

COMPARATIVE STUDY, ON EFFECT OF HOT AND COLD
APPLICATION ALTERNATELY FOR PERINEAL PAIN
MOTHERS WITH EPISIOTOMY

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CHAPTER I

INTRODUCTION

BACKGROUND OF THE STUDY

Labor is a normal process which all pregnant women have to undergo. It is an exciting as well as stressful moment for both women and their family. Acute injuries and lacerations of the perineum, vagina, cervix, uterus, and their supporting tissues occurs during child birth. After delivery many women suffer a lot due to pain and discomfort caused by perineal trauma, edematous perineum, vaginal hematoma, episiotomy and engorged breast.

The trauma ranges from small lacerations to large tears requiring extensive repair. Mostly the restricted episiotomy is preferable to the possibility of an uncontrolled tear. Episiotomy is performed to avoid trauma to the fetal head during child birth, to shorten the second stage of labor or to prevent severe perineal lacerations. The most frequent operation in obstetrics is episiotomy. The technique was first mentioned in 18th century and first published in 1810 in Medical Journal (David³³ - M 1993).

Episiotomy, though a surgical incision, attract comparatively less attention from health personnel. Episiotomy incision like any other surgical incision causes pain, and post episiotomy mothers also experience pain as other post operative patients. Pain cannot be seen. According to Mc Caffery¹⁹ (1980) "pain is whatever the experiencing person says it is, existing whenever he says

it does". So, pain is mostly subjective. Only the person experiencing it knows that pain is present and what the experience is like. The post episiotomy mothers feel shy to express pain in the episiotomy area. It is the responsibility of the nurse to assess pain, its intensity and to initiate measures which will relieve pain or help the client learn to cope. The client values the nurse's ability to bring relief from suffering.

The most commonly performed episiotomy technique is mediolateral (right or left) or median. In our set up, mediolateral (right or left) is the choice of technique preferred.

In median episiotomy the incision is made in the mid line of the perineum beginning at the center of the fourchette. The risk in this technique of episiotomy is that if the incision extends while delivering the baby, it may involve the anal sphincter. In mediolateral episiotomy the incision is made at a 45 degree from the center of fourchette, and the involvement of anal sphincter muscle is much less. According to AC Peon⁶⁰ (1997) & Borgatta et al (1987) mediolateral episiotomy prevents third degree tear in nulliparous mother.

Perineal lacerations are very likely to occur under the following conditions :-

- when the perineal tissue are rigid and do not stretch well or friable.
- when the infant is large,

- when a small pelvic outlet does not permit the head to fit closely against the symphysis pubis and
- when delivery takes place from an abnormal presentation (e.g. breech, face etc) malposition (occiput posterior position).

Episiotomy is essentially useful in cases of rigid perineum, where laceration seems inevitable, when presentation and position of the fetus are abnormal and to reduce the second stage of labor, which may be important for maternal reasons (e.g. Pregnancy Induced Hypertension, cardiac disease, previous episiotomy scar etc.) and fetal conditions (fetal distress in 2nd stage of labor, preterm baby or large baby and occiput posterior position and malpresentation).

Though episiotomy is useful in the condition related to mothers and baby, it also has some risks, which include blood loss, potential to hematoma, infection, wound gaping, delayed healing, dyspareunia lasting upto six months, healing accompanied by moderate to severe pain. Ragoth- J C⁶¹ et al, (1989) found the late complications of episiotomy were dyspareunia - in primi 47% and 22 % in multi; perineal pain while sitting on the chair, 30% with mediolateral episiotomy, 19% median episiotomy; occasional involuntary passage of flatus and involuntary passage of faeces.

In some hospitals episiotomy is performed as a routine procedure for all nulliparous women, but sometimes it is also performed in multiparous women when the perineum is found to be rigid. Statistics of Sir Ivan Stedeford

major cause of maternal morbidity and mortality. 11.5% of postnatal mothers are dying with puerperal sepsis. (Sinha NK⁶⁴ 1995).

- Maternal mortality rate (MMR) in India, in the year 1993 was 4.5/1000 live births. (Sinha NK⁶⁴ 1995).
- National Family Health Survey 1992-93 found that the rural MMR was 431/1,00,000 live birth and in the urban area it was 380/1,00,000 live births. (Sinha NK⁶⁴ 1995).
- B.E.Kwast found MM R 545/1,00,000 live birth in urban area of Andhra Pradesh compared to 830 in rural area (Women's Health Today 1994).

80 % of Indian population is from the rural area, where deliveries are conducted by dais. All dais are not a trained personnel. Trained dais are provided delivery kits by UNICEF / WHO for safe delivery. Perineal tear is preventable to some extent during delivery but not avoidable. In case of perineal tear, it is sutured by Multi Purpose Health Worker. They also perform episiotomy for mothers in the community health setting. As mentioned before episiotomy wound is one of the most neglected aspect of post natal care, therefore these mothers are in great need of getting information about perineal hygiene and simple home remedies which would help them get relief from pain after delivery. One of such possible home remedies is hot or cold therapy. Post natal mothers could be benefitted if the health workers encourage this practice at the village level too.

In this era of advanced modern technology all mothers are looking hopefully at nurses to help in bringing down the MMR and relieve them from suffering, pain and discomfort after child birth. Thus it becomes the nurse's responsibility to identify the ways of preventing and reducing maternal mortality, as well as to identify the cost effective measures in relieving pain.

Several studies have been undertaken on the intensity and duration of perineal pain, and various therapies are used in relieving perineal pain but few have been adequately assessed.

The use of heat or cold for relief of pain and discomfort is a fundamental nursing practice. Dry heat in the form of infrared lamp, electrical heat lamp, and moist heat in the form of warm sitz bath and hot packs, all produce vasodilatation and increase circulation, promote healing by sufficient oxygenation and nutrients for the tissue, provide muscle relaxation, decrease pain and give comfort.

Cold in the form of cold sitz bath, ice packs, ice gloves, constricts the blood vessels, reduce swelling, reduce muscle spasm, alters tissue sensitivity leading to numbness, and relieves pain.

Heat and cold can be used alternately to produce a better effect. The effect of heat does not last as long as the effect of cold because the increased blood flow rapidly cools the tissue to normal temperature.

