25 women in the lavender Group and 17 mothers in the experimental Group had no pain ($p<0.006$). And they revealed that there was no significant differences between two Groups in surgery site complications.

***Babarinsa et al., (2012)*** conducted a study to assess the effectiveness of warm water sitz bath on episiotomy wound healing among postnatal mothers in Bopal. He selected 60 samples and 30 were received warm water sitz bath and 30 for control Group. REEDA scale was used to measure the episiotomy wound status. Pre and post test design was used for this study. The result showed that there was a

significant reduction in episiotomy wound healing status and they **concluded that a sitz bath helps to improve wound healing after episiotomy.**

***Dhanalakshmi. V., (2010)*** conducted an experimental study to determine the effectiveness of infrared therapy and Povidone-Iodine Sitzbath of episiotomy wound healing at Coimbatore in Tamil Nadu. 30 samples were randomly selected for the study, 15 each in two experimental groups. One experimental group was selected for infrared therapy and other for Sitzbath therapy for three days in the morning and in the evening. Results revealed that mother who had undergone the treatment of infrared therapy expressed decrease in pain intensity compared to mothers who had undergone the Povidone-Iodine Sitzbath. In conclusion, infrared light therapy and Povidone-Iodine Sitzbath were found to have same effect in the episiotomy wound healing.

***Ramler. D., Roberts. J., (2007)*** conducted a quasi experimental study to assess the effect of Povidone-Iodine Sitzbath versus Self perineal care on episiotomy wound healing. 40 postnatal mothers were selected. 20 postnatal mothers were given PovidoneIodine Sitzbath and 20 mothers were taken Self perineal care. The findings denote that Povidone-Iodine Sitzbath has significant influence in wound healing. The study revealed that REEDA score was significantly low ($p=0.007$) in the experimental group. The study concluded that Povidone-Iodine Sitzbath is effective in episiotomy wound healing.

# CHAPTER – III
# RESEARCH METHODOLOGY

Research methodology is the research designed to develop or refine methods of obtaining, organising or analysing data **(Polit & Beck 2010)**

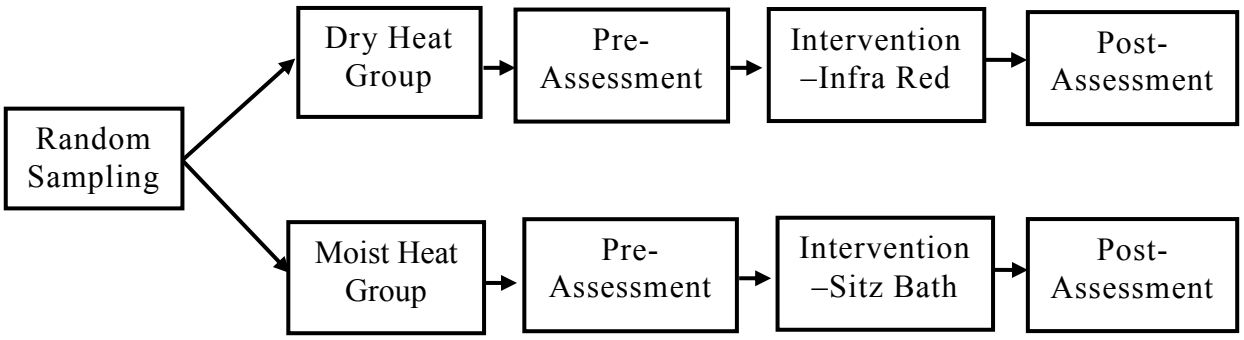
This phase of study included selecting a research design, variables, setting of the study, population, sample, inclusive and exclusive criteria for sample selection, sample size, sampling technique, development and description of the tool, content validity, pilot study, reliability, and procedure for data collection and plan for data analysis.

## 3.1. RESEARCH APPROACH

Quantitative research approach is essentially about collecting numerical data to explain a particular phenomenon, particular questions that seem immediately suited to being answered using quantitative methods. The quantitative research approach was used for the present study.

## 3.2. RESEARCH DESIGN

The research design adopted for the study is Randomized control trials.




In this study, the pre assessment level of episiotomy pain of Dry heat and Moist heat were measured by using Numerical pain scale and the pain perception is measured by Modified Short form MC Gill pain

Questionnaire followed by implementation of infra red light therapy and warm water Sitz bath. On third day the post test assessment level of pain perception status will be obtained from the postnatal mothers of Dry heat and Moist heat by using the same scale.

***Table 3.1 - Description of the study design***

| Group | Pre Test | Intervention | Post Test |
|---|---|---|---|
| Dry Heat Group | O1 | X1 | O2 |
| Moist Heat Group | O1 | X2 | O2 |

**KEY NOTES**

- $O_1$ – Pre-test level of pain
- $O_2$ – Post -test level of pain
- $X_1$– Infra red light
- $X_2$- Sitz bath

## 3.3. RESEARCH VARIABLES

### *3.3.1. Independent Variable*

They are dry heat (infrared light) and moist heat (sitz bath)

### *3.3.2. Dependent Variable*

It refers to episiotomy pain perception among the postnatal mothers.

### *3.3.3. Demographic Variables*

Age, Family, Education , Occupation, Income, Place Of Living, Religion.

### *3.3.4. Obstetrics Variables*

Gravida, para, duration of second stage of labour, birth weight of the baby, type of episiotomy, indication of episiotomy, type of delivery.

## 3.4. STUDY SETTINGS

Setting is the general location and condition in which data collection takes place for the study.*(Polit and Beck, 2010)*

The study was conducted in the post natal ward at Institute of obstetrics and gynaecology and government hospital for women and children,Egmore,Chennai. It is a 1075 bedded maternity hospital, tertiary care centre and referral centre. This institute was unveiled on 26th July 1844 for public service. The hospital is renowned for its excellence in medical expertise, nursing care and quality diagnostic services. All facilities are provided for conducting normal, high risk and instrumental deliveries. Various departments such as family planning, blood bank, dental endocrinology, human milk bank neonatal intensive care units and oncology ward which are providing comprehensive care for entire Tamil Nadu and for neighbouring states.

## 3.5. DURATION OF THE STUDY

The study was conducted for four weeks

## 3.6 STUDY POPULATION

### *3.6.1. Target Population*

The population is defined as the entire set of individuals or objects having common characteristics sometimes called universe.***(Polit and Beck, 2010).*** The target population of study is postnatal mothers.

### *3.6.2. Accessible Population*

Accessible population of the study is postnatal mothers in postnatal ward in Institute of Obstetrics and Gynaecology, Government hospital for women & Children Egmore, Chennai.

## 3.7. SAMPLE

A subset of a population, selected to participate in a study. ***(Polit and Beck, 2010)***

The samples for the present study include postnatal mothers.

## 3.8. SAMPLE SIZE

The sample size for the study consisted of eighty postnatal mothers. Out of which, forty were in Dry heat and forty were in Moist heat.

## 3.9. SAMPLING TECHNIQUE

The samples were selected by simple random technique.

## 3.10. CRITERIA FOR SAMPLE SELECTION

### *3.10.1. Inclusion Criteria*

1) Postnatal mothers with normal vaginal delivery with episiotomy.

2) Mothers delivered in Institute of Obstetrics and Gynaecology, Government hospital for women &children Egmore, Chennai

3) Normal delivery following 12 hours of episiotomy.

4) Mothers who are willing to participate in this study.

### *3.10.2. Exclusion Criteria*

1) Postnatal mothers with infected perineum and sexually transmitted disease

2) Postnatal mothers with instrumental delivery and episiotomy.

3) Postnatal mothers who are not willing to participate in the study.

## SAMPLING PROCEDURE

Simple random technique used for present study.

The samples were taken based on postnatal mothers who fulfilled the inclusive criteria. Simple random sampling was used Lottery method was applied. samples were selected. Among the selected samples forty were taken for Dry heat to have infra red light therapy and forty were taken for Moist heat group to have warm water sitz bath. The researcher administered twenty minutes of infra red light therapy for forty postnatal mothers and warm water sitz bath for forty postnatal mothers. After three days of intervention the researcher checked the level of pain perception status with the use of numerical pain scale and Modified short form Mc Gill pain questionnaire.

## 3.11. DEVELOPMENT AND DESCRIPTION OF TOOL

### *3.11.1. Development of tool*

The tool was developed after extensive review of literature, internet search, and expert's advice helped the investigator to select the most suitable scale to identify the level of pain perception of the postnatal mothers.

### *3.11.2 Description of the Tool*

The tool consists of three sections,

***Section-A***

***Demographic variable***

This section comprises of demographic variables which includes Age, family, education, occupation, income, place of living, religion.

***Obstetrics variables***

Gravida, para, duration of second stage of labour, birth weight of the baby, type of episiotomy, indication of episiotomy, type of delivery.

***Section-B***

Numerical pain scale is use to assess the level of pain perception of the postnatal mothers.

***3.11.3. Scoring Procedure***

Numerical pain Scale was used to identify level of pain perception of the postnatal mothers which has the total score of 10.The score was interpreted as follows,

| **SCORE** | **LEVEL OF PAIN** |
|---|---|
| 0 | None |
| 1-3 | Mild |
| 4-6 | Moderate |
| 7-10 | Severe |

***Section-C***

***MODIFIED SHORT-FORM MCGILL PAIN QUESTIONNAIRE (SF-MPQ).***

**Patient Name: ----------** **Date:**

| **S. No** | **Descriptors** | **None (0)** | **Mild (1)** | **Moderate (2)** | **Severe (3)** |
|---|---|---|---|---|---|
| 1 | THROBBING | | | | |
| 2 | SHOOTING | | | | |
| 3 | STABBING | | | | |
| 4 | SHARP | | | | |
| 5 | CRAMPING | | | | |
| 6 | GNAWING | | | | |
| 7 | HOT BURNING | | | | |
| 8 | ACHING | | | | |
| 9 | HEAVY | | | | |

| S. No | Descriptors | None (0) | Mild (1) | Moderate (2) | Severe (3) |
|---|---|---|---|---|---|
| 10 | TENDER | | | | |
| 11 | SPLITTING | | | | |
| 12 | TIRING-EXHAUSTING | | | | |
| 13 | SICKENING | | | | |
| 14 | FEARFUL | | | | |
| 15 | PUNISHING CRUEL | | | | |

**SCORE INTERPRETATION**

| S.no. | Level of pain | Score |
|---|---|---|
| 1. | Sensory score | 0-33 |
| 2. | Affective score | 0 -12 |
| | Total | 0 -45 |

***Table-3.2 Modified Short-Form McGill Pain Questionnaire (SFMPQ) Score interpretation***

The Modified short-form McGill Pain Questionnaire (SF-MPQ).

Descriptors **l-11** represent the sensory dimension of pain experience and **12-15** represent the affective dimension. Each descriptor is ranked on an intensity scale of

0 = None,

1 = Mild,

2 = Moderate,

3 = Severe.

Sensory score - 33

Affective score - 12

Total score - 45

Minimum - 0

Maximum - 3.

Total questions - 15

Total score - 45

**PRESENT PAIN INTENSITY**

Minimum=0, Maximum=5

0 NO PAIN

1 MILD

2 DISCOMFORTING

3 DISTRESSING

4 HORRIBLE

5 EXCRUCIATING

## 3.12 CONTENT VALIDITY OF THE TOOL

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

The validity of the tool was established with obstetrical and gynaecological experts. The tool was modified according to the suggestions and recommendations of experts and the tool was finalized.

## 3.13. RELIABILITY

Reliability denotes the degree of consistency or dependability with which an instrument measures an attribute.(Polit and Beck, 2010)

The reliability of tool used for pain assessment (Numerical pain scale was tested by inter-rater reliability method. The reliability score obtained was r=0.8. Hence the tool was considered highly reliable for proceeding with this study.

## 3.13. ETHICAL CONSIDERATION

This study was conducted after the approval from the ethical committee, Madras Medical College, Chennai-3. Permission was obtained from the Director of Institute of Obstetrics Gynaecology and Government Hospital for Women and Children. All respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Confidentiality of the study result was ensured. The freedom was given to the postnatal mothers to leave the study at her will without assigning any reason. No routine care was altered or withheld. Thus the investigator followed the ethical guidelines which were issued by the institutional ethics committee. Written consent was obtained from all participants.

## 3.14. PILOT STUDY

A pilot study is defined as a small scale version, or trial run, done in preparation for a major study.(Polit and Beck, 2010)

It is a rehearsal for the main study. The researcher got permission from Principal and Research ethical committee of Madras Medical College of Nursing and Head of the Department of Obstetrics and Gynaecology. A formal permission was obtained from the Director of the Centre. The pilot study was conducted in Institute of Obstetrics and Gynaecology and Govt hospital for women and children Egmore, Chennai for the period of one week (06.08.2018 to 12.08.2018). The concerned medical officer and duty doctors were also informed and their co-operation was also obtained. The sample size was eight postnatal mothers with episiotomy wound. simple randomization was applied with the block of 4 . Among that four were received infra red light therapy and four were received sitz bath. Rapport was established with the postnatal mothers. Consent was obtained from the postnatal mothers to ensure their cooperation. The level of pain was assessed prior to infra

red therapy and sitz bath with Numerical pain scale and Modified Short form Mc Gill pain questionnaire. Then postnatal mothers with episiotomy were placed on dorsal recumbent position after the perineal area was cleaned and dried. The episiotomy wound pain perception was assessed prior to the intervention with Numerical pain scale and modified Short form Mc Gill pain quesionnaire in Dry heat and Moist heat group.

The infra red lamp was placed 45 cm distance from the perineum and the heat produced with 230 volts for twenty minutes for the postnatal mothers with episiotomy in Dry heat group and for sitz bath for Moist heat group. The basin was filled with warm water and checked the temperature of water with lotion thermometer ($115^{o}$ F) and assisted the mother to sit in the basin without pressure on the perineum and with the feet flat on the floor. These procedure were carried out in the morning and evening for three days. Consent was obtained from each mother and reassurance was provided that the collected data would be kept confidential. The results of the pilot study showed that the infra red light therapy and warm water sitz bath were found to effect in the healing of episiotomy. Mothers who had undergone the treatment of infra red light therapy expressed decreased pain intensity compared to mothers who had undergone the treatment of sitz bath. The study was found to be feasible and hence the same procedure was decided to be followed in the main study. There was no modification made in the tool after pilot study. The samples selected for the pilot study were not included for the main study.

## 3.15. DATA COLLECTION PROCEDURE

Data collection period was done from 02.02.19 – 04.03.19 (4 weeks). After obtaining the permission from concerned authority the investigator selected labor ward for data analysis. Pilot samples were not included in the main study. **It consists of following phases**

***Phase I: Pre assessment***

The investigator introduced herself and established a good rapport by explaining the purpose of the study to the postnatal mothers who were in the postpartum period .Informed consent was obtained and confidentiality was maintained .The investigator assessed the pain perception among postnatal mothers with Numerical pain assessment scale and Modified Short form Mc Gill pain questionnaire for both Dry heat group and Moist heat group.

***Phase II:***

After assessing the pre-test the investigator administered the infra red heat lamp which was placed 45 cm distance from the perineum and the heat produced with 230 volts for twenty minutes for the postnatal mothers with episiotomy in Dry heat group. Administer the intervention for 3 days morning and evening.

After assessing the pre-test the investigator administered sitz bath application to the postnatal mothers in Moist heat group. The basin was filled with warm water and checked the temperature of water with lotion thermometer ($115^{o}$ F) and assisted the mother to sit in the basin without pressure on the perineum and with the feet flat on the floor. These procedure were carried out in the morning and evening for three days.

**Phase III:** Pain perception was assessed with Numerical pain assessment scale and Modified Short form Mc Gill questionnaire. On the

day 3 of intervention, the effectiveness of intervention was assessed in Dry heat group and Moist heat group with the same scale.

## 3.17. INTERVENTION PROTOCOL

| | | |
|---|---|---|
| Place | : | Institute of obstetrics and gynaecology & Govt. hospital for women and children |
| ntervention tool | : | Infra red radiation, Warm sitz bath |
| Duration & time | : | 15 minutes |
| Frequency | : | Twice daily for three days |
| Administered by | : | Investigator |
| Recipient | : | Post natal mothers with episiotomy |

## INFRA RED LIGHT THERAPY

- Infra red lamp was placed 45 to 60cm (18 to 24 inches) distance from the perineal area.
- The heat will be provided for 15 to 20 minutes.
- The mother is checked after the first five minutes to make sure that she was not being burned. Infra red rays help to relax muscles, stimulate circulation, reduce the level of edema and relieve pain.

## SITZ BATH

- Fill the basin with one third of water.
- Test the temperature of the water with a lotion Thermometer ($115^0$F).
- Provide privacy.

- Remove clothing from below the waist of a mother.
- Assist the mother to sit in the basin without pressure on the perineum and with the feet flat on the floor.
- Observe the mother closely for signs of weakness, vertigo, pallor, tachycardia and nausea.
- Stay with the mother for 15 to 20 minutes.
- Help the mother to come out from the basin when the procedure complete.
- Assist the mother to dry and dress in clean clothes.
- Help the client return to bed and reassess the objective and subjective data.
- Sitz baths are used to promote circulation, reduce edema and inflammation and promote muscle relaxation.
- Sitz bath is helps to relieve pain, gives soothening effect and promotes healing after an episiotomy from child birth.

## 3.18. PLAN FOR DATA ANALYSIS

Both inferential and descriptive statistics was used.

## DESCRIPTIVE STATISTICS

- Frequency and percentage distribution was used to analyze the demographic variables among postnatal mothers with episiotomy.
- Frequency and percentage distribution was used to assess the effectiveness of infra red light therapy and warm water sitz bath after episiotomy among postnatal mothers.

- Mean and standard deviation was used to assess the effectiveness of infra red light therapy and warm water sitz bath among postnatal mothers with episiotomy in dry heat and moist heat groups.

**INFERENTIAL STATISTICS**

- Unpaired 't' – test was used to compare the effectiveness of infra red light therapy and warm water sitz bath among postnatal mothers in dry heat and moist heat group.

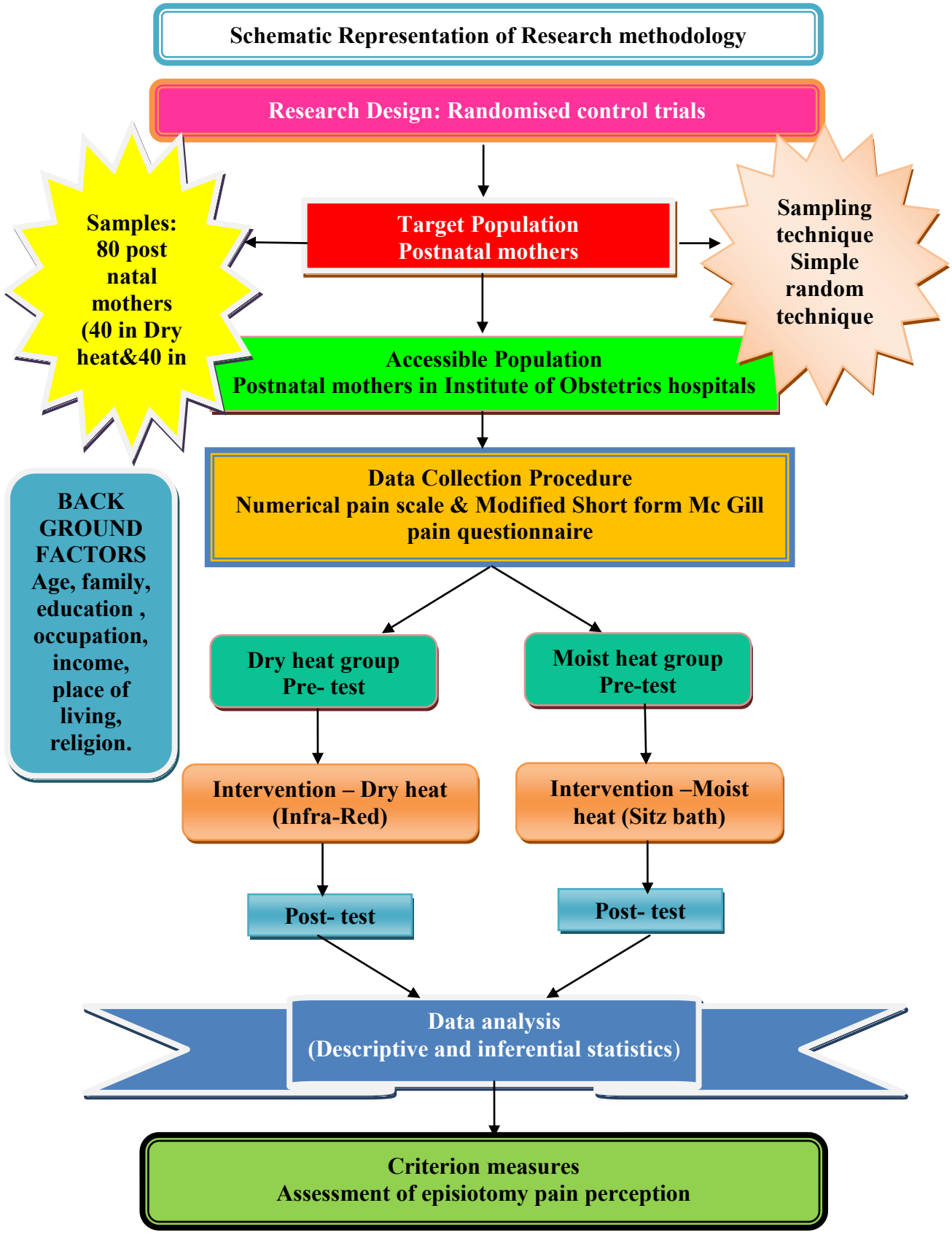
- Paired 't'– test was used to compare the effectiveness of infra red light therapy and warm water sitz bath among postnatal mothers in dry heat and moist heat group.

- ANOVA was used to analyze the association of infra red light therapy and warm water sitz bath among postnatal mothers in dry heat group and moist heat group with their selected demographic variables.

## 3.19 PROTECTION OF HUMAN SUBJECT

The proposed study was conducted after the approval of research committee of the college. Permission was sought from the medical officer of the Institute of Obstetrics and Gynecology, Egmore ,Chennai. The oral consent of each individual was obtained before data collection. Assurance was given to the study participants regarding the confidentiality of the data collection.

# FIGURE 3.1 SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY



# CHAPTER-IV
# DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collection from 80 mothers effectiveness of **dry heat** versus **moist heat application** on episiotomy pain perception among postnatal mothers in Institute of Obstetrics and Gynaecology and Government hospital for Women and Children, Egmore, Chennai- 08"

The study aimed to assess the effectiveness of **dry heat** versus **moist heat application** among the postnatal mothers. The data was collected from 80 samples (40 Dry heat group and 40 Moist heat group). The findings were tabulated and interpreted in this chapter. The data were analyzed by using descriptive and inferential statistics. The data were analyzed based on the objectives formulated by the researcher. The analyzed data are tabulated under tables and figures under the sections given below.

## ORGANIZATION OF DATA

***Section-A***

Description of Frequency and percentage distribution of demographic variables and Obstetric variables among postnatal mothers in Dry heat and Moist heat group.

***Section- B***

Assess the effectiveness of dry heat application on episiotomy pain perception

***Section-C***

Assess the effectiveness of moist heat application on episiotomy pain perception

***Section: D***

Compare the effectiveness of dry heat and moist heat on episiotomy pain perception

***Section- E***

Associate the level of episiotomy pain perception status among postnatal mothers in dry heat and moist heat with their selected demographic variables

## SECTION:A DESCRIPTION OF DEMOGRAPHIC VARIABLES AMONG POSTNATAL MOTHERS IN DRY HEAT AND MOIST HEAT.

***Table:4.1 Distribution of Frequency and percentage demographic variables among the post natal mothers regarding episiotomy pain perception in both Dry heat and Moist heat***

| Demographic variables | | Group | | | | Chi square test |
|---|---|---|---|---|---|---|
| | | Dry Heat (n=40) | | Moist heat(n=40) | | |
| | | n | % | n | % | |
| Age of the mothers | 18-20 years | 8 | 20.00% | 9 | 22.50% | $\chi 2$=0.48 P=0.92(NS) |
| | 21-25 years | 19 | 47.50% | 16 | 40.00% | |
| | 26-30 years | 11 | 27.50% | 13 | 32.50% | |
| | 31-35 years | 2 | 5.00% | 2 | 5.00% | |
| Type of family | Nuclear family | 26 | 65.00% | 23 | 57.50% | $\chi 2$=0.51 P=0.77(NS) |
| | Joint family | 12 | 30.00% | 15 | 37.50% | |
| | Extended family | 2 | 5.00% | 2 | 5.00% | |
| Education status of the mother | Illiterate | 3 | 7.50% | 6 | 15.00% | $\chi 2$=1.89 P=0.86(NS) |
| | Primary education | 7 | 17.50% | 5 | 12.50% | |
| | Secondary education | 9 | 22.50% | 8 | 20.00% | |
| | High school | 7 | 17.50% | 9 | 22.50% | |
| | Higher Secondary | 9 | 22.50% | 7 | 17.50% | |
| | Graduate | 5 | 12.50% | 5 | 12.50% | |
| Occupation status of the mother | Unemployed | 13 | 32.50% | 14 | 35.00% | $\chi 2$=0.97 P=0.96(NS) |
| | Unskilled worker | 6 | 15.00% | 6 | 15.00% | |
| | Semiskilled worker | 9 | 22.50% | 6 | 15.00% | |
| | Skilled worker | 5 | 12.50% | 7 | 17.50% | |
| | Clerk,Shopowner,Farmer | 4 | 10.00% | 4 | 10.00% | |
| | Semiprofession | 3 | 7.50% | 3 | 7.50% | |
| | Profession | 0 | 0.00% | 0 | 0.00% | |

| Demographic variables | | Group | | | | Chi square test |
|---|---|---|---|---|---|---|
| | | Dry Heat (n=40) | | Moist heat(n=40) | | |
| | | n | % | n | % | |
| Monthly income of the family | Below Rs 2091 | 0 | 0.00% | 0 | 0.00% | $\chi^2$=1.61 P=0.80(NS) |
| | Rs 2,092-6,213 | 4 | 10.00% | 2 | 5.00% | |
| | Rs 6,214-10,356 | 13 | 32.50% | 13 | 32.50% | |
| | Rs 10,357-15,535 | 14 | 35.00% | 12 | 30.00% | |
| | Rs15,536-20,714 | 6 | 15.00% | 8 | 20.00% | |
| | Rs 20,715-41,429 | 3 | 7.50% | 5 | 12.50% | |
| | Above Rs 41,430 | 0 | 0.00% | 0 | 0.00% | |
| Place of living | Rural | 17 | 42.50% | 18 | 45.00% | $\chi^2$=0.10 P=0.95(NS) |
| | Urban | 15 | 37.50% | 15 | 37.50% | |
| | Semi urban | 8 | 20.00% | 7 | 17.50% | |
| Religion | Hindu | 30 | 75.00% | 29 | 72.50% | $\chi^2$=0.46 P=0.79(NS) |
| | Christian | 7 | 17.50% | 9 | 22.50% | |
| | Muslim | 3 | 7.50% | 2 | 5.00% | |

P>0.05 Not significant

Above table represents the frequency and percentage distribution of demographic variables among the postnatal mothers regarding episiotomy pain perception in both Dry heat and moist heat.

Regarding the age group, 8(20.00%) of the mothers were between the age Group of 18 to 20 years, and 19(47.50%) of the mothers were between the age Group of 21 to 25 years,11(27.50%) of the mothers were between the age Group of 26 to 30 years, and 2(5%) of the mothers were between the age Group of 31 to 35 years in the Dry heat group, whereas 9(22.50%) of the mothers were between the age Group of 18 to 20 years, and 1(40.00%) of the mothers were between the age Group of 21 to 25 years, and 13(32.50%) of the mothers were between the age

Group of 26 to 30 years, and 2(5%) of the mothers were between the age Group of 31to 35 years in the Moist heat group.

Regarding the type of family, 26(65.00%) of the mothers were living in nuclear family, 12(30.00%) of the mothers were living in joint family and 2(5.00%,) of the mothers were living in extended family in the dry heat group whereas 23(57.50%) of the mothers were living in nuclear family and 15(37.50%) of the mothers were living in joint family and 2(5.00%,) of the mothers were living in extended family in the Moist heat group.

Regarding the educational status of the mother 3(7.50%) of the mothers were illiterate, and 7(17.50%) of the mothers have undergone primary education, and 9(22.50%) of the mothers have undergone secondary education and 7(17.50%) of the mothers have undergone high school 9(22.50%) of the mothers higher secondary, and 5(12.50%) of the mothers were Graduates in the Dry heat group, where as 6(15.00%) of the mothers were in illiterate, and 5(12.50%) of the mothers were in primary education, and 8(20.00%) of the mothers were secondary education and 9(22.50%) of the mothers were in high school 7(17.50%) were in higher secondary, and 5(12.50%) of the mothers were Graduates in the Moist heat group.

Regarding the occupational status of the mother 13(32.50%) of the mothers were Unemployed, and 6(15.00%) of the mothers were Unskilled worker, and 9(22.50%) of the mothers were semiskilled worker and 5(12.50%) of the mothers were skilled worker 4(10.00%) of the mothers were Clerk, shop owner farmer, and 3(7.50%) of the mothers were semi- profession and none were professionals in the Dry heat group, where as 14 (35.00%) of the mothers were Unemployed,

and 6(15.00%) of the mothers were Unskilled worker, and 6(15.00%) of the mothers were semiskilled worker and 7(17.50%) of the mothers were skilled worker 4(10.00%) of the mothers were Clerk, shop owner farmer, and 3(7.50%) of the mothers were semi-profession and none were professionals in the Moist heat group.

Regarding the Monthly income none of the mothers were below Rs2091, 4(10.00%) of the mothers were in the income group of Rs.2,092-6,213, 13(32.50%) of the mothers were in the income group Rs 6,214-10,356,14(35.00%) of the mothers were in the income group of Rs10,357-15,535,6(15.00%) of the mothers were in the income group of Rs15,536-20,714,3(7.50%) of the mothers were in the income group of Rs.20,715-41,429, and none of the mothers were above Rs 41,430 in the Dry heat group, whereas none of the mothers were below Rs2091, 2(5.00%) of the mothers were in the income group of Rs.2,092-6,213, 13(32.50%) of the mothers were in the income group of Rs 6,214-10,356,12(30.00%) of the mothers were in the income group Rs10,357-15,535,8(20.00%) of the mothers were in the income group Rs15,536-20,714,5(12.50%) of the mothers were in the income group Rs.20,715-41,429, and none of the samples were above Rs 41,430 in the Moist heat group.

Regarding the place of living 17(42.50%) of the mothers were residing in rural area,15(37.50%) of the mothers were residing in the Urban area, 8(20.00%) of the mothers were residing in Semi- urban area in the Dry heat group, whereas 18(45.00%) of the mothers were residing in rural area,15(37.50%) of the mothers were residing in the Urban area, 7(17.50%) of the mothers were residing in Semi- urban area in the Moist heat group.

Regarding the religion, 30(75.00%) of the mothers belongs to Hindu, and 7(17.50%) of the mother belongs to Christian, and 3(7.50%) of the mothers belongs to Muslim in the Dry heat group, whereas 29(72.50%) of the mother belongs to Hindu, and 9(22.50%) of the mother belongs to Christian, and 2(5.00%) of the mother belongs to Muslim in the Moist heat group.

