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

DISSERTATION SUBMITTED TO

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

CHENNAI

IN PARTIAL FULFILLMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

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BY

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CERTIFICATE

This is a bonafide work of **Mrs.G.Helen Hema Bai,M.Sc(N).,(2010 – 2012 Batch)** second year student of Sri. K. Ramachandran Naidu College of Nursing, Sankarankovil. Submitted in partial fulfillment for the **'Degree of Master of Science in Nursing'** under The Tamil Nadu Dr. M. G. R. Medical University, Chennai.

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ABSTRACT

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 was conducted by **Mrs.G.Helen Hema Bai** in partial fulfillment of the requirement for the degree of master of science in nursing at the Sri.K.Ramachandran Naidu college of nursing, under the Tamil Nadu Dr.M.G.R.Medical University.

The objectives of the study were

1. To assess the level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

2. To find out the effectiveness of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

3. To compare the pre and post test level of episiotomy wound healing status and level pain perception among postnatal mothers in Group A and B.

4. To correlate the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

5. To associate the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables.

The following hypotheses were set for the study,

All hypotheses were tested at 0.05 levels.

H_1 There was a significant difference in the pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A.

H_2 There was a significant difference in the pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group B.

H_3 There was a significant difference in the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

H_4 There was a positive correlation between the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

H_5 There was a significant association between the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables.

The study was based on Modified Wiedenbach"s helping art of clinical nursing model. The study was conducted in Kannanoor and Chemparuthivilai primary health centers at Kanyakumari District. The design adopted for this study was two group pre and post test quasi experimental design to evaluate 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.

Purposive sampling technique was used and selected sixty postnatal mothers with episiotomy wound who were admitted in the primary health centers. Among that thirty samples were received Infra red light therapy (Group A) and thirty samples were received warm water sitz bath (Group B).

The data collection tools were developed for generating the necessary data by using REEDA scale to assess the episiotomy wound healing status and modified visual analogue scale to assess the level of pain perception. The content validity of the tools was established by two medical experts and four nursing experts. The reliability of the tool (r=0.8) was established by inter-rater observer method. The instruments were found to be reliable. Pilot study was conducted to find out the feasibility of the study and to plan for data analysis.

Data collection was done and the data obtained were analysis in terms of both descriptive and inferential statistics.

The major findings of the study were,

- ❖ Infra red light therapy was effective in reducing the level of pain perception of episiotomy wound healing status among postnatal mothers in Group A. (t=6.02, p=0.05).
- ❖ There was a significant difference between the mean pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A (p<0.05).
- ❖ There was a significant difference between the mean pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group B (p<0.05).

❖ There was no significant association between the post test level of episiotomy wound healing status and level of pain perception in Group A and B postnatal mothers with their selected demographic variables at p<0.05 level.

Recommendation of the study were,

1. Similar study can be replicated on a large sample.

2. A True experimental study can be done with the administration of infra red light therapy.

3. A True experimental study can be done with the administration of warm water sitz bath.

Recommendation based on the suggestions of the study subjects:

1. Postnatal mothers should have in depth knowledge about infra red light therapy and warm water sitz bath.

2. Postnatal mothers encouraged to practice care of episiotomy wound.

3. Postnatal mothers must know about physiological changes occur during puerperium.

Conclusion

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

CHAPTER-I

INTRODUCTION

"God could not be everywhere and therefore he made mothers."

(A Jewish Proverb)

BACKGROUND OF THE STUDY

Child birth is a process which is beautifully designed by nature, and also it is a joyous event for the women, family and caregivers. But that joyous event is also associated with some level of pain. The mother may suffer much distress after childbirth due to episiotomy wound and pain. **(Annamma Jacob, 2005).**

Episiotomy is a common surgical procedure performed during second stage of labor. This is to widen the perineum and prevent severe perineal tears. Episiotomy was introduced as an obstetric procedure more than 200 years ago. However this procedure became a common practice only from the beginning of 20th 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, 2004).**

Episiotomy is done to enlarge the vaginal introitus to facilitate easy and safe delivery of the fetus, minimize overstretching, rupture of perineal muscles and fascia. To reduce stress and strain on the fetal head, the types of episiotomy include;

- Medio lateral episiotomy
- Median episiotomy
- Lateral episiotomy
- "J" shaped episiotomy.

The mother undergoing episiotomy is characterized by greater blood loss in conjunction with delivery and there is a risk of improper wound healing and increased pain during early puerperium. Midwives have an important role in the care of perineal wounds following child birth. Inspection of episiotomy wound can be done by using REEDA scale which includes Redness, Edema of surrounding tissues, Ecchymosis around area, Discharge from the wound and Approximation of incision site **(Ingalls A.Joy, 2000).**

The postnatal period is a vulnerable period for women. One of the major problems during postnatal period is episiotomy wound and pain. Pain following episiotomy appears to be universal and is most commonly associated with child birth by delivery **(Grass, 1996).**

The International Association defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage. Pain messages are two-way traffic. Inhibitory effects are achieved through the descending pathways, which reach from the conscious brain down to the gates in the subconscious brain and the spinal cord. The reason for this is that the gates are places where the flow of pain messages can be controlled or influenced. By sending responses back to the periphery, the brain can ordered to release of chemicals that have analgesic effects, which can reduces, inhibit pain sensation **(kozhier Barbara, 1990).**

Episiotomy sutures can cause considerable discomfort and pain, because the perineum is an extremely tender and highly vascular area. The muscles of the perineum are involved in many activities such as sitting and walking. Women experience pain which can be described as burning, dull, aching or pulling sensation.

A delay in wound healing may increase the duration of perineal pain. The pain and discomfort resulting from episiotomy can interfere with mother infant interaction, breastfeeding, reestablishment of relationship with partner even emotional recovery after birth. Many interventions are found to aid the healing process and to relieve perineal pain resulting from episiotomy such as cleanliness, application of icepack, dry heat (Infra Red Therapy), moist heat (sitz bath), kegal exercise and perineal care **(Bunker Rosdhal, 1988).**

Infra red lamps were used for episiotomy wound healing years ago. However, infra red lamps are useful for promotion of healing in episiotomy wound in present days also. Infra red rays relax muscles, stimulate circulation, reduce the level of edema and relieve pain. A good blood circulation is essential for wound healing, prevents infection and destroying the bacteria. The temperature of the infra red light should be 40 to 45 degree celcious and it has to be maintained for five minutes. The use of infra red light will cause vasodilatation of the blood vessels and to increase the fluid exchange for reducing the level of edema **(Claytons, 1986).**

Perineal discomfort from episiotomy wound continues to be a problem for many post partum women. The Infra red light therapy and sitz bath are used to relieve perineal discomfort and to identify the sustaining effect on wound. Sitz bath is one of the techniques that can be improved episiotomy wound healing. Sitz bath is a warm water bath and it has taken in the sitting position that covers only the hips and buttocks. It may be used for healing of the wounds and relieve pain, itching or muscle spasms **(Christine, 1984).**

A sitz bath is a special tub or chair basin that allows a client to sit in water without immersing the legs or feet and upper trunk. Clients who had episiotomy during child birth or who have painful hemorrhoids or perineal inflammation may benefit from a sitz bath. Sitz baths are used to promote circulation, reduce edema and inflammation and promote muscle relaxation.

The researcher could collect adequate literature which supported the effect of infra red light therapy and sitz bath on perineum after episiotomy.

NEED FOR THE STUDY

Episiotomy is one of the common surgical procedure which performed during delivery in most parts of the world. Episiotomy is reduces the risk of third degree perineal tear and prevents unnecessary trauma to the fetal head. Episiotomy was first reported in 1742.

In 2000, the percentage of episiotomies performed in the United States out of all vaginal deliveries to be 19.4%. This was a dramatic reduction from the year of 1983 rate of 69.4%. Episiotomy rates were higher among white women (32.1%) than African American women (11.2%).

The world wide episiotomy rate was 27% to 54% in nulliparous and 6% in multiparous women. Episiotomy rates differ according to the care provider. Patients of midwives have lower rates than patients of medical doctors. 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%.

The results of population based study of episiotomy were showed the episiotomy rates among type of health institution in Tamil Nadu. In the episiotomy rate was 91.8% in private medical college hospitals, 74.7% in Government medical college hospitals, 74.7% in private hospitals, 67.6% in Taluk hospitals, 55.1% in primary health centers and 23.1% in Health sub centers. **(Karl, 1985).**

According to **Pernoll and Benson (1987),** Episiotomies are indicated,

- For thick perineum.
- If the infant is preterm and cerebral hemorrhage is a possibility because of capillary fragility,
- If the infant is large more than 4000 gm.
- In most forceps and breech births.

The puerperium is a period marked by intense vulnerability and it is the period when women receive less care from the health team and their family, since the newborn receive most attention at this moment. It is important for a nurse to be aware of problems that may develop during postnatal period. The perineal area of the episiotomy may be uncomfortable or even painful for several days. The use of infra red light therapy and sitz bath will reduce the pain and improve the wound healing during postnatal period. The infra red rays help to relax muscles, improve circulation and relieve pain. Sitz bath is helps to relieve pain, gives soothening effect and promotes healing after an episiotomy from child birth **(Shrish.N,2005).**

A study conducted on application of magnet laser radiation to stimulate healing of perineum injuries in the maternity patients. 86 maternity patients with episiotomy were studied in treatment. The injury on the perineum was conveniently treated by antiseptics cream in 40 maternity patients (control Group), the magnet laser

therapy concomitantly with the conventional methods. The therapeutic effect was based on the combined influence of the constant magnetic field and impulsive laser radiation of the red and infra red range on the body. The patients reported less discomfort during magnet laser therapy, which promotes the decreased of pain intensity and hyperemia instantly after two to three procedure. The proposed complex method of treatment with the application of magnet laser therapy improves the process of the healing considerably, promotes the rapid disappearance of inflammatory signs and renders analgesic effects **(R. Zakulieva Lin, et al., 2006).**

A study on clinical trial of Aroma therapy on postpartum perineal healing states that the other treatments for episiotomy and among these methods, aroma therapy were applied through sitz bath by using essential oils like lavender. The findings indicate that postpartum aromatherapy for perineal care could be effective in healing the perineum **(Sharon, 2006).**

So reduction of pain and healing of wound is important during postnatal period after episiotomy. During my experience as a student nurse I got a chance of providing care to the postnatal mothers. Most of the mothers reported severe pain, constipation, redness of the perineum. So I am interested in doing study regarding application of infra red light therapy and sitz bath for the reduction of pain perception and improve the wound healing status.

STATEMENT OF THE PROBLEM

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 Centres at Kanyakumari District.

OBJECTIVES

1. To assess the level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

2. To find out the effectiveness of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

3. To compare the pre and post test level of episiotomy wound healing status and level pain perception among postnatal mothers in Group A and B.

4. To correlate the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

5. To associate the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables.

HYPOTHESES

H_1 There will be a significant difference in the pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A.

H_2 There will be a significant difference in the pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group B.

H_3 There will be a significant difference in the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

H₄   There will be a positive correlation between the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

H₅   There will be a significant association between the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables.

OPERATIONAL DEFINITIONS

Assess

It refers to the systematically and continuously collecting and validating data of postnatal mothers regarding Infra red light therapy and warm water sitz bath.

Effectiveness

It refers to the outcome of the Infra red light therapy and warm water sitz bath on episiotomy wound healing status and level of pain perception among postnatal mothers. It is measured in terms of the difference between the posttest and pretest wound healing status and pain scores.

Infra Red Light Therapy

The infra red lamp 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.

Warm Water Sitz Bath

For Sitz bath keep 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 six hours after delivery.

Episiotomy wound healing status

A surgically planned incision on the perineum and the posterior vaginal wall during the second stage of labour and it can be characterized by redness, edema, ecchymosis, and discharge around the wound. The healing status was measured by REEDA scale.

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 Modified Visual Analog Scale.

Primary Health Centre

It is the structural and functional unit of the public health services situated in Chemparuthivilai and Kannanoor at Kanyakumari District.

ASSUMPTIONS

1. Perineal discomfort from episiotomy wound may continues to be a problem for many postpartum women.

2. Infra red light therapy and warm water sitz bath may sufficient to reduce the pain, relax the muscle and stimulate circulation and promote healing after an episiotomy.

DELIMITATIONS

1. The study is delimited to the postnatal mothers with episiotomy wound who were admitted in Primary Health Centers.

2. The study is delimited to a sample of 60 postnatal mothers with episiotomy wound.

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

PROJECTED OUTCOME

1. Administration of infra red light therapy will reduce the level of pain perception and improve the wound healing status and prevent the development of complications due to episiotomy.

2. The findings of the study will help the nurses to plan and use this therapy in reducing the level of pain perception and improves the wound healing status among postnatal mothers with episiotomy.

CONCEPTUAL FRAMEWORK

The conceptual framework for research study presents the measures on which the purpose of the proposed study is based. The framework provided the perspective from which the investigator views the problem.

The study is based on the concept that administration of selected nursing intervention such as infra red light therapy and warm water sitz bath to the mothers who have undergone normal spontaneous vaginal delivery with episiotomy and first day of postpartum period to reduce the perineal wound and pain. The investigator adopted the modified Wiedenbach's helping art of clinical nursing theory as a base for developing conceptual framework. Ernestine Wiedenbach's enrolled in John hospital school of nursing and wrote family centered maternity nursing. She developed the helping art of clinical nursing-prescriptive theory in 1964.

Ernestine Wiedenbach's helping art of theory for nursing which describes a derived situation and way to attain it. This theory has three factors.

1)   Central purpose

2)   Prescription

3)   Realities

1)   Central Purpose

It refers to what the nurse wants to accomplish. It is the overall goal towards which a nurse strives. In this theory the central purpose is the effective management of episiotomy wound and pain perception during postnatal period.

2)   Prescription

It refers to plan of care for mothers. It will specify the nature of action that will fulfill the nurse central purpose. In this study the investigator adopted infra red light therapy and warm water sitz bath as interventions for the effective management of episiotomy wound and pain perception.

3)   Realities

It refers to the physical, physiological, emotional, spiritual factors that come into play in situation involving nursing action. The five realities identified by Wiedenbach's are agent, recipient, goal, means, activities and framework.