Hence hot and cold application is selected as a therapy for perineal pain thereby the investigator wants to identify which therapy is more effective in relieving the perineal pain and discomfort.

NEED FOR THE STUDY

During clinical experience the investigator found that all mothers with episiotomy experienced pain, most of them remained in the bed in lying position, they could not sit properly, needed assistance while getting up from the bed and felt difficulty during feeding their baby. The episiotomy is performed to enlarge the vaginal orifice, facilitate easy delivery of the baby and thereby shorten the second stage of labor, but at the same time it causes blood loss, pain and discomfort. Women do suffer much distress after child birth due to painful perineum.

Pain is a leading cause of disability. It interferes in daily activities of post episiotomy mothers and as well as early bonding of mothers and baby. It also causes long term physical and psychological problem. One of the greatest challenge of the nurse is to provide comfort to the client. By relieving pain and providing comfort, post episiotomy mothers can be benefitted by carrying out their daily activities without interference and bonding of mother and baby is established as early as possible.

Claire Laurent⁵⁸ (1992) analysed the pain caused by episiotomy stitches at the episiotomy site, while walking, sitting, sleeping, lying down, breast feeding, micturating and defecating. The researcher concluded that the use of

Histoacryl as tissue adhesive instead of stitches, dramatically reduced the pain and discomfort encountered in every activities after episiotomy. At present this trend has not yet become popular in India.

Kochuthresia P.V.⁷¹ (1993) found in her study that one of the reasons for breast engorgement was delayed feeding due to difficulty in positioning for feeding, so relieving the perineal pain not only provides comfort to postnatal mother but it also prevent breast engorgement.

The consequences of perineal damage during delivery may not be life threatening, but it can cause a great deal of distress and discomfort. (Jacqueline Lavin⁵² and A.R.B Smith 1996)

Pain and discomfort can interfere with mothers and infants interaction. By relieving such suffering and providing comfort to the mothers, the important basic need (interaction - mother and infant) can be established.

Pain and discomfort from episiotomy incisions continue to be a problem for many postnatal mothers. Perineal management is increasingly becoming part of the midwife's role⁵³. To alleviate or relieve pain, discomfort, to promote healing and to prevent complications of episiotomy are essential.

OBJECTIVES OF THE STUDY

A variety of treatment is used in alleviating or relieving of perennial pain, oral analgesics, local ointment, local anesthetics in the form of sprays, cream, method of suturing or type of suture materials, lavender oil, ultra sound, and local application of heat and cold. Here the investigator has chosen

heat and cold application because it is noninvasive, easy to administer, cost effective, and is a home remedy. Many home adaptation remedy for hot and cold can be done.

The investigator would also like to observe the results of hot and cold application in relieving perineal pain because in review it was found that if cold relieves the pain, it is likely to work better than heat because cold relieves pain at a faster rate and once it is removed, relief from pain last longer. (Mc Caffery et al 1989)

Since local hot and cold applications are a simple nursing measure and a home remedy, the investigator chosen to study the effect of hot and cold application to remove perineal pain after episiotomy as part of maternity care.

PROBLEM STATEMENT

"A COMPARATIVE STUDY, ON THE EFFECT OF HOT AND COLD APPLICATIONS ALTERNATELY FOR PERINEAL PAIN IN MOTHERS WITH EPISIOTOMY IN THE POSTNATAL WARD OF SIR IVAN STEDEFORD HOSPITAL, AMBATTUR, CHENNAI".

OBJECTIVES OF THE STUDY

1. To observe and document condition of episiotomy incision before and after hot and cold application.
2. To alternately give hot and cold application for each mother with episiotomy at four hourly intervals.

3. To evaluate the effectiveness of hot and cold application for perineal pain in a time series, immediate, half hour, and one hour interval after each application.
4. To evaluate the degree of discomfort in post episiotomy mother after hot and cold therapy.

NULL HYPOTHESIS

There is no significant difference between the effect of hot and cold application for relief of perineal pain.

OPERATIONAL DEFINITIONS

1. Hot application - Application hot therapy in the form of radiation by infrared lamp 230 volts-15 watts placed at a distance of 18 inches for 10 minutes.
2. Cold application - Application cold therapy in the form of ice gloves covered with sterile soft cloth, for 10 minutes.
3. Episiotomy - Surgical incision performed on right or left aspect at the perineum during child birth.
4. Effectiveness of hot application - relief of perineal pain after hot application.
5. Effectiveness of cold application - relief of perineal pain after cold application.
6. Perineal pain - pain experienced by postnatal mother at the perineal region due to episiotomy.

7. Discomfort - uneasiness of the mother to perform routine activities such as sitting, getting up, walking and voiding because of perineal incision.
8. Condition of episiotomy incision - presence or absence of redness, edema, ecchymosis and exudate.

ASSUMPTIONS

1. The effect of local anesthesia on the perineum after episiotomy will last only for a short duration.
2. The mother will continue to experience the perineal pain long after the local anesthetic effect wear off.
3. The pain can be relieved by alternate hot or cold application.
4. The nursing intervention of hot and cold application will enhance comfort in routine activities and positioning the baby for breast feeding.

DELIMITATION

1. Study is delimited to post natal mothers in the wards who had episiotomy in Sir Ivan Stedeford Hospital.
2. It is further delimited to mothers who are willing to participate in this study.
3. The study is delimited to mothers with episiotomy after 24 hours.
4. Study is delimited upto four weeks and mothers who can speak Tamil, English, Hindi, Nepali.

PLAN OF WRITING REPORT

A review of related literature and conceptual framework are presented in the second chapter. Chapter three highlights the methodology of the study. Fourth chapter deals with data analysis and interpretation. The study discussion are presented in chapter five and chapter six outlines, summary, conclusion, implications, limitation and recommendations. The report of the study will be concluded with selected bibliography appendix, abstract.

CHAPTER II

LITERATURE REVIEW

The purpose of review literature is to obtain comprehensive knowledge base an indepth information about related research topic for laying the foundation of the study.

The review of literature presented as follows:-

Part A - Review of relevant studies.

Part B - Theoretical frame work.