***Figure-4.1: Percentage Distribution of Age Group among Dry Heat And Moist Heat***

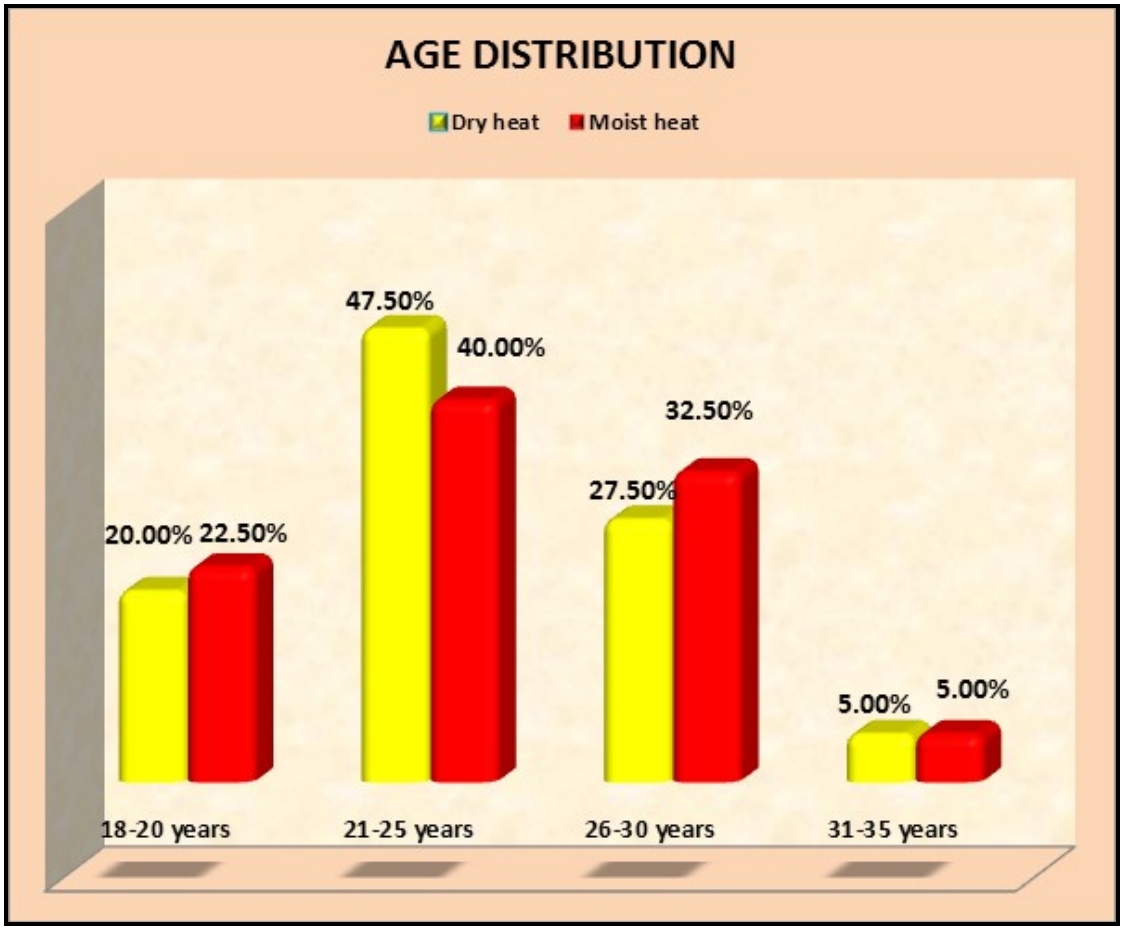


*Figure-4.2. Percentage distribution of type of family among dry heat and moist heat*

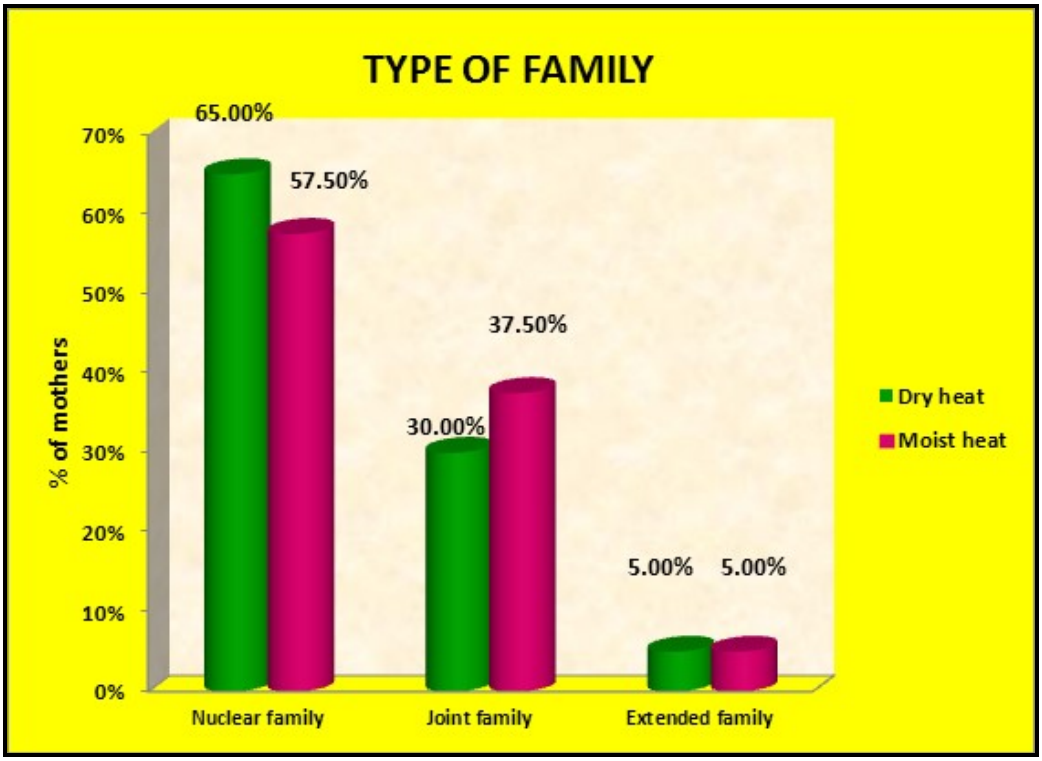



*Figure: 4.3. Percentage distribution of education status among dry heat and moist heat*

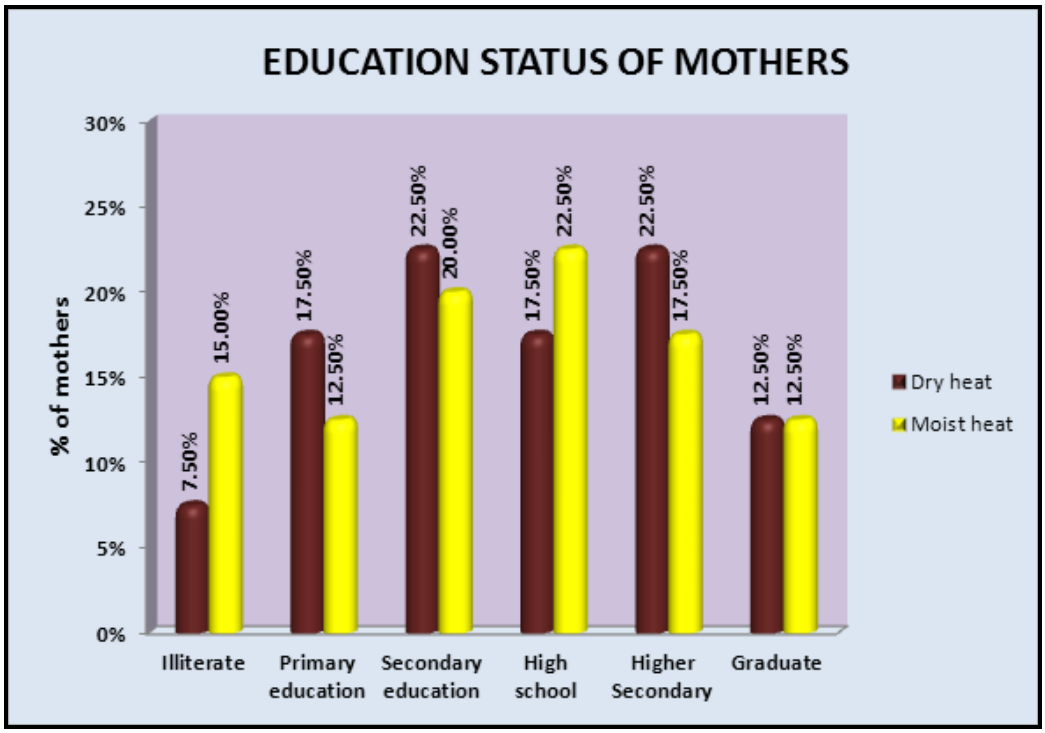


*Figure- 4.4: Percentage Distribution Of Age Group Among Dry Heat And Moist Heat*

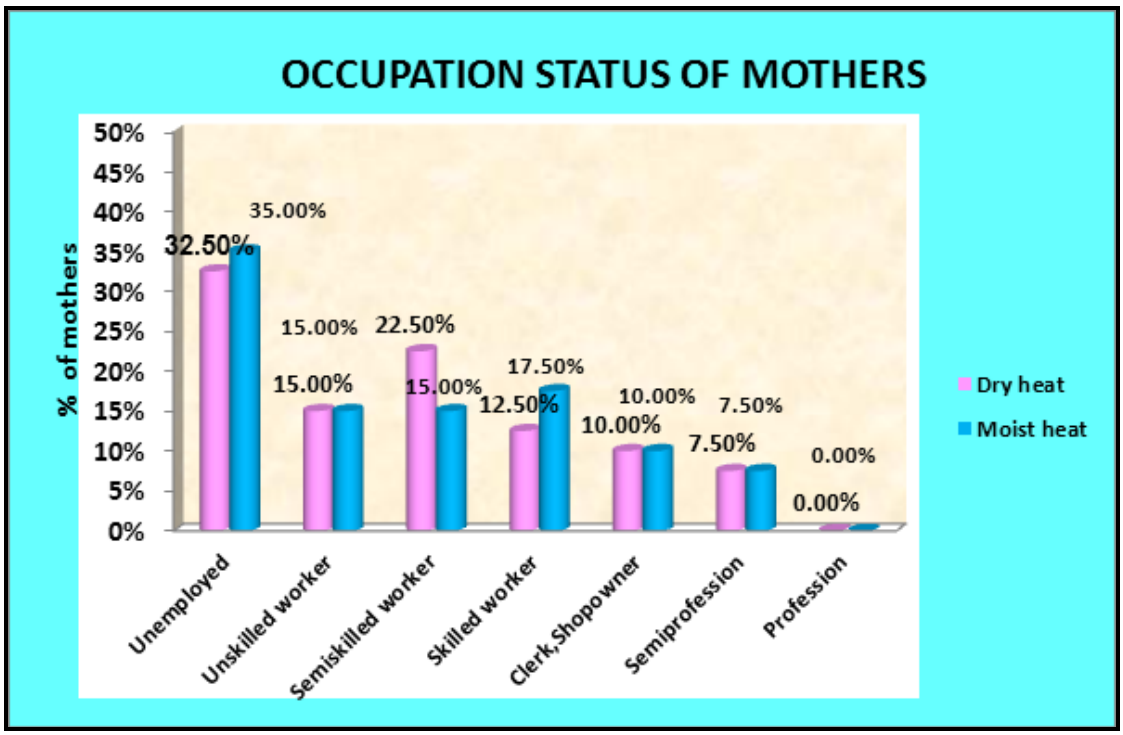



*figure- 4.5: Percentage distribution of monthly family income among dry heat and moist heat*

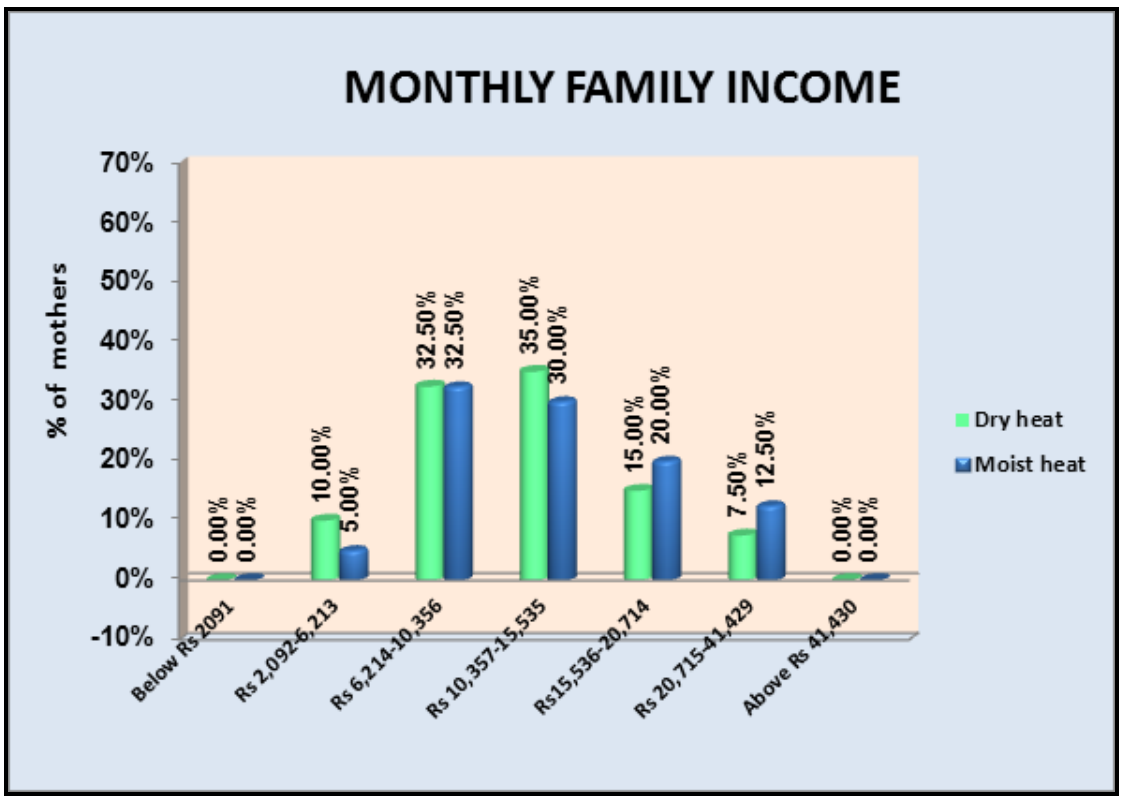


*Figure- 4.6: Percentage distribution of place of living among dry heat and moist heat*

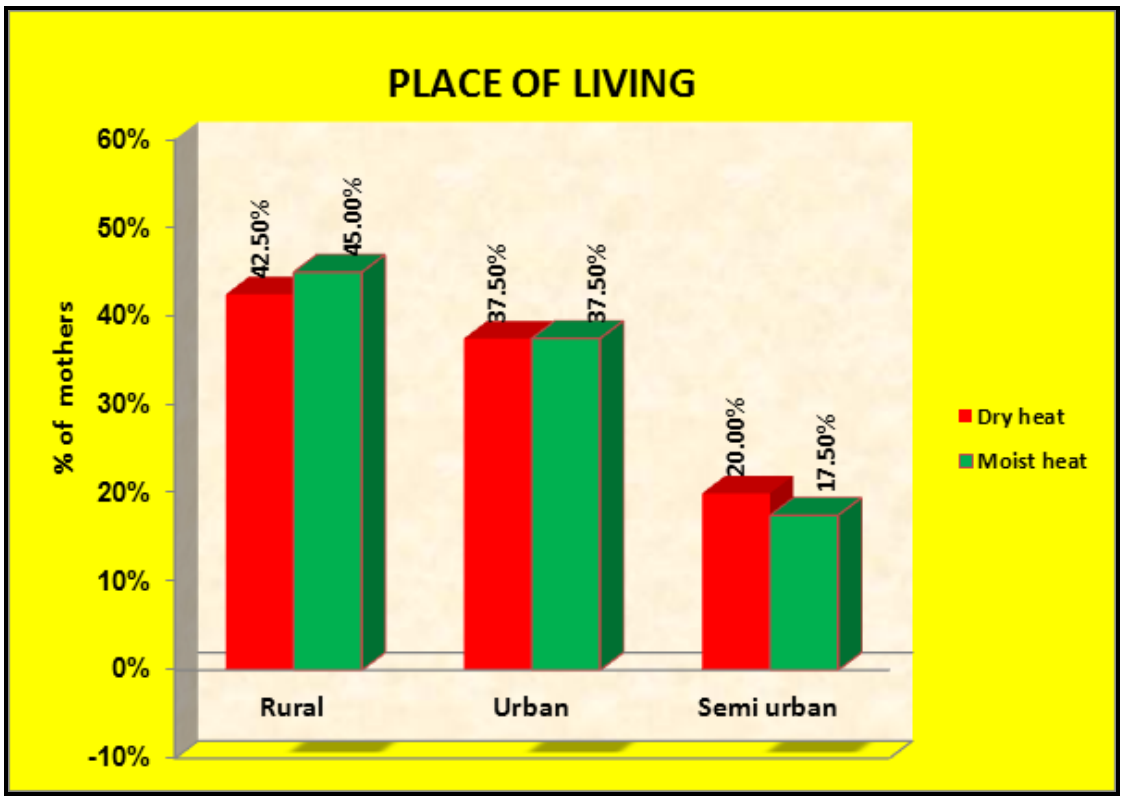



*Figure- 4.7: Percentage Distribution Of Religion Among Dry Heat And Moist Heat*

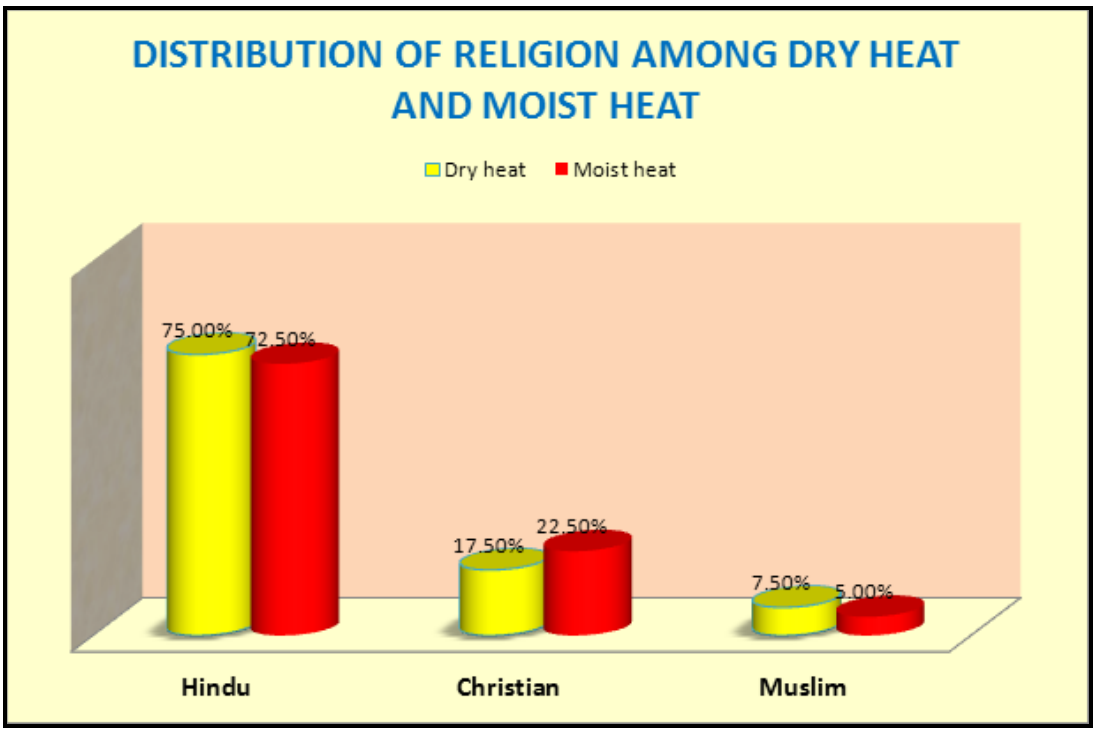


***Table-4.2: Distribution of Frequency and percentage of obstetric variables among the post natal mothers regarding episiotomy pain perception in both Dry heat and Moist heat***

***n=80***

| **Obstetrics variables** | | **Group** | | | | **Chi square test** |
|---|---|---|---|---|---|---|
| | | **Group A (n=40)** | | **Group B(n=40)** | | |
| | | **n** | **%** | **n** | **%** | |
| Gravida | One | 30 | 75.00% | 26 | 65.00% | $\chi 2=0.96$ P=0.61(NS) |
| | Two | 8 | 20.00% | 11 | 27.50% | |
| | Three | 2 | 5.00% | 3 | 7.50% | |
| | >Three | 0 | 0.00% | 0 | 0.00% | |
| Para | One | 32 | 80.00% | 28 | 70.00% | $\chi 2=1.06$ P=0.58(NS) |
| | Two | 6 | 15.00% | 9 | 22.50% | |
| | Three | 2 | 5.00% | 3 | 7.50% | |
| | >Three | 0 | 0.00% | 0 | 0.00% | |
| Duration of second stage of labour | 15 to 30 min | 32 | 80.00% | 34 | 85.00% | $\chi 2=0.34$ P=0.55(NS) |
| | 30 to 1hr | 8 | 20.00% | 6 | 15.00% | |
| | 1 to 1½ hr | 0 | 0.00% | 0 | 0.00% | |
| | 1½ to 2 hr | 0 | 0.00% | 0 | 0.00% | |
| Birth weight of the baby | Below 2.5 kg | 3 | 7.50% | 3 | 7.50% | $\chi 2=0.08$ P=0.96(NS) |
| | 2.5 to 3.5 kg | 29 | 72.50% | 28 | 70.00% | |
| | Above 3.5 kg | 8 | 20.00% | 9 | 22.50% | |
| Types of episiotomy | Medio- lateral | 38 | 95.00% | 37 | 92.50% | $\chi 2=0.34$ P=0.84(NS) |
| | Median | 1 | 2.50% | 2 | 5.00% | |
| | J- shape | 0 | 0.00% | 0 | 0.00% | |
| Indication of episiotomy | Macro somia | 4 | 10.00% | 7 | 17.50% | $\chi 2=2.01$ P=0.35(NS) |
| | Rigid perineum | 28 | 70.00% | 22 | 55.00% | |
| | Fetal distress | 8 | 20.00% | 11 | 27.50% | |

| Obstetrics variables | | Group | | | | Chi square test |
|---|---|---|---|---|---|---|
| | | Group A (n=40) | | Group B(n=40) | | |
| | | n | % | n | % | |
| Type of delivery | Normal vaginal delivery | 40 | 100.00% | 40 | 100.00% | $\chi 2$=0.00 P=1.00(NS) |
| | Forceps delivery | 0 | 0.00% | 0 | 0.00% | |
| | Vacuum delivery | 0 | 0.00% | 0 | 0.00% | |

**Regarding the gravida** status, 30(75.00%) of the mothers were in gravida status I, and 8(20.00%)of the mothers were in gravida status II, and 2(5.00%)of the mothers were in gravida status III, and none of the mothers were in gravida status more than three in the **Dry heat**, where as 26(65.00%) of the mothers were in gravida status I, and 11(27.50%) of the mothers were in gravida status II, and 3(7.50%) of the mothers were in gravid status III, and none of the samples were in gravida status IV in **Moist heat.**

**Regarding the para status**, 32(80.00%) of the mothers were in para status I,and 6(15.00%) of the mothers were in gravida status II, and 2(5.00%) of the mothers were in gravida status III, and none of the mothers were in gravida status more than three in the **Dry heat**, where as 28(70.00%) of the mothers were in para status I,and 9(22.50%) of the mothers were in gravida status II, and 3(7.50%) of the mothers were in gravida status III, and none of the sample were in gravida status more than three in **Moist heat**..

**With respect to Duration of second stage of labour**, 32(80.00%) of the mothers were in between 15-30 min, and 8(20.00%) of the mothers were in between 30 to 1 hr, and none of the mother were in between1 to $1^{1/2}$hr, and$1^{1/2}$ to 2 hr in the **Dry heat**, where as 34(85.00%)

samples were in 15-30 min,and 6(15.00%) samples were in 30 to 1hr, and none of the samples were in1 to $1^{1/2}$ , and $1^{1/2}$ to 2 hr sample in the Moist heat group

**Regarding the Birth weight of the baby**, 3(7.50%)of the babies were below 2.5 kg and 29(72.50%) of the babies were below 2.5-3.5 Kg , and 8(20.00%) of the babies were above 3.5kg in the **Dry heat group**, whereas 3(7.50%) of the babies were in below 2.5 kg, and 28(70.00%) of the babies were below 2.5-3.5 Kg , and 9(22.50%) of the babies were above 3.5kg in the **Moist heat group**

**Regarding types of episiotomy,** 38(95.00%) samples were in medio- lateral, and 1(2.50%) samples were in median, and none of the samples were in J-shaped in the **Dry heat**, whereas 37(92.50%) samples were in medio- lateral, and 2(5.00%) samples were in median, and none of the samples sample were in J-shaped in the **Moist heat**.

**Regarding indication for episiotomy**, 4(10.00%) of the babies were macrosomic, and 28(70.00%) of the mothers had rigid perineum, and 8(20.00%) of the fetus were in fetal distress in the **Dry heat group**, whereas 7(17.50%) of the babies were in macrosomic, and 22(55.00%) of the mothers had rigid perineum, and 11(27.50%) of the fetus were in fetal distress in the **Moist heat group**.

**Regarding the type of delivery**, 40(100.00%) of the mothers had normal vaginal delivery ,and none of the samples were in forceps delivery, and in vacuum delivery in the **Dry heat group,** whereas With respect to type of delivery , 40(100.00%) of the mothers were in normal vaginal delivery ,and none of the mothers were in forceps delivery, and in vacuum delivery in **Moist heat group**.

*Figure-4.8: Percentage Distribution of Gravida Among Dry Heat and Moist Heat*

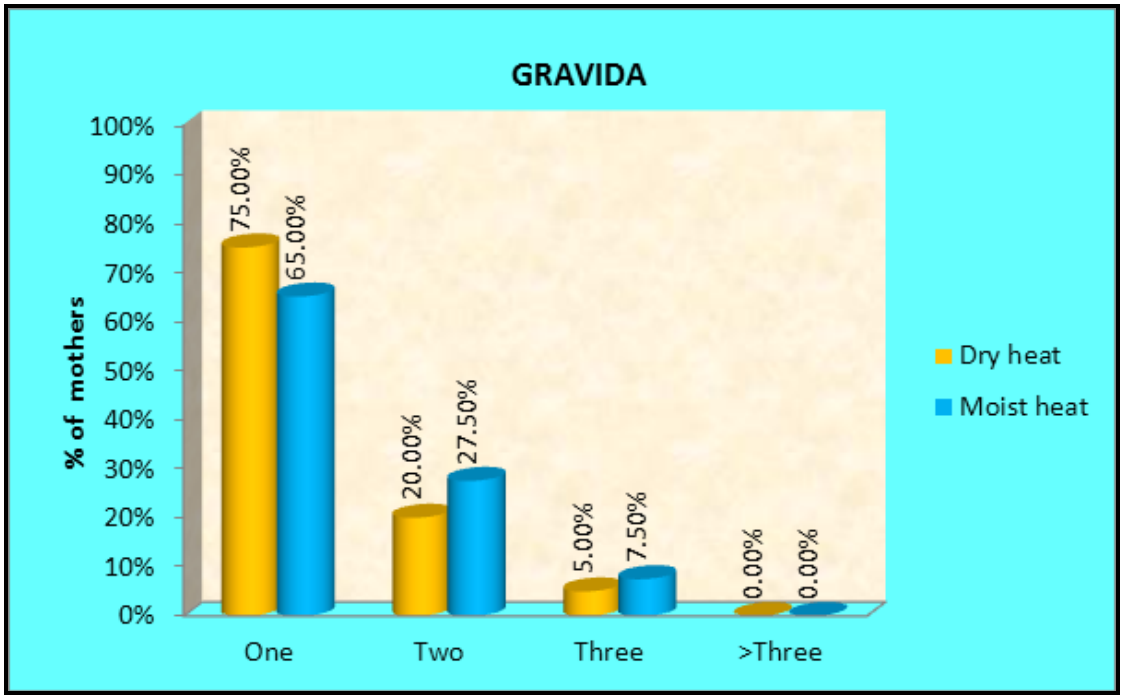



*Figure 4.9: Percentage Distribution Of Para Among Dry Heat And Moist Heat*

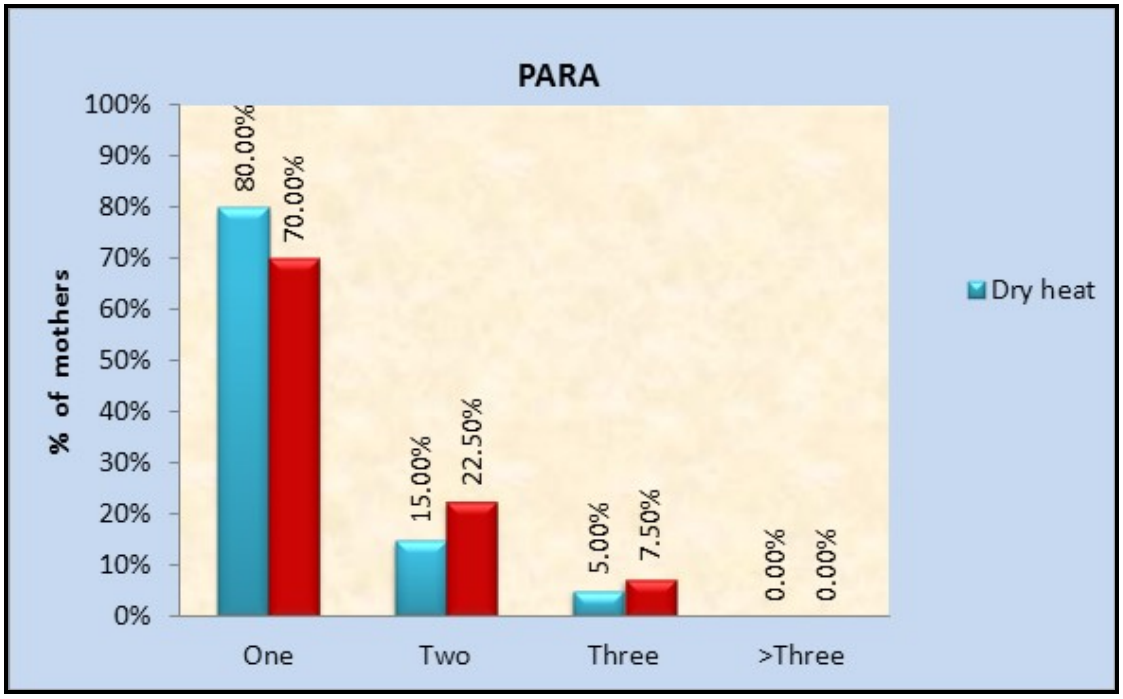


*Figure-4.10: Percentage Distribution Of Duration Of Second Stage Of Labour Among Dry Heat And Moist Heat*

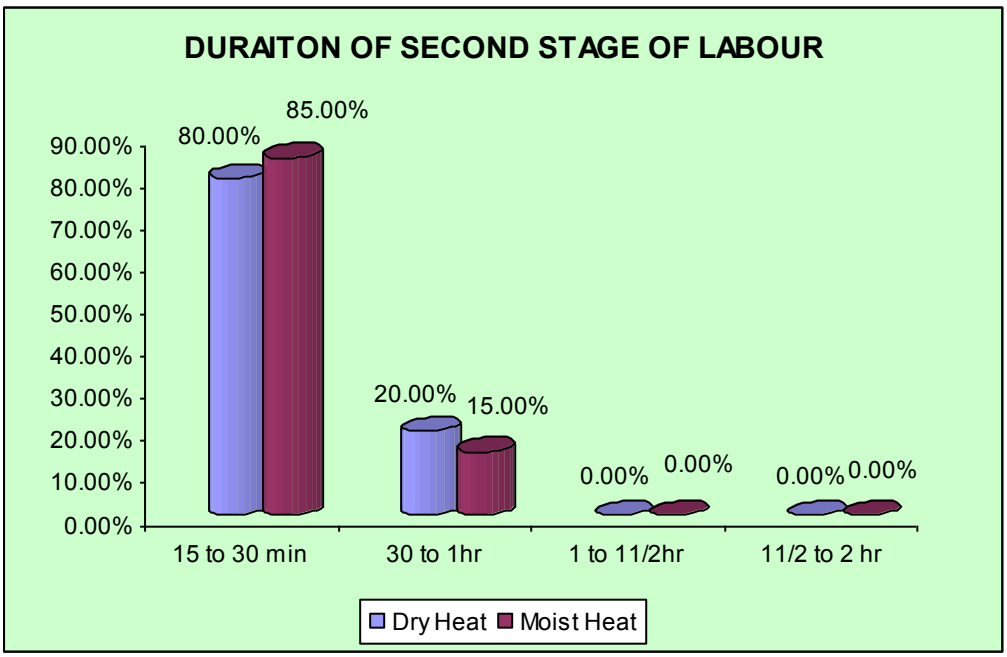



*Figure: 4.11: Percentage Distribution Of Birth Weight Of Baby Among Dry Heat And Moist Heat*