Agent

The practicing nurse or investigator delegates characterized by personal attributes, problems, capacities, commitment and competence in nursing. In this study the agent was the investigator.

Recipient

Is the patient characterized by the personal attributes, problems, capacities, aspirations and ability to cope with the concern or problems being experienced. In this study postnatal mothers had undergone normal spontaneous vaginal delivery with episiotomy wound are the recipients.

Goal

It is the defined outcome the nurse wishes to achieve. In this study the episiotomy wound and reduction of pain perception to be reduced after the intervention.

Means

Comprise the activities and devices through, which the practitioners attain the goal. The mean include skills, techniques, procedures, and devices that they may be used to facilitate nursing practice. In this study the selected nursing interventions such as infra red light therapy and warm water sitz bath used to reduce the pain and episiotomy wound.

Framework

It consists of the human, environmental, professional, organizational facilities that not only makeup the context which nursing practice. But also constitute the currently existing limits. In this study framework was immediate postnatal ward in primary health centers.

The conceptualization of nursing according to this theory consists of three steps as follows.

Step-I   -   Identifying the need for help

Step-II   -   Ministering the needed help

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

Step-I: Identifying the Need for Help

This step involves determining the need for help. The postnatal mothers are identified based on the inclusive and exclusive criteria. In this study, the investigator assessed the episiotomy wound healing status of postnatal mothers by using REEDA scale and level of pain perception was assessed by Modified Visual Analogue scale.

Step-II: Ministering the Needed Help

After the assessment of pre test level of episiotomy wound and pain perceptions among postnatal mothers in Groups A and B, were treated with the selected interventions of infra red light therapy and warm water sitz bath.

Step-III: Validating that the Need for Help was met

It is accomplished by means of comparing pre and post test level of wound healing status and level of pain perceptions after administration of infra red light therapy and warm water sitz bath for postnatal mothers in Groups A and B.

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 follow;

Section-A: Literature related to Episiotomy.

Section-B: Literature related to Episiotomy pain perception.

Section-C: Literature related to Infra red light therapy and warm water sitz bath.

SECTION-A: LITERATURE RELATED TO EPISIOTOMY

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.

Alperin et al., (2008) conducted a study to examine that the episiotomy during first vaginal delivery increases the risk of spontaneous obstetric lacerations in the subsequent delivery at magee womens hospital, Pennsylvania among 6052 patients and 47.8 percent had episiotomy at first delivery. The study showed that the results of spontaneous second delivery compared with 26.7 percent without the history of episiotomy (p<.001) and 4-8% of women had severe laceration with the history of episiotomy at first delivery compared with 1.7 percent without history of episiotomy (p.001).

Leeman (2007) 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).

Ratchadawan Soo Khin et al., (2005) conducted a cohort study to assess the effectiveness of midline Vs mediolateral episiotomy. A total of 1302 low risk pregnant women were selected for this study. He found that mediolateral episiotomy 14.8 percent (vs7%) is a lesser rate of deep perineal tears than midline episiotomies. And they concluded this study as mediolateral episiotomy is the best one as compared with midline episiotomies.

Avsar et al.,(2004) conducted a study to assess the patients related factors associated with severe perineal lacerations and to evaluate the outcome of episiotomy type among 400 nulliparous women in Turkey. The results reported that the ratio of severe perineal laceration was 2 percent, 3 percent with midline, and 1 percent with mediolateral Groups. In patients with severe lacerations, perineal length was significantly (p<0.001) shorter and the head circumference of their babies in the midline significantly (p<0.05) weights were also significantly (p<0.05) greater in the mediolateral Groups.

Serena Bertozzi et al., (2003) conducted a retrospective study about impact of episiotomy on pelvic floor disorders and their influence on women's wellness after the sixth month postpartum. A follow up telephone interview was performed among 377 primiparous women who had a child by spontaneous or operative vaginal delivery using a self created questionnaire and kings health questionnaire. The results showed that the mean age at delivery was 35.26(+ 4.68) years and episiotomy was performed in 59.2 percent of women. Multivariate linear regression shows episiotomy associated to higher quality of life after the sixth month postpartum by correlating with inferior values of kings health questionnaire (p<0.05) and they concluded that episiotomy appears to be a protective factor for women wellness.

Shiono P etal., (2001)conducted a study to assess the effectiveness of perineal laceration. The researcher was studied in 2114 women. The overall rates of severe laceration were 8.3 and 1.5 percent for primiparous and multiparous women respectively. Women who had midline episiotomies were nearly 50 times more likely to suffer a severe laceration than were women who did not undergo an episiotomy. After statistical adjustment for theses risk factor , mediolateral episiotomies was

associated with a 2.5 fold reduction in the risk of severe laceration among primiparous women, and a statistically non significant 2.4 fold increase among multiparous women, compared with no episiotomy. Midline episiotomy was associated with statistically significant 4.2 and 12.8 fold increases in the risk of laceration among primiparous and multiparous women, respectively. They concluded that the risks and benefits of midline episiotomy should be evaluated in a randomized clinical trial that compares policies of usual versus conservative use of episiotomy.

Angelo Calcagno et al., (2000) conducted a retrospective study about impact of episiotomy on pelvic floor disorders and their influence on women wellness after the sixth month postpartum. The aim of this study is to state the role of episiotomy in preserving the perineum from damage, to prevent the influence of pelvic floor disorders on women psycho physical wellness after the sixth month postpartum. A follow-up telephone interview was performed among 377 primiparous and second parous women who had a child by spontaneous or operative vaginal delivery in 2006 using a self-created questionnaire and King's Health Questionnaire (KHQ) they showed the results of the mean at delivery was 34.28 (p<0.05).

Van Arsdale L (2000) conducted a study about the perineal massage effect on the incidence of episiotomy and laceration in a nulliparous population. They were compared between 29 nulliparous women who practiced perineal massage and 26 similar control women. The massage Groups were instructed to massage the vaginal opening five to ten minutes with naturally vegetable oil beginning at 34 weeks into the perineum and lower vaginal wall. Pelvic floor contractions were also recommended. The results showed that in the massage Group, 52 percent had an intact perineum or first degree laceration, and 48 percent had an episiotomy and/or

second-degree or deeper tears. Among controls, 24 percent had an intact perineum or first-degree laceration and 76 percent had an episiotomy and/or second-degree or deeper tears (P < 0.05). The episiotomy rate was 38 percent in the massage Group versus 65 percent among controls. All third-degree tears were preceded by episiotomy.

Legino LJ et al., (1999) conducted a study about third and fourth degree perineal tears 50 years experience at a university hospital. They selected 82 percent of all women at the hospital have episiotomies. Since 1980 the percentage of third-degree tears and fourth-degree tears has been stable at 10.7 percent and 6.4 percent, respectively. Between 1982 and 1985 all women with third and fourth degree tears (N = 743) were compared with women without such tears (N = 3,893). The results was found that the following associated with deep tears nulliparity (82% versus 38%, P < 0.0001), use of oxytocin (47% versus 29%, P < 0.0001), epidural anesthesia (22% versus 7%, P < 0.01), and forceps delivery (34% versus 7%, P <(0.0001).

Cohen WR et al., (1995) conducted a study about association of episiotomy and delivery position with deep perineal laceration during spontaneous delivery in nulliparous women. And they selected the study Groups were 241 women. The episiotomy rate was 46.1 percent. Among that 174 women known to give birth in an alternative position, the most common was semi-sitting (N = 153). Apgar scores did not relate to episiotomy. "Deep lacerations" (third or fourth degree) were fewest (0.9%) in women without episiotomy who were not in the lithotomy position and highest (27.9%) in women with both. Episiotomy correlated strongly with deep tears (OR 22.46 CI 7.81-64.61, P < 0.003) as did the lithotomy position (OR 14.01 CI

4.18-47.28, P < 0.029). They concluded that the explanation for the relationship between stirrups and deep tears is that the position overstretches the perineum.

Helwig JT et al., (1993) conducted a study about midline episiotomy increase the risk of third and fourth degree laceration in operative vaginal deliveries in Columbia Hospital. The mothers were examined (n=392) to determine the relationship between episiotomy and third- and fourth-degree lacerations. Sixty percentages of instrumental deliveries were performed without an episiotomy. After adjusting for birth weight and primiparity, episiotomy more than doubled the risk of a deep tear during instrumental delivery. In conclusion for primiparas, the deep tear rate for episiotomy versus no episiotomy was 48.5 percent versus 20.3 percent and the rates for intact perineum or lesser tears were 51.5 percent versus 79.7 percent. Similarly, for multiparas, the deep tear rates were 21.4 percent versus 8.7 percent, and the rates for intact perineum or lesser tears were 78.6 percent versus 91.3 percent.

SECTION-B: LITERATURE RELATED TO EPISIOTOMY PAIN

Baybutt et al., (2010) conducted a double blind, randomized clinical trial to examine the relative analgesic effect of ibuprofen, acetaminophen. A total of 100 postpartum patients who had moderate to severe pain after episiotomy were selected. And they concluded that ibuprofen is the sum of pain intensity difference, total pain relief and reduction of pain. And it is more effective and has less risk and it can be used regularly.

Avsar (2009) conducted an experimental study to evaluate the effectiveness of cooling treatment and they selected 450 women who had undergone either a normal or an instrumental delivery that required episiotomy or second degree tear. The results showed that there was a significant reduction in pain (p=0.0038) on first day and

(p=0.0037) on second day after the cold application. This study was concluded that the use of cold application was the effective method to reducing perineal pain without side effects on perineal healing.

Franchi (2008) conducted a comparative study to assess the effectiveness of lidocaine and prilocaine cream (EMLA) and mepivacaine infiltration for pain relief during perineal repair after birth with local anesthetic infiltration. He selected 61 samples by randomly assigned at university of Verona, Italy. The samples receive either the application of emla cream (n=31) or infiltration with mepivacaine (n=30) before perineal suturing. The findings showed that women in the EMLA cream Group had lower pain scores than in the mepivacaine Group (1.7+/-2.4 vs 3.9+/-2.4: p=.0002).

Choo et al., (2008) conducted e a randomized controlled trial to investigate the effectiveness of local application of procaine spirit versus cleansing with water for care of episiotomy wound after normal vaginal delivery. A total of 100 women were selected at Singapore government hospital. They found that there is no significant reduction for the mothers with local application of procaine spirit and with water.

Mota et al., (2007) conducted a randomized control trial study to evaluate the effectiveness of skin adhesive versus sub cuticular suture for perineal skin repair after episiotomy at St. Joao Hospital, Portugal. He selected 100 women who had mediolateral episiotomy at vaginal delivery were enrolled. The samples were randomly received skin adhesive for experimental Group (n=53) and subcuticular suture for control Group (n=47) for closure of perineal skin. The results reported that there is no significant differences between the two Groups at (p=0.001) level.

John H.Hopkinson et al., (2006) conducted a double blind study to assess the effectiveness of Acetaminophen versus Propoxyphene Hydrochloride for relief of pain in episiotomy patients at Abington memorial hospital, Penn. For this study the researcher was selected 200 postpartum patients who had moderate to severe episiotomy pain are observed and rated over a period of four hours. In which a single dose (650 mg) of acetaminophen (tylenol) was compared with single doses (65 mg) of propoxyphene hydrochloride (darvon), placebo, and a combination of acetaminophen (650 mg) and propoxyphene (65 mg) for the relief of moderate to severe episiotomy pain in 200 postpartum patients observed and rated over a period of four hours. Statistical analyses of percentage changes in pain intensity and relief from pain for the four hours period supported the global results showing that acetaminophen alone and acetaminophen plus propoxyphene were significantly superior to propoxyphene and placebo. In addition, the result showed that there was no statistically significant difference between propoxyphene and placebo in two of the three clinical evaluations.

SECTION-C: LITERATURE RELATED TO INFRA RED LIGHT THERAPY AND WARM WATER SITZ BATH

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).

Zekiye et al (2009) conducted a study to assess the effectiveness of infra red therapy on episiotomy wound healing. The sample size was fifty (n=50). The subjects were randomly selected for experimental and control Group. The researcher has used REEDA scale to assess the episiotomy wound healing. Paired t test and ANOVA measures were used to analyse the data. The researcher concluded that the infra red therapy was effective on promotion of wound healing.

Ozelan Can (2006) conducted a study to assess the effectiveness of infra red therapy on episiotomy wound healing. Participants n=80 were selected for the study on treatment using an infra red therapy and control Group has no intervention. Intervention has lasted for six days. Data has collected by using questionnaire method. Data has analyzed by using Analysis of variances. Researcher concluded that both Groups improved significantly over time but that episiotomy improved significantly more in the treatment Group than in the control Group ($F_{1,58}=10.4$. p=.0021). The

finding showed that infra red therapy is effective in reducing symptoms of episiotomy wound in postnatal mothers.

Tsunzan (2005) conducted a study to assess the effectiveness of infra light on postnatal mothers with episiotomy pain. A randomized, double blind clinical trial was selected. The researcher selected fifty (n=50) postnatal mothers and they were treated with infra red light for three to five days. The researcher assessed the level of pain by using numerical pain scale. The study results showed that the experimental Group decreased the level of pain perception (p<0.05). In conclusion the infra red light was effective in reducing the pain resulting from episiotomy wound.

Heyness (2005) conducted a randomized study to assess the effectiveness of infra red therapy on episiotomy wound during postnatal period. Ten (n=10) subjects were selected. Five (n=5) for control and five (n=5) for experimental Group. Infra red therapy was given for two times on five successive days. The level of wound status was measured by means of southompton wound assessment scale. Subjects showed a significant reduction in swelling of the episiotomy wound (0.014, p<0.125) and the subjects also influence the results.

Nebos (2004) conducted a study to assess the effect of infra red lamps in relieving perineal edema resulting from episiotomy. Eighty (n=80) postnatal mothers were selected and divided into two Groups randomly. Infra red lamps were given to the experimental Group for ten minutes. The level of edema was measured by Erin scale. The researcher concluded that there was a significant reduction in the level of edema compared to the control Group.