PART - A

The related review of literature has been presented under the following headings :-

1. Study related to episiotomy.
2. Study related to ~~perineal pain~~ ^{trial of chemical and non chemical and other therapeutic measures.} associated with episiotomy.
3. Study related to use hot and cold in relieving perineal pain.

1. STUDY RELATED TO EPISIOTOMY

⁶⁵ Sleep J and others (1984) In their The West Berkshire Perineal Management Trial, where 1000 women were allocated either to a restricted or a more liberal use of mediolateral episiotomy, has provided little support for the liberal use of mediolateral episiotomy. However, 80% of the severe perineal traumas seen in this study occurred in the restrictive group.

Avery MD and Burket²⁷ (1986) conducted a comparative study to assess the effect of perineal massage on incidence of episiotomy and perineal laceration in a nurse midwifery service and found that those who practiced perineal massage at least four times per week during the last six weeks of pregnancy has lower incidence of episiotomy and lacerations than those who do not.

Avery MD and Van - Arsdale²⁸ (1987) Compared the effect of perineal massage on the incidence of episiotomy and laceration in a nulliparous populations, and found that nulliparous women who practiced perineal massage in the last six weeks of pregnancy decreased the need of episiotomy

Borgatta et al.³⁰ (1989) Found a decreased risk of anal sphincter tear when mediolateral episiotomy was used in nulliparous women, but an increased risk when used in multiparous women.

Wilcox - LS and others⁶⁹ (1989) conducted a study to determine episiotomy and its role in the incidence of perineal laceration in a maternity center and a tertiary hospital obstetrics service and result revealed that episiotomy was associated with a decrease in perineal laceration of first or second degree but a fourfold increase in the incidence of third degree laceration.

Mc Guinness M and others⁵⁶ (1991) conducted comparative study between different perineal outcomes on tissues healings. Findings suggest that women without episiotomies exhibit better perineal healing than women with episiotomies.

Klein - MC⁴⁸ and others (1992) conducted a study to compare the outcomes of the current practice of liberally or routinely employing episiotomy to prevent perineal tears and pelvic floor relaxation (control group) to a policy of restricting episiotomy use to specific fetal and maternal indications (experimental group) and came into conclusion that there is no evidence that liberal or routine use of episiotomy prevents perineal trauma or pelvic floor relaxations. Virtually all severe perineal trauma was associated with median episiotomy. Restriction of episiotomy use among multiparous women resulted in significantly more intact perineum and less perineal suturing.

Lancet⁵¹ (1993) Episiotomy is a widely practiced intervention in child birth, regardless of poor scientific evidence of the benefits. In a randomized controlled trial of the Argentine Episiotomy Trial Collaborative Group, routine verses selective use of mediolateral episiotomy was investigated in 2606 women. Episiotomy was done for 30 % of deliveries in the selective and 82. 6% in routine group. The main out comes measure was severe perineal trauma. Severe perineal trauma was uncommon in both groups but was slightly less frequent in the selective group (1.2% Vs 1.5%) Anterior perineal was more common in the selective group but posterior perineal surgical repair, perineal pain healing complication, were all less frequent in the selective group.

Smith MA⁶⁶ and others (1993) concluded that episiotomy has not been shown to reduce severe laceration or prevent pelvic relaxation, and use of this procedure should be limited

Stones R W⁶⁷ and others (1993) study result of risk factors for major obstetric haemorrhage shows that episiotomy (2.06) is one of the factors of obstetrical haemorrhage.

Pear I M L⁵⁹ and others (1993) found that in their retrospective study mediolateral episiotomy was associated with a lower incidence of severe perineal laceration than median episiotomy during delivery from occiput posterior position.

Klein MC⁴⁹ and other - (1994) There is a strong association between median episiotomy and anal sphincter tears.

Sultan A H⁶⁸ and others (1994) have recommended a conservative approach towards the use of mediolateral type of episiotomy in preventive anal sphincter tear.

Anthony S²⁶ and others (1994) found that mediolateral episiotomy was associated with a more than fourfold lower risk of severe lacerations.

Woolley - RJ⁷⁰ 1995 after reviewing the professional literature on the benefits and risk of episiotomy he found that episiotomy prevents anterior perineal laceration, but fails to accomplish any of the maternal or fetal benefits traditionally ascribed.

East C and Webster J³⁶ (1995) conducted a comparative retrospective study to determine the incidence of perineal outcomes including episiotomy, at the Royal Women's Hospital (RWH) Brisbane 953 women who delivered

vaginally at the RWH in 1986 and 1992 were participants. There was decline in the episiotomy rate from 65% in 1986 to 36% in 1992. Researcher came into conclusion that this decline in rate was accompanied by an increase in the length of second stage and in the incidence of both intact perineum and perineal tear.

Hueston J. William⁴⁴ (1996) in the retrospective study, reported that episiotomy was associated with an increase in the average length of stay in hospital for mothers.

Shipman M. K⁶³ (1997) conducted a randomised, single - blind prospective study to assess the effects of antenatal perineal massage and subsequent perineal out come at delivery. 861 nulliparous women singleton pregnancy were participated in the study between June 1994 and October 1995. The results demonstrated that a reduction of 6.1% in second or third degree tears or episiotomies in the group assigned to massage, tear rates of 75.1 percent in the no massage group and 69.0 % in the massage group, and reduction in instrumental deliveries from 40.9% - 34.6%. Analysis by mother's age showed a much larger benefit due to massage in this aged 30 and over and smaller benefit in those under 30.

Poen A C⁶⁰ (1997) In their study concluded that they found several risk factors for anal sphincter tear. Nulliparous women are higher risk than multiparous women. Medio lateral episiotomy may be sphincter saving especially in nulliparous women and therefore prevents them from chronic faecal incontinence.

Maier - J S & Maloni JA⁵⁵ (1997) quoted the adverse effects of arising from episiotomy include an increased incidence of severe laceration, blood loss, pain, delayed healing, dyspareunia, psychological trauma, and medical cost.

2. STUDY RELATED TO PERINEAL PAIN ASSOCIATED WITH EPISIOTOMY INCISION

Harrison RF and Brennan M⁴¹ (1987) compared the effect of alcoholic and aqueous formation of lignocaine (5%) spray with an aqueous formation of cinchocaine (2%) for the relief of post episiotomy pain and found that aqueous lignocaine preparation appeared slightly more effective than others.