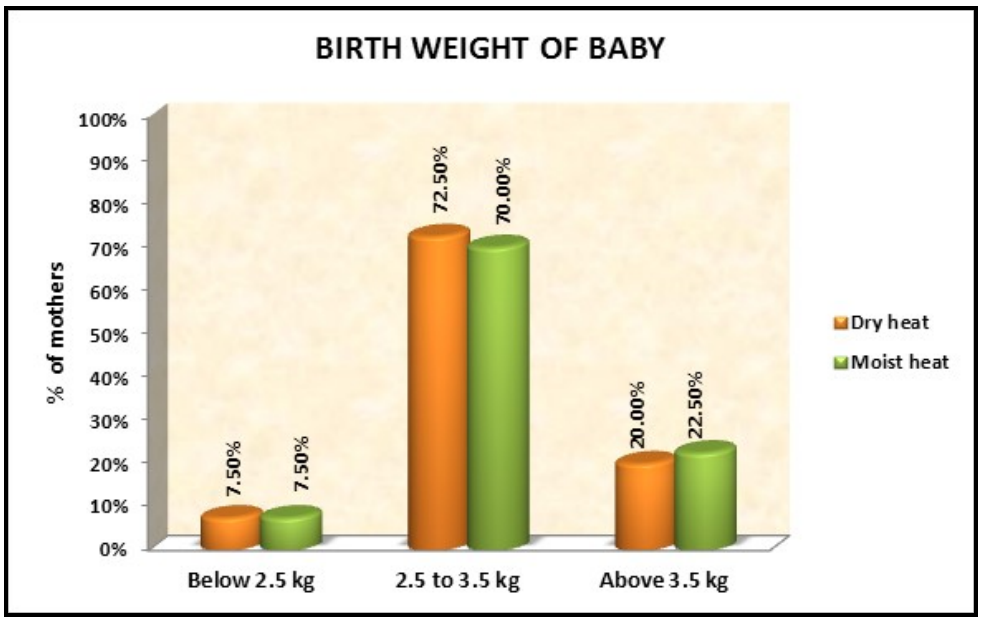


*Figure:4.12: Percentage Distribution Of Types Of Episiotomy Among Dry Heat And Moist Heat*

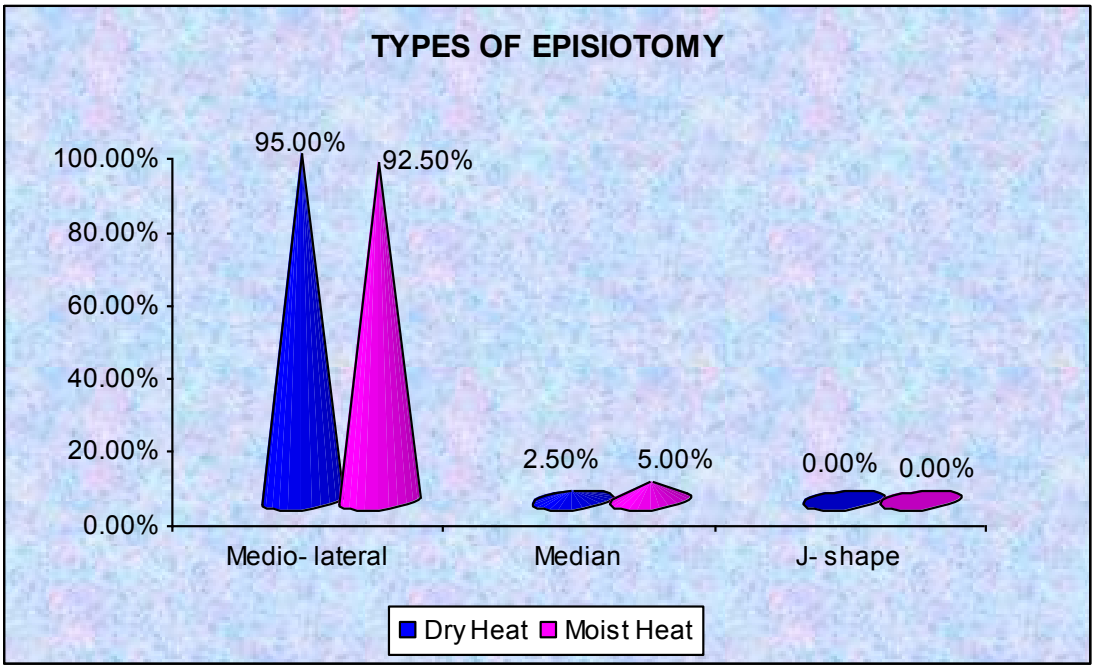



*Figure: 4.13: Percentage Distribution Of Indication Of Episiotomy Among Dry Heat And Moist Heat*

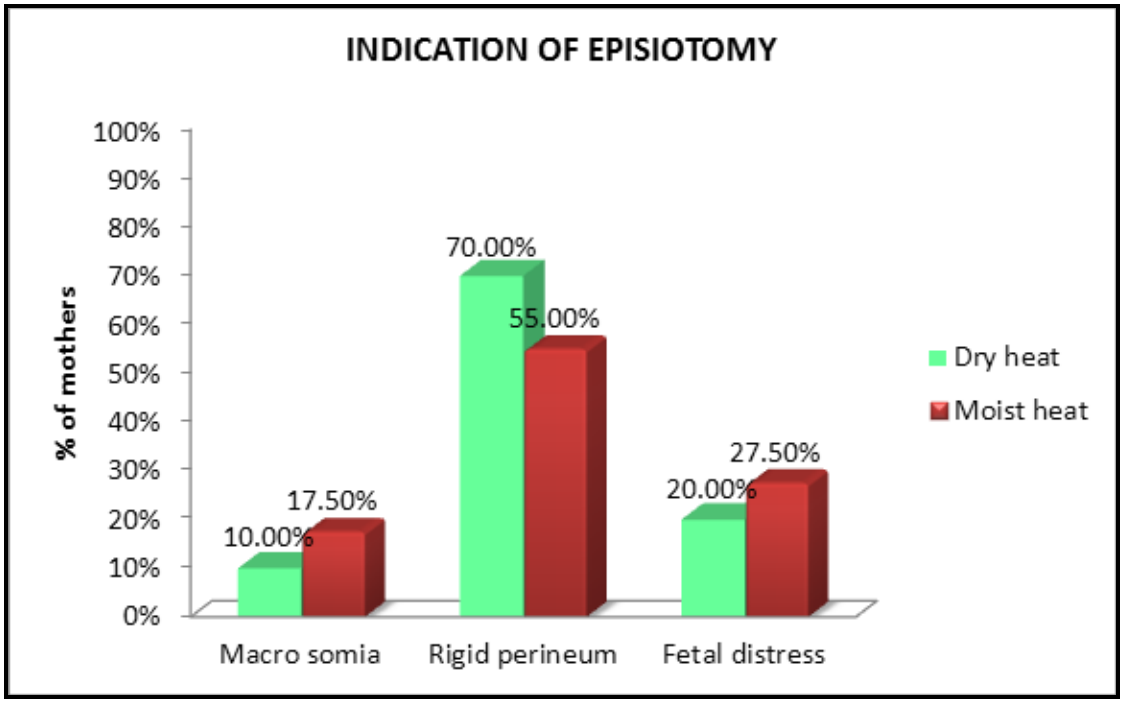


***Figure: 4.14: Percentage Distribution Of Type Of Delivery Among Dry Heat And Moist Heat***

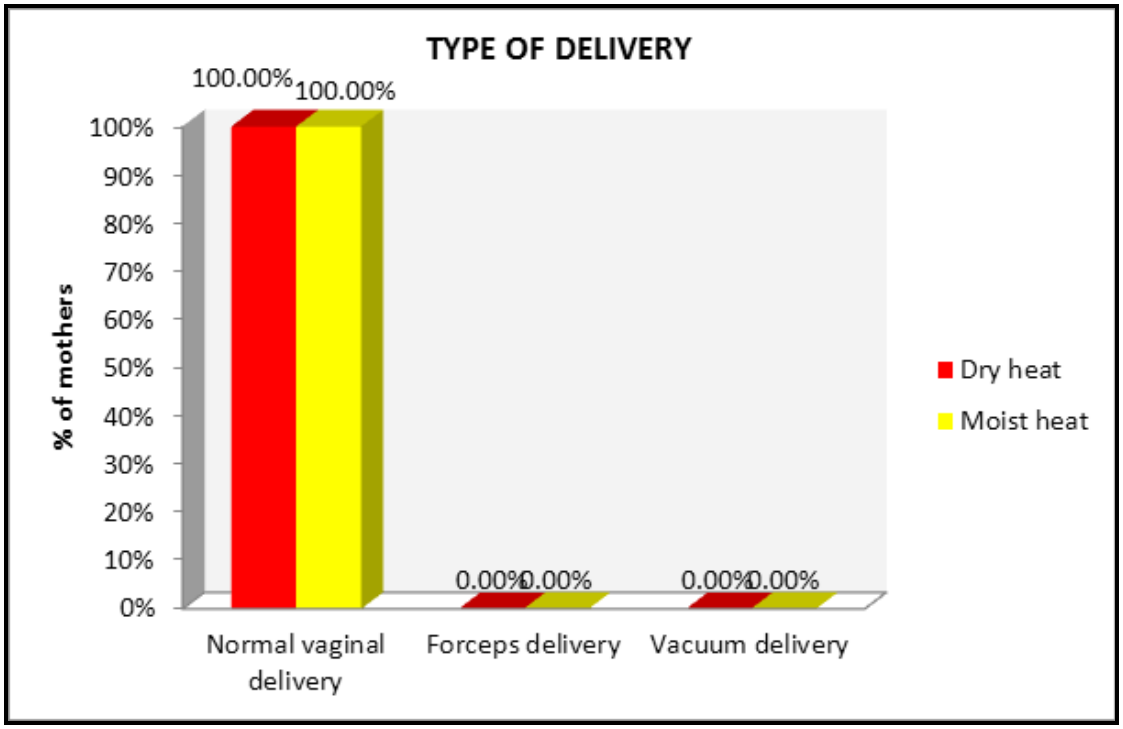


***Table-4.3: Effectiveness Of Dry Heat Application On Episiotomy Pain Perception***

| SCALES | Max score | Pre-test mean score | % of mean score | Post-test mean score | % of mean score | Mean reduction difference | % of mean reduction score |
|---|---|---|---|---|---|---|---|
| Numerical pain score | 10 | 8.03 | 80.30% | 3.50 | 35.00% | 4.53 | ↓45.30% |
| Modified short form Mc Gill pain questionnaire | 45 | 33.00 | 73.33% | 12.93 | 28.73% | 20.07 | ↓44.60% |
| Present pain intensity | 5 | 3.75 | 75.00% | 1.72 | 31.00% | 2.03 | ↓40.60% |

Table no 4.3 shows the effectiveness of dry heat application on reduction of episiotomy pain perception among postnatal mothers above depicts

Considering the pre- test mean score using numerical pain scale is 8.03 and the percentage of mean score is 80.30% , where as the post test mean score in numerical pain scale is 3.50 and the percentage of mean score is 35.00%. The overall mean reduction is difference is 4.53 and the percentage of mean reduction score is 45.30%

Considering the pre- test mean score using Modified short form Mc Gill pain questionnaire as 33.00 and the percentage of mean score is 80.30% , where as the post test mean score is 12.93 and the percentage of mean score is 28.73%. The overall mean reduction is difference is 20.07 and the percentage of mean reduction score is 44.60% .

Considering the pre- test mean score using Present pain intensity as 3.75 and the percentage of mean score is 75.00% , where as the post test mean score is 1.72 and the percentage of mean score is 31.00%. The overall mean reduction is difference is 2.03 and the percentage of mean reduction score is 40.60% .

The above findings depicts on an average, dry heat application mothers have reduced percentage of mean reduction score 45.3% of numerical pain score, 44.60% of Modified short form Mc Gill pain quesionnaire and 40.6 % of Present pain intensity score.

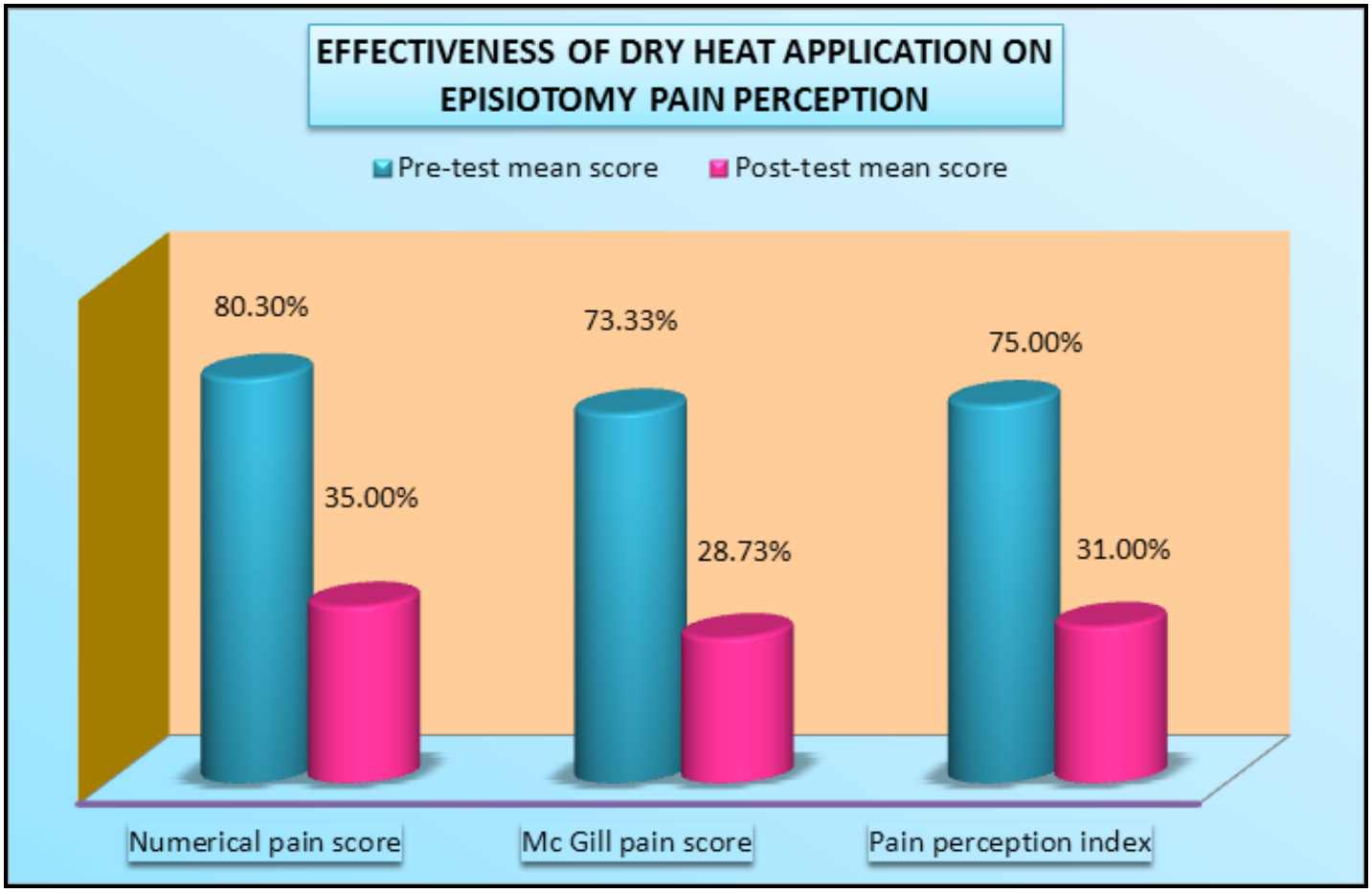



***Figure-4.15: Effectiveness Of Dry Heat Application On Episiotomy Pain Perception***

***Table-4.4: Effectiveness Of Moist Heat Application On Episiotomy Pain Perception***

| Scales | Max score | Pretest mean score | % of mean score | Posttest mean score | % of mean score | Mean reduction difference | % of mean reduction score |
|---|---|---|---|---|---|---|---|
| Numerical pain score | 10 | 8.08 | 80.30% | 4.57 | 31.80% | 3.51 | ↓35.10% |
| Modified short form McGill pain questionnaire | 45 | 33.03 | 73.33% | 17.08 | 24.29% | 15.95 | ↓35.44% |
| Present pain intensity | 5 | 3.80 | 76.00% | 2.10 | 42.00% | 1.70 | ↓34.00% |

Table no 4.4 shows the effectiveness of moist heat application on reduction of episiotomy pain perception among postnatal mothers

Considering the pre test mean score using numerical pain scale is 8.08 and the percentage of mean score is 80.30% , where as the post test mean score in numerical pain scale is 4.57 and the percentage of mean score is 31.80%. the overall mean reduction is difference is 3.51 and the percentage of mean reduction score is 35.10%

Considering the pre test mean score using Modified short form Mc Gill pain questionnaire is 33.00 and the percentage of mean score is 73.33% , where as the post test mean score in Modified short form McGill pain questionnaire is 17.08 and the percentage of mean score is 24.29%. The overall mean reduction is difference is 15.95 and the percentage of mean reduction score is 35.44% .

Considering the pre test mean score using Present pain intensity as 3.80 and the percentage of mean score is 7.00% , where as the post test mean score in numerical pain scale is 2.10 and the percentage of mean score is 42.00%. the overall mean reduction is difference is 1.70 and the percentage of mean reduction score is 34.00% .

On an average, Moist heat application for episiotomy mothers are reduced 35.10% of numerical pain perception score, 35.44% of modified Short form Mc Gill pain questionnaire and 34.00% of Present pain intensity score.

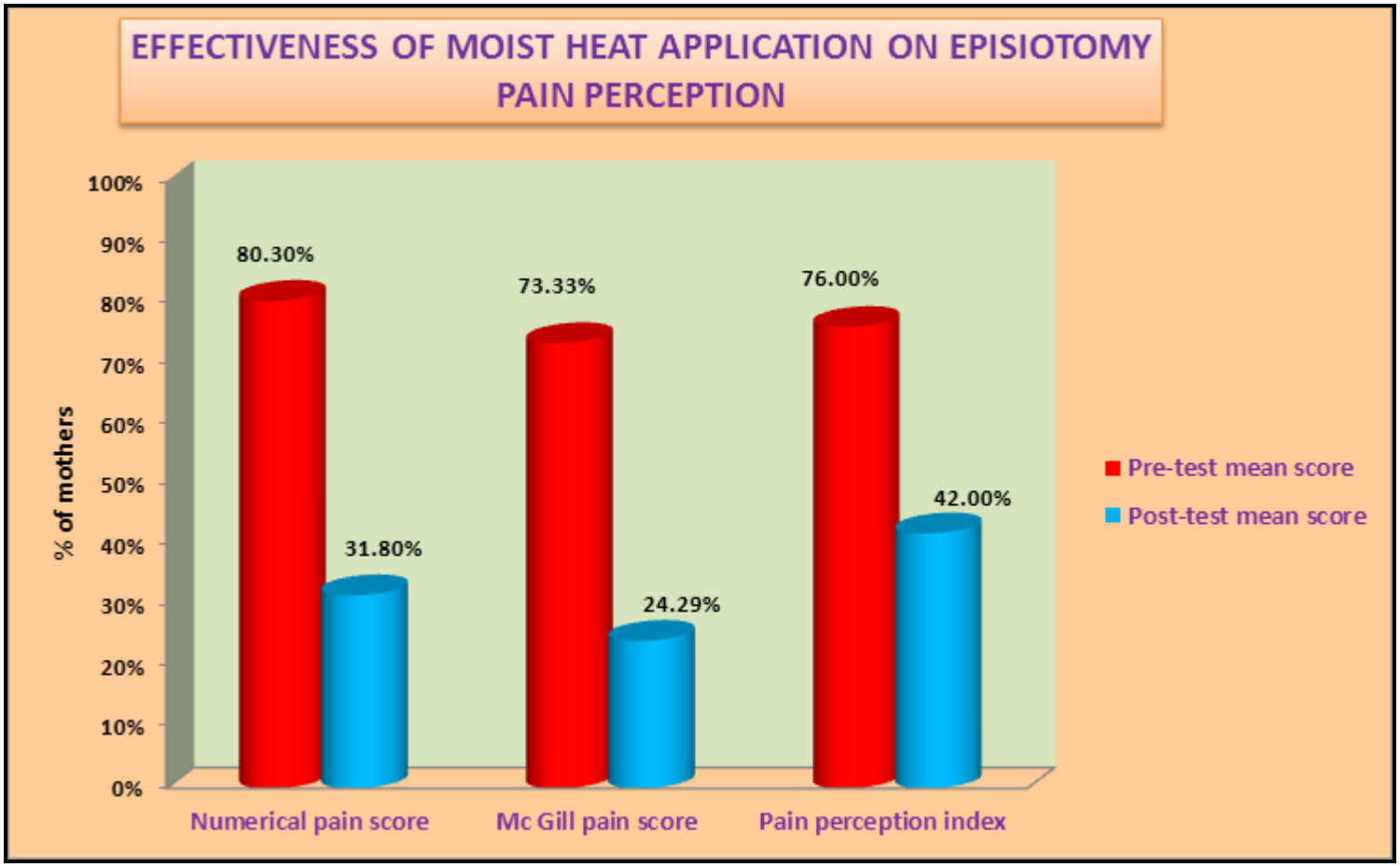



*Figure: 4.16: Effectiveness Of Moist Heat Application On Episiotomy Pain Perception*

## SECTION -D

***Table 4.5: Comparison Of Level Of Pretest Numerical Pain Score***

| Level of pain | Dry Heat | | Moist Heat | | Chi square test |
|---|---|---|---|---|---|
| | n | % | n | % | |
| None | 0 | 0.00% | 0 | 0.00% | $\chi 2=0.62$ P=0.43(NS) |
| Mild | 0 | 0.00% | 0 | 0.00% | |
| Moderate | 6 | 15.00% | 5 | 12.50% | |
| Severe | 34 | 85.00% | 35 | 87.50% | |
| Total | 40 | 100.0% | 40 | 100.0% | |

**P>0.05 not significant**

***In pre-test***

Among Dry heat group, the pre test level of pain perception using Numerical pain scale none of the mothers are having nil pain score, none of the mothers are in mild level of pain score, 15% of the mothers are having moderate level of pain score and 85% of them are having severe pain score.

Among Moist heat group, the pre test level of pain perception using Numerical pain scale none of the mothers are having nil pain score, none of the mothers are in mild level of pain score, 12.5% of the mothers are having severe level of pain score and 87.5% of them are having severe pain score.

There is no significant difference between the level of pain perception before the administering infra- red in Dry group and sitz bath in Moist group . It was calculated using chi-square test. The findings reveals $\chi 2=0.62P=0.43(NS)$ which shows no significance of pain perception in both dry heat and Moist heat group.

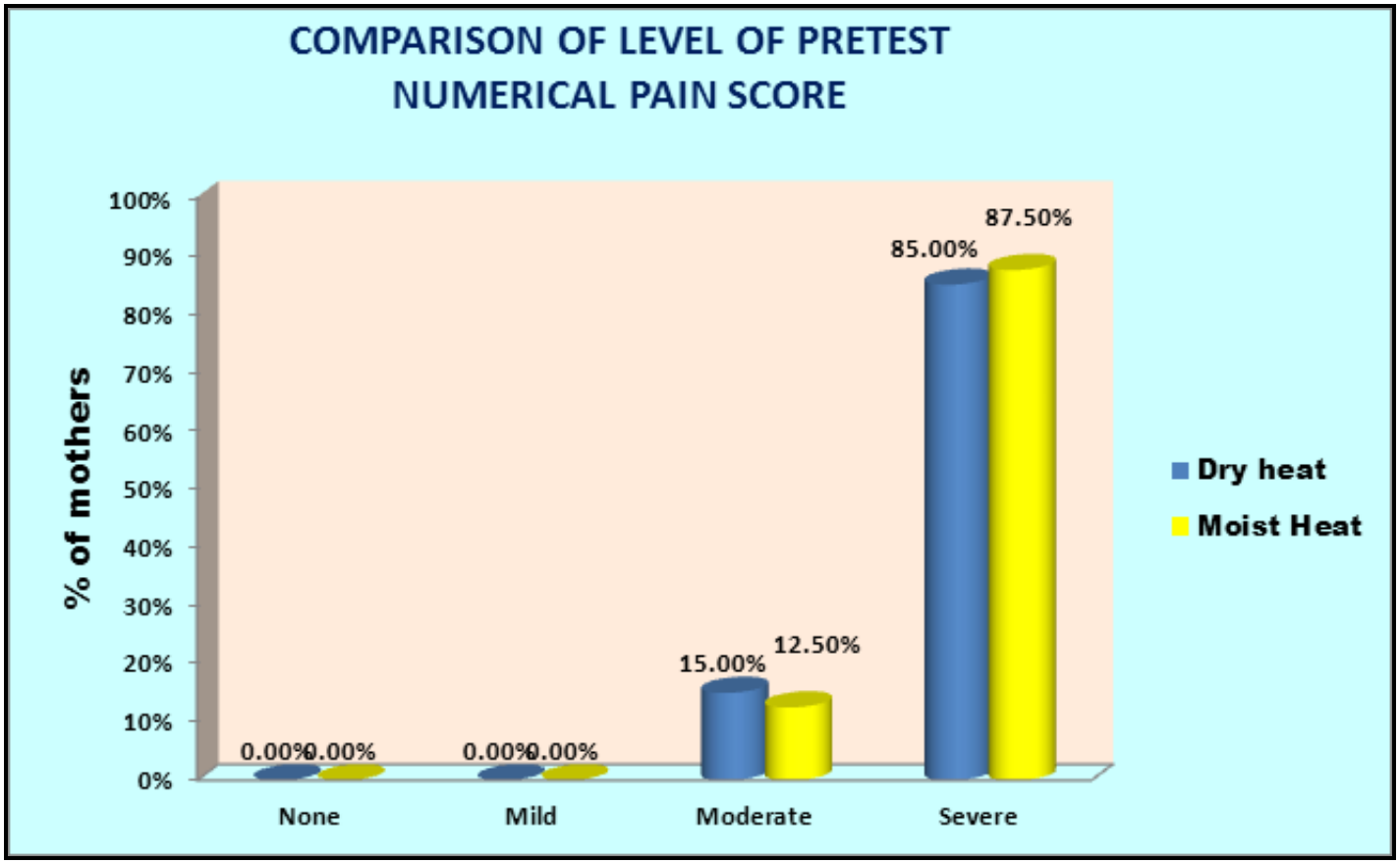



***Figure: 4.17: Comparison Of Level Of Pretest Numerical Pain Score In Dry Heat And Moist Heat.***

***Table 4.6: Comparison Of Level Of Posttest Numerical Pain Score In Drt Heat And Moist Heat***

| Level of pain | Dry heat | | Moist heat | | Chi square test |
|---|---|---|---|---|---|
| | n | % | n | % | |
| None | 0 | 0.00% | 0 | 0.00% | $\chi 2=4.11P=0.04(S)$ |
| Mild | 22 | 55.00% | 13 | 32.50% | |
| Moderate | 18 | 45.00% | 27 | 67.50% | |
| Severe | 0 | 0.00% | 0 | 0.00% | |
| Total | 40 | 100.0% | 40 | 100.0% | |

**P>0.05 not significant**

***In post -test***

Among Dry heat group, the post test of pain perception using Numerical pain scale reveals none of the mothers are having nil pain score, 55% of the mothers are in mild level of pain score, 45% of the mothers are having moderate level of pain score and none of them are having severe pain score.

Among Moist heat group, post test of pain perception using Numerical pain scale reveals none of the mothers are having nil pain score, 32.5% of the mothers are in mild level of pain score, 67.5% of the mothers are having moderate level of pain score and none of them are having severe pain score.

The study findings show that there is significant difference between dry heat and Moist group level of pain perception in episiotomy. **The above findings depicts that the Dry heat is more effective than moist heat with regard to the pain perception It was calculated using chi square test. The findings reveals that the $\chi 2=4.11P=0.04(S)$ which is significant**

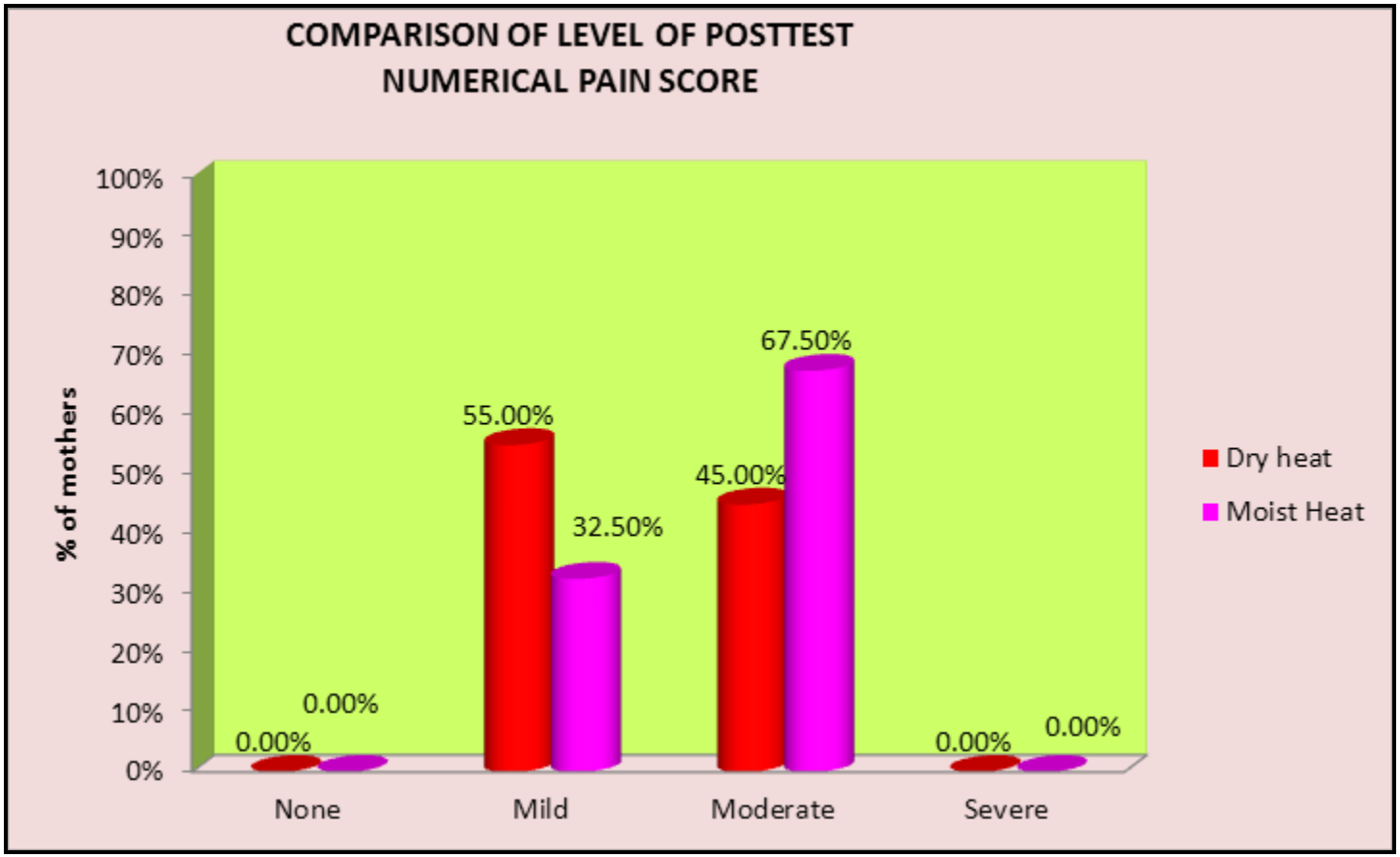



***Figure: 4.18 Comparison Of Level Of Post Test Numerical Pain Score In Dry Heat And Moist Heat***

***Table 4.7: Comparison Of Overall Numerical Pain Score In Dry Heat And Moist Heat***

| | **No.of Mothers** | **Dry heat Mean±SD** | **Moist heat Mean±SD** | **Mean difference** | **Student's Independent t-test** |
|---|---|---|---|---|---|
| Pretest | 40 | 8.03 ± 0.95 | 8.08 ± 0.97 | 0.05 | t=0.23 P=0.81 DF = 78, not significant |
| Posttest | 40 | 3.50 ± 1.30 | 4.57 ± 0.81 | 1.07 | t=4.43 P=0.001*** DF = 78, significant |

**P>0.05 not significant**

In pretest, Dry heat group mothers are having 8.03 pain score whereas in Moist heat group mothers are having 8.08 pain score, so the difference is 0.05 pain score, this difference is small and it is not statistically significant difference. Statistical significance was calculated by using student's independent t-test.