Katayon Vakilian et al., (2004) 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 case Group and the control Group. Case 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., (2002) 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.

Dou NA et al., (2002) conducted a study to assess the effectiveness of warm water sitz bath on wound healing after lateral episiotomy. The subjects as 110 primipara were divided into study Group (n=42) which had warm water sitz bath ≥ 6 times and control Group (n=38) which had no warm water sitz bath. Telephone interview was conducted for follow up two days after delivery. The time of episiotomy, pain disappearance at natural and sitting positions was recorded. The results showed that no statistical differences was found in the time of pain disappearance at natural position between the study and control Groups (p>0.05).

Sanskey (2000) conducted a study to assess the effectiveness of sitz bath for reduction of episiotomy pain perception. Twenty (n=20) mothers were selected by convenient sampling technique. The study participants received fifteen minutes of sitz bath for three days and the level of pain was assessed and recorded by using visual analog scale. The results shown that there was a significant reduction in the level of pain perception at $p<0.05$ level.

CHAPTER –III

RESEARCH METHODOLOGY

This chapter deals with the methodology adopted in this study. It includes research approach, research design, variable, setting, and population, criteria for sample selection, sample size, sampling technique, development and description of tools, content validity, reliability, pilot study, data collection procedure, and plan for data analysis.

RESEARCH APPROACH

Quantitative research approach was used in this study.

RESEARCH DESIGN

The research design used in this study was two Group pre and post test quasi experimental design.

Group	Pre test	Intervention	Post test
Group A	O_1	X_1	O_2
Group B	O_1	X_2	O_2

Figure-2: Schematic Representation of Research Design

Key

O_1 -   Pre test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A.

O_2 -   Post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A.

X_1 -   Administration of Infra red light therapy

X_2 -   Administration of warm water sitz bath

O_1 -   Pretest level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group B.

O_2 -   Post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group B.

In this study, the pre assessment level of episiotomy wound healing status and level of pain perception of the experimental Group A and B were measured by using REEDA scale and modified visual analogue scale followed by implementation of infra red light therapy and warm water sitz bath. On third day the post test assessment level of wound healing status and level of pain perception were obtained from the postnatal mothers of experimental Groups A and B by using the same scale.

VARIABLES

Independent Variable

Infra red light therapy and warm water sitz bath.

Dependent Variable

Episiotomy wound healing status and level of pain perception.

SETTING OF THE STUDY

The setting of the study refers to the area where the study was conducted. The study was conducted in postnatal wards of Kannanoor and Chemparuthivilai Primary Health Centre at Kanyakumari District. The Kannanoor PHC covers 32 villages and the total population of 31,000. The Chemparuthivilai PHC covers 36 villages and the total population of 33,000. The distance between two PHC was 22 kilometers. Each

PHC has got 30 bed strengths. These centers comprises of various functioning departments like OPD, Injection room, Postnatal ward, labour room and operation theatre. Around 105 deliveries took place per month in both the centers, out of which 20 deliveries underwent lower segment caesarean section. Among this, 85 postnatal mothers were received episiotomy care.

POPULATION

The population of the study was the postnatal mothers with episiotomy wound.

SAMPLE

Sample consists of both primi and multi gravida postnatal mothers admitted in postnatal ward after normal vaginal delivery with episiotomy who fulfilled the inclusive criteria

SAMPLE SIZE

The sample size was sixty postnatal mothers with episiotomy. Out of which, thirty were in Group A and thirty were in Group B.

SAMPLING TECHNIQUE

Purposive sampling technique was adopted to find out the postnatal mothers with episiotomy wound in the age Group of 25 to 35 years in two primary health centers (Kannanoor and Chemparuthivilai). The investigator selected the samples based on postnatal mothers who fulfilled the inclusive criteria. Among the selected samples thirty were taken for Group A to have infra red light therapy and thirty were taken for Group B to have warm water sitz bath. The researcher has administered twenty minutes of infra red light therapy for thirty postnatal mothers and warm water sitz bath for thirty postnatal mothers. After three days of intervention the researcher

has checked the level of wound healing status and level of pain perception with the use of REEDA scale and Modified Visual Analog Scale.

CRITERIA FOR SAMPLE SELECTION

Inclusive Criteria

- ➢ Postnatal mothers with the age Group of 25 to 35 years.
- ➢ The postnatal mothers who had episiotomy wound.
- ➢ The postnatal mothers who were willing to participate in this study.
- ➢ Postnatal mothers who were available during the data collection period.
- ➢ Both primi and multipara postnatal mothers were included.
- ➢ The postnatal mothers immediately six hours after delivery.

Exclusive Criteria

- ➢ The postnatal mothers who had undergone LSCS.
- ➢ The postnatal mothers who had home delivery.

DEVELOPMENT AND DESCRIPTION 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 for episiotomy wound healing status and to identify the level of pain perception of the postnatal mothers.

The tool consists of three sections,

Section-A

This section deals with demographic variables including age, education, occupation, type of family, religion and gravida status.

Section-B

REEDA scale was used to assess the episiotomy wound healing status among postnatal mothers in Groups A and B. REEDA *(*Redness, Edema, Ecchymosis, Discharge, and Approximation) scale to assess postpartum healing of the perineum following an episiotomy wound.

Score Interpretation

REEDA scale was used to measure the episiotomy wound healing status which has the total score of 15. The score was interpreted as follows,

0	-	No infection.
1-5	-	Mild infection.
6-10	-	Moderate infection.
11-15	-	Severe Infection.

Section: C

Modified Visual Analogue Scale was used to assess the level of pain perception of the postnatal mothers.

Score Interpretation

Modified Visual Analogue 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,

0	-	No pain
1-3	-	Mild pain
4-7	-	Moderate pain
8-10	-	Severe or worst possible pain.

INTERVENTION

Infra Red Light Therapy

Infra red lamp was placed 45 to 60cm (18 to 24 inches) distance from the perineal area. The heat was provided for 15 to 20 minutes. But 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.

Warm water Sitz Bath

Fill the basin with one third of water. Tested the temperature of the water with a lotion. Thermometer (115^0F). Provided privacy. Removed clothing from below the waist of a mother. Assisted the mother to sit in the basin without pressure on the perineum and with the feet flat on the floor. Observed the mother closely for signs of weakness, vertigo, pallor, tachycardia and nausea. Stay with the mother for 15 to 20 minutes. Helped the mother to come out from the basin when the procedure is complete. Assisted the mother to dry and dress in clean clothes. Helped 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.

CONTENT VALIDITY

The content validity of the tool was established on the basis of opinion of two medical experts and four nursing experts in the field of community health nursing. Tool was modified as per the suggestions of all the experts and the tool was finalized.

RELIABILITY

The reliability of tool used for pain assessment (Modified Visual Analog 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

It is a rehearsal for the main study. The researcher got permission from Principal and Research ethical committee of Sri. K. Ramachandran Naidu College of Nursing and Head of the Department of Community Health Nursing. A formal permission was obtained from the Director of the Centre. The pilot study was conducted in Kuttakuzhi Primary Health Centre at Kanyakumari District for the period of one week (01.03.2011 to 06.03.2011) from 6 am to 6 pm. The concerned medical officer and duty doctors were also informed and their co-operation was also obtained. The sample size was six postnatal mothers with episiotomy wound. Among that three were received infra red light therapy and three were received warm water sits 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 warm water sitz bath with modified visual analogue scale. Then postnatal mothers with episiotomy were placed on dorsal recumbent position after the perineal area was cleaned and dried. The episiotomy wound and pain perception was assessed prior to the intervention with REEDA scale and Modified Visual Analog Scale in Groups A and B.

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 Group A. And for warm water sitz bath, filled the basin with warm water and checked the temperature of water with lotion thermometer (115° 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.

DATA COLLECTION PROCEDURE

The researcher got permission from Principal and research ethical committee and Head of the Department of Community Health Nursing, Sri K. Ramachandran Naidu College of Nursing. Before the data collection a formal permission was obtained from the medical officers of Primary Health Centers in Chemparuthivilai and Kannanoor Village at Kanyakumari District, for conducting main study.

The data were collected from 01.04.2011 to 30.04.2011, between 6.00a.m. to 6p.m, The concerned medical officer and duty doctors were also informed and their co-operation was also obtained. The sample size was sixty postnatal mothers with

episiotomy wound. Among that thirty were received infra red light therapy and thirty were received warm water sitz bath.

Rapport was established with the postnatal mothers. Consent was received from the postnatal mothers to ensure their cooperation. The level of pain perception was assessed prior to infra red light therapy and warm water sitz bath with modified visual analogue scale. Then postnatal mothers with episiotomy were placed on dorsal recumbent position after the perineal area was cleaned and dried. The episiotomy wound healing status was assessed with REEDA scale prior to the intervention in experimental Group A and B. The infra red lamp was placed 45 cm distance from the perineum and the heat produced with 230 volts for twenty minutes was given for the experimental Group A. And for warm water sitz bath, filled the basin with warm water and checked the temperature of water with lotion thermometer (115^0 F) and assisted the mother to sit in the basin without pressure on the perineum and with the feet flat on the floor was given for experimental Group B. In each primary health centre, the researcher has given the interventions for two to three postnatal mothers per day.

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 experimental 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 Group A and B.

❖   Paired 't'– test was used to compare the effectiveness of infra red light therapy and warm water sitz bath among postnatal mothers in Group A and B.

❖   Chi square was used to analyze the association of infra red light therapy and warm water sitz bath among postnatal mothers in Group A and B with their selected demographic variables.

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 primary health centers. 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.

RESEARCH APPROACH

RESEARCH DESIGN   (Quasi Experimental two Group Pre and Post Test)

POPULATION (Postnatal Mothers)

TARGET POPULATION
Postnatal Mothers With episiotomy

SAMPLING TECHNIQUE

 Purposive Sampling Technique

BACKGROUND FACTORS
1. Age
2. Educational status
3. Occupation
4. Type of family
5. Religion
6.Gravida status

ACCESSIBLE POPULATION Postnatal Mothers in primary health centers

SAMPLE AND SAMPLING SIZE

Postnatal Mothers With episiotomy   (n=60)

DATA COLLECTION PROCEDURE

Tool-Modified visual analog scale for pain and REEDA scale for wound healing status

PRE TEST

GROUP A

GROUP B

INFRA RED LIGHT THERAPY

WARM WATER SITZBATH

POST TEST

ANALYSIS AND INTERPRETATION
Descriptive and inferential statistics

FINDINGS

REPORT

Fig:3 Schematic Representation of Research Methodology

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected to assess the effectiveness of infra red light therapy and warm water sitz bath application to reduce the level of pain perception and wound healing status among postnatal mothers at selected Primary Health Centres, Kanyakumari District.

Descriptive and inferential statistics were used for analyzing the data on the basis of the objectives of the study. The data has been tabulated and organized as follows:

ORGANIZATION OF DATA

Section-A : **Description of demographic variables among postnatal mothers in Group A and B.**

✠ Frequency and percentage distribution of demographic variables among postnatal mothers.

Section-B : **Assessment of level of pain perception and wound healing status among postnatal mothers in Group A and B.**

✠ Frequency and percentage distribution of pre test level of pain perception among postnatal mothers in Group A and B.

✠ Frequency and percentage distribution of pre test level of wound healing status among postnatal mothers in Group A and B.

✠ Frequency and percentage distribution of post test level of pain perception among postnatal mothers in Group A and B.

✠ Frequency and percentage distribution of post test level of wound healing status among postnatal mothers in Group A and B.

Section-C : **Comparison of pre and post test level of pain perception and episiotomy wound healing status among postnatal mothers in Group A and B.**

✠ Comparison of mean and standard deviation of the pre and post test level of pain perception among the postnatal mothers in Group A.

✠ Comparison of mean and standard deviation of the pre and post test level of pain perception among the postnatal mothers in Group B.

✠ Comparison of mean and standard deviation of the pre and post test level of episiotomy wound healing status among postnatal mothers in Group A.

✠ Comparison of mean and standard deviation of the pre and post test level of episiotomy wound healing status among postnatal mothers in Group B.

✠ Comparison of post test level of pain perception and wound healing status among postnatal mothers in Group A.

✠ Comparison of post test level of pain perception and wound healing status among postnatal mothers in Group B.

Section-D : **Correlation between post test level of pain perception and episiotomy wound healing status among postnatal mothers in Group A and B.**

✠ Correlation between post test level of pain perception and episiotomy wound healing status among postnatal mothers in Group A and B.

Section-E : **Association of post test level of pain perception and episiotomy wound healing status among postnatal mothers in Group A and B.**

✠ Association of post test level of pain perception among postnatal mothers in Group A with their selected demographic variables.

✠ Association of post test level of pain perception among postnatal mothers in Group B with their selected demographic variables.

✠ Association of post test level wound healing status among postnatal mothers in Group A with their selected demographic variables.

✠ Association of post test level of wound healing status among postnatal mothers in Group B with their selected demographic variables.

SECTION-A

DESCRIPTION OF DEMOGRAPHIC VARIABLES AMONG POSTNATAL MOTHERS IN GROUP A AND B.

<u>Table-1:</u> Frequency and Percentage Distribution of Demographic Variables Among Postnatal Mothers   (N=60)

S. No.	Demographic Variables	Group A		Group B	
		f	%	f	%
1.	**Age**				
	21-25 years	8	26.66	7	23.33
	26-30 years	14	46.66	18	60
	31-35 years	5	16.66	4	13.33
	36-40 years	3	10	1	3.33
2.	**Educational Status**				
	Illiterate	0	0	0	0
	Primary	11	33.33	7	23.33
	Secondary	13	43.33	14	46.66
	Graduate and above	6	20	9	30
3.	**Occupation**				
	Sedentary	15	50	11	36.66
	Moderate	13	43.33	14	46.66
	Heavy	2	6.66	5	16.66
4.	**Type of Family**				
	Nuclear	12	40	12	40
	Joint	18	60	18	60

S. No.	Demographic Variables	Group A		Group B	
		f	%	f	%
5.	**Religion**				
	Hindu	14	46.66	16	53.33
	Christian	12	40	9	30
	Muslim	4	13.33	5	16.66
6.	**Gravida Status**				
	Gravida I	9	30	11	36.66
	Gravida II	13	43.33	10	33.33
	Gravida III	7	23.33	7	23.33
	Gravida IV	1	3.33	2	6.66

While considering the age, 8(26.66%) samples were between the age Group of 21 to 25 years, and 14(46.66%) samples were between the age Group of 26 to 30 years, and 5(16.66%) samples were between the age Group of 31 to 35 years, and 3(10%) samples were between the age Group of 36 to 40 years in the experimental Group A, where as 7(23.33%) samples were between the age Group of 21 to 25 years, and 18(60%) samples were between the age Group of 26 to 30 years, and 4(13.33%) samples were between the age Group of 31 to 35 years, and 1(3.33%) samples were between the age Group of 36 to 40 years in the experimental Group B.