Harrison RF and Brennan M⁴² (1987) evaluated the effectiveness of aerosol formation of lignocaine (5%) and cinchocaine (2%) when compared with a water- only placebo spray in a single dose study in 76 primiparous and the result revealed that both local anesthetic formation gave significant relief when administered to the perineal wound but the lignocaine spray proved to be more effective. The only side effect reported was slight stinging occurring immediately after administration of lignocaine spray in 2 cases.

Flaming - N³⁸ (1990) The author's clinical experience, research results, and review of relevant literature suggests that a one - suture, non- lock continuous stitch technique for repairing perineal wounds may reduced post partum perineal pain.

Lorenzi - E A⁵⁴ (1991) study was conducted to determine the effect of a simple relaxation technique on post partum patient's episiotomy incisional pain

and over all discomfort using experimental and control group. Results analysis showed that for the subjects who used the relaxation technique, there was general trend for decreased pain and discomfort.

Behotas²⁹ and others (1992) The relief of post episiotomy pain was investigated in three groups of women, using either a single dose of 400 mg of ibuprofen (n=31), or 1 gram of paracetamol (n = 28) or placebo (n = 31). Ibuprofen was found more effective after one hour than either of the other two drugs.

Everett - T³⁷ and others (1992) assessed the effectiveness of ultrasound therapy in relieving the persistent postnatal perineal pain and found that the women in the study tended to improve over the course of the study irrespective of trial allocation.

Joyce - TH⁴⁶ 3rd and others (1993) conducted a study to assess the safety and analgesic efficacy of a recently approved transnasal preparations of the drug in the relief of post episiotomy pain. Finding demonstrates that the transnasal butor phanol tartrate has a longer duration of action (4-5 hours) compared with injection and other drugs in this class. 1 mg and 2 mg doses were associated with greater efficacy compared with placebo using several markers for efficacy.

Jackson S⁴⁵ (1994) episiotomy is one of the commonest surgical procedure in UK. Many women suffer from pain several days, some times weeks after wards and dyspareunia may be a problem. Infiltrating the perineum with

normal saline before suturing may help reduce post partum perineum pain. Suturing techniques and materials can influence the degree and deviation of episiotomy pain. Omitting suture just below the skin surface may cause less pain.

Dale- A and Cornwell S³² (1994) conducted a study on the role of lavender oil in relieving perineal discomfort following child birth. It cannot be concluded that current practice results in a reduction of post natal perineal discomfort at the dilution level used. However there is some consistency in results between the third and fifth days with those women using lavender oil as bath additive recording lower mean discomfort scores.

Cornwell S. and Dale A³¹ (1995) examined the practice of adding six drops pure lavender oil to bath water daily for 10 days following child birth to reduce perineal discomfort. Mother using the oil found it pleasant to use and there were no side effect.

Abraham Suzanne²⁴ (1995) in the preliminary prospective study on recovery after child birth 20 women reported no discomfort three to four days after child birth. The rest of the women were using various methods to relieve perineal discomfort including sitting down slowly or using a cushion, taking analgesics, taking salt bath and using heating devices or ice packs. The author concluded that spontaneous vaginal delivery if without perineal or vaginal laceration is the best of all from the point of recovery of sexual functions and disappearance of perineal pain.

Draper J and Newell -R (1996)³⁴ reviewed the key literature on perineal trauma discussing the historical background, the material and technique used, the possible consequences of repair and assessment of midwives current and potential contribution to perineal repair. The authors concluded that current practice in the UK is inconsistent with the available evidence. Perineal trauma can cause long term problems and midwives are in an ideal position to take forward evidence based on perineal repairs.

Lavin J; Smith ARB (1996)⁵² the consequences of perineal damage during the delivery may not be life threatening, but they can cause a great deal of distress and discomfort.

3. STUDIES RELATED TO USE OF HOT AND COLD IN RELIEVING PERINEAL PAIN AND DISCOMFORT

Droegemueller (1980)³⁵ has advocated the use of cold sitz bath for both the anesthetic effect of the cold and reduction of edema. He compares the similarities of soft tissue athletic injuries to the soft tissue injury in the vaginal deliveries. Upon the application of cold to the episiotomy site, initially vasoconstriction occurs. This decreases hemorrhage keeping hematoma formation to a minimum.

Droegemueller states that the changes in the viscoelastic properties of collagen and reduction of muscle spasticity with cold application contributes to the relief of perineal pain.

Lehman and de Lateur¹⁰ (1982) in their discussion of cryotherapy states that the use of cold in mechanical trauma is primarily to reduce bleeding and edema formation by vasoconstriction. The decreased temperature of the tissue results in a deceleration of the metabolic process within the cell. The reduction in metabolism decrease the inflammatory response and production of edema. The local anesthetic effect is produced by the mechanism of transient peripheral nerve block. A depression of the excitability of free nerve endings and of the peripheral nerve fibers occurs.

Ramler D and Robert J⁶² (1986) conducted a comparative study on cold and warm sitz baths for relief of post partum perineal pain. 40 mothers took both cold and warm sitz baths with random assignment of the initial baths. Patients rated the degree of perineal pain before and after each sitz baths and at half hour to one hour intervals between each bath. Results demonstrated that cold sitz baths were significantly more effective in relieving perineal pain. The greatest amount of pain relief was experienced immediately after cold sitz bath.

LaFoy J and Geden E⁵⁰ (1989) assessed the effectiveness of a warm versus cold sitz bath in relieving post episiotomy pain, sensation, distress, edema, and hematoma rating were obtained pre and post treatment. Both therapies were found comparable with the exception that the cold baths was significantly more effective in reducing edema.

Hill PD⁴³ (1989) devised the Redness, Edema, Ecchymosis, Discharge Approximation (REEDA) tool, to evaluate postnatal healing of the perineum

following and episiotomy / laceration was used to evaluate the effect of heat and cold on the perineum during the first 24 hours after delivery. Treatment consisted of 30 subjects applying a warm perineal pack, 30 applying a cold perineal pack, and 30 taking a warm sitz bath. Analysis of variance indicated no difference in the REEDA scores before or two hours after treatment.