In posttest, Dry heat group mothers are having 3.50 pain score whereas in Moist heat group mothers are having 4.57 pain score, so the difference is 1.07 pain score, this difference is large and it is statistically significant difference. Statistical significance was calculated by using **student's independent t-test t=4.43P=0.001*** DF = 78, very highly significant**

Hence the study findings reveal that the **Dry heat is effective in reducing the pain perception among post natal mothers with episiotomy than moist heat is assessed using Numerical pain scale.**

***Table 4.8: Comparison Of Pretest Pain Descriptor Wise Percentage Using Modified Short Form Mc Gill Pain Questionnaire In Dry Heat And Moist Heat***

| Sno | Pain descriptor | Maximum score | Dry heat | | | Moist heat | | |
|---|---|---|---|---|---|---|---|---|
| | | | Mean | Sd | % | Mean | Sd | % |
| 1 | Throbbing | 3 | 2.75 | .44 | 91.67% | 2.85 | .36 | 95.00% |
| 2 | Shooting | 3 | 2.20 | .41 | 73.33% | 2.33 | .47 | 77.67% |
| 3 | Stabbing | 3 | 2.93 | .27 | 97.67% | 2.77 | .42 | 92.33% |
| 4 | Sharp | 3 | 2.78 | .42 | 92.67% | 2.78 | .42 | 92.67% |
| 5 | Cramping | 3 | .40 | .55 | 13.33% | .40 | .55 | 13.33% |
| 6 | Gnawing | 3 | 2.65 | .48 | 88.33% | 2.65 | .48 | 88.33% |
| 7 | Hot burning | 3 | 2.65 | .48 | 88.33% | 2.68 | .47 | 89.33% |
| 8 | Aching | 3 | 2.80 | .41 | 93.33% | 2.85 | .36 | 95.00% |
| 9 | Heavy | 3 | 1.68 | .47 | 56.00% | 1.68 | .47 | 56.00% |
| 10 | Tender | 3 | 2.98 | .16 | 99.33% | 2.98 | .16 | 99.33% |
| 11 | Spilitting | 3 | .70 | .76 | 23.33% | .58 | .78 | 19.33% |
| 12 | Tiring-Exhausting | 3 | 2.95 | .22 | 98.33% | 2.92 | .22 | 97.33% |
| 13 | Sickening | 3 | 2.10 | .46 | 70.00% | 2.13 | .46 | 71.00% |
| 14 | Fearful | 3 | 1.25 | .44 | 41.67% | 1.25 | .44 | 41.67% |
| 15 | Punishing Cruel | 3 | 1.18 | .38 | 39.33% | 1.18 | .38 | 39.33% |

***Table-4.9: Comparison Of Post Test Pain Descriptor Wise Percentage Using Modified Short Form Mc Gill Pain Questionnaire In Dry Heat And Moist Heat***

| S. No | Pain descriptor | Maximum score | Dry heat | | | Moist heat | | |
|---|---|---|---|---|---|---|---|---|
| | | | Mean | SD | % | Mean | SD | % |
| 1 | Throbbing | 3 | 1.65 | .55 | 55.00% | 2.12 | .75 | 70.67% |
| 2 | Shooting | 3 | 1.27 | .51 | 42.33% | 1.90 | .68 | 63.33% |
| 3 | Stabbing | 3 | 1.48 | .66 | 49.33% | 1.85 | .73 | 61.67% |
| 4 | Sharp | 3 | 1.57 | .78 | 52.33% | 1.73 | .81 | 57.67% |
| 5 | Cramping | 3 | 0.00 | .91 | 0.00% | 0.00 | 1.04 | 0.00% |
| 6 | Gnawing | 3 | 0.15 | .74 | 5.00% | 0.40 | 1.05 | 13.33% |
| 7 | Hot Burning | 3 | 1.62 | .53 | 54.00% | 1.63 | .66 | 54.33% |
| 8 | Aching | 3 | 1.48 | .53 | 49.33% | 1.77 | .76 | 59.00% |
| 9 | Heavy | 3 | 0.00 | .84 | 0.00% | 0.00 | .88 | 0.00% |
| 10 | Tender | 3 | 1.75 | .72 | 58.33% | 1.63 | .58 | 54.33% |
| 11 | Spilitting | 3 | 0.00 | .62 | 0.00% | 0.00 | .59 | 0.00% |
| 12 | Tiring-Exhausting | 3 | 1.68 | .69 | 56.00% | 1.72 | .91 | 57.33% |
| 13 | Sickening | 3 | 0.00 | .64 | 0.00% | 0.00 | .75 | 0.00% |
| 14 | Fearful | 3 | 0.28 | .65 | 9.33% | 0.32 | .71 | 11.00% |
| 15 | Punishing cruel | 3 | 0.00 | .68 | 0.00% | 0.00 | .75 | 0.00% |

Shows each Pain descriptor wise modified short form McGill pain questionnaire.

***Table 4.10: Comparison Ofover All Modified Short Form Mcgill Pain Questionnaire In Dry Heat And Moist Heat***

| | pain score | Dry heat | | Moist heat | | Mean differ rence | Student independent t-test |
|---|---|---|---|---|---|---|---|
| | | Mean score | SD | Mean score | SD | | |
| Pretest | Sensory score | 25.50 | 1.22 | 25.53 | 1.06 | 0.03 | t=0.10 P=0.92(NS) |
| | Affective score | 7.50 | .78 | 7.50 | .78 | 0.00 | t=0.00 P=1.00(NS) |
| | Total score | 33.00 | 1.57 | 33.03 | 1.35 | 0.03 | t=0.08 P=0.93(NS) |
| Posttest | Sensory score | 11.28 | 1.62 | 15.03 | 2.84 | 3.75 | t=7.25 P=0.001***(S) |
| | Affective score | 1.65 | .74 | 2.05 | .90 | 0.40 | t=2.18 P=0.05*(S) |
| | Total score | 12.93 | 1.86 | 17.08 | 3.17 | 4.15 | t=7.15 P=0.001***(S) |

In pretest, Considering overall modified short form McGill pain questionnaire, Dry heat group mothers are having 33.00 pain score and Moist heat group mothers are having 33.03 pain score, so the difference is 0.03, this difference is small and it is not significant. It was tested using Student independent t-test.

In posttest, Considering overall modified short form MCGILL pain questionnaire , Dry heat group mothers are having 12.93 pain score and Moist heat group mothers are having 17.08 pain score, so the difference is 4.15, this difference is large and it is significant. It was tested using Student independent t-test. **t=7.15P=0.001***(S) and it is very highly significant.**

**Hence the study findings reveal that the Dry heat is effective in reducing the pain perception among post natal mothers with episiotomy than moist heat is assessed using modified short form MCGILL pain questionnaire.**

***Table 4.11: Comparison Of Over All Present Pain Intensity In Dry Heat And Moist Heat.***

| | **No.of Mothers** | **Dry heat Mean±SD** | **Moist heat Mean±SD** | **Mean difference** | **Student's Independent t-test** |
|---|---|---|---|---|---|
| Pretest | 40 | 3.75 ± 0.67 | 3.80 ± 0.69 | 0.05 | t=0.33P=0.74 DF =78,not significant |
| Posttest | 40 | 1.72 ± 0.78 | 2.10 ± 0.59 | 0.38 | t=2.41P=0.02* DF = 78, significant |

***P<0.05 significant P>0.05 not significant**

*Table no 4.11.shows the comparison of overall* present pain intensity *pain score among postnatal mothers.*

In pre-test, Dry heat group mothers are having 3.75 pain score whereas in Moist heat group mothers are having 3.80 pain score, so the difference is 0.05 pain score, this difference is small and it is not statistically significant difference. Statistical significance was calculated by using student's independent t-test

In posttest, Dry heat group mothers are having 1.72 pain score whereas in Moist heat group mothers are having 2.10 pain score, so the difference is 0.38 pain score, this difference is large and it is statistically significant difference . Statistical significance was calculated by using **student's independent t-test t=2.41P=0.02* which is significant**

Hence the study findings reveal that the **Dry heat is effective in reducing the pain perception** among post natal mothers with episiotomy than moist heat was assessed using Present pain intensity.

***Table 4.12: Over All Comparison Of Pretest And Posttest Mean Pain Scale Score (Dry Heat)***

| Pain Perception Scales | Pretest | | Posttest | | Mean difference | Student paired t-test |
|---|---|---|---|---|---|---|
| | Mean score | SD | Mean score | SD | | |
| Numerical pain score (0-10) | 8.03 | .95 | 3.50 | 1.30 | 4.53 | t=16.31 P=0.001***(S) |
| Modified short form McGill pain questionnaire (0-45) | 33.00 | 1.57 | 12.93 | 1.86 | 20.07 | t=53.12 P=0.001***(S) |
| Present pain intensity(0-5) | 3.75 | .67 | 1.72 | .78 | 2.03 | t=15.39 P=0.001***(S) |

Considering Numerical pain score, in pretest Dry heat group mothers are having 8.03 pain score and in post test they are having 3.50 score, so the difference is 4.53, this difference is large and it is significant. It was tested using Student paired t-test. **t=16.31P=0.001***(S) shows it is very highly significant.**

Considering Modified short form McGill pain questionnaire, in pretest Dry heat group mothers are having 33.00 pain score and in posttest they are having 12.93 score, so the difference is 20.07, this difference is large and it is significant. It was tested using Student paired t-test **t=53.12P=0.001***(S) shows it is very highly significant**

Considering Present pain intensity score, in pretest Dry heat group mothers are having 3.75 pain score and in posttest they are having 1.72 score, so the difference is 2.03, this difference is large and it is significant. It was tested using Student paired t-test **t=15.39P=0.001***(S) shows it is very highly significant**

**Episiotomy pain perception was assessed in Dry heat group using Numerical pain scale & Modified short form McGill pain questionnaire the above study findings reveals that there is a significant difference in pre-test and post test values. The above findings also reveal that the Dry heat is more effective than Moist heat.**

***Table-4.13: Over All Comparison Of Pretest And Posttest Mean Pain Scale Score (Moist Heat)***

| Pain Perception Scales | Pretest | | Posttest | | Mean difference | Student paired t-test |
|---|---|---|---|---|---|---|
| | Mean score | SD | Mean score | SD | | |
| Numerical pain score (0-10) | 8.08 | .97 | 4.57 | .81 | 3.51 | t=1.78 P=0.07(NS) |
| Modified short form McGill pain questionnaire(0-45) | 33.03 | 1.35 | 17.08 | 3.17 | 15.95 | t=1.66 P=0.08(NS) |
| Present pain intensity (0-5) | 3.80 | .69 | 2.10 | .59 | 1.70 | t=1.90 P=0.06(NS) |

Considering Numerical pain score, in pre-test Moist heat group mothers are having 8.08 pain score and in posttest they are having 4.57 score, so the difference is 3.51, this difference is small and it is not significant. It was tested using Student paired t-test.

Considering Modified short form McGill pain questionnaire, in pre-test moist heat group mothers are having 33.03 pain score and in post-test they are having 17.08 score, so the difference is 15.95, this difference is large and it is not significant. It was tested using Student paired t-test.

Considering Present pain intensity score, in pre-test heat group mothers are having 3.80 pain score and in post-test they are having 2.10 score, so the difference is 1.70, this difference is small and it is not significant. It was tested using Student paired t-test.

**Episiotomy pain perception was assessed in moist heat group using Numerical pain scale & Modified short form McGill pain questionnaire the above study findings reveals that there is no significant difference in pre-test and post test values. The above findings also reveal that the Dry heat is more effective than Moist heat.**

***Table 4.14: Effectiveness Of The Study Based On Reduction Of Pain In Dry Heat And Moist Heat***

| Scales | Dry heat | Moist heat |
|---|---|---|
| Numerical pain score | ↓45.30% | ↓35.10% |
| Modified short form McGill pain questionnaire | ↓44.60% | ↓35.44% |
| Present pain intensity | ↓40.60% | ↓34.00% |

Considering the effectiveness of the study based on reduction of pain in dry heat and moist heat , On an average, Dry heat group reduction percentage is 45.30% in Numerical pain score assessment, 44.60% in Modified short form McGill pain questionnaire and 40.60% in Present pain intensity,Whereas in Moist heat group 35.10% in Numerical pain score assessment, 35.44% in Modified short form McGill pain questionnaire and 34.00% in Present pain intensity This difference shows the effectiveness of the Dry heat application is more effective in reducing the pain perception than moist heat application in post natal mothers with episiotomy.

Thus from the above findings, it is inferred that Dry heat (infra red) reduces the pain more effectively than Moist heat (sitz bath) in post natal mothers with episiotomy.

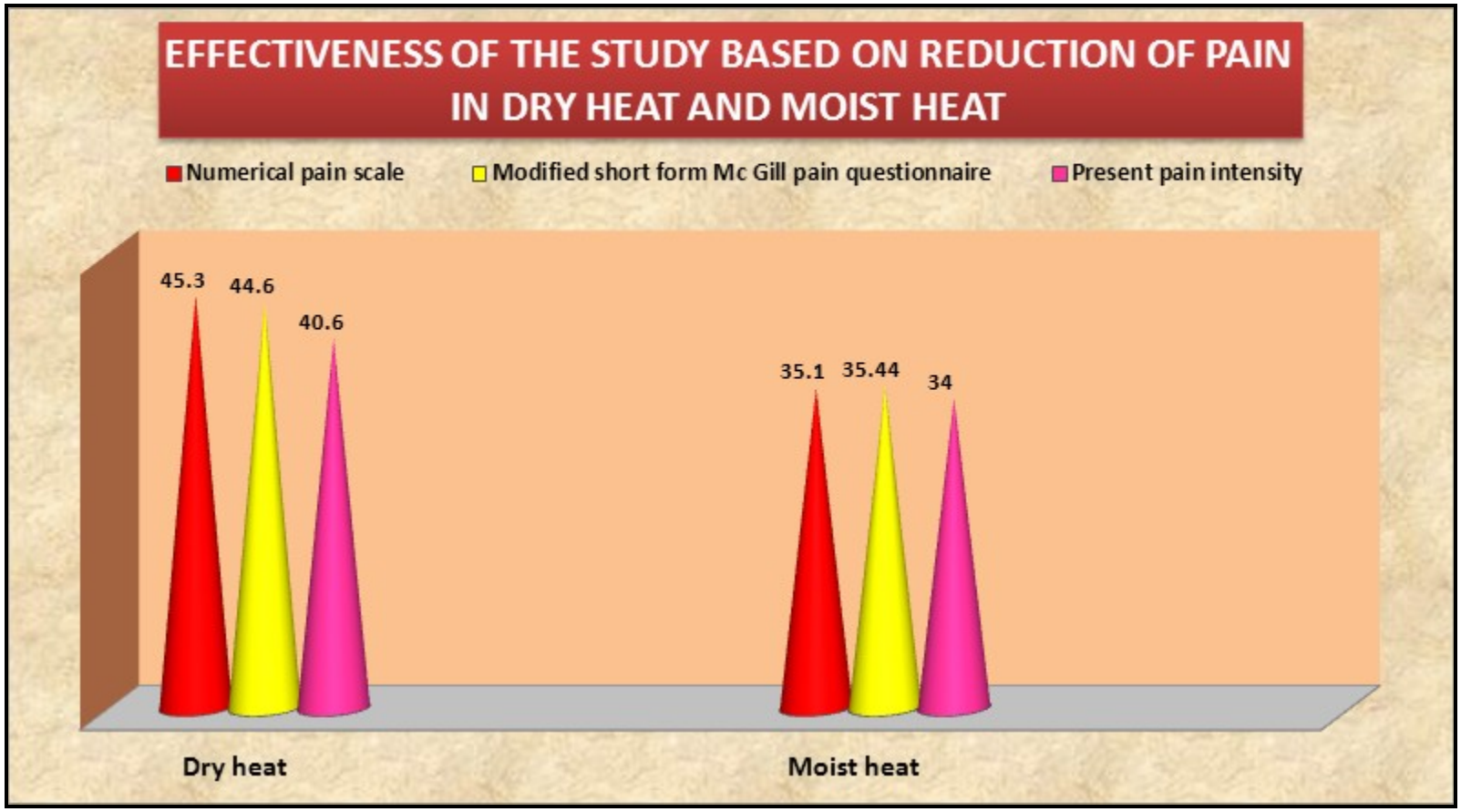



*Figure: 4.19 Effectiveness Of The Study Based On Reduction Of Pain In Dry Heat And Moist Heat*

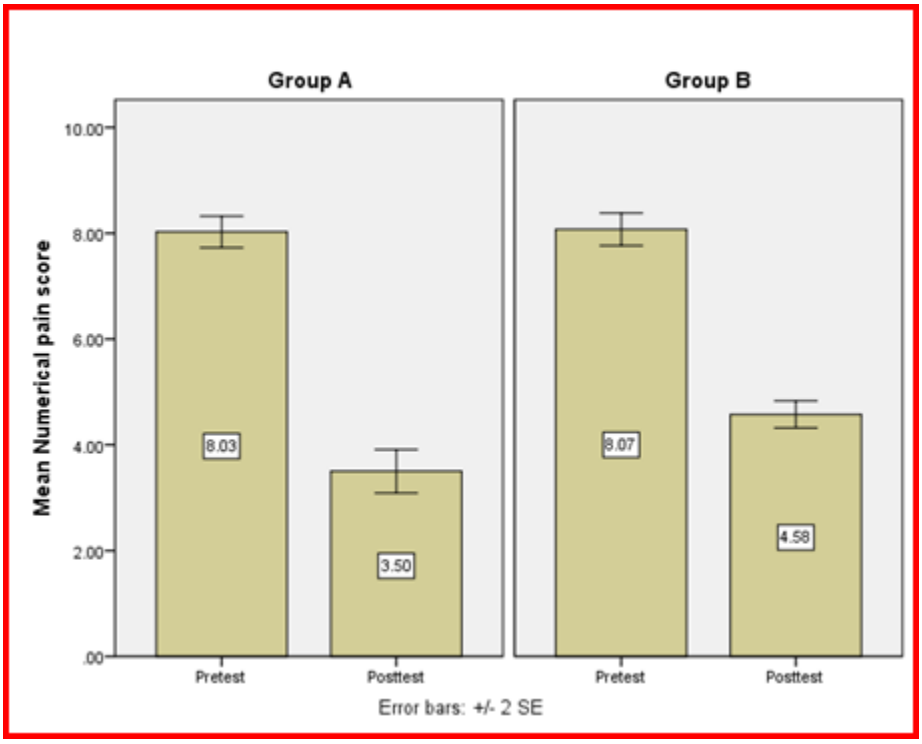



***Figure 4.20: Simple bar diagram with 2 Standard error compares the mothers pretest and posttest Numerical pain score***

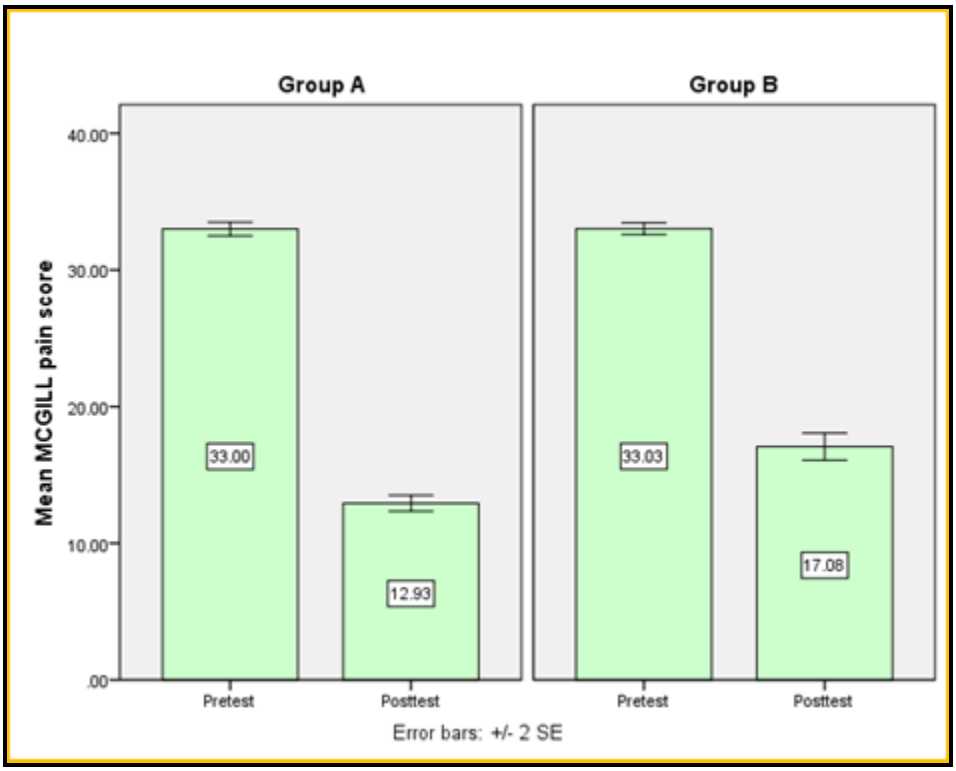



***Figure 4.21: Simple bar diagram with 2 Standard error compares the mothers pretest and posttest Modified short form MCGILL pain questionnaire***

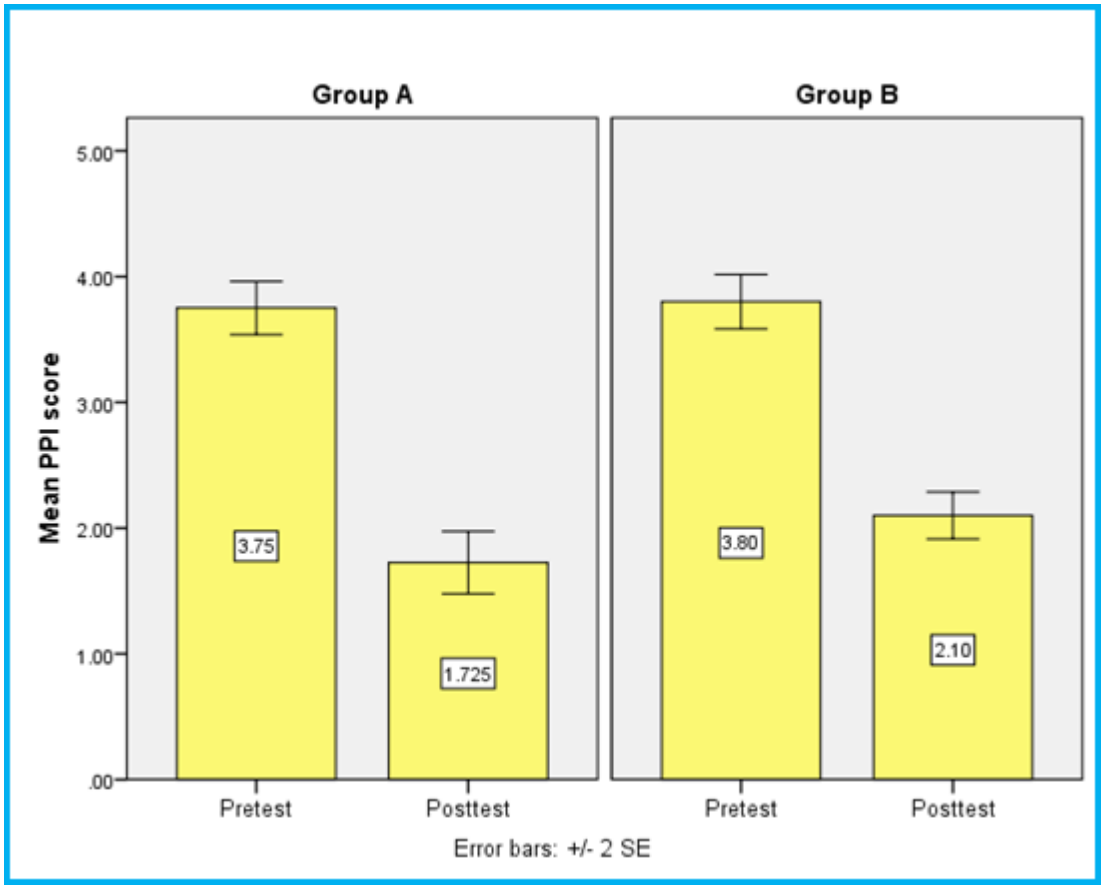



***Figure 4.22: Simple bar diagram with 2 Standard error compares the mothers pretest and posttest present pain intensity***

## SECTION-E

***Table-4.15: Association Between Mothers Reduction Of Numerical Pain Score And Their Demographic Variables (Dry Heat)***

| Demographic variables | | Numerical Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Age of the mothers | 18-20 years | 8.13 | .99 | 4.93 | 1.41 | 3.20 | 1.85 | 8 | F=3.04 P=0.05* (S) |
| | 21-25 years | 7.79 | .98 | 3.32 | 1.25 | 4.47 | 1.81 | 19 | |
| | 26-30 years | 8.27 | .90 | 3.91 | 1.38 | 5.36 | 1.80 | 11 | |
| | 31-35 years | 8.50 | .71 | 2.50 | 0.71 | 6.00 | .00 | 2 | |
| Type of family | Nuclear family | 8.00 | .98 | 3.73 | 1.28 | 4.27 | 1.71 | 26 | F=1.18 P=0.31 (NS) |
| | Joint family | 7.92 | .90 | 3.08 | 1.38 | 4.83 | 1.90 | 12 | |
| | Extended family | 9.00 | .00 | 3.00 | .00 | 6.00 | .00 | 2 | |
| Education status of the mother | Illiterate | 8.67 | .58 | 2.67 | .58 | 6.00 | .00 | 3 | F=1.53 P=0.20 (NS) |
| | Primary education | 7.71 | .95 | 3.43 | 1.40 | 4.29 | 1.80 | 7 | |
| | Secondary education | 8.33 | 1.00 | 3.11 | 1.05 | 5.22 | 1.56 | 9 | |
| | High school | 7.86 | 1.07 | 3.14 | 1.46 | 4.71 | 2.06 | 7 | |
| | Higher Secondary | 7.78 | .97 | 4.33 | 1.12 | 3.44 | 1.67 | 9 | |
| | Graduate | 8.20 | .84 | 3.80 | 1.64 | 4.40 | 1.67 | 5 | |
| Occupation status of the mother | Unemployed | 7.69 | .85 | 4.23 | 1.17 | 3.46 | 1.56 | 13 | F=3.69 P=0.01**(S) |
| | Unskilled worker | 7.33 | .82 | 3.17 | 1.17 | 4.17 | 1.47 | 6 | |
| | Semiskilled worker | 8.56 | .88 | 2.67 | 1.12 | 5.89 | 1.69 | 9 | |
| | Skilled worker | 8.60 | .89 | 3.60 | 1.52 | 5.00 | 1.22 | 5 | |
| | Clerk, Shopowner, Farmer | 8.00 | 1.15 | 4.25 | .96 | 3.75 | 1.71 | 4 | |
| | Semiprofession | 8.33 | .58 | 2.33 | .58 | 6.00 | .00 | 3 | |
| | Profession | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Demographic variables | | Numerical Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Monthly income of the family | Below Rs 2091 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | F=2.74 P=0.04 *(S) |
| | Rs 2,092-6,213 | 7.00 | .82 | 5.00 | 1.41 | 2.00 | 2.00 | 4 | |
| | Rs 6,214-10,356 | 8.00 | 1.00 | 5.92 | .95 | 2.08 | 1.38 | 13 | |
| | Rs 10,357-15,535 | 8.00 | 1.04 | 3.50 | 1.40 | 4.50 | 1.95 | 14 | |
| | Rs15,536-20,714 | 8.67 | .52 | 3.34 | 1.21 | 5.33 | 1.51 | 6 | |
| | Rs 20,715-41,429 | 7.00 | .00 | 2.00 | .00 | 5.00 | 0.00 | 3 | |
| | Above Rs 41,430 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Place of living | Rural | 7.94 | .97 | 3.88 | 1.32 | 4.06 | 1.71 | 17 | F=0.89 P=0.41 (NS) |
| | Urban | 7.93 | .96 | 3.53 | 1.30 | 4.40 | 1.76 | 15 | |
| | Semiurban | 8.37 | .92 | 2.62 | .92 | 5.75 | 1.39 | 8 | |
| Religion | Hindu | 8.13 | .94 | 3.30 | 1.34 | 4.83 | 1.78 | 30 | F=0.27 P=0.76 (NS) |
| | Christian | 7.71 | .95 | 4.00 | 1.15 | 3.71 | 1.38 | 7 | |
| | Muslim | 7.67 | 1.15 | 4.33 | .58 | 3.34 | 1.53 | 3 | |

Table no 4.15 shows the association between mothers reduction of pain using numerical pain score and their demographic variables.

Considering age of the mothers (Elder mothers (F=3.04 **04P=0.05* (S)**), Occupation status of the mother(Semi profession (**F=3.69 P=0.01**(S)** and Monthly income of the family(Rs15,536-20,714) **F=2.74 P=0.04 *(S)** are reduced pain score than others , reveals that there is a significant association. Statistical significance was calculated using one way analysis of variance F-test.

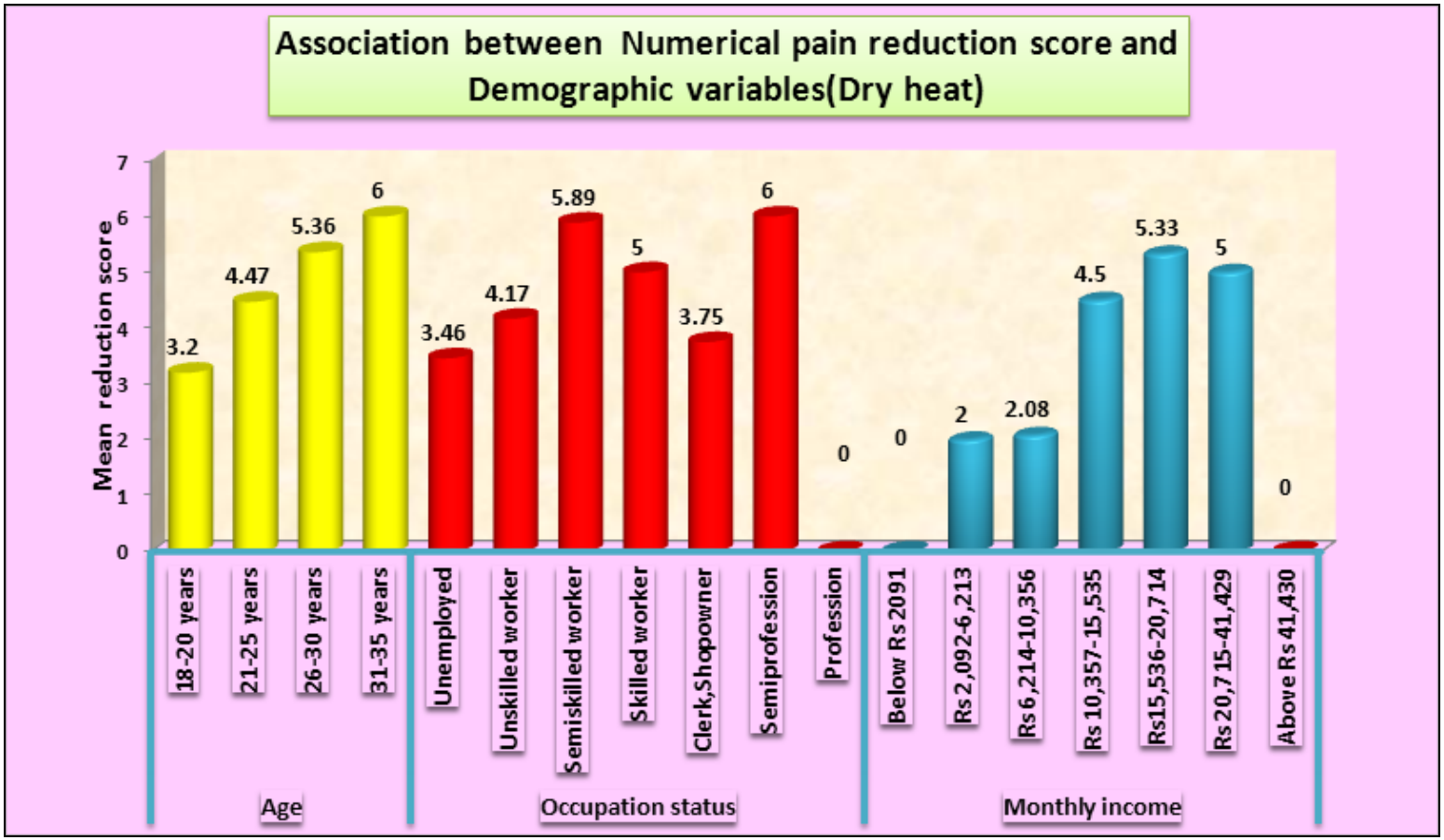



*Figure: 4.23 Shows the association between mothers reduction of numerical pain score and their demographic variable*

***Table 4.16: Association Between Mothers Reduction Of Numerical Pain Score And Their Obstetrics Variables (Dry Heat)***

| Obstetrics Variables | | Numerical pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Gravida | One | 7.77 | .90 | 3.87 | 1.31 | 3.90 | 1.74 | 30 | F=3.22 P=0.05* (S) |
| | Two | 8.75 | .71 | 3.27 | 1.30 | 5.48 | 1.73 | 8 | |
| | Three | 9.00 | .00 | 3.40 | 2.12 | 5.60 | 2.12 | 2 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Para | One | 7.78 | .91 | 3.67 | 1.32 | 4.11 | 1.74 | 32 | F=3.30 P=0.05* (S) |
| | Two | 9.00 | .00 | 3.14 | 1.17 | 5.86 | 1.17 | 6 | |
| | Three | 9.00 | .00 | 3.30 | 2.12 | 5.70 | 2.12 | 2 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Duration of second stage of labour | 15 to 30 min | 8.12 | .98 | 3.44 | 1.29 | 4.69 | 1.71 | 32 | t=0.10 P=0.74 (NS) |
| | 30min to 1 hr | 7.63 | .74 | 3.75 | 1.39 | 3.88 | 1.89 | 8 | |
| | 1hr to 1 ½ hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | 1 ½ to 2 hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Birth weight of the baby | Below 2.5 kg | 8.33 | 1.15 | 4.26 | 1.15 | 4.07 | 2.31 | 3 | F=3.26 P=0.05* (S) |
| | 2.5 to 3.5 kg | 7.86 | .92 | 2.41 | 1.35 | 5.45 | 1.86 | 29 | |
| | Above 3.5 kg | 8.50 | .93 | 4.75 | 1.28 | 3.75 | 1.28 | 8 | |
| Types of episiotomy | Medio-lateral | 7.97 | .94 | 3.47 | 1.31 | 4.50 | 1.78 | 38 | F=1.61 P=0.21 (NS) |
| | Median | 9.00 | . | 5.00 | . | 4.00 | . | 1 | |
| | J- shape | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Obstetrics Variables | | Numerical pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Indication of episiotomy | Macro somia | 8.00 | 1.15 | 3.00 | 1.15 | 5.00 | 1.63 | 4 | F=1.40 P=0.25 (NS) |
| | Rigid perineum | 7.82 | .94 | 3.57 | 1.26 | 4.25 | 1.71 | 28 | |
| | Fetal distress | 8.75 | .46 | 3.50 | 1.60 | 5.25 | 1.91 | 8 | |
| Type of delivery | Normal vaginal delivery | 8.03 | .95 | 3.50 | 1.30 | 4.52 | 1.75 | 40 | F=0.00 P=1.00 (NS) |
| | Forceps delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | Vacuum delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

Table no 4.16 shows the association between mothers reduction of numerical pain score and their obstetrics variables gravida **(F=3.22 P=0.05* (S)**, para **(F=3.30P=0.05* (S)**, birth weight of the baby **F=3.26 P=0.05*** . Statistical significance was calculated using one-way analysis of variance F-test. Hence the findings reveals that gravida, para and weight of the baby has significant association in reduction of pain in dry heat group.