With regard to educational status 11(33.33%) samples were in primary education, and 13(43.33%) samples were in secondary education, and 6(20%) samples were in graduate and above in the experimental Group A, where as 7(23.33%) samples were in primary education, and 14(46.66%) samples were in

secondary education, and 9(30%) samples were in graduate and above in the experimental Group B.

With respect to occupation, 15(50%) samples were in sedentary work, and 13(43.33%) samples were in moderate work, and 2(6.66%) samples were in heavy work in the experimental Group A, where as 11(36.66%) samples were in sedentary work, and 14(46.66%) samples were in moderate work, and 5(16.66%) samples were in heavy work in the experimental Group B.

With regard to type of family, 12(40%) samples were living in nuclear family, and 18(60%) samples were living in joint family in the experimental Group A, where as12(40%) samples were living in nuclear family and 18(60%) samples were living in joint family in the experimental Group B.

With respect to religion, 14(46.66%) samples were belongs to Hindu, and 12(40%) samples were belongs to Christian, and 4(13.33%) samples were belongs to Muslim in the experimental Group A, where as 16(53.33%) samples were belongs to Hindu, and 9(30%) samples were belongs to Christian, and 5(16.66%) samples were belongs to Muslim in the experimental Group B.

With regard to gravida status, 9(30%) samples were in gravida status I, and 13(43.33%) samples were in gravida status II, and 7(23.33%) samples were in gravida status III, and 1(3.33%) sample were in gravida status IV in the experimental Group A, where as 11(36.66%) samples were in gravida status I, and 10(33.33%) samples were in gravida status II, and 7(23.33%) samples were in gravid status III, and 2(6.66%) samples were in gravida status IV in the experimental Group B.
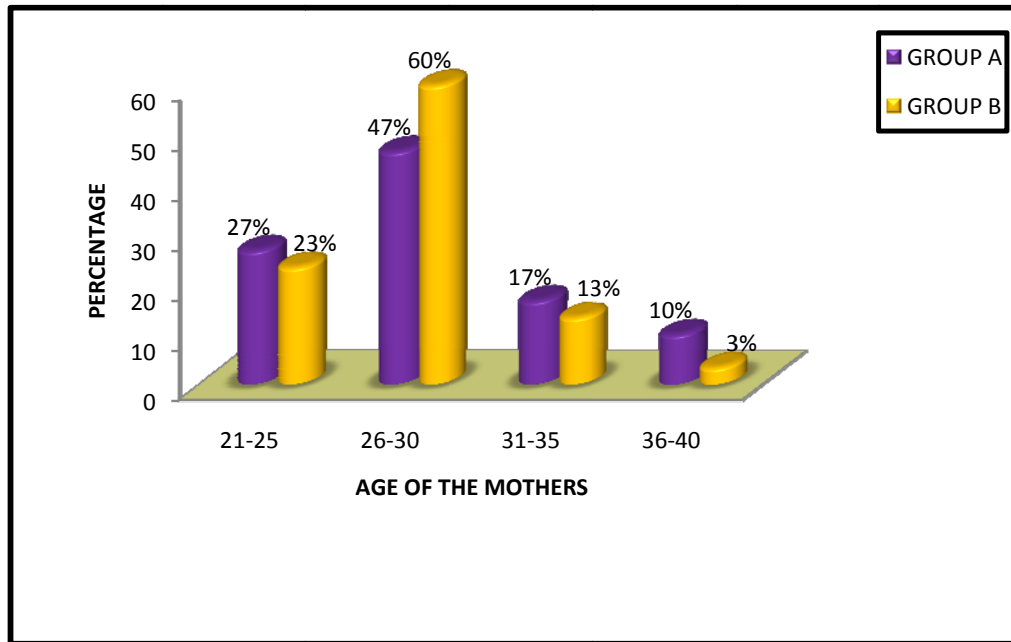
Figure-4: Percentage distribution of age among postnatal mothers in Groups A and B.
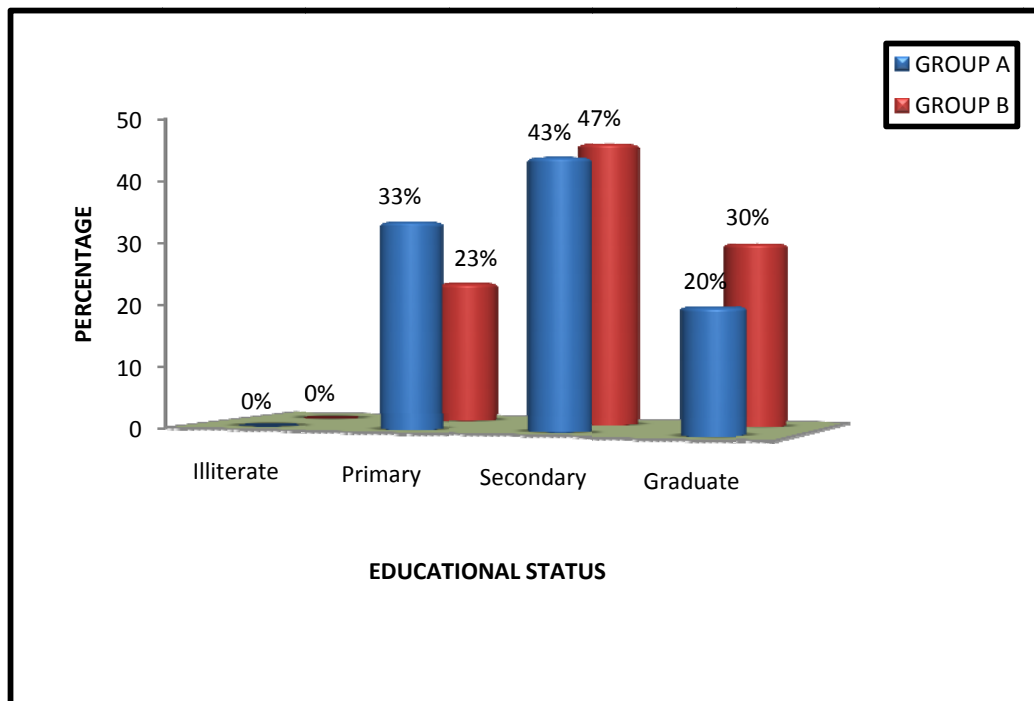
Figure-5: Percentage distribution of Educational Status among postnatal mothers in
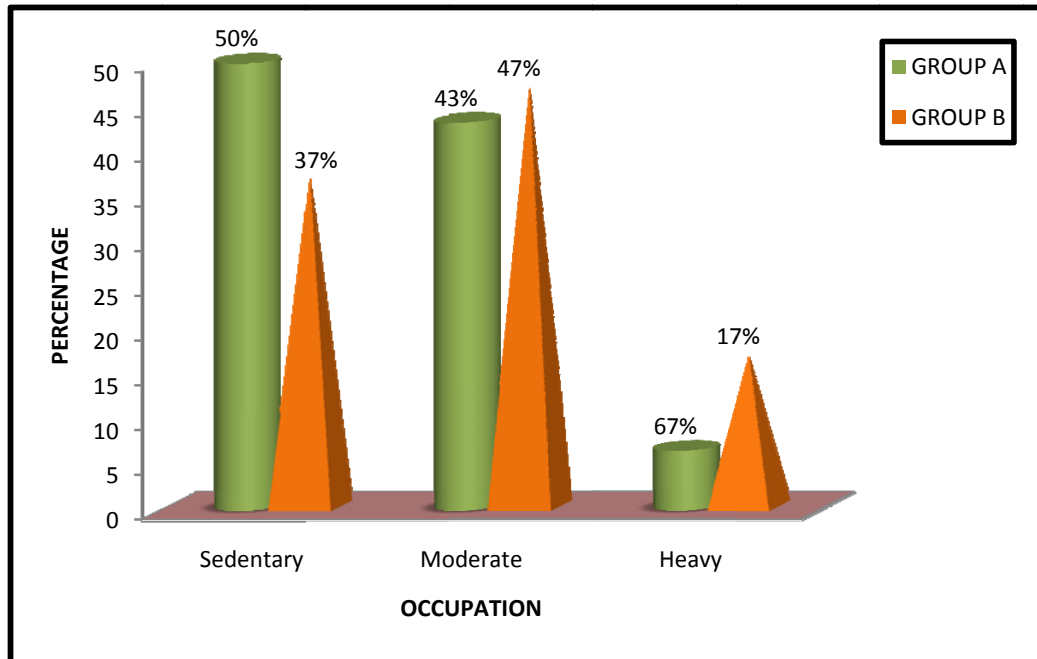
Groups A and B.

Figure-6: Percentage distribution of occupation among postnatal mothers in Groups
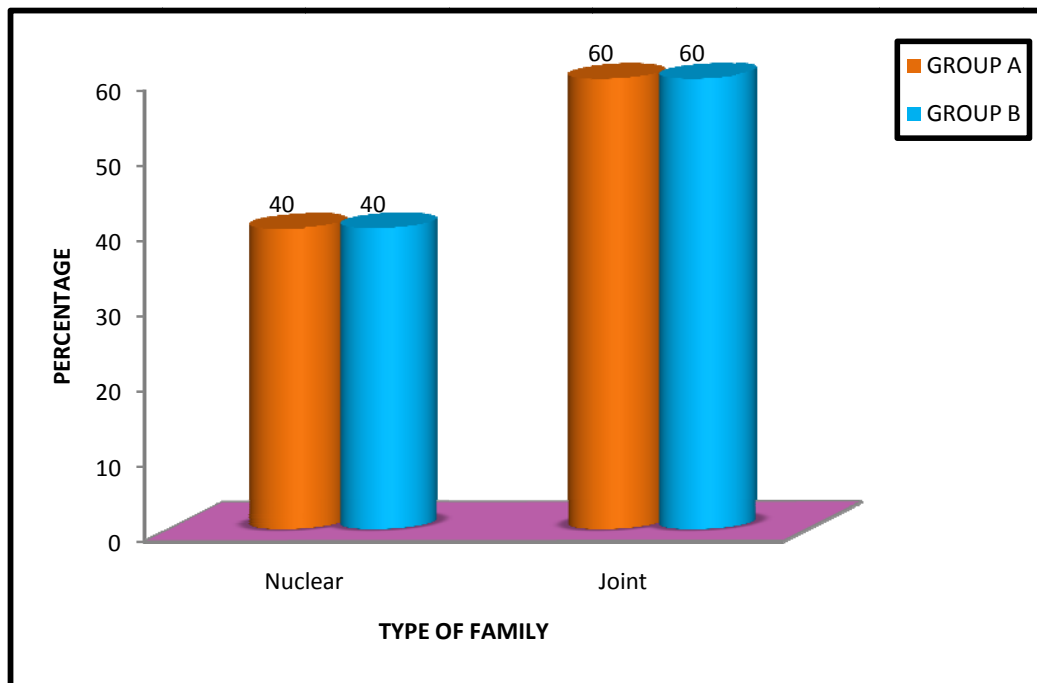
A and B.

Figure-7: Percentage distribution of type of family among postnatal mothers in
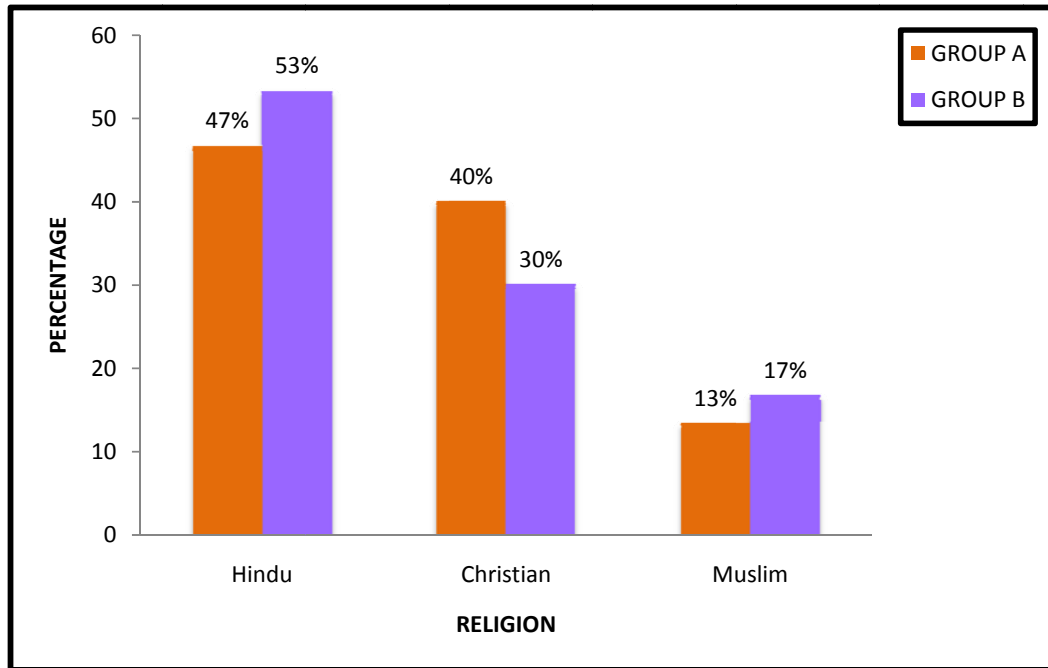
Groups A and B.