Geden et al³⁹ (1989) advocated that concerning post partum episiotomy pain goals are presently met primarily by the use of moist cold and warm baths in pain relief.

Low and Reed⁴⁷ (1990), Kahn (1987) and Forster and Pelastanga suggested use of infrared lamp for the reduction of pain and muscle spasm, the acceleration of healing, the improvement of the circulation and the reduction of edema.

Nam HK and Park - YS⁵⁷ (1991) compared the effect of ice bag and heat lamp for the relief of perineal discomfort and identified the sustaining time of each effect. 40 women took ice bag and heat lamp with random assignment of initial therapy. Women rated the degree of perineal discomfort before and after each therapy and at half hour, two hour and four hour intervals after each therapy. The results demonstrated that the ice bag was significantly more effective in relieving perineal discomfort than heat lamps, it showed significantly lower discomfort scored than the heat lamp group at the half and two hour intervals, after therapy and four hours intervals after than before therapy. The author suggested that the nurse should provide women with adequate information about the use of ice bags.

CONCEPTUAL FRAME WORK

Conceptual frame work is based on Orlando's Theory of the Deliberative Nursing Process.

Orlando was one of the earliest nurse theorists and one of the first persons to develop nursing theory inductively from the empirical study of the nurse's practice. Orlando's theory radically shifted the nurses' focus from the medical diagnosis to nursing diagnosis, that is, to finding and meeting the clients' immediate needs.

According to Orlando (1961), a nursing situation is composed of the client's behaviour, the nurse's reaction, and the nurse's action. The interaction of this is called nursing process.

Orlando (1972) identified four distinct items in any person's action process and describe the sequence of their occurrence.

1. The person perceives with any one of his five sense organs an object or objects.
2. The perceptions stimulate automatic thought.
3. Each thought stimulate automatic feelings.
4. Then the person acts.

In this theory, nursing process is used by a nurse to meet the client's need for help, meeting this need, improves the client behaviour. Client

behaviour can be verbal expressed by language, such as complaints, requests, demands, or refusal or non verbal manifested physiologically, such as heart rate, edema, skin color, tears in the eyes, motor activity, or vocally such as crying, coughing, moaning, Nurse reacts to the client behaviour and acts accordingly, After completion the nursing action is evaluated for its effectiveness.

Client behaviour

Client's need is to relieve the perineal pain which is caused by episiotomy. The client who cannot resolve this need feels helpless, and the person's behaviour reflects the feelings. Behaviour can be verbal in which the client admits that she has pain; or it may be non-verbal, that is manifested by observation of physiological changes in the episiotomy condition such as redness, oedema, ecchymosis and exudate.

Nurse Reaction

Nurse perceives the client's behaviour and feels that the client has some need to be met and validating the same by communicating with client and by assessing the condition of episiotomy incision, a nurse identifies corrects needs of the client.

Nurse Action

After verifying and identifying the need of the client, nurse activity is planning and intervention of nursing action for meeting the clients needs or improving clients behaviour and immediately after completion of these actions, the effectiveness was evaluated.

Nursing intervention is hot and cold application. Hot application in the form of infrared radiation. Cold application in the form of ice gloves. Diagrammatic effect of hot and cold are shown in Diagram 1.

DIAGRAMMATIC PRESENTATION OF THE EFFECT OF HOT AND COLD

PROVIDE COMFORT



Reduce Pain

Reduce Pain



Promote muscle relaxation

5. Decrease muscle tension



5. Reduce muscle tension

Promote movement of waste products and nutrients

Prevent or control bleeding



Promotes blood coagulation at injury site

4. Increased capillary permeability

4. Increased blood viscosity



Provide local warm

Reduce oxygen need of tissue



Increase blood flow

3. Reduce cell metabolism



3. Increased tissue metabolism

Reduce localised pain

Improved delivery of leukocytes and anti-bodies to the wound

2. Local anaesthesia



2. Reduced blood viscosity

Reduce inflammation



Promote removal of waste

Prevents edema formation



Promotes delivery of oxygen and nutrient

Reduce blood flow to the the injured body part



Improves blood flow to the injured body part

1. Vasoconstriction



1. Vasodilation

HOT APPLICATION

PERENEAL PAIN

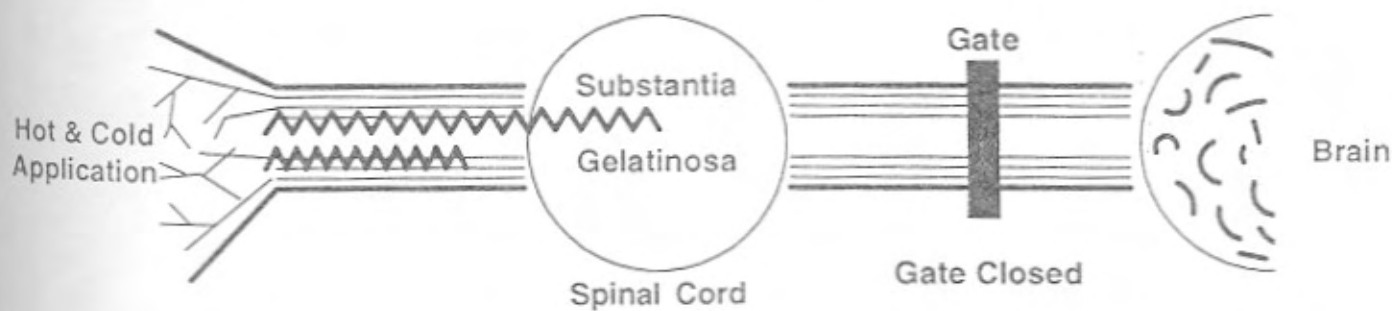
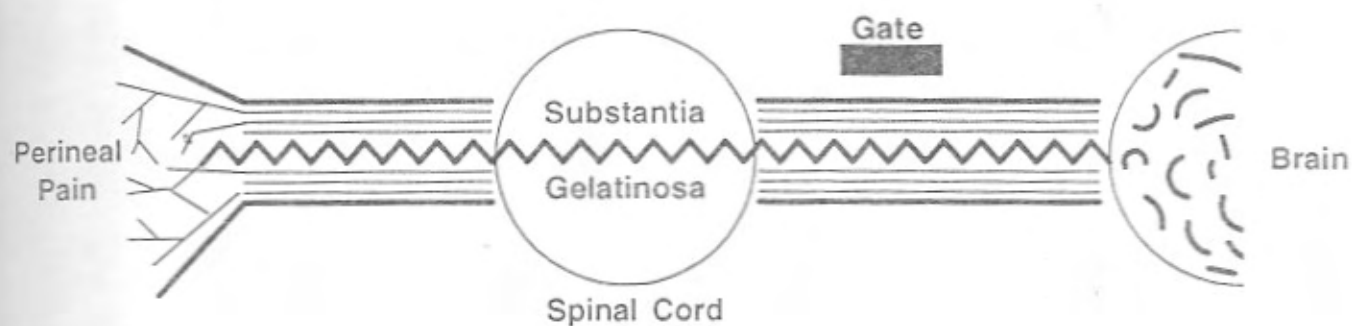
COLD APPLICATION