***Table 4. 17: Association Between Mothers Reduction Of Numerical Pain Score And Their Demographic Variables (Moist Heat)***

| Demographic variables | | Numerical Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Pain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Age of the mothers | 18-20 years | 7.89 | 1.05 | 5.67 | .87 | 2.22 | 1.30 | 9 | F=2.99 P=0.04*(S) |
| | 21-25 years | 8.06 | .93 | 3.44 | .96 | 3.44 | 1.15 | 16 | |
| | 26-30 years | 8.08 | 1.04 | 4.54 | .66 | 4.54 | 1.45 | 13 | |
| | 31-35 years | 9.00 | .00 | 5.50 | .00 | 5.50 | .00 | 2 | |
| Type of family | Nuclear family | 8.30 | .93 | 5.10 | .79 | 3.20 | 1.18 | 23 | F=4.09 P=0.02* (S) |
| | Joint family | 7.87 | .99 | 4.00 | .82 | 3.87 | 1.21 | 15 | |
| | Extended family | 7.00 | .00 | 5.50 | .71 | 1.50 | .71 | 2 | |
| Education status of the mother | Illiterate | 7.83 | .98 | 4.50 | .55 | 3.33 | 1.21 | 6 | F=0.54 P=0.74 (NS) |
| | Primary education | 8.20 | 1.10 | 4.40 | .89 | 3.80 | 1.79 | 5 | |
| | Secondary education | 7.75 | 1.04 | 4.88 | 1.13 | 2.88 | 1.64 | 8 | |
| | High school | 8.67 | .71 | 4.56 | .73 | 4.11 | 1.05 | 9 | |
| | Higher Secondary | 8.00 | 1.00 | 4.29 | .95 | 3.71 | .76 | 7 | |
| | Graduate | 7.80 | 1.10 | 4.80 | .45 | 3.00 | 1.00 | 5 | |
| Occupation status of the mother | Unempolyed | 8.29 | .99 | 6.71 | .73 | 1.57 | 1.28 | 14 | F=3.21 P=0.05*(S) |
| | Unskilled worker | 7.50 | .84 | 4.33 | .82 | 3.17 | .98 | 6 | |
| | Semiskilled worker | 8.50 | .84 | 5.00 | .89 | 3.50 | 1.38 | 6 | |
| | Skilled worker | 7.86 | 1.07 | 4.57 | .98 | 3.29 | 1.98 | 7 | |
| | Clerk, Shopowner, Farmer | 8.25 | .96 | 4.00 | .82 | 4.25 | .50 | 4 | |
| | Semiprofession | 7.67 | 1.15 | 2.33 | .58 | 5.33 | .58 | 3 | |
| | Profession | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Demographic variables | | Numerical Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Pain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Monthly income of the family | Below Rs 2091 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | F=0.73 P=0.57 (NS) |
| | Rs 2,092-6,213 | 7.50 | .71 | 4.00 | .00 | 3.50 | .71 | 2 | |
| | Rs 6,214-10,356 | 8.15 | .99 | 4.77 | .93 | 3.38 | 1.33 | 13 | |
| | Rs 10,357-15,535 | 7.92 | 1.00 | 4.75 | .87 | 3.17 | 1.34 | 12 | |
| | Rs15,536-20,714 | 8.50 | .93 | 4.25 | .71 | 4.25 | 1.28 | 8 | |
| | Rs 20,715-41,429 | 7.80 | 1.10 | 4.40 | .55 | 3.40 | 1.14 | 5 | |
| | Above Rs 41,430 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Place of living | Rural | 8.22 | .94 | 4.56 | .86 | 3.67 | 1.37 | 18 | F=1.79 P=0.18 (NS) |
| | Urban | 8.20 | 1.01 | 4.67 | .90 | 3.53 | 1.25 | 15 | |
| | Semiurban | 7.43 | .79 | 4.43 | .53 | 3.00 | 1.15 | 7 | |
| Religion | Hindu | 8.28 | .92 | 4.48 | .83 | 3.79 | 1.24 | 29 | F=1.93 P=0.15 (NS) |
| | Christian | 7.67 | 1.00 | 5.00 | .50 | 2.67 | 1.12 | 9 | |
| | Muslim | 7.00 | .00 | 4.00 | 1.41 | 3.00 | 1.41 | 2 | |

Fig 4.16 shows the association between mothers pain reduction of numerical pain score and their demographic variables in moist heat, age of the mother **(F=2.99P=0.04*(S)**, type of family **F=4.09 P=0.02* (S)**, occupational status of the mother **(F=3.21P=0.05*(S)**. Statistical significance was calculated using oneway analysis of variance F-test.

Hence the association between mothers reduction of numerical pain score and their demographic variables in moist heat, Elder mothers, joint family mothers and semi profession mothers are reduced pain score than others.

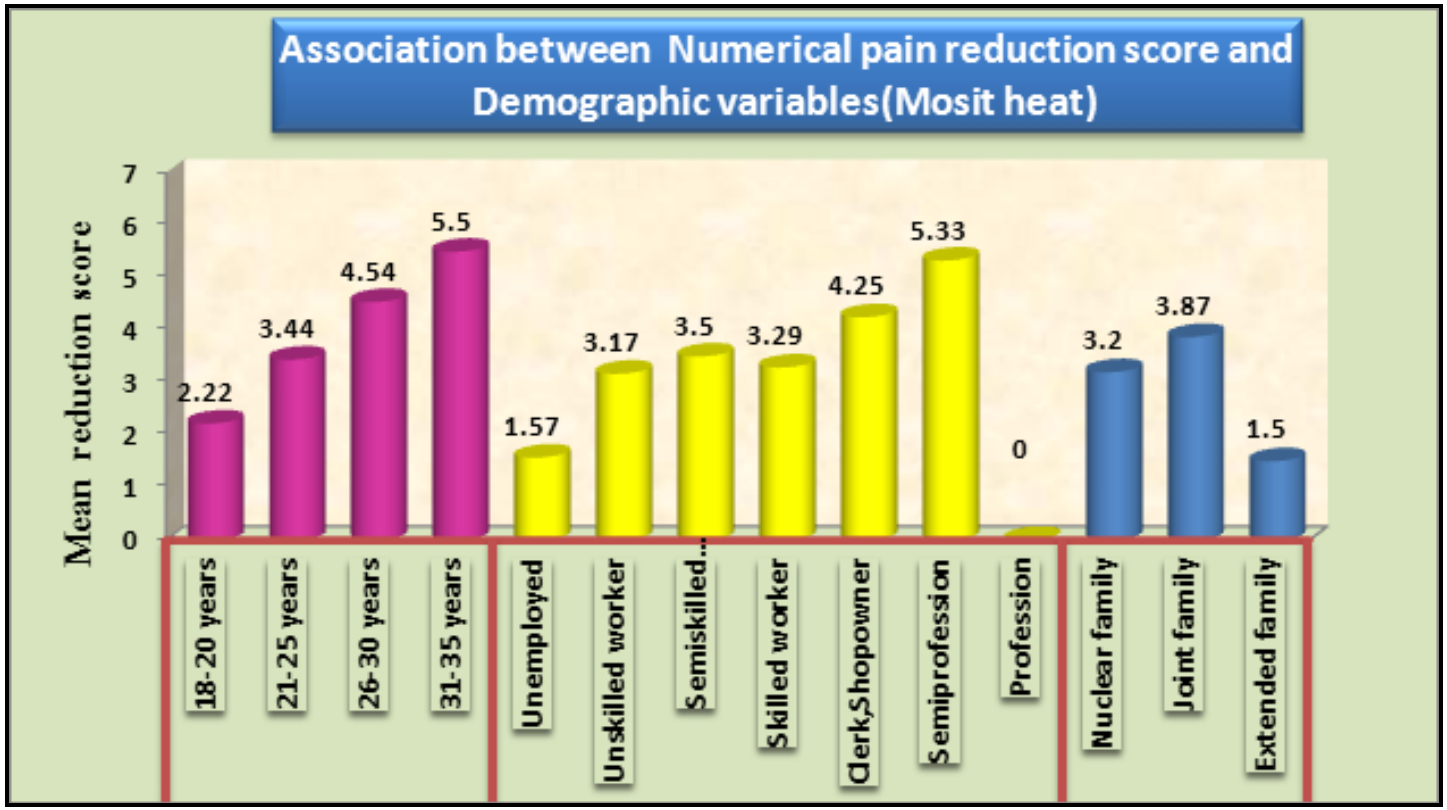



*Figure 4.24 Association between Numerical pain reduction score and Demographic variables(Moist heat)*

***Table-4.18: Association Between Mothers Reduction Of Numerical Pain Score And Their Obstetrics Variables (Moist Heat)***

| Obstetrics Variables | | Numerical pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Gravida | One | 8.04 | .96 | 4.62 | .80 | 3.42 | 1.21 | 26 | F=0.56 P=0.57(NS) |
| | Two | 8.09 | 1.04 | 4.36 | .92 | 3.73 | 1.56 | 11 | |
| | Three | 8.33 | 1.15 | 5.00 | .00 | 3.33 | 1.15 | 3 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Para | One | 7.96 | .96 | 4.57 | .84 | 3.39 | 1.20 | 28 | F=1.23 P=0.30 (NS) |
| | Two | 8.33 | 1.00 | 4.44 | .88 | 3.89 | 1.62 | 9 | |
| | Three | 8.33 | 1.15 | 5.00 | .00 | 3.33 | 1.15 | 3 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Duration of second stage of labour | 15 to 30 min | 8.00 | .98 | 4.59 | .82 | 3.41 | 1.33 | 34 | t=0.73 P=0.46 (NS) |
| | 30 min to 1 hr | 8.50 | .84 | 4.50 | .84 | 4.00 | .89 | 6 | |
| | 1hr to 1 ½ hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | 1 ½ to 2 hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Birth weight of the baby | Below 2.5 kg | 7.67 | 1.15 | 5.00 | .00 | 2.67 | 1.15 | 3 | F=0.06P=0.94 (NS) |
| | 2.5 to 3.5 kg | 7.96 | .96 | 4.64 | .87 | 3.32 | 1.22 | 28 | |
| | Above 3.5 kg | 8.56 | .88 | 4.22 | .67 | 4.33 | 1.22 | 9 | |
| Types of episiotomy | Medio-lateral | 8.05 | .97 | 4.57 | .80 | 3.49 | 1.22 | 37 | F=0.12 P=0.88 (NS) |
| | Median | 9.00 | .00 | 4.00 | .00 | 5.00 | .00 | 2 | |
| | J- shape | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Obstetrics Variables | | Numerical pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Indication of episiotomy | Macro somia | 8.43 | .98 | 4.14 | .69 | 4.29 | 1.38 | 7 | F=2.54 P=0.09 (NS) |
| | Rigid perineum | 8.32 | .89 | 4.68 | .84 | 3.64 | 1.14 | 22 | |
| | Fetal distress | 7.36 | .81 | 4.64 | .81 | 2.73 | 1.19 | 11 | |
| Type of delivery | Normal vaginal delivery | 8.08 | .97 | 4.57 | .81 | 3.50 | 1.28 | 40 | F=0.00 P=1.00 (NS) |
| | Forceps delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | Vacuum delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

Table no. 4.17 shows the association between mothers reduction of numerical pain score and their obstetrics variables in Moist heat None of the variable are significant. Statistical significance was calculated using One way analysis of variance F-test .

***Table-4.19: Association Between Mothers Pain Reduction Of Modified Short Form Mcgill Pain Questionnaire And Their Demographic Variables (Dry Heat)***

| Demographic variables | | Modified shortformMcGill Pain score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Gain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Age of the mothers | 18-20 years | 32.88 | 1.13 | 13.88 | 1.55 | 19.00 | 2.33 | 8 | F=0.83 P=0.44 (NS) |
| | 21-25 years | 33.05 | 1.78 | 12.74 | 1.82 | 20.32 | 2.16 | 19 | |
| | 26-30 years | 33.00 | 1.73 | 12.82 | 2.14 | 20.18 | 2.93 | 11 | |
| | 31-35 years | 33.00 | .00 | 11.50 | .71 | 21.50 | .71 | 2 | |
| Type of family | Nuclear family | 33.15 | 1.41 | 14.65 | 1.95 | 18.50 | 2.19 | 26 | F=4.59 P=0.01** (S) |
| | Joint family | 32.75 | 2.01 | 11.25 | 1.66 | 21.50 | 2.98 | 12 | |
| | Extended family | 32.50 | .71 | 12.50 | .00 | 20.00 | .71 | 2 | |
| Education status of the mother | Illiterate | 33.67 | 2.08 | 10.67 | .58 | 23.00 | 2.65 | 3 | F=1.24 P=0.31 (NS) |
| | Primary education | 33.29 | 1.25 | 13.71 | 1.11 | 19.57 | 1.13 | 7 | |
| | Secondary education | 33.33 | 1.66 | 12.78 | 1.92 | 20.56 | 2.46 | 9 | |
| | High school | 32.43 | 2.15 | 12.71 | .95 | 19.71 | 2.43 | 7 | |
| | Higher Secondary | 32.78 | 1.56 | 13.33 | 1.80 | 19.44 | 2.07 | 9 | |
| | Graduate | 32.80 | .84 | 13.00 | 3.32 | 19.80 | 3.49 | 5 | |
| Occupation status of the mother | Unemployed | 32.54 | 1.61 | 14.23 | 1.36 | 18.31 | 1.93 | 13 | F=4.10 P=0.01** (S) |
| | Unskilled worker | 33.33 | 1.03 | 12.83 | .75 | 20.50 | 1.52 | 6 | |
| | Semiskilled worker | 33.00 | 1.66 | 12.00 | 1.41 | 21.00 | 1.58 | 9 | |
| | Skilled worker | 33.00 | 1.87 | 11.40 | 1.82 | 21.60 | 2.41 | 5 | |
| | Clerk, Shopowner, Farmer | 33.50 | 1.73 | 14.25 | 2.50 | 19.25 | 2.75 | 4 | |
| | Semiprofession | 33.67 | 2.08 | 11.00 | 1.00 | 22.67 | 2.89 | 3 | |
| | Profession | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Demographic variables | | Modified shortformMcGill Pain score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Gain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Monthly income of the family | Below Rs 2091 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | F=3.17 P=0.03* (S) |
| | Rs 2,092-6,213 | 33.00 | 2.16 | 14.25 | .96 | 18.75 | 2.99 | 4 | |
| | Rs 6,214-10,356 | 33.69 | 1.32 | 15.62 | 1.76 | 18.08 | 1.61 | 13 | |
| | Rs 10,357-15,535 | 32.79 | 1.81 | 12.86 | 1.79 | 19.93 | 2.67 | 14 | |
| | Rs15,536-20,714 | 32.17 | 1.17 | 11.00 | 1.79 | 21.17 | 1.17 | 6 | |
| | Rs 20,715-41,429 | 32.67 | .58 | 11.67 | 2.08 | 21.00 | 1.73 | 3 | |
| | Above Rs 41,430 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Place of living | Rural | 33.00 | 2.09 | 13.29 | 1.65 | 19.71 | 2.37 | 17 | F=0.63 P=0.53 (NS) |
| | Urban | 33.07 | 1.10 | 13.00 | 2.30 | 20.07 | 2.87 | 15 | |
| | Semiurban | 32.88 | 1.13 | 12.00 | 1.07 | 20.88 | 1.25 | 8 | |
| Religion | Hindu | 32.97 | 1.69 | 12.67 | 1.95 | 20.30 | 2.64 | 30 | F=0.57 P=0.56 (NS) |
| | Christian | 33.29 | 1.38 | 13.71 | 1.60 | 19.57 | 1.51 | 7 | |
| | Muslim | 32.67 | .58 | 13.67 | .58 | 19.00 | .00 | 3 | |

Table no 4.18 shows the association between mothers reduction of Modified short form McGill pain questionnaire and their demographic variables in dry heat group are joint family mothers F=4.59 P=0.01** (S) ,semi profession mothers F=4.10 P=0.01** (S) and more income mothers F=3.17 P=0.03* (S) were having reduced pain score than others. statistical significance was calculated using One way anova F-test.

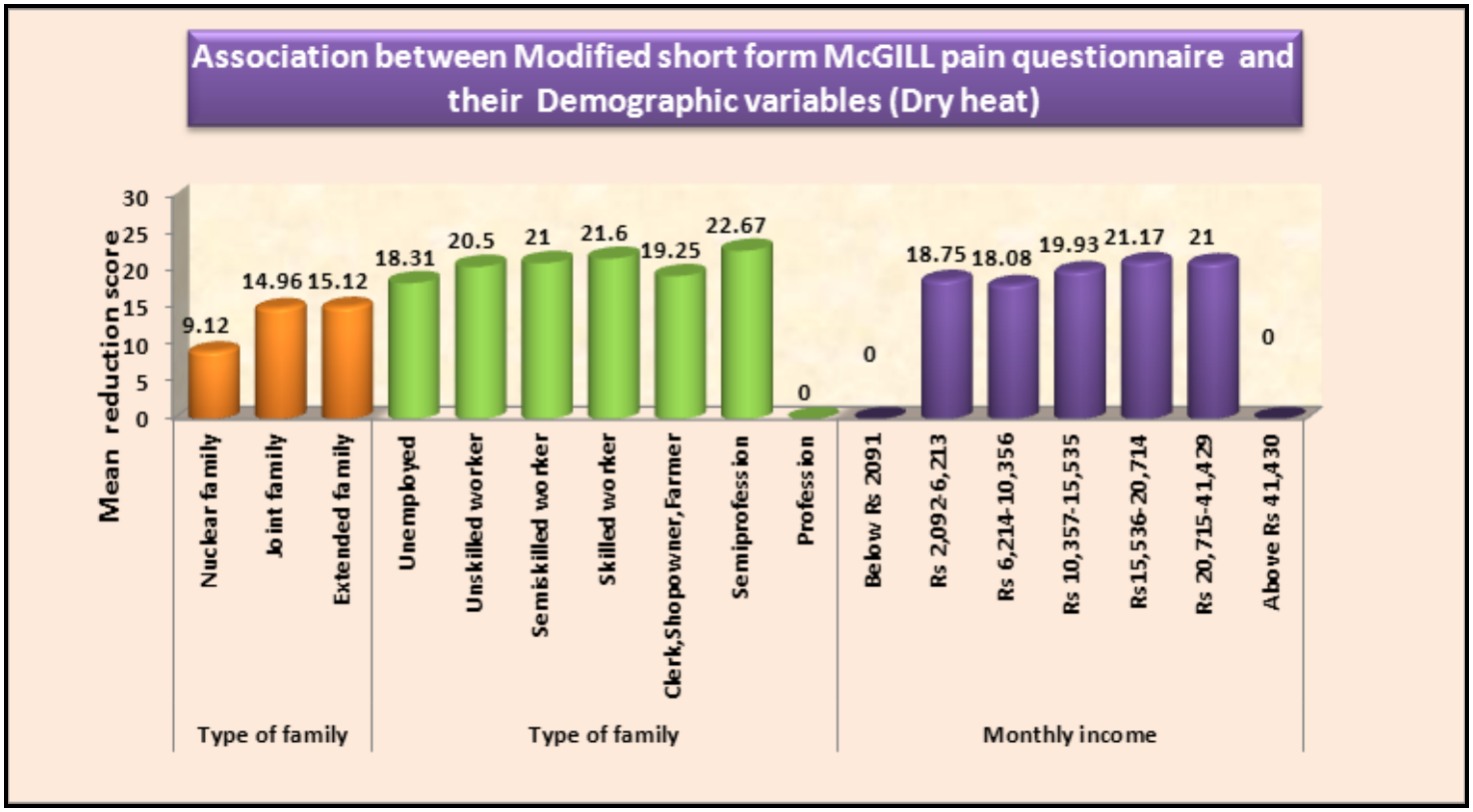



***Figure: 4.25 Association between modified short form McGILL pain questionnaire and their Demographic variables (Dry heat)***

***Table 4.20: Association Between Mothers Pain Reduction Of Modified Short Form Mcgill Pain Questionnaire And Their Obstetrics Variables (Dry Heat )***

| Obstetrics variables | | Modified short formMcGill pain questionnaire | | | | | | n | Oneway ANOVA F-test/t-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Gravida | One | 33.00 | 1.62 | 13.03 | 1.79 | 19.97 | 2.40 | 30 | F=0.57 P=0.58 (NS) |
| | Two | 33.25 | 1.49 | 13.13 | 1.89 | 20.12 | 2.36 | 8 | |
| | Three | 32.00 | 1.41 | 10.50 | 2.12 | 21.50 | 3.54 | 2 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Para | One | 32.97 | 1.58 | 13.19 | 1.87 | 19.78 | 2.45 | 32 | F=1.23 P=0.30 (NS) |
| | Two | 33.50 | 1.64 | 12.33 | 1.03 | 21.17 | 1.47 | 6 | |
| | Three | 32.00 | 1.41 | 10.50 | 2.12 | 21.50 | 3.54 | 2 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Duration of second stage of labour | 15 to 30 min | 32.81 | 1.57 | 12.88 | 1.91 | 19.94 | 2.31 | 32 | t=0.72 P=0.47(NS) |
| | 30 min to 1hr | 33.75 | 1.39 | 13.13 | 1.73 | 20.63 | 2.77 | 8 | |
| | 1hr to 1 ½ hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | 1 ½ hr to 2 hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Birth weight of the baby | Below 2.5 kg | 33.33 | .58 | 14.33 | 3.06 | 19.00 | 3.00 | 3 | F=0.62 P=0.54 (NS) |
| | 2.5 to 3.5 kg | 32.93 | 1.58 | 12.93 | 1.77 | 20.00 | 2.43 | 29 | |
| | Above 3.5 kg | 33.13 | 1.89 | 12.38 | 1.69 | 20.75 | 2.12 | 8 | |

| Obstetrics variables | | Modified short formMcGill pain questionnaire | | | | | | n | Oneway ANOVA F-test/t-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Types of episiotomy | Medio-lateral | 33.05 | 1.59 | 12.95 | 1.87 | 20.11 | 2.42 | 38 | F=0.44 P=0.64 (NS) |
| | Median | 32.00 | . | 14.00 | . | 18.00 | . | 1 | |
| | J- shape | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Indication of episiotomy | Macro somia | 33.50 | 1.73 | 12.25 | 2.22 | 21.25 | 2.22 | 4 | F=0.55 P=0.58 (NS) |
| | Rigid perineum | 32.82 | 1.56 | 12.93 | 1.82 | 19.89 | 2.42 | 28 | |
| | Fetal distress | 33.38 | 1.60 | 13.25 | 1.98 | 20.12 | 2.47 | 8 | |
| Type of delivery | Normal vaginal delivery | 33.00 | 1.57 | 12.93 | 1.86 | 20.08 | 2.39 | 40 | F=0.00 P=1.00 (NS) |
| | Forceps delivery | . | . | . | . | . | . | 0 | |
| | Vacuum delivery | . | . | . | . | . | . | 0 | |

Table no 4.19shows the association between mothers reduction of Modified short form MCGILL pain questionnaire and their obstetric variables None of the variable are significant..Statistical significance was calculated using oneway analysis of variance F-test.

***Table 4.21: Association Between Mothers Pain Reduction Of Modified Short Form Mcgill Questionnaire And Their Demographic Variables (Moist Heat)***

| Demographic variables | | ModifiedshortformMcGillpainscore | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | pain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Age of the mothers | 18-20 years | 32.89 | 1.83 | 19.56 | 3.21 | 13.33 | 3.74 | 9 | F=2.86 P=0.05*(S) |
| | 21-25 years | 33.19 | 1.33 | 17.31 | 3.50 | 15.88 | 3.67 | 16 | |
| | 26-30 years | 33.00 | 1.15 | 15.31 | 3.04 | 17.69 | 3.20 | 13 | |
| | 31-35 years | 32.50 | .71 | 17.00 | 1.41 | 15.50 | .71 | 2 | |
| Type of family | Nuclear family | 32.65 | 1.30 | 17.95 | 2.75 | 14.70 | 2.51 | 23 | F=3.35 P=0.04* (S) |
| | Joint family | 33.60 | 1.35 | 16.00 | 3.84 | 17.60 | 4.55 | 15 | |
| | Extended family | 33.00 | .00 | 18.50 | 3.54 | 14.50 | 3.54 | 2 | |
| Education status of the mother | Illiterate | 33.83 | 1.33 | 15.83 | .98 | 18.00 | 1.55 | 6 | F=2.48 P=0.15 (NS) |
| | Primary education | 33.40 | 1.14 | 16.60 | .89 | 16.80 | 1.48 | 5 | |
| | Secondary education | 32.50 | 1.69 | 18.00 | 3.66 | 14.50 | 3.93 | 8 | |
| | High school | 32.67 | 1.32 | 18.67 | 4.33 | 14.00 | 4.58 | 9 | |
| | Higher Secondary | 33.14 | 1.07 | 17.43 | 2.94 | 15.71 | 2.21 | 7 | |
| | Graduate | 33.00 | 1.41 | 14.20 | 1.10 | 18.80 | 1.10 | 5 | |
| Occupation status of the mother | Unempolyed | 32.71 | 1.73 | 17.79 | 4.10 | 14.93 | 4.23 | 14 | F=1.11 P=0.37 (NS) |
| | Unskilled worker | 34.17 | 1.33 | 16.17 | .41 | 18.00 | 1.55 | 6 | |
| | Semiskilled worker | 32.50 | 1.05 | 18.00 | 4.90 | 14.50 | 5.09 | 6 | |
| | Skilled worker | 33.14 | .38 | 16.00 | 1.41 | 17.14 | 1.21 | 7 | |
| | Clerk, Shopowner, Farmer | 32.75 | .50 | 16.25 | .50 | 16.50 | 1.00 | 4 | |
| | Semiprofession | 33.33 | 1.53 | 17.33 | 2.31 | 16.00 | 1.00 | 3 | |
| | Profession | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Demographic variables | | ModifiedshortformMcGillpainscore | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | pain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Monthly income of the family | Below Rs 2091 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | F=0.82 P=0.51 (NS) |
| | Rs 2,092-6,213 | 35.50 | .71 | 16.00 | .00 | 19.50 | .71 | 2 | |
| | Rs 6,214-10,356 | 33.00 | 1.47 | 17.46 | 3.38 | 15.54 | 3.57 | 13 | |
| | Rs 10,357-15,535 | 32.83 | 1.11 | 17.42 | 3.70 | 15.42 | 3.70 | 12 | |
| | Rs15,536-20,714 | 32.75 | 1.28 | 17.00 | 3.46 | 15.75 | 3.69 | 8 | |
| | Rs 20,715-41,429 | 33.00 | 1.22 | 15.80 | 1.10 | 17.20 | 1.79 | 5 | |
| | Above Rs 41,430 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Place of living | Rural | 32.78 | 1.06 | 18.22 | 3.39 | 14.56 | 3.97 | 18 | F=3.19 P=0.05* (S) |
| | Urban | 32.93 | 1.49 | 15.73 | 3.06 | 17.20 | 2.62 | 15 | |
| | Semi urban | 33.86 | 1.57 | 17.00 | 1.53 | 16.86 | 1.95 | 7 | |
| Religion | Hindu | 33.07 | 1.44 | 17.31 | 2.94 | 15.76 | 3.23 | 29 | F=0.55 P=0.57 (NS) |
| | Christian | 32.67 | 1.00 | 15.78 | 3.67 | 16.89 | 4.23 | 9 | |
| | Muslim | 34.00 | 1.41 | 19.50 | 3.54 | 14.50 | 2.12 | 2 | |

Table no 4.20 shows the association between mothers reduction of Modified short formMcGill pain questionnaire and their demographic variables in Moist heat Elder mothers **F=2.86 P=0.05*(S)**, joint family mothers **F=3.35 P=0.04* (S)** and urban mothers **F=3.19 P=0.05* (S)** are reduced more score than others. Statistical significance was calculated using one way analysis of variance F-test.