Figure-8: Percentage distribution of religion among postnatal mothers in Groups
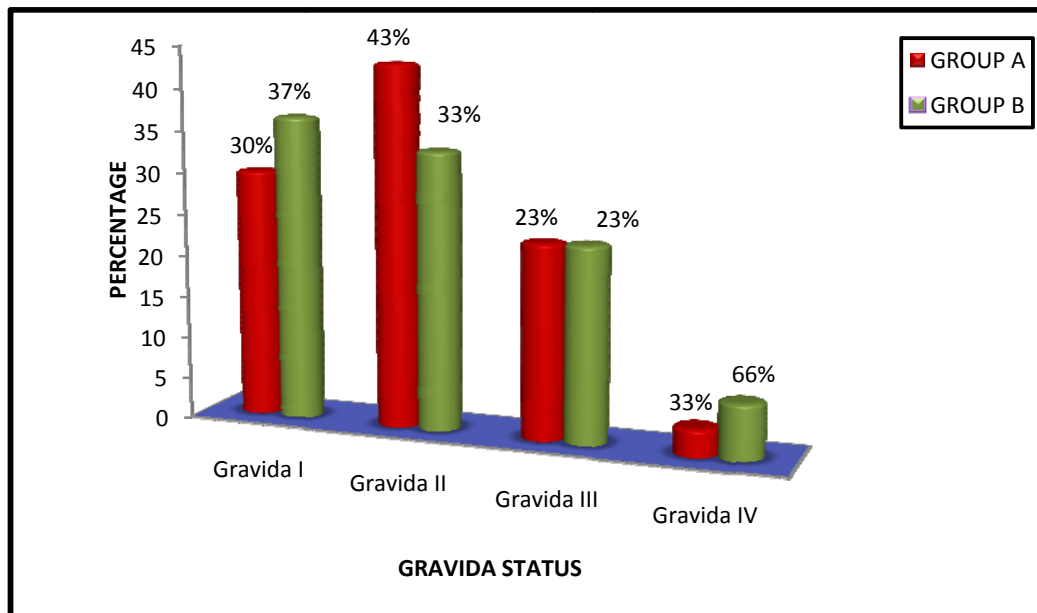
A and B.

Figure-9: Percentage distribution of gravid status among postnatal mothers in

Groups A and B

SECTION- B

ASSESSMENT OF LEVEL OF PAIN PERCEPTION AND WOUND HEALING STATUS AMONG POSTNATAL MOTHERS INGROUP A AND B.

Table-2: **Frequency and Percentage Distribution of Pretest Level of Pain perception among Postnatal Mothers in Group A and B.**

(N=60)

Level of Pain perception / Groups	No Pain		Mild		Moderate		Severe	
	f	%	f	%	f	%	f	%
Group A	-	-	8	26.66	4	13.33	18	60
Group B	-	-	9	30	15	50	6	20

The above table reveals frequency and percentage distribution of pretest level of pain perception among postnatal mothers in Group A and B.

Considering the pain in Group A among the 30 samples, 8 (26.66%) samples had mild pain, 4 (13.33%) samples had moderate pain and 18 (60%) samples had severe pain.

Considering the pain in the Group B among 30 samples, 9 (30%) samples had mild pain, 15 (50%) samples had moderate pain and 6 (20%) samples had severe pain.
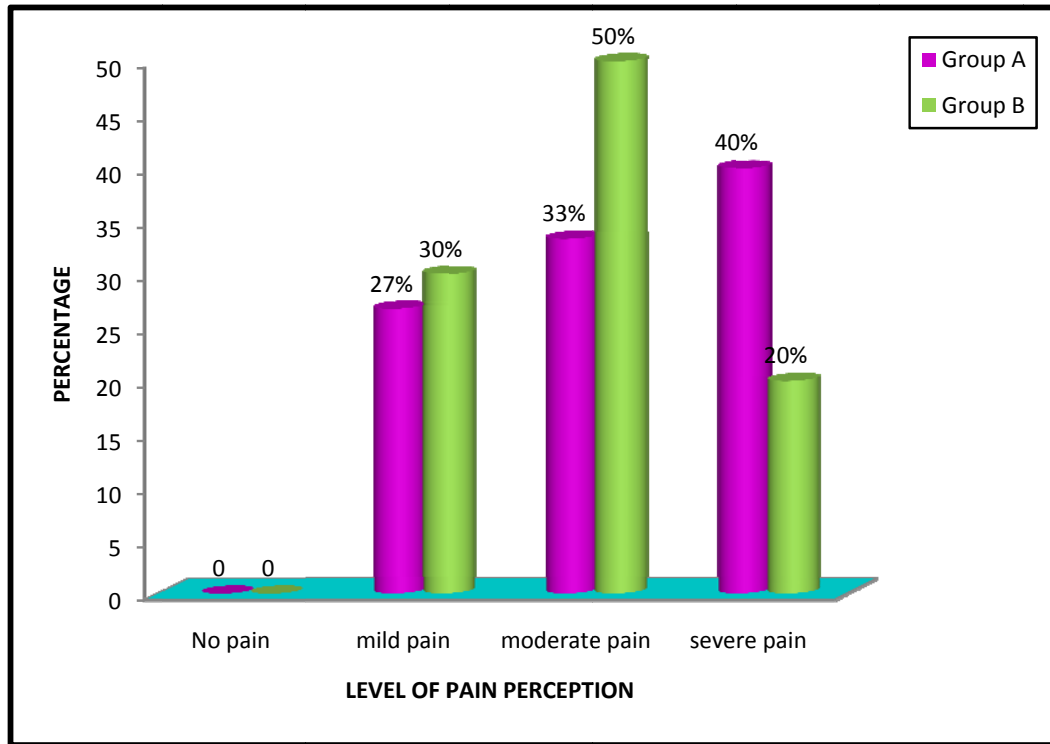
Figure-10: Percentage distribution of pretest level of pain perception among

Postnatal mothers in Group A and B.

Table-3: **Frequency and Percentage Distribution of Pretest Level of Wound Healing Status among Postnatal Mothers in Group A and B.**

(N=60)

Level of wound healing status / Groups	No signs of Infection		Mild Infection		Moderate Infection		Severe Infection	
	f	%	f	%	f	%	f	%
Group A	-	-	9	30	14	46.66	7	23.33
Group B	-	-	9	30	19	63.33	2	6.66

The above table reveals the frequency and percentage distribution of pre test level of wound healing status among postnatal mothers in Group A and B.

Considering the wound healing status in Group A among the 30 samples,9 (30%) samples had mild infection,14 (46.66%) samples had moderate infection, and 7 (23.33%) samples had severe infection.

Considering the wound healing status in the Group B among 30 samples, 9 (30%) samples had mild infection, 19 (63.33%) samples had moderate infection, and 2 (6.66%) samples had severe infection.
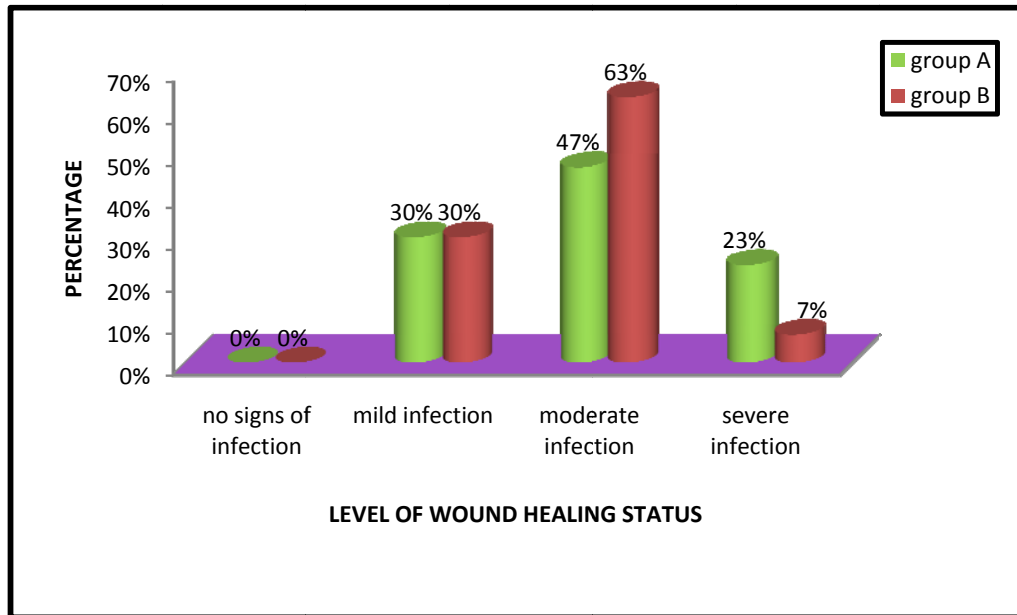
Figure-11: Percentage distribution of pre test level of wound healing status among postnatal mothers in Group A and B.

Table-4: **Frequency and Percentage Distribution of Posttest Level of Pain perception among Postnatal Mothers in Group A and B.**

(N=60)

Level of Pain perception / Groups	No Pain		Mild		Moderate		Severe	
	f	%	f	%	f	%	f	%
Group A	7	23.33	8	26.66	15	50	--	--
Group B	3	10	16	53.33	10	33.33	1	3.33

The above table reveals the frequency and percentage distribution of post test level of pain perception among postnatal mothers in Group A and B.

With respect of pain in Group A among the 30 samples, 7 (23.33%) samples had no pain, 8 (26.66%) samples had mild pain, 15 (50%)samples had moderate pain.

With respect to pain in Group B among 30 samples, 3(10%) samples had no pain, 16 (53.33%) samples had mild pain and 10(33.33%) samples had moderate pain and 1(3.33%) sample had severe pain.
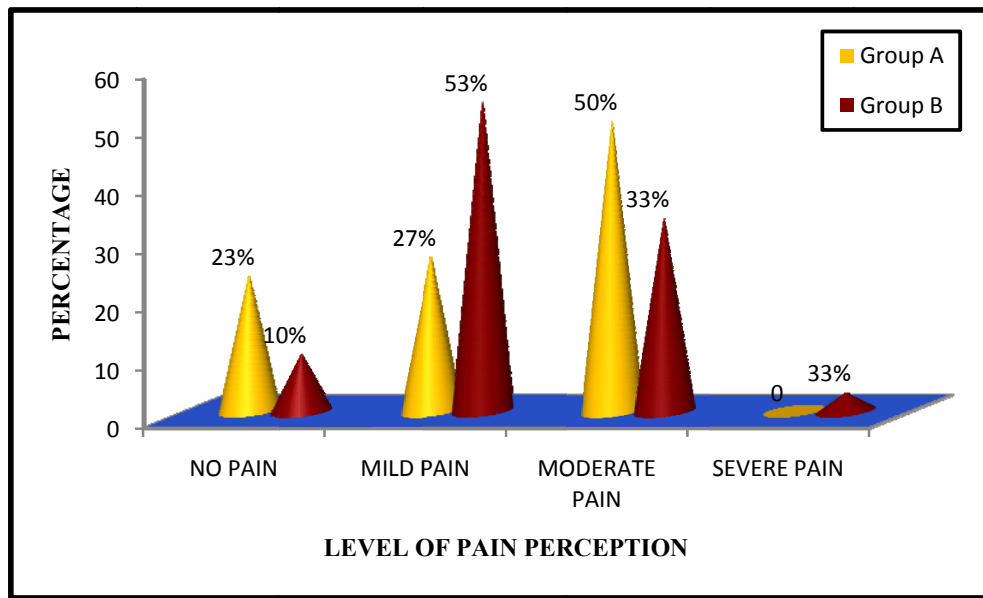
Figure-12: Percentage distribution of post test level of pain perception among

postnatal mothers in Group A and B

Table 5: **Frequency and percentage distribution of post test level of wound healing status among postnatal mothers in Group A and B.**

(N=60)

Level of Wound healing Status / Groups	No signs of Infection		Mild Infection		Moderate Infection		Severe Infection	
	f	%	f	%	f	%	f	%
Group A	8	26.66	17	56.66	5	16.66	--	--
Group B	1	3.33	18	60	11	36.66	--	--

Examining the wound healing status in the Group A, among 30 samples, 8 (26.66%) samples had no signs of infection, 17 (56.66%) samples had mild infection, and 5 (16.66%) samples had moderate infection.

Considering the wound healing status in the Group B, among 30 samples, 1(3.33%) sample had no signs of infection, 18 (60%) sample had mild infection, and 11 (36.66%) samples had moderate infection.
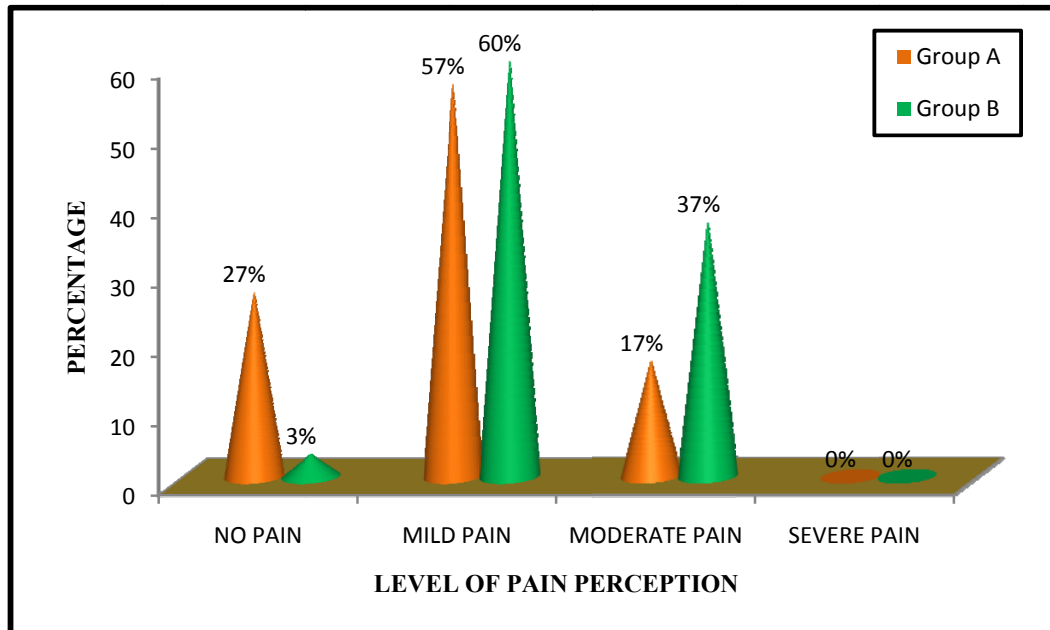
Figure-13: Percentage distribution of post test level of wound healing status among

postnatal mothers in Group A and B.