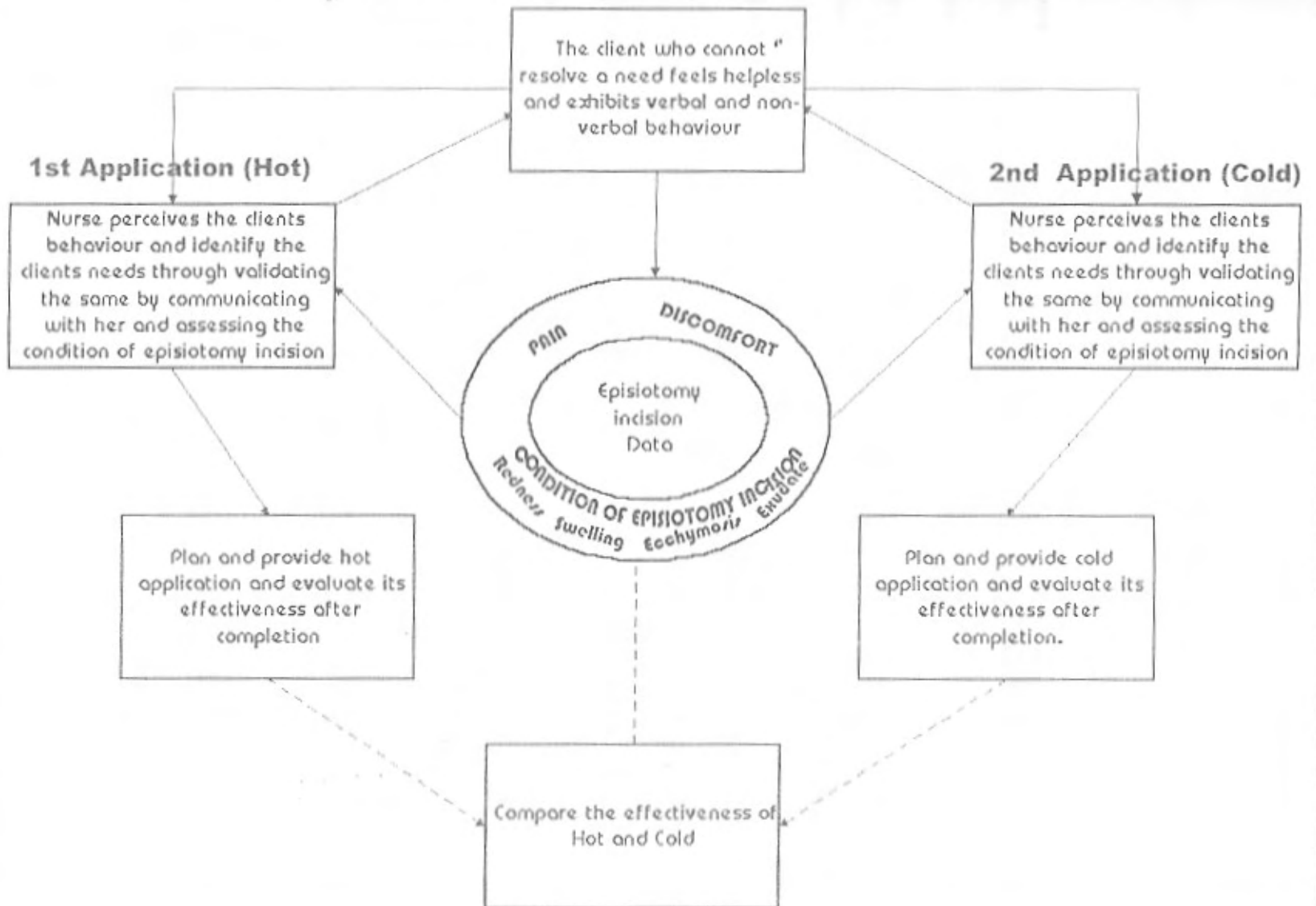
GATE CONTROL THEORY AND HOT AND COLD APPLICATION

Gate control theory, Melzack and Wall (1965)^{4,19} hypothesized that pain impulses transmitted from the nerve receptors, through the spinal cord to the brain can be altered in the spinal cord, brain stem, and cerebral cortex. The proposed location of the gate is in the dorsal horn of the spinal cord. A substance called substantia gelatinosa, densely packed cells, located in the gray matter along the spinal cord, is thought to trigger the closure of "gates" by a blocking action to keep pain impulses from reaching the brain. - The substantia gelatinosa limits the activations of the T cells that are normally responsible for transmission of pain impulses. When gates are open, pain impulses flow freely. When gates are closed, pain impulses become blocked. Partial opening may occur. A bombardment of sensory impulses, such as those from the pressure of a back rub, the heat or a warm compress, or cold ice, application, will close the gates to painful stimuli. On the basis of this theory the investigator has selected heat and cold therapy for this study. Diagrammatic sketch of gate control theory is shown in Diagram 2.