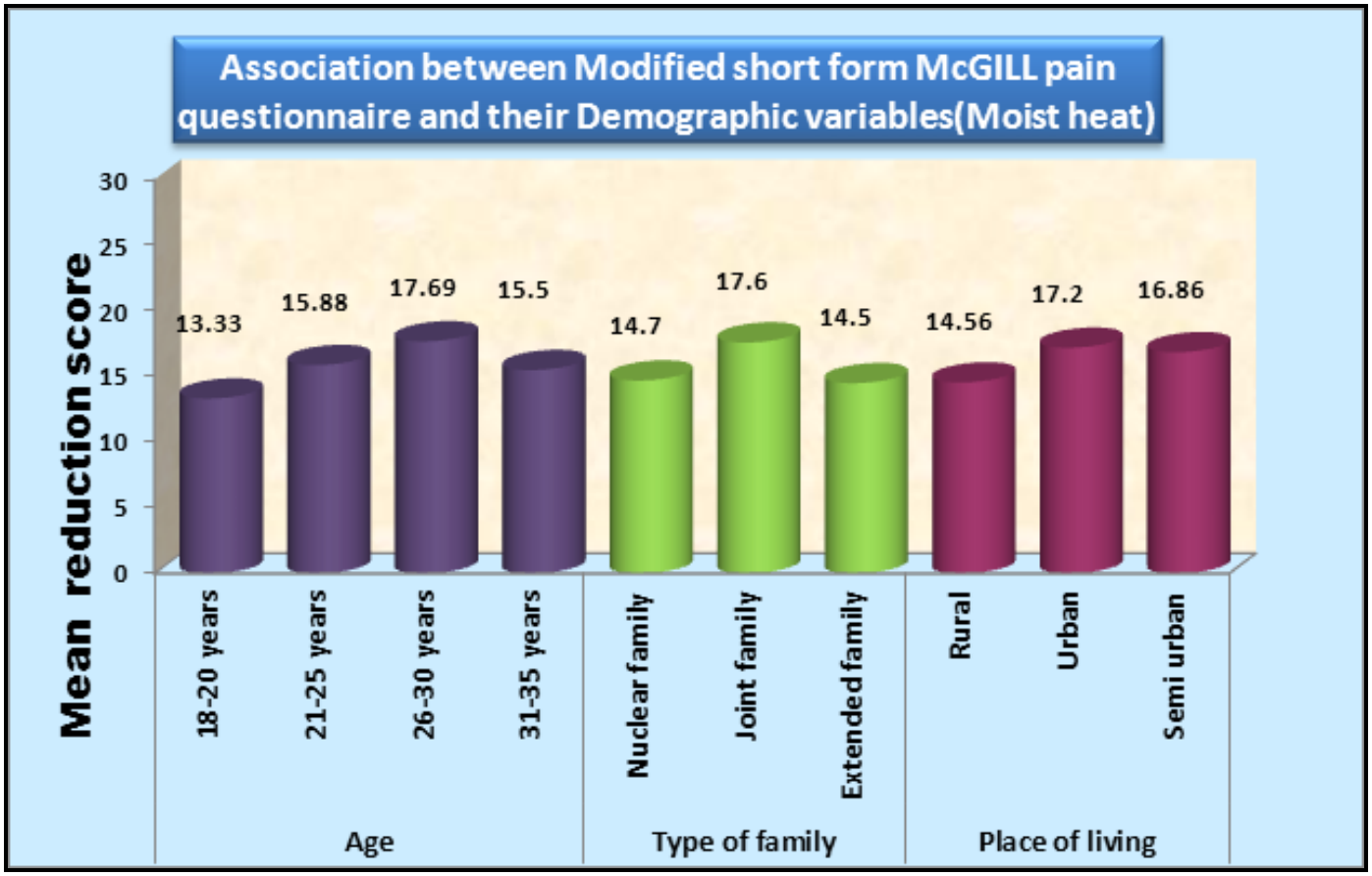



*Figure: 4.26 Association between Modified short form Mc GILL pain questionnaire and Demographic variables(Moist heat)*

***Table-4.22: Association Between Mothers Pain Reduction Of Modified Short Form Mcgill Questionnaire And Their Obstetrics Variables (Moist Heat)***

| Obstetrics Variables | | Modified short formMcGill pain questionnaire | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Gravida | One | 33.00 | 1.57 | 17.65 | 3.55 | 15.35 | 3.96 | 26 | F=1.46 P=0.24 (NS) |
| | Two | 33.27 | .65 | 16.55 | 1.86 | 16.73 | 1.56 | 11 | |
| | Three | 32.33 | 1.15 | 14.00 | .00 | 18.33 | 1.15 | 3 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Para | One | 33.00 | 1.52 | 17.54 | 3.45 | 15.46 | 3.83 | 28 | F=0.37 P=0.69 (NS) |
| | Two | 33.33 | .71 | 16.67 | 2.06 | 16.67 | 1.73 | 9 | |
| | Three | 32.33 | 1.15 | 14.00 | .00 | 18.33 | 1.15 | 3 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Duration of second stage of labour | 15 to 30 min | 32.94 | 1.30 | 17.06 | 2.92 | 15.88 | 3.01 | 34 | F=0.08P=0.76 (NS) |
| | 30 min to 1 hr | 33.50 | 1.64 | 17.17 | 4.67 | 16.33 | 5.50 | 6 | |
| | 1hr to 1 ½ hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | 1 ½ hr to 2 hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Birth weight of the baby | Below 2.5 kg | 33.67 | 1.15 | 16.00 | .00 | 17.67 | 1.15 | 3 | F=0.46 P=0.63 (NS) |
| | 2.5 to 3.5 kg | 33.07 | 1.41 | 17.14 | 3.40 | 15.93 | 3.61 | 28 | |
| | Above 3.5 kg | 32.67 | 1.22 | 17.22 | 3.07 | 15.44 | 3.28 | 9 | |
| Types of episiotomy | Medio-lateral | 33.11 | 1.22 | 17.00 | 3.17 | 16.11 | 3.47 | 37 | F=0.78 P=0.46 (NS) |
| | Median | 31.50 | 3.54 | 16.50 | 3.54 | 15.00 | .00 | 2 | |
| | J- shape | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Obstetrics Variables | | Modified short formMcGill pain questionnaire | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Indication of episiotomy | Macro somia | 32.71 | 1.38 | 17.43 | 3.51 | 15.29 | 3.73 | 7 | F=0.43 P=0.64 (NS) |
| | Rigid perineum | 32.91 | 1.48 | 17.14 | 3.45 | 15.77 | 3.78 | 22 | |
| | Fetal distress | 33.45 | 1.04 | 16.73 | 2.53 | 16.73 | 2.41 | 11 | |
| Type of delivery | Normal vaginal delivery | 33.03 | 1.35 | 17.08 | 3.17 | 15.95 | 3.40 | 40 | F=0.00 P=1.00 (NS) |
| | Forceps delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | Vacuum delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

Table no 4.22 shows the association between mothers pain reduction of Modified short formMcGill pain questionnaire and their Obstetrics variables None of the variable are significant..Statistical significance was calculated using oneway analysis of variance F-test .

***Table 4.23: Association Between Mothers Reduction Of Present Pain Intensity Pain Score And Their Demographic Variables (Dry Heat)***

| Demographic Variables | | PPI Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Gain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Age of the mothers | 18-20 years | 4.13 | .64 | 2.25 | .46 | 1.88 | .64 | 8 | F=0.14 P=0.93 (NS) |
| | 21-25 years | 3.53 | .61 | 1.42 | .77 | 2.11 | .94 | 19 | |
| | 26-30 years | 3.91 | .70 | 1.91 | .83 | 2.00 | .89 | 11 | |
| | 31-35 years | 3.50 | .71 | 1.50 | .71 | 2.00 | .00 | 2 | |
| Type of family | Nuclear family | 3.77 | .76 | 1.73 | .87 | 2.04 | .87 | 26 | F=0.41 P=0.66 (NS) |
| | Joint family | 3.67 | .49 | 1.75 | .62 | 1.92 | .79 | 12 | |
| | Extended family | 4.00 | .00 | 1.50 | .71 | 2.50 | .71 | 2 | |
| Education status of the mother | Illiterate | 4.00 | .00 | 1.33 | .58 | 2.67 | .58 | 3 | F=0.83 P=0.54 (NS) |
| | Primary education | 3.43 | .53 | 1.57 | 1.13 | 1.86 | .90 | 7 | |
| | Secondary education | 3.67 | .71 | 1.44 | .73 | 2.22 | .44 | 9 | |
| | High school | 3.86 | .69 | 2.00 | .58 | 1.86 | .90 | 7 | |
| | Higher Secondary | 4.00 | .71 | 1.89 | .78 | 2.11 | 1.17 | 9 | |
| | Graduate | 3.60 | .89 | 2.00 | .71 | 1.60 | .55 | 5 | |
| Occupation status of the mother | Unempolyed | 3.62 | .77 | 2.15 | .55 | 1.46 | .78 | 13 | F=3.11 P=0.02* (S) |
| | Unskilled worker | 3.67 | .52 | 1.50 | .84 | 2.17 | .75 | 6 | |
| | Semiskilled worker | 3.78 | .67 | 1.22 | .67 | 2.56 | .73 | 9 | |
| | Skilled worker | 3.60 | .55 | 1.80 | .84 | 1.80 | .84 | 5 | |
| | Clerk, Shopowner, Farmer | 4.50 | .58 | 2.25 | .96 | 2.25 | .50 | 4 | |
| | Semiprofession | 3.67 | .58 | 1.00 | .00 | 2.67 | .58 | 3 | |
| | Profession | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Demographic Variables | | PPI Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Gain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Monthly income of the family | Below Rs 2091 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | F=3.15 P=0.03* (S) |
| | Rs 2,092-6,213 | 4.00 | .82 | 2.20 | .00 | 1.80 | .82 | 4 | |
| | Rs 6,214-10,356 | 3.54 | .52 | 1.51 | .63 | 2.03 | .83 | 13 | |
| | Rs 10,357-15,535 | 3.64 | .63 | 1.93 | .73 | 1.71 | .73 | 14 | |
| | Rs15,536-20,714 | 4.47 | .75 | 2.17 | .75 | 2.30 | .63 | 6 | |
| | Rs 20,715-41,429 | 4.00 | 1.00 | 1.67 | .58 | 2.33 | .58 | 3 | |
| | Above Rs 41,430 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Place of living | Rural | 3.71 | .69 | 1.77 | .80 | 1.94 | .90 | 17 | F=3.56 P=0.04* (S) |
| | Urban | 3.80 | .77 | 1.13 | .74 | 2.67 | .82 | 15 | |
| | Semiurban | 3.75 | .46 | 1.70 | .53 | 2.05 | .46 | 8 | |
| Religion | Hindu | 3.77 | .68 | 1.66 | .77 | 2.11 | .83 | 30 | F=3.00 P=0.08 (NS) |
| | Christian | 3.86 | .69 | 2.00 | .82 | 1.86 | .69 | 7 | |
| | Muslim | 3.33 | .58 | 2.27 | .58 | 1.06 | .00 | 3 | |

Table no 4.23. shows the association between mothers reduction of PPI pain score and their demographic variables in Dry heat. semi profession **F=3.11 P=0.02* (S),** more income **F=3.15 P=0.03* (S)** and urban mothers **F=3.56 P=0.04* (S)** are reduced more score than others.Statistical significance was calculated using oneway analysis of variance F-test .

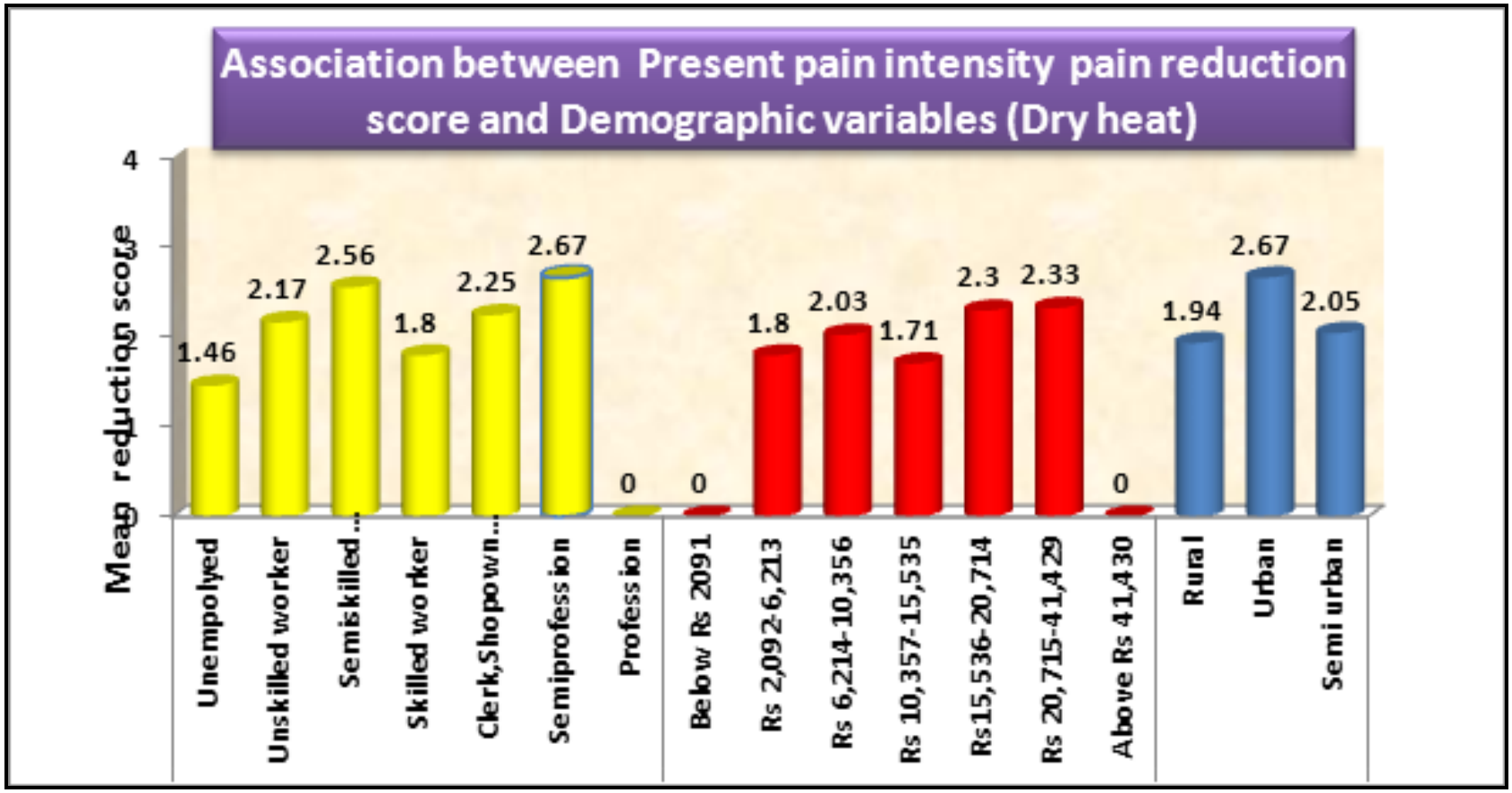



***Figure 4. 27: Association between mothers reduction of Present pain intensity and their demographic variables in Dry heat***

***Table-4.24: Association Between Mothers Reduction Of Present Pain Intensity Score And Their Obstetrics Variables (Dry Heat)***

| Obstetrics variables | | PPI pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Gravida | One | 3.63 | .67 | 1.63 | .76 | 2.00 | .91 | 30 | F=0.33 P=0.72 (NS) |
| | Two | 4.25 | .46 | 2.25 | .71 | 2.00 | .53 | 8 | |
| | Three | 3.50 | .71 | 1.00 | .00 | 2.50 | .71 | 2 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Para | One | 3.72 | .73 | 1.72 | .81 | 2.00 | .88 | 32 | F=0.33 P=0.72 (NS) |
| | Two | 4.00 | .00 | 2.00 | .63 | 2.00 | .63 | 6 | |
| | Three | 3.50 | .71 | 1.00 | .00 | 2.50 | .71 | 2 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Duration of second stage of labour | 15 to 30 min | 3.81 | .69 | 1.69 | .78 | 2.13 | .75 | 32 | F=1.54 P=0.13 (NS) |
| | 30 miin to 1 hr | 3.50 | .53 | 1.87 | .83 | 1.63 | 1.06 | 8 | |
| | 1 hr to 1 ½ hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | 1 ½ hr to 2 hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Birth weight of the baby | Below 2.5 kg | 4.00 | 1.00 | 2.00 | 1.00 | 2.00 | .00 | 3 | F=0.35P=0.69 (NS) |
| | 2.5 to 3.5 kg | 3.66 | .67 | 1.69 | .76 | 1.97 | .91 | 29 | |
| | Above 3.5 kg | 4.00 | .53 | 1.75 | .89 | 2.25 | .71 | 8 | |
| Types of episiotomy | Medio-lateral | 3.71 | .65 | 1.71 | .77 | 2.00 | .84 | 38 | F=0.69 P=0.50 (NS) |
| | Median | 5.00 | . | 3.00 | . | 2.00 | . | 1 | |
| | J- shape | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Obstetrics variables | | PPI pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Indication of episiotomy | Macro somia | 3.75 | .50 | 1.75 | .96 | 2.00 | .82 | 4 | F=0.07 P=0.93 (NS) |
| | Rigid perineum | 3.79 | .74 | 1.79 | .79 | 2.00 | .90 | 28 | |
| | Fetal distress | 3.63 | .52 | 1.50 | .76 | 2.13 | .64 | 8 | |
| Type of delivery | Normal vaginal delivery | 3.75 | .67 | 1.72 | .78 | 2.03 | .83 | 40 | F=0.00 P=1.00 (NS) |
| | Forceps delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | Vacuum delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

Table no 4.24 shows the association between mothers reduction of PPI pain score and their demographic variables in dry heat group, None of the variable are significant.Statistical significance was calculated using oneway analysis of variance F-test.

***Table 4.25: Association Between Mothers Reduction Of Present Pain Intensity Score And Their Demographic Variables (Moist heat)***

| Demographic Variables | | PPI Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Gain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Age of the mothers | 18-20 years | 3.89 | .78 | 2.68 | .44 | 1.21 | .60 | 9 | F=3.46 P=0.03* (S) |
| | 21-25 years | 3.75 | .58 | 2.31 | .60 | 1.44 | .73 | 16 | |
| | 26-30 years | 3.85 | .80 | 1.70 | .58 | 2.15 | .90 | 13 | |
| | 31-35 years | 3.50 | .71 | 1.50 | .71 | 2.00 | .00 | 2 | |
| Type of family | Nuclear family | 3.74 | .81 | 2.44 | .56 | 1.30 | .76 | 23 | F=3.50 P=0.04* (S) |
| | Joint family | 3.93 | .46 | 1.90 | .68 | 2.03 | .88 | 15 | |
| | Extended family | 3.50 | .71 | 1.90 | .00 | 1.60 | .71 | 2 | |
| Education status of the mother | Illiterate | 3.67 | .52 | 2.33 | .52 | 1.33 | .52 | 6 | F=1.08 P=0.38(NS) |
| | Primary education | 3.80 | .45 | 2.20 | .45 | 1.60 | .55 | 5 | |
| | Secondary education | 3.88 | .83 | 1.88 | .64 | 2.00 | .76 | 8 | |
| | High school | 3.78 | .83 | 2.11 | .60 | 1.67 | .87 | 9 | |
| | Higher Secondary | 3.86 | .69 | 2.43 | .53 | 1.43 | .79 | 7 | |
| | Graduate | 3.80 | .84 | 1.60 | .55 | 2.20 | 1.10 | 5 | |
| Occupation status of the mother | Unempolyed | 3.93 | .83 | 1.86 | .53 | 2.07 | .92 | 14 | F=1.61 P=0.18 (NS) |
| | Unskilled worker | 4.00 | .63 | 2.17 | .41 | 1.83 | .75 | 6 | |
| | Semiskilled worker | 3.50 | .55 | 2.00 | .63 | 1.50 | .84 | 6 | |
| | Skilled worker | 3.86 | .69 | 2.29 | .76 | 1.57 | .53 | 7 | |
| | Clerk, Shopowner, Farmer | 3.50 | .58 | 2.25 | .50 | 1.25 | .50 | 4 | |
| | Semiprofession | 3.67 | .58 | 2.67 | .58 | 1.00 | .00 | 3 | |
| | Profession | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Demographic Variables | | PPI Pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | Gain score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Monthly income of the family | Below Rs 2091 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | F=0.83 P=0.51 (NS) |
| | Rs 2,092-6,213 | 4.00 | .00 | 2.50 | .71 | 1.50 | .71 | 2 | |
| | Rs 6,214-10,356 | 3.69 | .75 | 1.92 | .49 | 1.77 | .83 | 13 | |
| | Rs 10,357-15,535 | 3.83 | .58 | 2.17 | .58 | 1.67 | .65 | 12 | |
| | Rs15,536-20,714 | 4.00 | .93 | 2.00 | .76 | 2.00 | 1.07 | 8 | |
| | Rs 20,715-41,429 | 3.60 | .55 | 2.40 | .55 | 1.20 | .45 | 5 | |
| | Above Rs 41,430 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Place of living | Rural | 3.83 | .79 | 2.51 | .58 | 1.32 | .83 | 18 | F=3.62 P=0.05* (S) |
| | Urban | 3.73 | .70 | 1.68 | .59 | 2.05 | .86 | 15 | |
| | Semiurban | 3.86 | .38 | 2.43 | .53 | 1.43 | .53 | 7 | |
| Religion | Hindu | 3.76 | .69 | 2.14 | .58 | 1.62 | .73 | 29 | F=1.22 P=0.30(NS) |
| | Christian | 3.78 | .67 | 2.00 | .71 | 1.78 | .97 | 9 | |
| | Muslim | 4.50 | .71 | 2.00 | .00 | 2.50 | .71 | 2 | |

Table no 4.25 shows the association between mothers reduction of PPI pain score and their demographic variables Elder mothers **(F=3.46 P=0.03* (S)), joint family mothers (F=1.61 P=0.04* (S) ) and urban mothers (F=3.62 P=0.05* (S) )** are reduced more score than others. Statistical significance was calculated using oneway analysis of variance F-test.

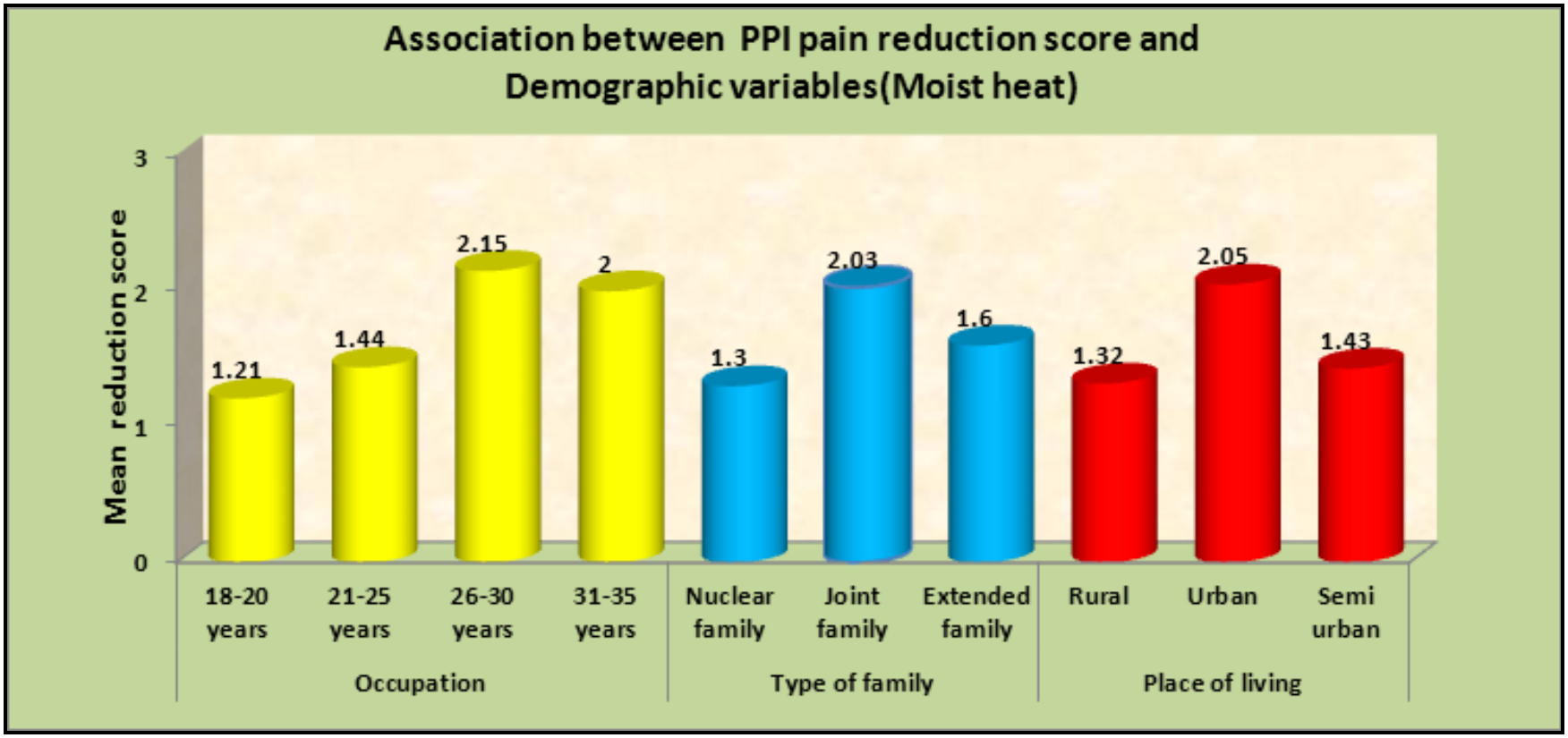



***Figure 4.28 Association between mothers reduction of Present pain intensity and their demographic variables in moist heat***

***Table 4.26: Association Between Mothers Reduction Of Present Pain Intensity Score And Their Obstetrics Variables (moist)***

| Obstetrics Variables | | PPI pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Gravida | One | 3.81 | .69 | 2.08 | .56 | 1.73 | .78 | 26 | F=1.55 P=0.22(NS) |
| | Two | 3.64 | .67 | 2.18 | .60 | 1.45 | .52 | 11 | |
| | Three | 4.33 | .58 | 2.00 | 1.00 | 2.33 | 1.53 | 3 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Para | One | 3.79 | .69 | 2.07 | .54 | 1.71 | .76 | 28 | F=1.47 P=0.24(NS) |
| | Two | 3.67 | .71 | 2.22 | .67 | 1.44 | .53 | 9 | |
| | Three | 4.33 | .58 | 2.00 | 1.00 | 2.33 | 1.53 | 3 | |
| | >Three | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Duration of second stage of labour | 15 to 30 min | 3.85 | .70 | 2.06 | .55 | 1.79 | .77 | 34 | t=1.84 P=0.07 (NS) |
| | 30 min to 1 hr | 3.50 | .55 | 2.33 | .82 | 1.17 | .75 | 6 | |
| | 1 hr to 1 ½ hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | 1 ½ hr to 2 hr | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| Birth weight of the baby | Below 2.5 kg | 3.67 | .58 | 2.00 | .00 | 1.67 | .58 | 3 | F=0.20P=0.82 (NS) |
| | 2.5 to 3.5 kg | 3.82 | .67 | 2.07 | .60 | 1.75 | .84 | 28 | |
| | Above 3.5 kg | 3.78 | .83 | 2.22 | .67 | 1.56 | .73 | 9 | |
| Types of episiotomy | Medio-lateral | 3.78 | .67 | 2.11 | .61 | 1.68 | .78 | 37 | F=0.22 P=0.80 (NS) |
| | Median | 4.00 | 1.41 | 2.00 | .00 | 2.00 | 1.41 | 2 | |
| | J- shape | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

| Obstetrics Variables | | PPI pain reduction score | | | | | | n | Oneway ANOVA F-test |
|---|---|---|---|---|---|---|---|---|---|
| | | Pretest | | Posttest | | reduction score= post-pre | | | |
| | | Mean | SD | Mean | SD | Mean | SD | | |
| Indication of episiotomy | Macro somia | 3.86 | .90 | 2.14 | .69 | 1.71 | .76 | 7 | F=0.05 P=0.95 (NS) |
| | Rigid perineum | 3.77 | .75 | 2.05 | .65 | 1.73 | .94 | 22 | |
| | Fetal distress | 3.82 | .40 | 2.18 | .40 | 1.64 | .50 | 11 | |
| Type of delivery | Normal vaginal delivery | 3.80 | .69 | 2.10 | .59 | 1.70 | .79 | 40 | F=0.00 P=1.00 (NS) |
| | Forceps delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| | Vacuum delivery | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |

Table No 4. 25shows the association between mothers reduction of Presemt pain intensity and their demographic variables .None of the variable are significant..

Statistical significance was calculated using oneway analysis of variance F-test.

# CHAPTER-V
# DISCUSSION

This chapter deals with the discussion of the results of data analyzed based on the objectives of the study and hypotheses of the study. The purpose of the study was to assess the effectiveness of **dry heat** versus **moist heat application** on episiotomy pain perception among postnatal mothers in Institute of Obstetrics and Gynaecology and Government hospital for Women and Children, Egmore, Chennai " 80 samples were selected by simple random sampling technique and are divided into dry heat group (40 students) and moist heat group (40 students). Prt-test was conducted before the intervention .Infra red radiation and sitz bath was given by the investigator to the mothers for three consecutive days .The intervention protocol includes 15- 20 minutes for infra red radiation and sitz bath twice daily. Post-test was conducted after 3 days of intervention.

The discussion is based on the objectives of the study and the hypothesis specified in the study.

## FINDINGS BASED ON DEMOGRAPHIC VARIABLES.

- 47.50% of the mothers in Dry heat group and 40.00% of the mothers in were between the age Group of 21 to 25 years.
- 65.00%) of the mothers in Dry heat group and 57.50% of the mothers in Moist heat group were living in nuclear family.
- 22.50% of the mothers have undergone secondary education and high school in the Dry heat group, and 22.50%of the mothers have undergone high school in the Moist heat group respectively.
- 22.50% of the mothers were semiskilled workers in the Dry heat group whereas 14 35.00% of the mothers were unemployed in Moist heat group.

- 35.00% of the mothers were in the income group of Rs10,357-15,535, in the Dry heat group,32.50% of the mothers were in the income group of Rs 6,214-10,356, in the Moist heat group.

- 42.50% of the mothers in Dry heat group,and 45.00% of the mothers in Moist heat group were from rural area.

- 75.00% of the mothers in Dry heat group and 72.50% of the mother in Moist heat group belongs to Hindu religion.

- 75.00% of the mothers in the Dry heat, and 65.00% of t he mothers were in Moist heat were in gravida status I

- 80.00% of the mothers in Dry heat, and 70.00% of the mothers in Moist heat were in para status I,

- 80.00% of the mothers in Dry heat and 85.00% of the mothers were in Moist heat had 5-10 min duration in second stage of labour.

- 72.50% of the babies in the Dry heat group, and 70.00% of the babies were below 2.5-3.5 Kg , in Moist heat group

- 95.00% of the mother in Dry heat, and 92.50% of the mothers in moist heat underwent medio- lateral episiotomy.

- 70.00% of the mothers in the Dry heat and 55.00% of the mother's in Moist heat group had rigid perineum,

- 100.00% of the mothers in Dry heat and 100.00% of the mothers in moist heat underwent normal vaginal delivery

## FINDINGS BASED ON OBJECTIVES

### *Objective 1: To assess the effectiveness of dry heat application on episiotomy pain perception*

In the pre- test, the percentage of mean score is 80.30%, where as the post test percentage of mean score is 35.00%. The overall percentage of mean reduction score is 45.30% in Numerical pain scale.

In the pre- test the percentage of mean score is 80.30%, where as in post test the percentage of mean score is 28.73%. The overall percentage of mean reduction score is 44.60% using Modified Short form Mc Gill pain questionnaire

In the pre- test the percentage of mean score is 75.00% , where as the post test the percentage of mean score is 31.00%. The overall percentage of mean reduction score is 40.60% using present pain intensity.

**The above findings depicts on an average, dry heat application mothers have reduced percentage of mean reduction score 45.3% of numerical pain score, 44.60% of Modified short form Mc Gill pain questionnaire score and 40.6 % of Present pain intensity score**.

The current study illustrated that dry heat is effective in reducing pain perception in episiotomy wound. This result is analogous with study done in India by **Elizebeth Rani (2018)** There was a significant reduction in pain perception after infrared radiation therapy in experimental group t = 25.26 ($P<0.05$). It is inferred that postnatal women with episiotomy in the experimental group had significantly reduced episiotomy pain after infrared radiation therapy and it was found to be very effective.

This result is analogous with study done in India by **Nethravathi et al. (2015)** stated that after intervention with infra red radiation, a significant great percentage of mothers at puerperium (92.64%) had healthier wound restorative and pain within four days compared to none of the control group. The current study result is analogous with the study conducted by **Gomathi et al (2017)** to evaluate the effectiveness of infrared radiation lamp therapy for pain relief of episiotomy wound among postnatal mothers by comparing experimental and controlled group score. According to VAS score, in pre-treatment assessment, more

than 90% subjects of both control as well as experimental group were in poor category, However, VAS analysis of post-exposure revealed that significantly high proportion of postnatal mothers (92.64%) were having good pain relief while no one from control group was having good relief. **The study supports that infra red is effective in reducing pain perception among postnatal mothers with episiotomy.**

The above study result is also supported by the study conducted by **Premila (2016)** to assess the effectiveness of infrared therapy on episiotomy pain among postnatal mothers the study has been concluded that during pretest majority 40% of mother had severe pain, around 24% of mother had moderate pain and around 36% of mother had mild pain. Whereas during post test minority 18% of mothers had severe pain, around 20% of mother had moderate pain and majority 62% had mild pain at **episiotomy which co-relates with the current study which has higher proportion in pain reduction.**

**From the above findings it is established that infra red is effective in reducing pain perception among postnatal mothers with episiotomy and the same was reflected in my study finding also**

***Objective 2: To assess the effectiveness of moist heat application on episiotomy pain perception***

In pre test the percentage of mean score is 80.30%, where as the post test the percentage of mean score is 31.80%. The overall mean reduction is difference is 3.51 and the percentage of mean reduction score is 35.10% using Numerical pain scale

In the pre test the percentage of mean score is 73.33%, where as the post test the percentage of mean score is 24.29%. The overall percentage of mean reduction score is 35.44% using Modified Short form Mc Gill pain questionnaire.

In the pre test the percentage of mean score is 76.00%, where as the post test the percentage of mean score is 42.00%. The overall percentage of mean reduction score is 34.00% using Present pain intensity.

**On an average, Moist heat application for episiotomy mothers have reduced 35.10% of numerical pain perception score, 35.44% of Modified Short form Mc Gill pain questionnaire and 34.00 % of Present pain intensity score.**

The above findings are consistent with **Ribie Annie Varghese et al., (2016 )**conducted a quasi experimental study on Effect of hot application on level of episiotomy pain depicts In the experimental group the pre-test mean pain score was 5.2 and post-test mean score was 2.3, using paired t test it is found that the scores were highly significant ($t=16.134^{***}$, $p< 0.001$). **Amandeep et al., (2015)** conducted a quasi experimental study to assess the effectiveness of sitz bath in reduction of episiotomy pain and wound healing among postnatal mothers admitted in postnatal units of Ludhiana, Punjab. The findings revealed that application of sitz bath was effective in relieving episiotomy pain and improving wound healing ($p=0.001$).