SECTION-C: COMPARISON OF PRE AND POST TEST LEVEL OF PAIN PERCEPTION AND EPISIOTOMY WOUND HEALING STATUS AMONG POSTNATAL MOTHERS IN GROUP A AND B.

Table 6: **Comparison of mean and standard deviation of the pre and post test level of pain perception among postnatal mothers in Group A.**

(N=30)

Pain perception	Mean	Standard Deviation	Mean Difference	't' value
Pre test	6.13	2.77	-3.27	12.8
Post test	2.86	1.95		S

S- Significant

The above table shows the paired't' test to compare mean and standard deviation of the pre and post test level of pain perception among postnatal mothers in Group A.

The pre test mean value was 6.13 with standard deviation of 2.77 and the post test mean value was 2.86 with Standard deviation of 1.95. The mean difference was -3.27 and the calculated 't' value was 12.8 which showed that there was a significant difference in the pre and post test level of pain perception among postnatal mothers in Group A at $p<0.05$ level of significance.

Table 7: **Comparison of mean and standard deviation of the pre and post test level of pain perception among postnatal mothers in Group B.**

(N=30)

Pain perception	Mean	Standard Deviation	Mean Difference	't' value
Pre test	6.66	3.09	-3.73	14.7
Post test	2.93	2.09		S

S- Significant

The above table shows the paired't' test to compare mean and standard deviation of the pre and post test level of pain among postnatal mothers of Group B.

The pre test mean value was 6.66 with standard deviation of 3.09 and the post test mean value was 2.93with Standard deviation of 2.09.Themean difference was -3.73 and the calculated 't' value was 14.7which showed that there was a significant difference in the pre and post test level of pain perception among postnatal mothers in Group B at p<0.05 level of significance.

Table 8: **Comparison of mean and standard deviation of thepre and post test level of wound healing status among postnatal mothers in Group A.**

(N=30)

Wound healing status	Mean	Standard Deviation	Mean difference	't' value
Pre test	7.86	3.37	-4.9	16.89
Post test	2.96	2.32		S

S- Significant

The above table shows the paired 't' test to compare mean and standard deviation of the pre and post test level of wound healing status among postnatal mothers in Group A.

The pre test mean value was 7.86 with standard deviation of 3.37 and the post test mean value was 2.96 with standard deviation of 2.32. The mean difference was -4.9 and the calculated 't' value was 16.89 which showed that there was a significant difference in the pre and post test level of wound healing status among postnatal mothers in Group A at $p<0.05$ level of significance.

Table 9:   Comparison of mean and standard deviation of the pre and post test level of wound healing status among postnatal mothers in Group B.

(N=30)

Wound healing status	mean	Standard Deviation	Mean difference	't' value
Pre	7	3.05	-2.6	16.43
Post	4.4	2.4		S

S- Significant

The above table shows the paired 't' test to compare mean and standard deviation of the pre and post test level of wound healing status among postnatal mothers in Group B.

The pre test mean value was 7 with standard deviation of 3.05 and the post test mean value was 4.4 with standard deviation of 2.4. The mean difference was -2.6 and the calculated 't' value was 16.43 which showed that there was a significant difference in the pre and post test level of wound healing status among postnatal mothers in Group B at $p<0.05$ level of significance.

Table 10 : Comparison of post test level of pain perception and wound healing status among postnatal mothers in Group A.

(N=30)

Variables	mean	Standard Deviation	't' value
Pain perception	2.86	1.95	6.02
Wound healing status	2.96	2.32	**S**

S- Significant

The above table reveals the unpaired 't' test to compare the post test level of pain perception and wound healing status among postnatal mothers in Group A.

With regard to the post test level of pain perception and wound healing status among postnatal mothers of Group A, It was found that 't' value was 6.02 indicating that there was a significant difference in post test level of pain perception and wound healing status among postnatal mothers of Group A at p<0.05 level.

Table 11:   **Comparison of post test level of pain perception and wound healing status among postnatal mothers in Group B.**

(N=30)

Variables	Mean	Standard Deviation	't' value
Pain perception	2.93	2.09	3.66
Wound healing status	4.4	2.4	S

S- Significant

     The above table reveals the unpaired 't' test to compare the post test level of pain perception and wound healing status among postnatal mothers in Group B.

     With regard to the post test level of pain perception and wound healing status among postnatal mothers of Group B, It was found that 't' value was 3.66 indicating that there was a significant difference in post test level of pain perception and wound healing status among postnatal mothers of Group B at $p < 0.05$ level.

SECTION D: CORRELATION BETWEEN THE POST TEST LEVELS OF PAIN PERCEPTION AND WOUND HEALING STATUS AMONG POSTNATAL MOTHERS IN GROUP A AND B

Table 12:   Correlation between post test level of pain perception and wound healing status among postnatal mothers in Group A and B.

(N=60)

Group	Pain		Wound healing status		r- value
	Mean	S.D	Mean	S.D	
A	2.86	1.95	2.96	2.32	0.34
B	2.93	2.09	4.4	2.4	0.30 **N.S**

NS = Non significant

Table 12 reveals the correlation between post test level of pain perception and wound healing status among postnatal mothers in Group A and B.

It is evident from the table that there is positive correlation between pain and wound healing status among postnatal mothers in Group A with r=0.34 at P < 0.05 level and in the Group B with r = 0.30 at P < 0.05 level.

SECTION-E : ASSOCIATION OF POSTTEST LEVEL OF PAIN PERCEPTION AND EPISIOTOMY WOUND HEALING STATUS AMONG POSTNATAL MOTHERS IN GROUP A AND B WITH THEIR DEMOGRAPHIC VARIABLES

Table-13: Association of posttest level of pain perception among postnatal mothers in Group A with Age, Educational Status, Occupation, Type of Family, Religion, Gravida Status

(N=30)

S. No	Demographic Variables	Level of Pain Perception in Group A								χ^2 Value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
1.	Age									
	21-25 years	2	6.66	2	6.66	4	13.33	--	--	2.532 df=3 NS
	26-30 years	1	3.33	6	20	7	23.33	--	--	
	31-35 years	2	6.66	--	--	3	10	--	--	
	36-40 years	2	6.66	--	--	1	3.33	--	--	
2.	Educational Status									
	Illiterate	--	--	--	--	--	--	--	--	1.892 df=3 NS
	Primary	4	13.33	--	--	7	23.33	--	--	
	Secondary	3	10	5	16.66	5	16.66	--	--	
	Graduate and above	--	--	3	10	3	10	--	--	
3.	Occupation									
	Sedentary	3	10	3	10	9	30	--	--	6.198 df=2 NS
	Moderate	2	6.66	5	16.66	6	20	--	--	
	Heavy	2	6.66	--	--	--	--	--	--	
4.	Type of Family									
	Nuclear	2	6.66	2	6.667	8	26.66	--	--	0.624 df=1 NS
	Joint	5	16.66	6	20	7	23.33	--	--	

S. No	Demographic Variables	Level of Pain Perception in Group A								χ^2 Value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
5.	Religion									
	Hindu	2	6.66	4	13.33	8	26.66	--	--	2.401
	Christian	5	16.66	3	10	4	13.33	--	--	df=2
	Muslim	--	--	1	3.33	3	10	--	--	NS
6.	Gravida Status									
	Gravida I	--	--	3	10	6	20	--	--	1.438
	Gravida II	4	13.33	3	10	6	20	--	--	df=3
	Gravida III	2	6.66	2	6.66	3	10	--	--	NS
	Gravida IV	1	3.33	--	--	--	--	--	--	

NS = Non significant

The above table shows the association of post test level of pain perception with age, educational status, occupation, type of family, religion and gravida status indicates that there was no significant association between demographic variables and post test level of pain perception among postnatal mothers in Group A.

Table-14: Association of Posttest Level of Pain perception among postnatal mothers in Group B with age, Educational Status, Occupation, Type of Family, Religion, Gravida Status

(N=60)

S. No	Demographic Variables	Level of Pain Perception in Group B								χ^2 Value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
1.	**Age**									
	21-25 years	--	--	4	13.33	2	6.66	1	3.33	1.364 df=3 NS
	26-30 years	2	6.66	11	36.66	5	16.66	--	--	
	31-35 years	1	3.33	--	--	3	10	--	--	
	36-40 years	--	--	1	3.33	--	--	--	--	
2.	**Educational Status**									
	Illiterate	--	--	--	--	--	--	--	--	0.252 df=3 NS
	Primary	2	6.66	4	13.33	1	3.33	--	--	
	Secondary	1	3.33	6	20.0	6	20.0	1	3.33	
	Graduate and above	--	--	6	20.0	3	10.0	--	--	
3.	**Occupation**									
	Sedentary	3	10	4	13.33	4	13.33	--	--	0.514 df=2 NS
	Moderate	--	--	8	26.66	5	16.66	1	--	
	Heavy	--	--	4	13.33	1	3.33	--	3.33	
4.	**Type of Family**									
	Nuclear	1	3.33	5	16.66	5	16.66	1	3.33	0.554 df=2 NS
	Joint	2	6.66	11	36.66	5	16.66	--	--	
5.	**Religion**									
	Hindu	2	6.66	9	30	5	16.66	--	--	1.45 df=2 NS
	Christian	1	3.33	4	13.33	4	13.33	--	--	
	Muslim	--	--	3	10	1	3.33	1	3.33	

(Table 14Cont…)

S. No	Demographic Variables	Level of Pain Perception in Group B								χ^2 Value
		No Pain		Mild Pain		Moderate Pain		Severe Pain		
		f	%	f	%	f	%	f	%	
6.	Gravida Status									
	Gravida I	--	--	7	23.33	3	10	1	3.33	2.56 df=3 NS
	Gravida II	2	6.66	4	13.33	4	13.33	--	--	
	Gravida III	1	3.33	3	10	3	10	--	--	
	Gravida IV	--	--	2	6.66	--	--	--	--	

NS = Non significant

The above table shows the association of post test level of pain perception with age, educational status, occupation, type of family, religion and gravida status indicates that there was no significant association between demographic variables and post test level of pain perception among postnatal mothers in Group B.

Table-15: Association of posttest Level of Wound healing Status among postnatal mothers in Group A with age, Educational Status, Occupation, Type of Family, Religion, Gravida Status

(N=30)

S. No	Demographic Variables	Level of Wound Healing Status in Group A								χ^2 Value
		No Infection		Mild Infection		Moderate Infection		Severe Infection		
		f	%	f	%	f	%	f	%	
1.	Age									
	21-25 years	2	6.66	5	16.66	1	3.33	--	--	3.048 df=3 NS
	26-30 years	4	13.33	8	26.66	2	6.66	--	--	
	31-35 years	1	3.33	2	6.66	2	6.66	--	--	
	36-40 years	1	3.33	2	6.66	--	--	--	--	
2.	Educational Status									
	Illiterate	--	--	--	--	2	6.66	--	--	6.56 df=3 NS
	Primary	2	6.66	7	23.33	1	3.33	--	--	
	Secondary	6	20	6	20	2	6.66	--	--	
	Graduate and above	--	--	4	13.33	--	--	--	--	
3.	Occupation									
	Sedentary	3	10	9	30	3	10	--	--	0.083 df=2 NS
	Moderate	4	13.33	7	23.33	2	6.66	--	--	
	Heavy	1	3.33	1	3.33	--	--	--	--	
4.	Type of Family									
	Nuclear	2	6.66	7	23.33	3	10	--	--	0 df=1 NS
	Joint	6	20	10	33.33	2	6.66	--	--	

Table 15 Cont…)

S. No	Demographic Variables	Level of Wound Healing Status in Group A								χ² Value
		No Infection		Mild Infection		Moderate Infection		Severe Infection		
		f	%	f	%	f	%	f	%	
5.	**Religion**									
	Hindu	3	10	9	30	2	6.66	--	--	5.201
	Christian	5	16.66	5	16.66	2	6.66	--	--	df=2
	Muslim	--	--	3	10	1	3.33	--	--	NS
6.	**Gravida Status**									
	Gravida I	1	3.33	7	23.33	1	3.33	--	--	4.331
	Gravida II	4	13.33	9	30	--	--	--	--	df=3
	Gravida III	2	6.66	1	3.33	4	13.33	--	--	NS
	Gravida IV	1	3.33	--	--	--	--	--	--	

NS = Non significant

The above table shows the association of post test level of wound healing status with age, educational status, occupation, type of family, religion, gravida status indicates that there was no significant association between demographic variables and post test level of wound healing status among postnatal mothers in Group A.

Table-16:Association of Posttest Level of Wound healing Status among postnatal mothers in Group B with Age, Educational Status, Occupation, Type of Family, Religion, Gravida Status.