DIAGRAMMATIC SKETCH OF GATE CONTROL THEORY



CONCEPTUAL FRAME WORK BASED ON ORLANDO'S THEORY OF DELIBERATIVE NURSING PROCESS



CHAPTER III

METHODOLOGY

This chapter explains the methodology followed to evaluate the effectiveness of hot and cold application in relieving the perineal pain with postnatal mothers in Sir. Ivan Stedeford Hospital, Ambattur, Chennai. It consists of research approach, study design, the setting, the samples, the tools, pilot study, procedure for data collection and the plan for data analysis.

RESEARCH APPROACH

Evaluative research approach is used in this study. According to Polit and Hunger²⁰(1995). Evaluative research is an "applied" form of research. Its goal is to assess or evaluate the success of a programme. Thus the evaluative approach is used by the investigator to achieve the objective of the study by evaluating the effectiveness of hot and cold in relieving the perineal pain in mothers with episiotomy after each application, the effect of hot & cold application on the condition of the episiotomy incision and degree of discomfort while sitting, getting up, walking and voiding after each application.

RESEARCH DESIGN

The research design selected for this study was a Quasi - Experimental design which consists of only two aspects that is manipulation and control. In this study the investigator used this design with manipulating the application of hot and cold therapy on postnatal mothers with perineal pain who served

as their own control. Hot and cold therapy was applied on same mothers at the interval of four hours.

VARIABLES

The independent variable are the hot and cold application and the dependent variables are pain,discomfort, redness, swelling, ecchymosis, and exudate.

THE SETTING

The study is conducted in the postnatal ward at the Sir Ivan Stedeford hospital, Chennai.

POPULATION

The population for the study includes all the primi and multiparous mothers who have spontaneous vaginal delivery with episiotomy.

SAMPLE

The sample consists of the post natal mothers who had spontaneous vaginal delivery with episiotomy, admitted in the postnatal ward of Sir Ivan Stedeford Hospital, Ambattur, Chennai, within the period of the study.

SAMPLE SIZE

The sample comprises of forty postnatal mothers with episiotomy.

SAMPLING TECHNIQUE

Non probability sampling technique was used to select the sample. All postnatal mothers who were eligible for the inclusion criteria and available during the period of data collection (27th April 1998 to 26 May 1998) were selected for this study.

CRITERIA FOR THE SELECTION OF THE SAMPLE

The post natal mothers who had satisfied the following inclusion criteria were selected for the study.

INCLUSION CRITERIA

- Primi or multi parous mothers who have spontaneous vaginal delivery with episiotomy
- Postnatal mothers who had completed 24 hours

EXCLUSION CRITERIA

- Post natal mothers with assisted or instrumental delivery with episiotomy.
- Post natal mothers with postpartum haemorrhage.
- Post natal mothers with any medical disease.
- Post natal mothers with pregnancy induced hypertension & eclampsia.

TOOLS FOR COLLECTION OF DATA

The tools developed for the collection of data are presented under 4 section:-

- > **SECTION A** - consists part I and part II.
Part I : Format for demographic data collection
Part II : Format for details of delivery.
- > **SECTION B** - Observation check list to observe and document the condition of episiotomy incisions.
- > **SECTION C** - Format for perineal pain assessment and recording.

A modified Mc Gill's pain scale consisting of four scores 0-1-2-3 was used

- 0 score representing no pain
- 1 score representing mild pain
- 2 score representing moderate pain
- 3 score representing excessive pain

- > **SECTION D** - Formate for discomfort assessment and recording.

SCORE INTERPRETATION

For the collection of subjective and objective data, and to interpret the same after collection, certain scores were given.

To measure observation of episiotomy incision on redness, swelling, ecchymosis and exudate, observation checklist was used.

• **EPISIOTOMY INCISION OBSERVATION CHECK LIST:**

Excessive - 3

Moderate - 2

Mild - 1

Absence - 0

To measure perineal pain as said earlier a modified Mc Gillspain scale was used.

To measure the uneasiness of the mothers while sitting, while getting up, while walking and while voiding, discomfort scale was used.

• **DISCOMFORT SCALE**

Excessive - 3

Moderate - 2

Mild - 1

No discomfort - 0

CONTENT VALIDITY

The content was validated by three experts in the field of maternity. One of them was obstetrics & gynecologist of the hospital and other two were maternity nursing experts. Their suggestions for making four point scale and

assigning numbers in the observation check list, and discomfort scale were incorporated in the tools with the concurrence of all experts.

PILOT STUDY

Pilot study was conducted on six samples, which were not included in the actual study at Sir Ivan Stedeford Hospital, Ambattur, Chennai. It was done to test the validity and reliability of the tools. The reliability of the tools were tested by the investigator and another maternity nursing expert personnel who was trained in the use of the tools. There were not much difference in the observation made by the investigator and the trained maternity expert. Modification was done in the use of infrared lamp placement from distance of 24 inches to 18 inches from the perineum. Thus the tool was taken as reliable for the study.

DATA COLLECTION PROCEDURE

Formal permission was obtained from the Director of Sir Ivan Stedeford Hospital, Ambattur, Chennai, for conducting study (see appendix - b) Data collection period was four consecutive weeks from 27 th April 1998 - 26 th May 1998.

The data collecting procedure began with identifying the number of spontaneous vaginal delivery with episiotomy, and randomising of initial hot and cold therapy. The time planning for each therapy was done for selected

samples. The required materials for each therapy was prepared and kept ready for use.

Self introduction and information of the nature of the study was explained to each of the selected mother so as to get their co-operation in the procedure of data collection. *The investigator asked for pain in mother who had pain were included in the study.*

After an explanation of the hot and cold therapy to the perineal region of the mothers in the selected sample, then oral consent and willingness of the mothers to co-operate in the study was taken. All the mothers in the sample were willing to participate and co - operate with the investigator. The investigator in few places of the tools had written the spoken language Tamil in Hindi script for better communication with mothers who speak only Tamil. Some could understand English and Hindi.

A plan for conducting the study with mother were drawn: (Shown in Page 36).

The first mother was asked to empty the bladder. She was made comfortable in bed. Using observation checklist the condition of episiotomy incision was observed and documented. After providing perineal care she was given hot therapy using an infrared lamp 230 volts - 15 watts from distance of 18 inches from the episiotomy incision for 10 minutes. Immediately after hot application the observation and documentation of the condition of episiotomy was done using observation checklist. Uneasiness while sitting, getting up, walking and voiding were assessed and recorded using discomfort scale.