**The current study findings is analogous with the research finding carried out by Bairavi et al (2015)** regarding the effectiveness of hot application on episiotomy wound healing and pain among the postnatal mothers in Thanjavur. Hot sitz bath with potassium permanganate was given. Finally, the statistical analysis revealed that, Hot application is effective than routine care. **Poonam Sheoran et al.,(2016)** conducted a study to compare the effectiveness of infra red light therapy vs. sitz bath on episiotomy in terms of episiotomy wound healing among postnatal mothers. The study was conducted in postnatal wards of Government multi speciality hospital, Chandigarh.

however, sitz bath was significantly more effective in promoting episiotomy wound healing and pain as compared to infra red light. These findings are consistent with the findings reported by **Michel S** which revealed that sitz bath was effective in promoting episiotomy wound healing and pain perception among postnatal mothers.

From the above findings it is established that Moist heat is reduces the pain perception among postnatal mothers with episiotomy and the same was reflected in my study finding also.

***Objective 3: To compare the effectiveness of dry heat and moist heat on episiotomy pain perception***

***DRY HEAT***

***The current study findings reveals that***

Considering Numerical pain score, in pre test Dry heat group mothers are having 8.03 pain score and in post test they are having 3.50 score, the difference is 4.53, this difference is large and it is significant. It was tested using Student paired t-test. **t=16.31P=0.001***(S) shows it is very highly significant.**

Considering Modified short form McGill pain questionnaire, in pre-test Dry heat group mothers are having 33.00 pain score and in post-test they are having 12.93 score, so the difference is 20.07, this difference is large and it is significant. It was tested using Student paired t-test **t=53.12P=0.001***(S) very highly significant**

Considering Present pain intensity score, in pretest Dry heat group mothers are having 3.75 pain score and in posttest they are having 1.72 score, so the difference is 2.03, this difference is large and it is significant. It was tested using Student paired t-test **t=15.39P=0.001***(S) very highly significant**

**Episiotomy pain perception was assessed using Numerical pain scale & Modified short form McGill pain questionnaire the above study findings reveals that there is a significant difference in pre-test and post test values. The above findings also reveal that the Dry heat is more effective than Moist heat in reducing episiotomy pain perception in postnatal mothers with episiotomy.**

***MOIST HEAT***

Considering Numerical pain score, in pre-test Moist heat group mothers are having 8.08 pain score and in posttest they are having 4.57 score, so the difference is 3.51, this difference is small and it is not significant. It was tested using Student paired t-test.

Considering Modified short form McGill painquestionnaire, in pre-test Dry heat group mothers are having 33.03 pain score and in post-test they are having 17.08 score, so the difference is 15.95, this difference is large and it is not significant. It was tested using Student paired t-test.

Considering Present pain intensity score, in pre-test Dry heat group mothers are having 3.80 pain score and in post-test they are having 2.10 score, so the difference is 1.70, this difference is small and it is not significant. It was tested using Student paired t-test.

The present study was aimed at to assess the effect of dry heat versus moist heat in terms of episiotomy pain perception of postnatal mothers. Findings of the present study revealed that dry heat(Infra red) is more effective in reducing episiotomy pain perception among post natal mothers with episiotomy than moist heat(sitz bath).

**The above findings is analogous with Gomathi et Al., (2017)** The aim of this study is to evaluate the effectiveness of moist heat and dry heat application on healing of episiotomy wound among postnatal

mothers. among postnatal mothers by comparing experimental and controlled group score. It is inferred that postnatal women Postnatal mothers with Episiotomy wound pain relief was observed in experimental group as compared to control group. **Infrared lamp radiation therapy is an effective modality of treatment for pain relief of episiotomy wound.**

**The above findings are consistent with Aruna et Al., (2017).,**conducted a study to assess the effectiveness of moist heat and dry heat application on healing of episiotomy wound among postnatal mothers.: A quantitative experimental The design selected for the study was pre-test post-test quasi experimental design. The study was conducted in the postnatal ward of Narayana Medical college hospital of Nellore the study highlighted that dry heat is more effective than moist heat .These findings are consistent with the findings reported by **Budhi Baruah et al., (2010**) which reported that infra red light was an effective therapy for episiotomy wound healing. **The study findings concluded that infrared is more effective in reducing pain and wound healing.**

**Similar results were obtained by Navdeep Kaur et al., (2013)** conducted a study aimed to assess the Effect of dry heat versus moist heat on Episiotomy pain and wound healing in PGIMER, Chandigarh. Though both the interventions were effective but dry heat was more effective than moist heat in relieving pain and promoting wound healing at the episiotomy site.

The study findings established that dry heat is more effective in reducing the pain perception than moist heat, it is also evident that the current study findings confirms that the dry heat is more effective in reducing pain perception among post natal mothers with episiotomy than moist heat. Hence the hypothesis $\mathbf{H_1}$ There will be a significant

difference between dry heat and moist heat application on episiotomy pain perception status among postnatal mothers is accepted.

***Objective 4: To associate the level of episiotomy pain perception status among postnatal mothers in dry heat and moist heat with their selected demographic variables.***

***DRY HEAT***

Considering age of the mothers (Elder mothers (F=3.04 **04P=0.05* (S)**), Occupation status of the mother(Semi profession (**F=3.69 P=0.01**(S)** and Monthly income of the family(Rs15,536-20,714) **F=2.74 P=0.04 *(S)** are reduced numerical pain score than others , reveals that there is a significant association. Statistical significance was calculated using one way analysis of variance F-test . Association between mothers reduction of Modified short form McGill pain questionnaire and their demographic variables joint family mothers **F=4.59 P=0.01** (S)** ,semi profession mothers **F=4.10 P=0.01** (S)** and more income mothers **F=3.17 P=0.03* (S)** were having reduced pain score than others. statistical significance was calculated using One way anova F- test . Association between mothers reduction of PPI pain score and their demographic variables in Dry heat. semi profession F=3.11 P=0.02* (S), more income F=3.15 P=0.03* (S) and urban mothers F=3.56 P=0.04* (S) are reduced more score than others.Statistical significance was calculated using oneway analysis of variance F-test .

Considering the **association between mothers reduction of numerical pain score and their obstetrics variables gravida (F=3.22 P=0.05* (S),) para (F=3.30P=0.05* (S)), birth weight of the baby F=3.26 P=0.05* . Statistical significance was calculated using one-way analysis of variance F-test. Hence the findings reveals that gravida, para and weight of the baby has significant association in reduction of pain.**. Association between mothers reduction of

Modified Short form Mc Gill pain questionnaire and their obstetric variables None of the variable are significant. Association between mothers reduction of Present pain score and their obstetric variables None of the variable are significant. Statistical significance was calculated using oneway analysis of variance F-test .

The similar findings is analogous with study conducted by **Premila et Al.,(2016)** Study to assess the effectiveness of infrared therapy on episiotomy pain among postnatal mothers. **There was a statistically significant association found between level of knowledge and demographic variables such as age, food pattern and occupation of primi mothers.**This result is congruent with study conducted by **AhmedH.M. in Iraq (2015),**which stated that, almost 62.4% of the study population belonged to lower socioeconomic state which was extremely poor. This may be due to that both countries had low income per capita. ***Kaled Zimmo et al., (2018)*** **highlighed that the most common indications for episiotomy were 'primiparity' in the first vaginal birth group (69.9%) and 'protecting the perineum'** in the parous group (59.5%). prolonged second stage (1.5%) and fetal distress (6.9%), were the least common indications.

**The above study findings reveals that there is a significant association found between the level of pain perception among dry heat with their selected demographic variable which is congruent with the current study**

***MOIST HEAT***

Considering the the association between mothers pain reduction of numerical pain score and their demographic variables in moist heat, age of the mother **(F=2.99P=0.04*(S)**, type of family **F=4.09 P=0.02* (S)**, occupational status of the mother **(F=3.21P=0.05*(S)**. Statistical significance was calculated using oneway analysis of varianceF-test.

Association between mothers reduction of Modified short form McGill pain questionnaire and their demographic variables in Moist heat Elder mothers **F=2.86 P=0.05*(S)**, joint family mothers **F=3.35 P=0.04* (S)** and urban mothers **F=3.19 P=0.05* (S)** are reduced more score than others. Association between mothers reduction of PPI pain score and their demographic variables Elder mothers **(F=3.46 P=0.03* (S))**, joint family mothers (F=1.61 **P=0.04* (S)** ) and urban mothers (**F=3.62 P=0.05* (S) )** are reduced more score than others. Statistical significance was calculated using oneway analysis of variance F-test .

Considering the association between mothers reduction of **Numerical pain score** and their **obstetrics variables** in Moist heat None of the variable are significant. Considering the association between mothers reduction of **Modified short form McGill pain questionnaire** and their obstetric variables None of the variable are significant.. Association between mothers reduction of **Present pain intensity** and their demographic variables Elder mothers, joint family mothers and urban mothers are reduced more score than others.Statistical significance was calculated using oneway analysis of variance F-test .

The similar findings is analogous with the study conducted by **Poonam Sheoran et al.,(2016)** The present study is aimed to compare the effectiveness of infra red light therapy vs. sitz bath on episiotomy in terms of episiotomy wound healing among postnatal mothers. The study was conducted in postnatal wards of Government multi speciality hospital, Chandigarh. The study reveals that there is **No significant association was found between episiotomy wound healing of the postnatal mothers treated with infra red light therapy and sitz bath and selected variables.**

The above findings are consistent with **Ribie Annie Varghese et al., (2016)** conducted a quasi experimental study on Effect of hot application on level of episiotomy pain depicts the association between pretest episiotomy pain scores and selected socio demographic variables such as age, religion, educational status, and parity and child birth preparation classes of the subjects. From the analysis it was evident that there was **no statistically significant association between pain level and above said socio demographic variables.**

**The above study findings reveal that there is no significant association found between the level of pain perception among moist heat with their selected demographic variable which is also found in the current study. Hence the hypothesis $H_2$There will be a significant association between episiotomy pain perception of the postnatal mothers treated with dry heat and moist heat with their selected demographic variable is accepted**

Thus from the above analysis it is concluded that there is a association in the level of episiotomy pain perception status among postnatal mothers in dry heat and there no significant association with moist heat with their selected demographic variables.

The present study results highlighted that dry heat is more effective in reducing the pain perception among the postnatal mothers with episiotomy than moist heat. The effect of dry heat lasts for a longer time and keeps the wound dry and improves healing. Heat from the lamp increases blood circulation to the sutures and reduces the oedema hence the patient is more comfortable.

# CHAPTER – VI
# SUMMARY, IMPLICATIONS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION

This chapter deals with the summary, implication, limitation, recommendation and conclusion of the study. It clarifies the limitations of the study and the implication; recommendations are given for the different areas like nursing education, administration and health care delivery system (nursing practices) and nursing research.

## 6.1. SUMMARY OF THE STUDY

The study was done to assess the effectiveness of **dry heat** versus **moist heat application** on episiotomy pain perception among postnatal mothers in institute of Obstetrics and Gynaecology and government hospital for women and children, Egmore, Chennai- 08.

***The main objectives of the study were***

- To assess the effectiveness of dry heat application on episiotomy pain perception
- To assess the effectiveness of moist heat application on episiotomy pain perception
- To compare the effectiveness of moist heat and dry heat on episiotomy pain perception
- To associate the level of episiotomy pain perception status among postnatal mothers in dry heat and moist heat with their selected demographic variables.

## HYPOTHESES

**$H_1$** There will be a significant difference between dry heat and moist heat application on episiotomy pain perception status among postnatal mothers

**$H_2$** There will be a significant association between episiotomy pain perception of the postnatal mothers treated with dry heat and moist heat with their selected demographic variables.

The conceptual frame work utilized in this study was based on Ernestine Wiedenbach's helping art of clinical nursing theory, consist of three steps that is central purpose, prescription and realities.

In this study various literatures were reviewed which includes, literatures related episiotomy, effectiveness of sitz bath and effectiveness of infrared lamp therapy.

The research design selected for the study was randomised control trials. The independent variable was infrared therapy and sitz bath and dependent variables were episiotomy pain level in pre-test and post-tests.

The target population was postnatal mothers. 80 postnatal mothers were selected by random sampling technique.

The tool developed and used for the data collection was Numerical pain scale and Short form MC. Gill pain perception Scale. 2 experts validated the content validity of the tools and tool was found to be reliable and feasible. The reliability of tool used for pain assessment (Numerical pain scale was tested by inter-rater reliability method. The reliability score obtained was r=0.8. Hence the tool was considered highly reliable for proceeding with this study.

Pilot study was conducted from 01.03.2018 to 06.03.2018 from 6 am to 6 pm as a part of the major study, tool proved to be comprehensible, feasible and acceptable. The permission was obtained from authorities of hospitals and consent taken from study subjects.

Data collection procedure for main study began from 02.2.19 -03 .03.19 (4 weeks).. The investigator personally explained the need and assured them of the confidentiality of their responses.

The pre-test was administered followed by interventions (infra red to dry heat group & sitz bath to moist heat group for 3 days for twice daily); post-test was taken after 3 days of administering the interventions by using the same Numerical pain scale and Modified short form McGill pain questionnaire used in the pre-test.

The Data gathered were analyzed and interpreted according to objectives. Descriptive statistics like mean, median and standard deviation, and inferential statistics like paired 't' test was included to test the hypothesis and ANOVA was included to test the association of pain scores with demographic and obstetric variables and the data obtained are presented in the graphical form.

## 6.2. MAJOR FINDINGS OF THE STUDY

### 6.2.1. BASED ON DEMOGRAPHIC VARIABLES

- **Age group of the mother** –47.50% of the mothers in Dry heat group and 40.00% of the mothers in were between the age Group of 21 to 25 years.

- **Type of family of the mother** –65.00%) of the mothers in Dry heat group and 57.50% of the mothers in Moist heat group were living in nuclear family..

- **Educational status of the mother** – 76.67% of students has father as the breadwinner of the family in study group and 80% of students has father as the breadwinner of the family in control group.

- **Occupational status of the mother** – 40% have undergone middle school education in study group and 40% have undergone high school education in control group.

- **Place of living** – 33.33% were shop and market sales workers and agricultural and fishery workers in study group and 40% were agricultural and fishery workers in control group.

- **Religion** – 50% of in study group and 60% in control group were in the income group of Rs.5001 – 10,000.

***Dry heat***

The findings of the study revealed a highly statistical significance in pain reduction with demographic variables are age, occupational status, monthly income in Numerical pain scale, type of family, occupational status and more income mothers in Modified short form McGill painquestionnaire. Elder mothers, joint family mothers and urban mothers in present pain intensity.

***Moist heat***

The findings of the study revealed a highly statistical significance in pain reduction with demographic variables using Numerical pain score and their demographic variables are age of the mother, type of family, occupational status of the mother. Elder mothers, joint family mothers and urban mothers are reduced pain perception using Modified short form McGill painquestionnaire. Elder mothers, joint family mothers and urban mothers are reduced pain perception using present pain intensity.

### 6.2.2. BASED ON OBSTETRIC VARIABLES

- **Gravida status** - 75.00% of the mothers in the Dry heat, and 65.00% of t he mothers were in Moist heat were in gravida status I

- **Para status** - 80.00% of the mothers in Dry heat, and 70.00% of the mothers in Moist heat were in para status I,

- **Duration in second stage of labour** - 80.00% of the mothers in Dry heat and 85.00% of the mothers were in Moist heat had 5-10 min duration in second stage of labour.

- **Birth weight of the babies** - 72.50% of the babies in the Dry heat group, and 70.00% of the babies were below 2.5-3.5 Kg , in Moist heat group

- **Types of episiotomy** - 95.00% of the mother in Dry heat, and 92.50% of the mothers in moist heat underwent medio- lateral episiotomy.

- **Indication of episiotomy -** 70.00% of the mothers in the Dry heat and 55.00% of the mother's in Moist heat group had rigid perineum,

- **Type of delivery** - 100.00% of the mothers in Dry heat and 100.00% of the mothers in moist heat underwent normal vaginal delivery.

***Dry Heat***

Gravida, para, birth weight of the baby are statistical significant in Numerical pain score , no statistical significance in Modified short form McGill painquestionnaire and Present pain intensity.

***Moist heat***

None of the variables are significant

### 6.2.3. FINDINGS BASED ON THE EFFECTIVENESS OF DRY HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION

Among the post natal who had episiotomy the pre- test mean score using **Numerical pain scale** as 8.03 and the percentage of mean score is 80.30% , where as the post test mean score in numerical pain scale is 3.50 and the percentage of mean score is 35.00%. The overall mean reduction is difference is 4.53 and the percentage of mean reduction score is 45.30% in dry heat

Among the post natal mothers who had episiotomy pre- test mean score in **Modified short form McGill pain questionnaire** is 33.00 and the percentage of mean score is 80.30% , where as the post test mean score in **Modified short form McGill pain questionnaire** is 12.93 and the percentage of mean score is 28.73%. The overall mean reduction is difference is 20.07 and the percentage of mean reduction score is 44.60% .

pre- test mean score using **Present pain intensity** as 3.75 and the percentage of mean score is 75.00% , where as the post test mean score in **Present pain intensity** is 1.72 and the percentage of mean score is 31.00%. the overall mean reduction is difference is 2.03 and the percentage of mean reduction score is 40.60% .

**The above findings depicts on an average, dry heat application mothers have reduced percentage of mean reduction score 45.3% of numerical pain score, 44.60% of Modified short form McGill pain questionnaire and 40.6 % of Present pain intensity score**

## 6.2.5. FINDINGS BASED ON THE EFFECTIVENESS OF MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION.

Among the postnatal mothers with episiotomy pre test mean score using **numerical pain scale** is 8.08 and the percentage of mean score is 80.30% , where as the post test mean score in numerical pain scale is 4.57 and the percentage of mean score is 31.80%. the overall mean reduction is difference is 3.51 and the percentage of mean reduction score is 35.10%

Pre test mean score using **Modified short form McGill pain questionnaire** is 33.00 and the percentage of mean score is 73.33% , where as the post test mean score in **Modified short form McGill pain questionnaire** is 17.08 and the percentage of mean score is 24.29%. The overall mean reduction is difference is 15.95 and the percentage of mean reduction score is 35.44% .

Pre test mean score using Present pain intensity as 3.80 and the percentage of mean score is 7.00% , where as the post test mean score in Present pain intensity is 2.10 and the percentage of mean score is 42.00%. the overall mean reduction is difference is 1.70 and the percentage of mean reduction score is 34.00% .

**On an average, Moist heat application for episiotomy mothers are reduced 35.10% of numerical pain perception score, 35.44% of Modified short form McGill pain questionnaire and 34.00 % of Present pain intensity score.**

## 6.2.5. FINDINGS BASED ON COMPARISON OF THE EFFECTIVENESS OF MOIST HEAT AND DRY HEAT ON EPISIOTOMY PAIN PERCEPTION

***DRY HEAT***

The current study findings reveals that

Among the postnatal mothers with episiotomy,in pre test using **Numerical pain scale** in Dry heat group mothers were having 8.03 pain score and in post test they were having 3.50 score, the difference is 4.53, this difference is large and it is significant. It was tested using Student paired t-test. **t=16.31P=0.001***(S) shows it is significant.**

Among the postnatal mothers with episiotomy,in pre test using **Modified short form McGill pain questionnaire** Dry heat group mothers were having 33.00 pain score and in post-test they are having 12.93 score, so the difference is 20.07, this difference is large and it is significant. It was tested using **Student paired t-test t=53.12P=0.001***(S)**

Among the postnatal mothers with episiotomy,in pre test using **Present pain intensity** score, in pretest Dry heat group mothers are having 3.75 pain score and in post test they are having 1.72 score, so the difference is 2.03, this difference is large and it is significant. It was tested using **Student paired t-test t=15.39P=0.001***(S)**

Episiotomy pain perception was assessed using Numerical pain scale & Modified short form McGill pain questionnaire the above study findings reveals that there is a significant difference in pre-test and post test values. The above finding also reveals that the Dry heat is more effective in reducing episiotomy pain perception.

***MOIST HEAT***

Among the postnatal mothers with episiotomy,in pre-test using **Numerical pain score** in Moist heat group mothers are having 8.08 pain score and in post test they are having 4.57 score, so the difference is 3.51, this difference is small and it is **not significant**. It was tested using Student paired t-test.

Considering **Modified short form McGill pain questionnaire**, in pre-test moist heat group mothers are having 33.03 pain score and in post-test they are having 17.08 score, so the difference is 15.95, this difference is small and it is **not significant**. It was tested using Student paired t-test.

Considering **Present pain intensity score**, in pre-test moist heat group mothers are having 3.80 pain score and in post-test they are having 2.10 score, so the difference is 1.70, this difference is small and it is **not significant**. It was tested using Student paired t-test.

The present study was aimed at to assess the effect of dry heat versus moist heat in terms of episiotomy pain perception of postnatal mothers. Findings of the present study revealed that **dry heat is effective in reducing episiotomy pain perception than moist heat.**

## 6.2.6. FINDINGS BASED ON ASSOCIATE THE LEVEL OF EPISIOTOMY PAIN PERCEPTION STATUS AMONG POSTNATAL MOTHERS IN DRY HEAT AND MOIST HEAT WITH THEIR SELECTED DEMOGRAPHIC VARIABLES.

***DRY HEAT***

Considering association between mothers reduction of **Numerical pain scale** and their **demographic variables in (dry heat)** age of the mothers (F=3.04 **P=0.05 *(S)** Occupation status of the mother(Semi profession (**F=3.69 P=0.01**(S)** and Monthly income of the family **F=2.74 P=0.04 *(S)** has Statistical significance. Association between

mothers reduction of **Modified short form Mc Gill pain questionnaire** and their demographic variables are joint family mothers **F=4.59 P=0.01** (S)** ,semi profession mothers **F=4.10 P=0.01** (S)** and more income mothers **F=3.17 P=0.03* (S)**. Association between mothers reduction of **Present pain intensity score** and their demographic variables are semi profession **F=3.11 P=0.02* (S)**, more income **F=3.15 P=0.03* (S)** and urban mothers **F=3.56 P=0.04* (S)** have significant association and it was calculated using oneway analysis of variance F-test .

Considering the association between mothers reduction of Numerical pain score and their obstetrics variables are variables gravida **(F=3.22 P=0.05* (S),** para **(F=3.30P=0.05* (S),** birth weight of the baby **F=3.26 P=0.05*** have significant association. Association between mothers reduction of Modified short form McGill pain questionnaire and PPI reveals no association with their obstetric variables

***MOIST HEAT***

Association between mothers reduction of pain perception using **Numerical pain score and their demographic variables** age of the mother **(F=2.99P=0.04*(S)**, type of family **F=4.09 P=0.02* (S)**, occupational status of the mother **(F=3.21P=0.05*(S)**. have significant association. Association between mothers reduction of pain perception in **Modified short form McGill pain questionnaire** and their demographic variables in Moist heat were Elder mothers **F=2.86 P=0.05*(S)**, joint family mothers **F=3.35 P=0.04* (S)** and urban mothers **F=3.19 P=0.05* (S)**.. Association between mothers reduction of **Present pain intensity** score and their demographic variables Elder mothers **(F=3.46 P=0.03* (S))**, joint family mothers (F=1.61 **P=0.04* (S)** ) and urban mothers (**F=3.62 P=0.05* (S)** have significant association and it was calculated using oneway analysis of variance F-test

Considering the association between mothers reduction of Numerical pain scale, Modified short form Mc Gill pain perception questionnaire and Present pain intensity with their **obstetrics variables** in Moist **heat** None of the variables have significant association and it was calculated using oneway analysis of variance F-test

## 6.3 IMPLICATION OF THE STUDY

The findings of the study have implication in different branches of nursing that is nursing practice, nursing education, nursing administration and nursing research by The investigator received a clear picture regarding the different steps to be taken in different field to improve the same.

***Implications in Nursing***

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

### *6.3.1.Nursing education*

Nursing education prepares the nurses to function as a good educator. The nurse educators have the responsibility to update the knowledge of the nursing personnel in order to meet the needs of postnatal mothers and solve their difficulties related with episiotomy wound. The use of non-pharmacological measures like infrared therapy can be incorporated in nursing education along with other contemporary therapies. To equip nurses to provide holistic care to their clients, the nursing curriculum should be covered with several types of non – pharmacological measures such as infrared therapy for episiotomy pain and wound healing. Thus the student nurses can be guided in developing the right attitude and skills required for caring the patients with episiotomy wound.

Continuing education is the key component to update and improve the knowledge of the individual. It has a vital role in the field of the nursing profession.

### *6.3.2. Nursing administration*

There is an increasing need for quality and holistic care in today's health care system. The findings of this study can be utilized by nursing personnel while providing care for the postnatal mothers. Nursing administrator should organize periodic educational programme for nursing staff to improve their knowledge and skill. In collaboration with education department, nursing administrator can arrange the periodic in service education programme for the staff nurses regarding uses of infrared therapy. The knowledge about infrared lamp therapy will help the nurses to provide beneficial care to the postnatal mothers during Puerperium Nursing practice Confronting with episiotomy pain and delayed wound healing are the common problems that interfere in the care of the baby and also in the self care during the puerperium.

### *6.3.3.Nursing practice*

Confronting with episiotomy pain there are the common problems that interfere in the care of the baby and also in the self care during the puerperium. The appropriate measures and proper management of episiotomy pain and wound healing will help in reducing the sufferings during postnatal period. in the area of clinical practice, in service education programme regarding infrared therapy can be conducted to know the various upcoming benefits of infrared therapy for providing care for the episiotomy wound , as it was found to be one of the effective measures in reducing pain and improves wound healing with no side effects. Since it is a new method nurses as well as postnatal mothers need to be introduced to this method of treatment. Each hospital can make their own practice models for this type of treatment.

### *6.3.4.Nursing research*

Episiotomy pain and delayed wound healing will extent the number of days of hospital stays among postnatal mothers with normal vaginal delivery. Therefore there is great need for adopting more measures for the management of episiotomy during the puerperial period. Several researches on non – pharmacological therapies like heat therapy, cold therapy, lavender oil application and self care on episiotomy wound will help the nurses attain more knowledge and it will initiate them to provide more quality care for the patients. Such knowledge generated through research will help in more popular implementation of different type of therapy in this area. For the generalization of infrared light application, further studies could be conducted in the hospital with increased frequency for larger samples.

## LIMITATION

1) The study was confined to only 80 postnatal mothers and limited to one hospital

2) Infrared therapy was limited to three days therapy for each patient.

3) The time duration for therapy was limited to 15 minutes in morning and evening.

## RECOMMENDATION

1) A similar study can be conducted with increased frequency of administration of infrared lamp therapy which may yield more reliable result.

2) A similar study can be conducted by selecting a larger sample on a long-term basis

3) The study can be conducted in different settings with similar facilities.

4) A comparative study can be conducted with selective e episiotomy vs routine episiotomy.

5) A comparative study can be conducted with hot and cold therapy

6) A comparative study can be conducted between infrared therapy and other non pharmacological measures

7) A comparative study can be conducted between infrared therapy and pharmacological measures.

8) A comparative study can be conducted on the effectiveness of infrared therapy between urban and rural area

9) A comparative study can be conducted between primiparous women and multiparous women to assess the effectiveness of infrared therapy

10) A descriptive study can be conducted on the awareness of postnatal mothers about non pharmacological methods of care of episiotomy

## 6.4. CONCLUSION

Evidence based care gives opportunity for nurses to improve their ability and to use the theoretical knowledge in practice. Nurses play a pivotal role in reducing pain perception among post natal mothers with episiotomy

The above study findings depicts on an average, **dry heat** application mothers have reduced percentage of mean reduction score 45.3% of numerical pain score, 44.60% of Modified short form Mc Gill pain questionnaire and 40.6 % of Present pain intensity score

On an average, **Moist heat** application for episiotomy mothers are reduced 35.10% of numerical pain perception score, 35.44% of Modified Short form Mc Gill pain questionnaire and 34.00 % of Present pain intensity score

Among the postnatal mothers with episiotomy,in pre test and post test using **Numerical pain scale** in Dry heat group mothers the mean score difference is 4.53, this difference is large and it is significant. It was tested using Student paired t-test. **t=16.31P=0.001***(S) shows it is significant. Whereas in moist heat** the difference is 3.51, this difference is small and it is **not significant**.

Among the postnatal mothers with episiotomy,in pre test and post test using **Modified short form McGill pain questionnaire**, Dry heat group mothers the mean score difference is 20.07, this difference is large and it is significant. It was tested using **Student paired t-test t=53.12P=0.001***(S). Whereas in moist heat the mean difference is 4.15,** this difference is small and it is **not significant**

Among the postnatal mothers with episiotomy,in pre test and post test using **Present pain intensity** score, in Dry heat group mothers the difference is 2.03, this difference is large and it is significant. It was tested using **Student paired t-test t=15.39P=0.001***(S) . Whereas in moist heat** this difference is small and it is **not significant**. It was tested using Student paired t-test.

The findings of the study revealed a highly statistical significance in pain reduction with demographic variables are age, occupational status, monthly income in Numerical pain scale, type of family, occupational status and more income mothers in Modified Short form Mc Gill pain questionnaire Elder mothers, joint family mothers and urban mothers in present pain intensity in dry heat and moist heat. In obstetric variables Gravida, para, birth weight of the baby are statistical

significant in Numerical pain score , no statistical significance in Modified Short form Mc Gill pain questionnaire and Present pain intensity.None of the variables are significant in moist heat.

The present study was aimed at to assess the effect of dry heat versus moist heat in terms of episiotomy pain perception of postnatal mothers. Findings of the present study revealed that dry heat is effective in reducing episiotomy pain perception than moist heat. **The study recommended that joining infrared therapy as a main part of post-partum instructions for the women for its imperative role in improving quality of life during post-partum period.**

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## SECTION - A

## DEMOGRAPHIC VARIABLES

**Instructions:** This questionnaire has the statement with options on episiotomy pain perception. Kindly go through and select appropriate options and enter in the boxes provided please attempt all the items in the questionnaire.

## Section A-DEMOGRAPHIC VARIABLES

## MOTHERS DATA

1. **Age of the mothers (in years)** { }
   a. 18-20 years
   b. 21-25 years
   c. 26-30 years
   d. 31-35 years

2. **Type of family** { }
   a. Nuclear family
   b. Joint family
   c. extended family

3. **ducation status of the mother** { }
   a. Illiterate
   b. Primary education
   c. Secondary education
   d. High school
   e. High school certific
   f. Graduate

4. **Occupation status of the mother** { }
   1. Unempolyed
   2. Unskiled worker
   3. Semiskilled worker
   4. Skilled worker
   5. Clerk,Shopowner,Farmer
   6. Semiprofession
   7. Profession

5. **Monthly income of the family** { }
   a. Below Rs 2091
   b. Rs 2,092-6,213
   c. Rs 6,214-10,356
   d. Rs 10,357-15,535
   e. Rs15,536-20,714
   f. Rs 20,715-41,429
   g. Above Rs 41,430

6. **Place of living** { }
    a. Rural
    b. Urban
    c. semi urban

7. **Religion** { }
    a. Hindu
    b. Christian
    c. Muslim
    d. Others

**Obstetrics variables**

1. **Gravida** { }
    a) 1
    b) 2
    c) 3
    d) above 3
2. **Para** { }
    a) 1
    b) 2
    c) 3
    d) above 3
3. **Duration of second stage of labour** { }
    a) 15 to 30 min
    b) 30min to 1 hour
    c) 1 hour to 1½ hour
    d) 1 ½ hour to 2 hour
4. **Birth weight of the baby** { }
    a) Below 2.5 kg
    b) 2.5 to 3.5 kg
    c) Above 3.5 kg
5. **Types of episiotomy** { }
    a) Medio- lateral
    b) Median
    c) J- shape
6. **Indication of episiotomy** { }
    a) Macro somia
    b) Rigid perineum
    c) Fetal distress
7. **Type of delivery** { }
    a) Normal vaginal delivery
    b) Forceps delivery
    c) Vacuum deliver

**SECTION - B**

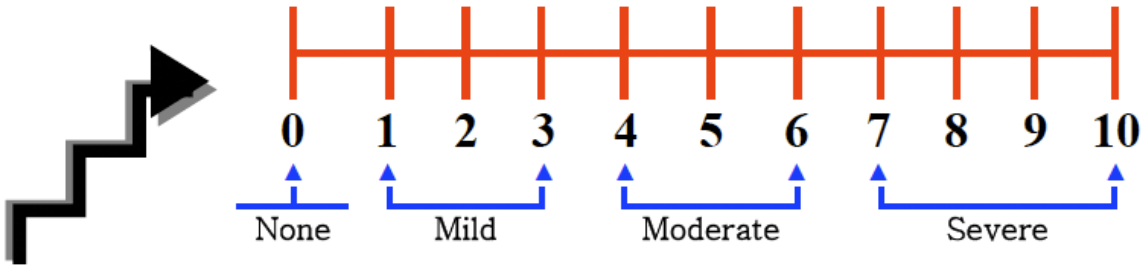
**TOOL TO ASSESS THE PAIN PERCEPTION**

## NUMERICAL PAIN SCALE

Numerical Pain scale for assessing the pain reduction. Each item is drawn on the scale of 0-10.The lesser score indicate better pain reduction.