(N= 30)

S. No	Demographic Variables	Level of Wound healing Status in Group A								χ^2 Value
		No Infection		Mild Infection		Moderate Infection		Severe Infection		
		f	%	f	%	f	%	f	%	
1.	Age									
	21-25 years	--	--	4	13.33	3	10	--	--	2.364 df=3 NS
	26-30 years	--	--	12	40	6	20	--	--	
	31-35 years	1	3.33	2	6.66	1	3.33	--	--	
	36-40 years	--	--	1	3.33	1	3.33	--	--	
2.	Educational Status									
	Illiterate	--	--	--	--	--	--	--	--	2.284 df=3 NS
	Primary	--	--	5	16.66	2	2.66	--	--	
	Secondary	1	3.33	8	26.66	5	16.6	--	--	
	Graduate and above	--	--	5	16.66	4	13.33	--	--	
3.	Occupation									
	Sedentary	1	3.33	7	23.33	3	10	--	--	2.174 df=2 NS
	Moderate	--	--	7	23.33	7	23.33	--	--	
	Heavy	--	--	4	13.33	1	3.33	--	--	
4.	Type of Family									
	Nuclear	--	--	7	23.33	5	16.66	--	--	0.554 df=1 NS
	Joint	1	3.33	11	36.66	6	20	--	--	

(Table 16 Cont…)

S.No	Demographic Variables	Level of Wound healing Status in Group A							χ^2 Value
		No Infection		Mild Infection		Moderate Infection		Severe Infection	
		f	%	f	%	f	%	f	%	
5.	Religion									
	Hindu	1	3.33	10	33.33	5	16.66	--	--	
	Christian	--	--	5	16.66	4	13.33	--	--	1.45 df=2 NS
	Muslim	--	--	3	10	2	2.66	--	--	
6.	Gravida Status									
	Gravida I	--	--	6	20	5	16.66	--	--	
	Gravida II	1	3.33	6	20	3	10	--	--	4.331 df=3 NS
	Gravida III	--	--	5	16.66	2	6.66	--	--	
	Gravida IV	--	--	1	3.33	1	3.33	--	--	

NS = Non significant

The above table shows the association of post test level of wound healing status with age, education status, occupation, type of family, religion and gravid status indicates that there was no significant association between demographic variables and post test level of wound healing status among postnatal mothers in Group B.

CHAPTER-V

DISCUSSION

This chapter deals with the discussion of the result of the data analysis to evaluate the effectiveness of administration of infra red light therapy and warm water sitz bath in reduction of pain perception and wound healing status among postnatal mothers with episiotomy.

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

MAJOR FINDINGS

✠ Majority of the postnatal mothers 14(46.66%) were between the age group of 26-30 years in Group A.

✠ Majority of the postnatal mothers 13(43.33%) had secondary education in Group A.

✠ Majority of the postnatal mothers 15(50%) had sedentary work in Group A.

✠ Majority of postnatal mothers 18(60%) were belongs to joint family in Group A.

✠ Majority of the postnatal mothers 14(46.66%) were Hindu in Group A.

✠ Majority of the postnatal mothers 13(43.33%) were the gravida status of II in Group A.

✠ Majority of the postnatal mothers 18(60%) were between the age Group of 26-30 years in Group B.

✠ Majority of the postnatal mothers 14(46.66%) had secondary education in Group B.

✠   Majority of the postnatal mothers 14(46.66%) had moderate work in Group B.

✠   Majority of the postnatal mothers 18(60%) were belongs to joint family in Group B.

✠   Majority of the postnatal mothers 16(53.33%) were Hindu in Group B.

✠   Majority of the postnatal mothers 11(36.66%) were the gravida status of I in Group B.

The first objective was to assess the level of episiotomy wound healing status and the level of pain perception among postnatal mothers in Group A and B.

Table 2 and 3 reveals frequency and percentage distribution of pretest level pain perception and episiotomy wound healing status of postnatal mothers in Group A and B.

Considering the pain in Group A among the 30 samples 8 (26.66%) samples had mild pain, 4 (13.33%) samples had moderate pain and 18 (60%) samples had severe pain. Considering the wound healing status in Group A among the 30 samples, 9 (30%) samples had mild infection,14 (46.66%) samples had moderate infection, and 7 (23.33%) samples had severe infection.

Considering the pain in the Group B among 30 samples, 9 (30%) samples had mild pain, 15 (50%) samples had moderate pain and 6 (20%) samples had severe pain. Considering the wound healing status in the Group B among 30 samples, 9 (30%) samples had mild infection, 19 (63.33%) samples had moderate infection, and 2 (6.66%) samples had severe infection.

The second objective was to find out the effectiveness of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

Table 10 reveals mean and S.D of pain and wound healing status among postnatal mothers in Group A with episiotomy in the post test.

With respect to pain, post test mean score was 2.86 with S.D 1.95 in Group A and with respect to wound healing, post test mean score was 2.96 with S.D 2.32 in Group A.

The unpaired 't' test value showing the post test level of pain perception and wound healing status for Group A postnatal mothers with episiotomy .Observing the post test level of pain perception and wound healing status among Group A postnatal mothers with episiotomy, it was found that 't' value was 6.02 indicating that there was a level of significant difference in the level pain perception and wound healing status among Group A postnatal mothers after the post test at P<0.05 level.

Table 11 reveals mean and S.D of pain and wound healing status of Group B of postnatal mothers with episiotomy in the post test.

With respect to pain, the post test mean score was 2.93 with S.D 2.09 in Group B and with respect to wound healing the post test mean score was 4.4 with S.D 2.4 in Group B.

The unpaired 't' test value showing the post test level of pain perception and wound healing status for Group B postnatal mothers with episiotomy. Observing the post test level of pain perception and wound healing status of Group B postnatal mothers with episiotomy, it was found that 't' value was 3.66 indicating that there

was a level of significant difference in the pain perception and wound healing status among Group B postnatal mothers after the post test at P < 0.05 level.

Hence, the research hypothesis stated that there was a significant difference in the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B was accepted at p <0.05 level. The above statement was supported by,

V.Dhanalakshmi (2010) was conducted a study to assess the effectiveness of infrared 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 shows 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).

The third objective was to compare the pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

The pre test mean value was 6.13 with standard deviation of 2.77 and the post test mean value was 2.86 with Standard deviation of 1.95. The mean difference was -3.27 and the calculated 't' value was 12.8 which showed that there was a significant difference in the pre and post test level of pain perception among postnatal mothers in Group A at p<0.05 level of significance. The pre test mean value was 7.86 with standard deviation of 3.37 and the post test mean value was 2.96 with standard

deviation of 2.32. The mean difference was -4.9 and the calculated 't' value was 16.89 which showed that there was a significant difference in the pre and post test level of wound healing status among postnatal mothers in Group A at p<0.05 level of significance.

The pre test mean value was 6.66 with standard deviation of 3.09 and the post test mean value was 2.93 with Standard deviation of 2.09. The mean difference was -3.27 and the calculated 't' value was 14.7 which showed that there was a significant difference in the pre and post test level of pain perception among postnatal mothers in Group B at p<0.05 level of significance. The pre test mean value was 7 with standard deviation of 3.05 and the   post test mean value was 4.4 with standard deviation of 2.4. The mean difference was -2.6 and the calculated 't' value was 16.43 which showed that there was a significant difference in the pre and post test level of wound healing status among postnatal mothers in Group B at p<0.05 level of significance.

The fourth objective was to correlate the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

Table 12 shows that the correlation co-efficient value for Group A is 0.34 and for Group B is 0.30, which is the evident for positive correlation between pain perception and episiotomy wound healing status among postnatal mothers.

Hence, the research hypothesis stated that there was a positive correlation between the post test level of pain perception and episiotomy wound healing status among postnatal mothers in Group A and B was accepted.

The fifth objective was to associate the post test of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables.

With regard to the association of the post test level of pain perception and wound healing among postnatal mothers in Group A, the calculated chi –square value was 2.532, 1.892, 6.198, 0.624, 2.401, 1.438 for pain perception and 3.048,6.56,0.083,0,5.201,4.331 respectively. Which showed that there was no association between age, educational status, occupation, type of family, religion and gravida status respectively at $p<0.05$ level.

With regard to the association of the post test level of pain and wound healing among postnatal mothers in Group B, the calculated chi –square value was 1.364, 0.252, 0.554, 1.45, 2.56 for pain perception and 2.364, 2.284, 2.174, 0.554, 1.45, 4.331 respectively. Which showed that there was no association between age, educational status, occupation, type of family, religion and gravida status respectively at $p<0.05$ level.

Hence, the research hypothesis (H_5) stated that, there was a significant association between the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables was rejected.

The above rejection and acceptance of hypothesis were attributed to the effectiveness of administration of infrared light therapy and warm water sitz bath in reduction of pain and wound healing status among postnatal mothers with episiotomy.

CHAPTER -VI

SUMMARY, CONCLUSION, IMPLICATION, LIMITATIONS AND RECOMMENDATIONS

This chapter deals with summary, findings, conclusion, implications, limitations and recommendations which creates a base for evidence based practice.

SUMMARY

Delivery is one of the miracle of every woman's life. The mothers suffer much distress after child birth due to painful perineum. Perineal pain is most commonly associated with child birth by vaginal delivery. Pain following episiotomy appears to be universal. The mother undergoing episiotomy is characterised by greater blood loss in conjunction with delivery, and there is a risk of improper wound healing and increased pain during early puerperium. Various interventions are found to aid the healing process, which include cleanliness, applying ice pack, topical application by dry heat (infrared therapy), sitz bath, performance of kegel's exercise and perineal care.

The postnatal period is a vulnerable period for women. Women may develop various health problems during this period. One of the major problems during postnatal period is episiotomy wound and pain.

Episiotomy is done to enlarge the vaginal introitus to facilitate easy and safe delivery of the fetus and to minimize overstretching and rupture of the perineal muscles and fascia. The infrared light therapy is often used in obstetrical and

gynecological cases to promote the healing of a suture area on the perineum **(Beverly Witter Dugas, 1983).**

Infrared rays help to relax muscles, stimulate circulation and relieve pain **(Caroline Bunker Rosdhal, 2003**). Sitz bath is often used to relieve pain, itching or muscle spasm. Sitz bath is recommended to sooth pain and promotes healing after an episiotomy from child birth **(www.penhealth.com).**

THE OBJECTIVES OF THE STUDY WERE,

1. To assess the level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

2. To find out the effectiveness of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

3. To compare the pre and post test level of episiotomy wound healing status and level pain perception among postnatal mothers in Group A and B.

4. To correlate the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

5. To associate the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables.

HYPOTHESES

H_1 There was a significant difference in the pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A.

H$_2$ There was a significant difference in the pre and post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group B.

H$_3$ There was a significant difference in the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

H$_4$ There was a positive correlation between the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B.

H$_5$ There was a significant association between the post test level of episiotomy wound healing status and level of pain perception among postnatal mothers in Group A and B with their selected demographic variables.

THE ASSUMPTIONS OF THE STUDY WERE:

1.   Perineal discomfort from episiotomy may continues to be a problem for many postpartum women.

2.   Infra red light therapy and sitz bath may sufficient to reduce the pain, relax the muscle and stimulate circulation and promote healing after an episiotomy.

REVIEW OF LITERATURE COLLECTED FOR THE STUDIES RELATED TO,

The literature gathered from exclusive review is depicted under the following heading.

Section-A: Literature related to Episiotomy.

Section-B: Literature related to Episiotomy pain perception.

Section-C: Literature related to Infrared light therapy and warm water sitz bath.

The conceptual frame work of this study was based on Wiedenbach's helping art clinical nursing practice theory and it provided a complete frame work for achieving the central purpose of the study.

The research design selected for the study was two Group pre and post test quasi experimental design. The study was conducted in the postnatal ward in Primary Health Centers, Kanyakumari District and Tamil Nadu. The tool used for data collection consisting of demographic variables, which include age, education status, occupation, type of the family, religion and gravida status. The assessment level of episiotomy wound status and pain perception among the postnatal mothers of experimental Group A and B were measured by using REEDA scale and modified visual analogue scale. The tool was validated by two experts in the field of community medicine and 4 experts in community health nursing personnel and the reliability of the tool was established by inter-rator reliability method. The value of the reliability was r = 0.8. The tool was highly reliable to conduct the main study.

The pilot study was conducted in Primary Health Centre, Kuttakuzhi at Kanyakumari District. Among six samples three were in the experimental Group A and three were in the experimental Group B of postnatal mothers. The experimental Group A received infra red light therapy and the experimental Group B received warm water sitz bath. The finding revealed the feasibility, reliability and practicability of the tool for conducting main study. No modification was made after.

The main study was conducted in Kannanoor and Chemparuthivilai primary health centers at Kanyakumari District, Tamil Nadu.The 60 postnatal mothers who fulfilled the inclusive were selected for the study, out of which 30 mothers for the experimental Group A and 30 of them for the experimental Group B. Samples was

selected by purposive sampling method. Samples were divided into experimental Groups A and B of postnatal mothers. The investigator gave infra red light therapy for the experimental Group A and warm water sitz bath for the experimental Group B. The collected data was analyzed and interpreted based on the objective by using descriptive and inferential statistics.

SIGNIFICANT FINDINGS

The findings of the study revealed that the calculated 't' value was 16.43 which showed highly statistical significant difference in post test level of episiotomy wound status and pain perception among the experimental Group A while compare to Group B of postnatal mother at $p<0.05$ level was retained. Infra red light therapy and sitz bath were found to have same effect in the healing of episiotomy in terms of days of healing and condition of healing. Mothers who had undergone the treatment of infra red light therapy expressed decreased pain intensity compared to mothers who had undergone the treatment of warm water sitz bath.

CONCLUSION

This study assessed the effectiveness of infra red light therapy and warm water sitz bath on episiotomy wound healing status and reduction of pain among postnatal mothers. The study findings revealed that there was a significant difference on the reduction of pain and wound healing status after the administration of infra red light therapy in the experimental group. On the basis of the study, the researcher concluded that the application of infra red light therapy has a significant effect on reduction of pain and wound healing status among postnatal mothers with episiotomy.

IMPLICATIONS

The investigator has derived from the study, the following implications, which are of vital concern in the field of nursing practice, nursing education, nursing administration and nursing research.

Implications for Nursing Practice

The midwives have a vital role in providing safe and effective nursing care to enhance episiotomy wound healing status and pain perception.

This can be facilitated by motivating the nurse midwives to,

1. Have an in depth knowledge on physiological changes during puerperium and management of puerperium for mother with episiotomy.

2. Have an in depth knowledge regarding episiotomy wound care and its healing process and for management of pain during postnatal period of the mother.

3. Learn about accurate assessment of episiotomy wound and pain perception with the use of standard and appropriate scales.

4. Develop skill in providing efficient nursing care for effective management episiotomy wound healing and pain perception.

5. Teach the mothers during antenatal period about the effectiveness of various non-pharmacological measures for episiotomy wound healing and pain management.

Implications for Nursing Education

1. Ensure that the students learn the normal physiological changes during puerperium and its management.

2. Provide adequate clinical exposure for the students to give effective and safe nursing care in postnatal care with episiotomy.

3. Make use of available literatures and studies related to non-pharmacological measures for episiotomy wound healing status and pain perception.

4. Educate the students about various complementary and alternative therapies for episiotomy wound healing status and pain perception.

5. Encourage the students for effective utilization of research based practices.

Implications for Nursing Administration

1. Collaborative with governing bodies to formulate standard policies and protocols to emphasize nursing care during puerperium and mother with episiotomy.

2. Conduct in-service programme and continuing education programme for effective management during puerperium and episiotomy wound healing and pain perception.

3. Ensure and conduct workshops, conferences, seminars on non-pharmacological methods to promote episiotomy wound healing status and pain perception.

Implications for Nursing Research

1. As a nurse researcher, promote more research on effective management during puerperium regarding episiotomy wound healing and pain perception.

2. Disseminate the finding of the research through conferences, seminars and publishing in nursing journal.

LIMITATIONS

During the period of study the limitations faced by the investigator are as follows,

1. Due to time constraints, the investigator was unable to take larger samples for the study.

2. The sample size was too small. Hence the generalization must be done with caution.

RECOMMENDATIONS

Based on the findings of the present study the following recommendations are made:

1. Similar study can be replicated on a large sample.

2. A True experimental study can be done with the administration of infra red light therapy.

3. A True experimental study can be done with the administration of warm water sitz bath.

CENTRAL PURPOSE
To reduce the level of pain perception and wound healing status among postnatal mothers.

- - - - - - - → Not included in the study

IDENTIFYING THE NEED FOR HELP

MINISTERING THE NEEDED HELP

1. INFRA RED LIGHT THERAPY FOR GROUP A
2. WARM WATER SITZBATH FOR GROUP B

VALIDATING THE NEED FOR HELP WAS MET

ASSESSMENT OF DEMOGRAPHIC VARIABLES OF POSTNATAL MOTHERS WITH EPISIOTOMY

- AGE
- EDUCATIONAL STATUS
- OCCUPATION
- TYPE OF FAMILY
- RELIGION
- GRAVID STATUS

AGENT

INVESTI-GATOR

RECIPIENT

MOTHERS WHO UNDER-WENT NORMAL VAGINAL DELIVERY WITH EPISIOTOMY

GOAL

TO REDUCE THE LEVEL OF PAIN PERCEPTION AND WOUND HEALING STATUS

MEANS

INFRA RED LIGHT THERAPY AND WARM WATER SITZBATH

FRAME WORK

POSTNATAL WARD

POST ASSESSMENT LEVEL OF PAIN PERCEPTION AND WOUND HEALING STATUS

PREASSESSMENT LEVEL OF PAIN PERCEPTION AND WOUND HEALING STATUS

GROUP A

GROUP B

GROUP A

GROUP B

No pain	No infection	No pain	No infection
Mild pain	Mild infection	Mild pain	Mild infection
Moderate pain	Moderate infection	Moderate pain	Moderate infection
Severe pain	Severe infection	Severe pain	Severe infection

REASSESSMENT

FIG 1: MODIFIED WIEDENBACH'S HELPING ART OF CLINICAL NURSING THEORY

15

APPENDIX - A

LETTER SEEKING AND GRANTING
PERMISSION FOR CONDUCTING THE STUDY

SRI K. RAMACHANDRAN NAIDU
COLLEGE OF NURSING

Approved by Govt. of Tamilnadu and Indian Nursing Council / T.N.C
Affiliated to the Tamilnadu Dr. M.G.R. Medical University

K.R. Naidu Nagar - 627 753, Paruvakudi Village, Post Bag No.1, Karivalam (via)
Sankarankovil (Tk), Tirunelveli (Dt), Ph. : 04636 - 260950, Fax : 04636 - 260377. E - Mail : srikrncon@yahoo.com

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31.03.2011

To

The Medical Officer,

Primary Health Cenre,

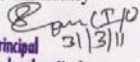Chemparuthivilai,

Mekkamandapam Po,

Kanyakumari Dist

Ms. G.Helen Hema Bai is a bonafide student of our college studying in M.Sc (N) programme. As a partial fulfillment of the university requirement for the award of M.Sc (N) degree, she needs to conduct research project.

Her chosen research project is as follows **"A comparative study to assess the effectiveness of Infra red light Therapy versus sitz bath on episiotomy wound healing and pain perception among postnatal mothers in selected Primary Health Centre at Kanyakumari Dist, April 2011"**

Permission may kindly be granted to her for conduction of the study at your Primary Health Centre. Further details of the proposal project will be furnished by the student personally, Confidentiality will be ensured in the research project.

Thanking you

Yours faithfully

Principal
Sri K. Ramachandran Naidu
College of Nursing
K.R. Naidu Nagar - 627 753, Karivalam (Via)
Sankarankovil (T.K.) Tirunelveli Dt.,

Permit to do the project.

Medical Officer
Govt. P.H.C. Kothanallur.

SRI K. RAMACHANDRAN NAIDU
COLLEGE OF NURSING

Approved by Govt. of Tamilnadu and Indian Nursing Council / T.N.C
Affiliated to the Tamilnadu Dr. M.G.R. Medical University

K.R. Naidu Nagar - 627 753, Paruvakudi Village, Post Bag No.1, Karivalam (via)
Sankarankovil (Tk), Tirunelveli (Dt), Ph. : 04636 - 260950, Fax : 04636 - 260377. E - Mail : srikrncon@yahoo.com

31.03.2011

To

The Medical Officer,

Primary Health Centre,

Kannanoor,
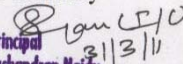
Verkilambi (Po),

Kanyakumari District.

Ms.G.Helen Hema Bai is a bonafide student of our college studying in M.Sc (N) programme. As a partial fulfillment of the university requirement for the award of M.Sc (N) degree, she needs to conduct research project.

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Permission may kindly be granted to her for conduction of the study at your Primary Health Centre. Further details of the proposal project will be furnished by the student personally, Confidentiality will be ensured in the research project.

Thanking you

Yours faithfully

Principal
Sri K. Ramachandran Naidu
College of Nursing
K.R. Naidu Nagar - 627 753, Karivalam (Via)
Sankarankovil (T.K.) Tirunelveli Dt.,

APPENDIX - B

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Mrs .G.Helen Hema Bai
M.Sc Nursing II Year
Sri.K.Ramachandran Naidu College of Nursing
Sankaran Koil

To

Respected Sir/ Madam,

Sub: Seeking validation of tool and content validity
******

I am II year student of M.Sc., Nursing studying at Sri. K. Ramachandran Naidu College of nursing, Tamilnadu Dr.M.G.R Medical University working on dissertation titled, **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.** The dissertation is to be submitted to The Tamilnadu Dr. M. G. R. Medical University, as a partial fulfillment for the requirement of M.Sc Nursing degree.

Hence I request you to kindly evaluate the tool items and give your valuable opinion and suggestions for improvement of this tool. I would be highly obliged and thankful to hear from you.

Thanking you in anticipation.

Yours sincerely

Enclosures:
Statement of the problem   **(Mrs.G.HELEN HEMA BAI)**
Research tool
Scoring key

APPENDIX – C

LIST OF EXPERTS FOR CONTENT VALIDITY

MEDICAL EXPERTS

1. **Dr.Jeyaseelan, Ph.D.,**
   HOD,Community Health Nursing,
   Annai J.K.K Sampoorani Ammal College Of Nursing,
   Ethirmedu, Komarapalayam,
   Namakkal Dist.

2. **Dr.Karunagara Prabhu**, **MBBS.,**
   Medical Officer,
   Primary Health Centre,
   Zameen kollankondan.

NURSING EXPERTS

1. **Mrs. Diana, M.Sc (N),**
   Vice Principal,
   Christian College Of Nursing,
   Neyyoor,
   Kanyakumari Dist.

2. **Mrs.Padmavathi, M.Sc (N)**
   Principal, B.K.R College Of Nursing,
   B.K.R Nagar, Chennai-Tiupathi Highway,
   Tiruvallur District,
   Tiruttani-631209

3. **Mrs.Margret, M.Sc (N)**
   Nehru College Of Nursing,
   Post Box No-3, Nehru Nagar,
   Tiruchendur Road, Vallioor,
   Tirunelveli District. Pin-627117

4. **Mrs.Gandimathi.R, M.Sc (N)**
   P.S.G College of nursing,
   Peelamedu,
   Avinasi Road,
   Coimbatore-4.

APPENDIX – D

CERTIFICATE OF ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Mrs. G.Helen Hema Bai,** II year. M.Sc., Nursing student of Sri. K. Ramachandran Naidu College of Nursing, Sankarankovil (Tk), Tirunelveli, has done a dissertation study on **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.**

This study was edited for English language appropriateness.

Signature

(Mr.S.Jayan Dharmaraj, M.A., M.A., M.Phil.,)

APPENDIX – E

INFORMED CONSENT

I, **Mrs.G.Helen Hema Bai,** M.Sc Nursing II Year student of Sri.K.Ramachandran Naidu College of Nursing, conducting **"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".** As a partial fulfillment of the requirement for the degree of M.Sc Nursing under The Tamil Nadu Dr. M.G.R Medical University. The study participants will be assessed by REEDA scale for episiotomy wound healing status and modified visual analogue scale for pain perception during post natal period.

I assure you that information obtained will be kept confidential. So, I request you to kindly cooperate with me and participate in this study by giving your frank and voluntary consent.

Thank you.

APPENDIX – F

COPY OF THE TOOL FOR THE DATA COLLECTION

SECTION-A

It deals with the demographic variables.

1. **Age**

   a) 21-25 years

   b) 26-30 years

   c) 31-35 years

   d) 36-40 years

2. **Educational Status**

   a) Illiterate

   b) Primary

   c) Secondary

   d) Graduate and above

3. **Occupation**

   a) Sedentary

   b) Moderate

   c) Heavy

4. **Type of Family**

   a) Nuclear family

   b) Joint family

5.   **Religion**

   a)   Hindu

   b)   Christian

   c)   Muslim

6.   **Gravida Status**

   a)   Gravida I

   b)   Gravida II

   c)   Gravida III

   d)   Gravida IV

SECTION-B

EPISIOTOMY WOUND ASSESSMENT SCALE

REEDA (Redness, Edema, Ecchymosis, Discharge, and Approximation) scale to assess postpartum healing of the perineum following an episiotomy wound.

A. REDNESS	• No redness • Redness over one or two suture of episiotomy incision. • Redness limited to the suture of epsiotomy incision. • Redness extends beyond to the suture line of episiotomy incision.	0 1 2 3
B. EDEMA	• No edema • Edema over one or two suture of episiotomy incision. • Edema limited to the suture of episiotomy incision. • Edema extends beyond to the suture line of episiotomy incision.	0 1 2 3

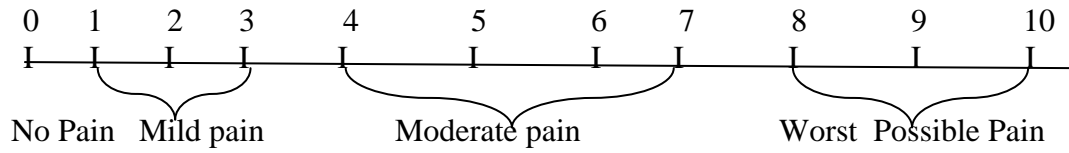|		
C. **ECCHYMOSIS**	- No ecchymosis 0.25 to 0.5 cm in size 0.5 to 1 cm in size - More than 1 cm	0 1 2 3
D. **DISCHARGE**	- No discharge - Serous discharge - Sero sanguinous discharge - Bloody purulent discharge	0 1 2 3
E. **APPROXIMATION OF WOUND HEALING**	- No gaping,ends approximate. - Skin separation - Skin and subcutaneous fat separation. - Skin , subcutaneous fat and fascial layer separation.	0 1 2 3

The total score is 15. The score will ranged as follows.

        0   -   No infection.

        1-5   -   Mild infection.

        6-10   -   Moderate infection.

        11-15   -   Severe Infection.

SECTION: C

PAIN ASSESSMENT

MODIFIED VISUAL ANALOG SCALE   {MVAS}

```
0   1    2    3      4      5      6     7      8      9     10
```

No Pain   Mild pain   Moderate pain   Worst Possible Pain

0	-	No pain
1-3	-	Mild pain
4-7	-	Moderate pain
8-10	-	Severe or worst possible pain.

APPENDIX-G

SCORING KEY INTERPRETATION

Section-A

0	-	No infection.
1-5	-	Mild infection.
6-10	-	Moderate infection.
11-15	-	Severe Infection

SECTION-B

0	-	No pain
1-3	-	Mild pain
4-7	-	Moderate pain
8-10	-	Severe or worst possible pain.

APPENDIX-H

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 wound healing 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 wound healing status was assessed by modified visual analogue scale and REEDA scale.

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.

APPROVED BY DISSERTATION COMMITTEE ON _____

PROFESSOR IN NURSING RESEARCH

Prof. (Mrs.). N. SARASWATHI,M.Sc(N), Ph.D (N),
Principal and Professor of Nursing,
Head of the Department-Child health nursing,
Sri.K.Ramachandran Naidu College of Nursing,
K.R.Naidu Nagar, Sankarankovil, Thirunelveli district.

CLINICAL SPECIALITY EXPERT

 Mrs. P.SUBBA LAKSHMI.M.Sc (N),
Associate Professor,
Head of the Department-Community health nursing,
Sri K Ramachandran Naidu College of Nursing,
K.R.Naidu Nagar, Sankarankovil, Tirunelveli district.

MEDICAL EXPERT

Dr.KARUNAGARAPRABHU.MBBS.
Medical Officer,
Primary Health Centre,
Zaminkollankondan,Virudhu Nagar district.

MEDICAL OFFICER
Govt. Primary Health Centre
ZAMINKOLLANKONDAN - 626 143
Virudhunagar Dist.

DISSERTATION SUBMITTED TO

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

CHENNAI

IN PARTIAL FULFILLMENT OF REQUIREMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

APRIL 2012.