**Purpose:**

This scale is used to measure the intensity pain of the mother before and after the use of therapy is measured.




| Score | level of pain |
|---|---|
| 0 | None |
| 1-3 | Mild |
| 4-6 | Moderate |
| 7-10 | Severe |

**SECTION - C**

## MODIFIED SHORT FORM MC GILL PAIN QUESTIONNAIRE

**PATIENT NAME:----------** **DATE:**

| | NONE (0) | MILD (1) | MODERATE (2) | SEVERE (3) |
|---|---|---|---|---|
| THROBBING | | | | |
| SHOOTING | | | | |
| STABBING | | | | |
| SHARP | | | | |
| CRAMPING | | | | |
| GNAWING | | | | |
| HOT BURNING | | | | |
| ACHING | | | | |
| HEAVY | | | | |
| TENDER | | | | |
| SPLITTING | | | | |
| TIRING-EXHAUSTING | | | | |
| SICKENING | | | | |
| FEARFUL | | | | |
| PUNISHING CRUEL | | | | |

**SCORE INTERPRETATION**

| S.NO | LEVEL OF PAIN | SCORE |
|---|---|---|
| **1.** | Sensory score | 0-33 |
| **2.** | Affective score | 0-12 |
| | **TOTAL** | **0-45** |

**Minimum=0, Maximum=3, Total questions=15, Total score=45**

Descriptors 1-11 represent the sensory dimension of pain experience and 12-15 represent the affective dimension. Each descriptor is ranked on an intensity scale of

**0 = None**

**1 = Mild**

**2 = Moderate**

**3 = Severe**

**PRESENT PAIN INTENSITY**

0 NO PAIN

1 MILD

2 DISCOMFORTING

3 DISTRESSING

4 HORRIBLE

5 EXCRUCIATING

**பங்கேற்பாளர்களுக்கு அறிவுறுத்துதல்: தயவுசெய்து கவனமாக படித்து, பொருந்திய விடையை கொடுக்கப்பட்டுள்ள இடத்தில் பதிலளிக்கவும். நீங்கள் வழங்கிய தகவல்கள் ரகசியமாக வைக்கப்பட்டு, ஆராய்ச்சி வேலைக்கு மட்டுமே பயன்படுத்தப்படும்**

**வடிவமைக்கப்பட்ட நேர்க்காணல் படிவம்**

**பிரிவு – அ**

**புள்ளி விவரம்**

1) **வயது** ( )

அ) 18 – 20 வயது

ஆ) 21 -25 வயது

இ) 26 – 30 வயது

ஈ) 31 – 35 வயது

2) **குடும்ப வகை** ( )

அ) தனிக் குடும்பம்

ஆ) கூட்டுக்குடும்பம்

இ) நீட்டிக்கப்பட்ட குடும்பம்

3) **அம்மாவின் கல்வி நிலை** ( )

அ) படிப்பறிவின்மை

ஆ) ஆரம்பப்பள்ளி படிப்பு

இ) நடுத்தரப்பள்ளி படிப்பு

ஈ) உயர்நிலைப் பள்ளி படிப்பு

உ) பட்டயப்படிப்பு

ஊ) பட்டப்படிப்பு

எ) தொழில் பட்டப்படிப்பு

**4) அம்மாவின் தொழில்** ( )

அ) வேலையின்மை

ஆ) கைத்தொழில்

இ) விவசாயம் மற்றும் மீனவம்

ஈ) கடை மற்றும் சந்தை வியாபாரி

உ) குமாஸ்தாக்கள்

ஊ) தொழில் நுட்ப அதிகாரி

எ) தொழில் முனைவர்

5) **குடும்பத்தின் மாத வருமானம்** ( )

அ) 2,091 ரூபாய்க்கு கீழ்

ஆ) 2.092 – 6,213 ரூபாய்

இ) 6,214 – 10,356 ரூபாய்

ஈ) 10.357 – 15,535 ரூபாய்

உ) 15,536 – 20,714 ரூபாய்

ஊ) 20,715 – 41,429 ரூபாய்

எ) 41,430 ரூபாய்க்கு மேல்

**6) வாழ்வு இருப்பிடம்** ( )

அ) கிராமம்

ஆ) நகரம்

இ) மாநகரம்

**7) மதம்** ( )

அ) இந்து

ஆ) கிறிஸ்தவர்

இ) முஸ்லீம்

ஈ) மற்றவை

# செவிலியர் கல்லூரி,

## சென்னை மருத்துவக் கல்லூரி, சென்னை-3.

# வடிவமைக்கப்பட்ட நேர்காணல் படிவம்

### பிரிவு-அ

**மகப்பேறு மாறிகள்**

1) கர்ப்பமாகுதல்

அ) முதல் முறை ☐

ஆ) இரண்டாம் முறை ☐

இ) மூன்றாம் முறை ☐

ஈ) மூன்றுக்கு மேல் ☐

2) குழந்தை பெறுதலின் எண்ணிக்கை

அ) முதல் குழந்தை ☐

ஆ) இண்டாவது குழந்தை ☐

இ) மூன்றாவது குழந்தை ☐

ஈ) மூன்றுக்கு மேல் ☐

3) பிரசவத்தின் போது ஏற்படுகின்ற இரண்டாம் கட்ட வலியின் நேரம்

அ) 15 முதல் 30 நிமிடங்கள் வரை ☐

ஆ) 30 நிமிடங்கள் முதல் 1 மணி நேரம் வரை ☐

இ) 1 மணி நேரம் முதல் 1½ மணி நேரம் வரை ☐

ஈ) 1½ மணி நேரம் முதல் 2 மணி நேரம் வரை ☐

4) குழந்தை பிறந்தவுடன் குழந்தையின் எடை

அ) 2.5 கிலோவிற்கு கீழ் ☐

ஆ) 2.5 முதல் 3.5 கிலோ வரை ☐

இ) 3.5 கிலோவிற்கு மேல் ☐

5) பிறப்புறுப்பில் ஏற்படுத்தும் காயத்தின் வகைகள்

அ) நடுத்தர பக்க- இடது, வலது ☐

ஆ) நடுத்தரம் ☐

இ) ஜெ-வடிவில் ☐

6) பிறப்புறுப்பில் ஏற்படுத்தும் காயத்திற்கான காரணங்கள் என்ன?

அ) குழந்தையின் எடை அதிகமாக இருத்தல் ☐

ஆ) திடமான பிறப்புறுப்பு ☐

இ) குறுகிய இடுப்பெலும்பு ☐

7) பிரசவத்தின் வகைகள்

அ) சுகப்பிரசவம் ☐

ஆ) ஆயுதம் உபயோகித்து பிரசவம் ஆகும் முறை ☐

இ) வெற்றிட முறையில் பிரசவம் ஆகுதல் ☐

## திருத்தி அமைக்கப்பட்ட சிறிய மெக்கில் வலியின் கேள்விகள்

| | வலி இல்லை (0) | லேசான வலி (1) | மிதமான வலி (2) | அதிகமான வலி (3) |
|---|---|---|---|---|
| வலியால் துடித்தல் | | | | |
| கடுமையான வலி | | | | |
| குத்துவது போன்ற வலி | | | | |
| கூர்மையான வலி | | | | |
| தசைப்பிடிப்பு வலி | | | | |
| கடிப்பது போன்ற வலி | | | | |
| எரிச்சல் போன்ற வலி | | | | |
| வலித்தல் | | | | |
| கனமான வலி | | | | |
| மென்மையான வலி | | | | |
| பிளவு வலி | | | | |
| சோர்வான வலி | | | | |
| நோயுற்ற வலி | | | | |
| பயமான வலி | | | | |
| கொடுரமான வலி | | | | |

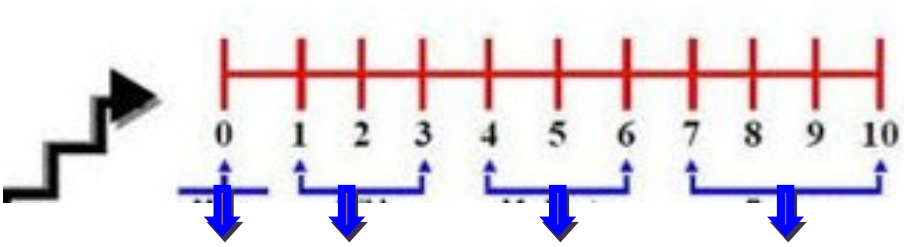
## தற்போதைய வலியின் தீவிரம்

| மதிப்பெண் | மதிப்பிடுதல் |
|---|---|
| 0 | வலியில்லை |
| 1 | மிதமான வலி |
| 2 | அசௌகரியமான வலி |
| 3 | துயரமான வலி |
| 4 | பயங்கரமான வலி |
| 5 | வேதனையுடன் கூடிய வலி |

# வலியின்அளவியல்

**அறிவுரை:** நீங்கள்வலியின்அளவைகுறிக்க ( ) குறியீடுக.

வலியின்அளவு




| மதிப்பெண் | வலியின்அளவு |
|---|---|
| 0 | வலியில்லை |
| 1 - 3 | லேசான வலி |
| 4 - 6 | மிதமான வலி |
| 7 - 10 | அதிகமான வலி |

**PROCEDURE**

**PROTOCOL FOR INFRA RED LIGHT THERAPY AND**

**WARM WATER SITZ BATH ON THE PERINEUM AFTER**

**EPISIOTOMY**

## Introduction

As a part of research study, intervention chosen was infra red light therapy and warm water sitz bath to promote pain perception and relieving discomfort.

## Procedure

### Preliminaries

⇒ Explain the procedure to the mother.

⇒ Make the mother to void and advice her to clean the perineum thoroughly.

⇒ Wash hands and gather equipments.

⇒ Provide privacy.

⇒ Make the mother to lie down in a lithotomy position.

⇒ Keep the makintosh under the mothers buttocks.

⇒ Clean the perineum and suture area with normal saline.

⇒ Dry the perineum and suture area with gauze piece.

## Intervention

### Infra Red Light Therapy

- Infra red lamp is placed 45 to 60cm (18 to 24 inches) from the perineal area that is to be treated.

The heat is provided from 15 to 20 minutes. But the mother is checked after the first five minutes to make sure that she is not being burned.

**Sitz Bath**

- ✓ Fill the basin one third full.
- ✓ Test the temperature of the water with a lotion thermometer
- ✓ Provide privacy
- ✓ Remove clothing from below the waist of a mother.
- ✓ Assist the mother to sit in the basin without pressure on the perineum and with the feet flat on the floor.
- ✓ Observe the mother closely for signs of weakness, vertigo, pallor, tachycardia and nausea.
- ✓ Stay with the mother for 15 to 20 minutes.
- ✓ Help the mother out of the basin when it is completed.
- ✓ Assist the mother to dry and dress in clean clothes.
- ✓ Help the client return to bed and reassess the objective and subjective data.

**After Care**

- After the procedure, make the mother in a comfortable position.
- Record the procedure in the chart.
- Post test level of pain and pain perception status was assessed by numerical pain scale

# INFORMED CONSENT

**TITLE: —**““A study to assess the effectiveness of **dry heat** versus **moist heat application** on episiotomy pain perception among postnatal mothers in Institute of Obstetrics and Gynaecology and Government hospital for women and children, Egmore, Chennai.”

Sample no:

Name of participant:

Name of the principal investigator: Angelin Sheebha

Name of the Institution :

Whether the participants consent was asked: Yes/No

[If the answer to the above question is yes, write the following phrase: you agree with the manner in which consent was asked from you and given by you. You agree to take part in this study].

If answer to the above question is no, give reason(s):

Name and signature or thumb impression of the participant legal representative.

Name ----------Signature---------- Date------

--Name and signature of the investigator or his representative obtaining

consent:

Name ----------Signature---------- Date--------

## INFORMATION TO PARTICIPANTS

**Title :** "A study to assess the effectiveness of **dry heat** versus **moist heat application** on episiotomy pain perception among postnatal mothers in Institute of Obstetrics and Gynaecology and Government hospital for women and children, Egmore, Chennai"

**Name of the Participant :**

**Date :**

**Age/sex :**

**Investigator : ANGELIN SHEEBHA R**

**Name of the Institution : College of Nursing, Madras Medical College, Chennai.**

**Enrolment No :**

You are invited to take part in this study. The information in this document is meant to help you decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

You are being asked to Cooperative in this study being conducted in selected nursing college at Chennai.

**What is the Purpose of the Research (explain briefly)**

This research is conducted to**:** assess the effectiveness of **dry heat** versus **moist heat application** on episiotomy pain perception among postnatal mothers in Institute of Obstetrics and Gynaecology and Government hospital for women and children, Egmore, Chennai- 08. We have obtained permission from the Institutional Ethics Committee.

**Study Procedures**

- Study will be conducted after approval of ethics committee
- A written formal permission will be obtained from authorities of, Institute of obstetrics and gynaecology and govt hosp for women and children Egmore,Chennai to conduct study.
- The purpose of study will be explained to the participants.

- The investigator will obtain informed consent.
- The investigator will assess the pain perception level of each participant before the procedure using a standardized scale. .
- The procedure of infra red radiation, warm sitz bath will be explained to them and it is administered for 15 mints two times daily for 3 days
- Following that the level of pain perception will be assessed after 3 days.

**Possible benefits to other people**

The result of the research may provide benefits to the post natal mothers and also empathetic care to them by investigator.

**Confidentiality of the information obtained from you**

You have the right to confidentiality regarding the privacy of your personal details. The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

**How will your decision not to participate in the study affect you?**

Your decisions not to participate in this research study will not affect your activity of daily living, medical care or your relationship with investigator or the institution.

**Can you decide to stop participating in the study once you start?**

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time during course of the study without giving any reasons.

Your Privacy in the research will be maintained throughout study. In the event of any publications or presentation resulting from the research, no personally identifiable information will be shared.

Signature of Investigator Signature of Participants

Date: Date:

# <u>ஆய்வுக்குழு-1க்கான சுய ஒப்புதல் கடிதம்</u>

**குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு உலர் வெப்பம் கொடுப்பதன் மூலம் சிறந்த பயன் கிடைக்கும் என்பதன் திறனாய்வு.**

ஆய்வாளர் பெயர் : ஏஞ்சலின் ஷீபா.ரா
பங்கேற்பாளர் பெயர் :
தேதி :
வயது/ பால் :

- ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமுமின்றி முழு மனதுடனும் சுய நினைவுடனும் சம்மதிக்கிறேன்.
- ஆய்வாளர் மேற்கொள்ள போகும் பரிசோதனைகளை மிக தெளிவாக விளக்கிக் கூறினார்.
- எனக்கு விருப்பமில்லாத பட்சத்தில் ஆராய்ச்சியிலிருந்து எந்நேரமும் விலகலாம் என்பதை ஆய்வாளர் மூலம் அறிந்துகொண்டேன்.
- இந்த ஆராய்ச்சி ஒப்புதல் கடிதத்தில் உள்ள விவரங்களை நன்கு புரிந்துகொண்டேன். எனது உரிமைகள் மற்றும் கடமைகள் ஆராய்ச்சியாளர் மூலம் விளக்கப்பட்டது.
- நான் ஆராய்ச்சியாளருடன் ஒத்துழைக்க சம்மதிக்கிறேன். எனக்கு ஏதேனும் உடல்நலக்குறைவு ஏற்பட்டால் ஆராய்ச்சியாளரிடம் தெரிவிப்பேன்.
- நான் வேறு எந்த ஆராய்ச்சியிலும் தற்சமயம் இடம்பெறவில்லை என்பதை தெரிவித்துக்கொள்கிறேன்.
- இந்த ஆராய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும்போது என் அடையாளம் வெளிவராது என்பதை அறிவேன்.
- எனக்கு இந்த ஒப்புதல் கடித்தத்தின் நகல் கொடுக்கப்பட்டது.

ஆய்வாளர் பெயர்
தேதி

பங்கேற்பாளர் கையொப்பம்
தேதி

# <u>ஆய்வுக்குழு-1க்கான ஆராய்ச்சி தகவல் தாள்</u>

**குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை உலர் வெப்பம் கொடுப்பதன் மூலம் சிறந்த பயன் கிடைக்கும் என்பதன் திறனாய்வு.**

ஆய்வாளர் பெயர் : ஏஞ்சலின் ஷீபா.ரா

பங்கேற்பாளர் பெயர் :

தேதி :

வயது/ பால் :

- ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமுமின்றி முழு மனதுடன் சம்மதிக்கலாம்.
- இதில் பங்கேற்பதன் நோக்கம் இந்த ஆராய்ச்சியின் தகவல்களை தெரிந்துகொள்வதற்காகவும், அதனை பயன்படுத்துவதற்காகவும் மட்டுமேதான்.
- இந்த ஆராய்ச்சியின் நோக்கம் குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குணப்படுத்துவற்கு உலர் வெப்பம் கொடுத்தல்.

**<u>ஆராய்ச்சி மேற்கொள்ளும் முறை</u>**

குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு உலர் வெப்பம் கொடுத்து எதன் மூலம் சிறந்த பயன் கிடைக்கும் என்பதன் திறனாய்வு.

**<u>இதனால் ஆய்வாளருக்கான பலன்</u>**

குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு உலர் வெப்பம் மற்றும் ஈரமான வெப்பம் கொடுத்தல்.

**<u>இதனால் பங்கேற்பாளருக்கான பயன்</u>**

- இந்த ஆய்வு மூலம் குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு உலர் வெப்பம் கொடுத்தல்.
- ஆராய்ச்சியில் பங்கேற்கவில்லை என்றாலும், உங்களின் சராசரி வாழ்க்கை முறையில் எந்தவித மாற்றமும் ஏற்படாது என்பதை தெரிவிக்கிறேன்.
- இந்த ஆராய்ச்சியில் பங்கேற்க விருப்பம் இல்லை என்றால் உங்களின் முழு மனதுடன் நீங்கள் இந்த ஆராய்ச்சியில் இருந்து விலகிக் கொள்ளலாம் என்பதை தெரிவிக்கிறேன்.
- இந்த ஆராய்ச்சியில் உங்களின் தகவல்களை பாதுகாப்பாக வைத்துக்கொள்கிறேன் என்பதை தெரிவித்துக்கொள்கிறேன்.
- இந்த ஆராய்ச்சியின் தகவல்களை வெளியிடும்போது உங்களைப்பற்றிய அடையாளங்கள் வெளிவராது என்பதை உறுதி கூறுகிறேன்.

**ஆய்வாளர் பெயர்**
தேதி

**பங்கேற்பாளர் கையொப்பம்**
தேதி

# <u>ஆய்வுக்குழு-உக்கான சுய ஒப்புதல் கடிதம்</u>

**குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு ஈரமான வெப்பம் கொடுப்பதன் மூலம் சிறந்த பயன் கிடைக்கும் என்பதன் திறனாய்வு.**

ஆய்வாளர் பெயர் : ஏஞ்சலின் ஷீபா.ரா
பங்கேற்பாளர் பெயர் :
தேதி :
வயது/ பால் :

- ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமுமின்றி முழு மனதுடனும் சுய நினைவுடனும் சம்மதிக்கிறேன்.
- ஆய்வாளர் மேற்கொள்ள போகும் பரிசோதனைகளை மிக தெளிவாக விளக்கிக் கூறினார்.
- எனக்கு விருப்பமில்லாத பட்சத்தில் ஆராய்ச்சியிலிருந்து எந்நேரமும் விலகலாம் என்பதை ஆய்வாளர் மூலம் அறிந்துகொண்டேன்.
- இந்த ஆராய்ச்சி ஒப்புதல் கடிதத்தில் உள்ள விவரங்களை நன்கு புரிந்துகொண்டேன். எனது உரிமைகள் மற்றும் கடமைகள் ஆராய்ச்சியாளர் மூலம் விளக்கப்பட்டது.
- நான் ஆராய்ச்சியாளருடன் ஒத்துழைக்க சம்மதிக்கிறேன். எனக்கு ஏதேனும் உடல்நலக்குறைவு ஏற்பட்டால் ஆராய்ச்சியாளரிடம் தெரிவிப்பேன்.
- நான் வேறு எந்த ஆராய்ச்சியிலும் தற்சமயம் இடம்பெறவில்லை என்பதை தெரிவித்துக்கொள்கிறேன்.
- இந்த ஆராய்ச்சியின் தகவல்களை வெளியிட சம்மதிக்கிறேன். அப்படி வெளியிடும்போது என் அடையாளம் வெளிவராது என்பதை அறிவேன்.
- எனக்கு இந்த ஒப்புதல் கடித்தத்தின் நகல் கொடுக்கப்பட்டது.

ஆய்வாளர் பெயர்
தேதி

பங்கேற்பாளர் கையொப்பம்
தேதி

# <u>ஆய்வுக்குழு-2க்கான ஆராய்ச்சி தகவல் தாள்</u>

**குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு ஈரமான வெப்பம் கொடுப்பதன் மூலம் சிறந்த பயன் கிடைக்கும் என்பதன் திறனாய்வு.**

ஆய்வாளர் பெயர் : ஏஞ்சலின் ஷீபா.ரா

பங்கேற்பாளர் பெயர் :

தேதி :

வயது/ பால் :

- ஆய்வாளர் மேற்கொள்ளும் ஆராய்ச்சியில் பங்கேற்க யாருடைய கட்டாயமுமின்றி முழு மனதுடன் சம்மதிக்கலாம்.
- இதில் பங்கேற்பதன் நோக்கம் இந்த ஆராய்ச்சியின் தகவல்களை தெரிந்துகொள்வதற்காகவும், அதனை பயன்படுத்துவதற்காகவும் மட்டுமேதான்.
- இந்த ஆராய்ச்சியின் நோக்கம் குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு ஈரமான வெப்பம் கொடுத்தல்.

**<u>ஆராய்ச்சி மேற்கொள்ளும் முறை</u>**

குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு ஈரமான வெப்பம் கொடுத்து எதன் மூலம் சிறந்த பயன் கிடைக்கும் என்பதன் திறனாய்வு.

**<u>இதனால் ஆய்வாளருக்கான பலன்</u>**

குழந்தை பிறக்கும்போது பிறப்புறுப்பில் ஏற்படும் காயத்தின் வலி உணர்வை குறைப்பதற்கு ஈரமான வெப்பம் கொடுத்தல்.

**<u>இதனால் பங்கேற்பாளருக்கான பயன்</u>**

- இந்த ஆய்வு மூலம் குழந்தை பிறக்கும்போது பிறப்புறுப்பில் காயத்தின் ஏற்படும் வலி உணர்வை குறைப்பதற்கு ஈரமான வெப்பம் கொடுத்தல்.
- ஆராய்ச்சியில் பங்கேற்கவில்லை என்றாலும், உங்களின் சராசரி வாழ்க்கை முறையில் எந்தவித மாற்றமும் ஏற்படாது என்பதை தெரிவிக்கிறேன்.
- இந்த ஆராய்ச்சியில் பங்கேற்க விருப்பம் இல்லை என்றால் உங்களின் முழு மனதுடன் நீங்கள் இந்த ஆராய்ச்சியில் இருந்து விலகிக் கொள்ளலாம் என்பதை தெரிவிக்கிறேன்.
- இந்த ஆராய்ச்சியில் உங்களின் தகவல்களை பாதுகாப்பாக வைத்துக்கொள்கிறேன் என்பதை தெரிவித்துக்கொள்கிறேன்.
- இந்த ஆராய்ச்சியின் தகவல்களை வெளியிடும்போது உங்களைப்பற்றிய அடையாளங்கள் வெளிவராது என்பதை உறுதி கூறுகிறேன்.

**ஆய்வாளர் பெயர்** **பங்கேற்பாளர் கையொப்பம்**

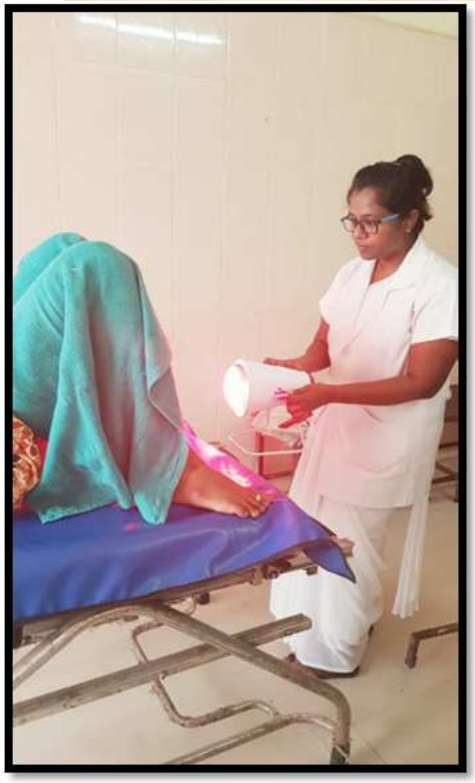
தேதி தேதி

# CERTIFICATE OF PLAGIARISM

This is to certify that the dissertation work titled, "**A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI**" of the candidate **Mrs.ANGELIN SHEEBHA.R** for the partial fulfillment of M.Sc. Nursing Programme in the branch of OBSTETRICS AND GYNAECOLOGICAL NURSING has been verified for plagiarism through relevant plagiarism checker. We found that the uploaded thesis file from introduction to conclusion pages and rewrite shows _____% of Plagiarism (_____% Uniqueness) in this dissertation.

**CLINICAL SPECIALITY GUIDE / SUPERVISOR**
**Mrs.S.Thenmozhi, M.Sc(N).,**
Lecturer in Obstetrics & Gynaecological Nursing,
College of Nursing,
Madras Medical College,
Chennai -03.

**PRINCIPAL**
**Mrs.A.Thahira Begum, M.Sc(N),MBA, M.Phil.,**
Principal,
College of Nursing,
Madras Medical College,
Chennai -03.



# INSTITUTIONAL ETHICS COMMITTEE
# MADRAS MEDICAL COLLEGE, CHENNAI 600 003

EC Reg.No.ECR/270/Inst./TN/2013
Telephone No.044 25305301
Fax: 011 25363970

## CERTIFICATE OF APPROVAL

To
Ms. Angelin sheebha.R.
M.Sc. Nursing I Year
College of Nursing
Madras Medical College
Chennai 600 003

Dear Ms. Angelin sheebha.R.,

The Institutional Ethics Committee has considered your request and approved your study titled **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI " - NO.02072018**

The following members of Ethics Committee were present in the meeting hold on **24.07.2018** conducted at Madras Medical College, Chennai 3

1. Prof.P.V.Jayashankar :Chairperson
2. Prof.R.Jayanthi,MD.,FRCP(Glasg) Dean,MMC,Ch-3 : Deputy Chairperson
3. Prof.Sudha Seshayyan,MD., Vice Principal,MMC,Ch-3 : Member Secretary
4. Prof.N.Gopalakrishnan,MD,Director,Inst.of Nephrology,MMC,Ch : Member
5. Prof.S.Mayilvahanan,MD,Director,Inst. of Int.Med,MMC, Ch-3 : Member
6. Prof.A.Pandiya Raj,Director, Inst. of Gen.Surgery,MMC : Member
7. Prof.Shanthy Gunasingh, Director, Inst.of Social Obstetrics,KGH : Member
8. Prof.Rema Chandramohan,Prof.of Paediatrics,ICH,Chennai : Member
9. Prof. Susila, Director, Inst. of Pharmacology,MMC,Ch-3 : Member
10. Prof.K.Ramadevi,MD., Director, Inst. of Bio-Chemistry,MMC,Ch-3 : Member
11. Prof.Bharathi Vidya Jayanthi,Director, Inst. of Pathology,MMC,Ch-3: Member
12. Thiru S.Govindasamy, BA.,BL,High Court,Chennai : Lawyer
13. Tmt.Arnold Saulina, MA.,MSW., :Social Scientist
14. Thiru K.Ranjith, Ch- 91 : Lay Person

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary – Ethics Committee

**REQUISITION FORM**

From

Angelin Sheebha R,
M.Sc. (N) II year Student,
College of Nursing,
Madras Medical College,
Chennai-600 003

28.01.19

To

The Director and Superintendent,
Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children,
Egmore,
Chennai -600 008.

Through

The Principal,
College Of Nursing,
Madras Medical College,
Chennai-03.

**Respected Sir/ Madam,**

**Sub: Requesting permission to conduct Dissertation study in Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Egmore, Chennai- Regarding**

---------- X ----------

I am undergoing Post Graduation at College of Nursing, Madras Medical College, Chennai–03 and has to conduct a study for the partial fulfillment of M.Sc. (N) programme. My topic is "**A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI – 08**". The data will be collected at Institute of Obstetrics and Gynaecology and Government Hospital for Women and Children, Egmore, from 02.02.2019 to 04 .03.2019 at 8 am – 4 pm. I assure that I will not disturb the routine activities of the ward and there is no extra expenditure to the Government.

With due respect, I request your good self to kindly permit me to conduct this study.

Thanking You,

Yours faithfully,

(ANGELIN SHEEBHA)

Signature of HOD
(Research)

Forwarded
01/02/19
PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003.

Permitted
Director and Superintendent
Institute of Obstetrics and Gynaecology
and Govt. Hospital for Women & Children

## CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by **ANGELIN SHEEBHA. R,** M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

Signature with seal

Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore, Chennai-8

Name: Dr. NASRIN. A

Designation: Assistant professor
IOG,

Place:

Date:

## CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by **ANGELIN SHEEBHA. R,** M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

Signature with seal

Assistant Surgeon
I.O.G. & Government Hospital
For Women and Children
Egmore. Chennai-8

Name: Dr. G. MANILAKSHMI DNB

Designation: ASSISTANT PROFESSOR
POG
EGMORE.

Place:

Date:

## CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by **Angelin sheebha. R,** M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

Signature with seal


Name: Mrs. A.J. CHITRA

Designation: VICE PRINCIPAL

College: G.R.T. COLLEGE OF NURSING

Place: THIRUTTANI

Date: 29.1.2019

## CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by **Angelin sheebha. R,** M.Sc., (Nursing) II year, College of Nursing, Madras Medical College which is to be used in her study titled, **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI"** has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

Signature with seal

DR. SUSILA., RN. RM. M.Sc(N) Ph.D
PRINCIPAL
BILLROTH COLLEGE OF NURSING
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Maduravoyal, Chennai- 600

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College:

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Date: 31/1/19

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## CERTIFICATE OF TAMIL EDITING

This is to certify that the dissertation work topic, , **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI"**done by**Mrs. ANGELIN SHEEBHA,**M.sc. (Nursing) II year student, College of Nursing, Madras Medical College, Chennai – 03 was edited for Tamil language appropriateness.

அரசு மகளிர் மேல்நிலைப் பள்ளி, ஆடமங்கலம்-606901., தி.மலை மா.
தேதி 11/7/19

**NAME** : V. MAHADEVI

**DESIGNATION** : P.G. Asst, (TAMIL)

**SIGNATURE WITH SEAL** : 11/7/19
வ.மகாதேவி, எம்.ஏ., எம்.எட்., எம்.பில்
முதுகலை ஆசிரியை (தமிழ்)
அரசினர் மகளிர் மேனிலைப்பள்ளி
ஆடமங்கலம், தி.மலை மாவட்டம்

**DATE** :

**PLACE** : ADAMANGALAM.

## CERTIFICATE OF ENGLISH EDITING

This is to certify that the dissertation work topic, , **"A STUDY TO ASSESS THE EFFECTIVENESS OF DRY HEAT VERSUS MOIST HEAT APPLICATION ON EPISIOTOMY PAIN PERCEPTION AMONG POSTNATAL MOTHERS IN INSTITUTE OF OBSTETRICS AND GYNAECOLOGY AND GOVERNMENT HOSPITAL FOR WOMEN AND CHILDREN, EGMORE, CHENNAI"**done by**Mrs.ANGELIN SHEEBHA,**M.sc. (Nursing) II year student, College of Nursing, Madras Medical College, Chennai – 03 was edited for English language appropriateness.

**NAME** : P. PETCHIAMMAL @ KARTHIGA

**DESIGNATION** : BT ASST

**SIGNATURE WITH SEAL** :

**DATE** : 11/07/2019.

**PLACE** : ADAMANGALAM.

P.PETCHIAMMAL @KARTHIGA,M.A.
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