Using pain scale an evaluation of the effect of hot and cold application was done in a time series, immediately after the therapy, after an interval of half hour and after an interval of one hour.

Since there is time between observation of the first mother, a second mother was asked to empty bladder. She was made comfortable in the bed. Using the observation check list the condition of episiotomy incision was observed and documented. After providing perineal care a cold therapy using ice gloves covered with sterile soft clothes was applied directly on the perineum covering the episiotomy incision for 10 minutes.

Immediately after cold application the observation and documentation of the condition of episiotomy incision was done using the observation check list. Uneasiness while sitting, getting up, walking and voiding was done using the discomfort scale. Using the pain scale an evaluation of the effect of cold application was done in a time series, immediately after the therapy, after an interval of half hour and after an interval of one hour.

After an interval of four hours the first mother was given cold therapy following the same procedure as sated above and the second mother was given hot therapy.

In this way 40 mothers were given hot and cold therapy

- schematic representation of data collection procedure

Group	Time	Activities	Time	Activities After 4 hours
Post - natal mothers with episiotomy 24 hours after spontaneous vaginal delivery with episiotomy	8. Am	Mother : A • Observation and documentation of the condition of episiotomy incision.	12.00 noon	Mother :A • Observation and documentation of the condition of episiotomy incision
	8.10 Am	• Provide perineal care.	12.10Pm	• Provide perineal care
	8.20 Am	• Provide hot application. • First evaluation of the effect of hot application. Observation and documentation of the condition of episiotomy incision.	12.20 Pm	• Provide cold application. • First evaluation of the effect of cold application. Observation and documentation of the condition of episiotomy incision.
	8.50Am	Assessment and recording of degree of discomfort. • 2nd evaluation of the effect of hot application	12.50 Pm	Assessment and recording of degree of discomfort. • 2nd evaluation of the effect of cold application.
	9.20 Am	• 3rd evaluation of the effect of hot application	1.20 Pm	• 3rd evaluation of the effect of cold application
	8.25.Am	Mother : B • Observation and documentation of the episiotomy incision.	12.25 Pm	Mother : B • Observation and documentation of the episiotomy incision.
	8.35 Am	• Provide perineal care.	12.35 Pm	• Provide perineal care.
	8.45 Am	• Provide cold application. • First evaluation of the effect of cold application. Observation and documentation of the condition of episiotomy incision	12.45 Pm	• Provide hot application. • First evaluation of the effect of hot application. Observation and documentation of the condition of episiotomy incision
	9.15 Am	Assessment and recording of degree of discomfort. • 2nd evaluation of the effect of cold application.	1.15 Pm	Assessment and recording of degree of discomfort. • 2nd evaluation of the effect of hot application.
	9.45 Am	• 3rd evaluation of the effect of cold application.	1.45 Pm	•3rd evaluation of the effect of hot application.

PLAN FOR DATA ANALYSIS

The investigator planned to use the descriptive statistics which included the mean, standard deviation and percentage to assess the demographic and details of delivery variable and observation of episiotomy incision. In order to compare the effectiveness of hot and cold the plan was to use inferential statistics "t" paired test.

PLAN FOR DATA ANALYSIS

The investigator planned to use the descriptive statistics which included the mean, standard deviation and percentage to assess the demographic and details of delivery variable and observation of episiotomy incision. In order to compare the effectiveness of hot and cold the plan was to use inferential statistics "t" paired test.

TABLE I

FREQUENCY AND PERCENTAGE DISTRIBUTION OF POST EPISIOTOMY MOTHERS BY THEIR AGE, PARITY, EDUCATION,

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of the data collected from the selected samples of 40 post episiotomy mothers to evaluate the effectiveness of hot and cold therapy in relieving the perineal pain.

Descriptive and inferential statistics were used for analysing data on the basis of the objective of the study.

The analysis and interpretation of data is presented under the following seven sections.

SECTION - A : Description of the post episiotomy mothers by their demographic variables.

This section describes the post episiotomy mothers by their age, parity, education, and occupation.

Frequency and percentage were computed for describing their demographic variables.

Employed
Total

TABLE 1

FREQUENCY AND PERCENTAGE DISTRIBUTION OF POST EPISIOTOMY MOTHERS BY THEIR AGE, PARITY, EDUCATION, AND OCCUPATION

N=40

S.No	Description of demographic variables	No	%
1	<i>Age</i>		
	<20	7	17.5
	21-25	22	55.0
	>25	11	27.5
	Total	40	100
2.	<i>Parity</i>		
	Primiparous	30	75.0
	Multi parous	10	25.0
	Total	40	100
3.	<i>Education</i>		
	Illiterate	2	5.0
	Primary	3	7.5
	Middle school	15	37.5
	High school	10	25.0
	Graduate	10	25.0
	Total	40	100
4.	<i>Occupation</i>		
	House wife	39	97.5
	Employed	1	2.5
	Total	40	100

Data in table 1 depicts that 55% of post episiotomy mothers belong to age group of 21-25, 27.5% are >25 and only 17.5% belong to <20.

Out of 40 post episiotomy mothers 75% of them were primipara and 25% were multipara.

The education status reveals that 37.5% have middle school education, 25% have high school, 25% graduate, 7.5% have only upto primary and illiterate 5.0%.

On the analysis of occupational status 97.5 % of post episiotomy mothers were house wives and 2.5% employed

SECTION - 2 : Observation of the condition of episiotomy incision in post episiotomy mothers before and after application of hot and cold therapy.

This section describe the condition of episiotomy incision of post episiotomy mothers before and after application of hot and cold therapy.

TABLE 2.1

**OBSERVATION ON CONDITION OF EPISIOTOMY INCISION
BEFORE AND AFTER APPLICATION OF HOT THERAPY**

N=40

S. No	Observation on condition of episiotomy incision	Before application of hot therapy								After application of hot therapy							
		Excessive		Moderate		Mild		Absence		Excessive		Moderate		Mild		Absence	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1.	Redness	0	0	0	0	0	0	40	100	0	0	0	0	0	0	40	100
2.	Swelling	0	0	0	0	*1	2.5	39	97.5	0	0	0	0	1	2.5	39	97.5
3.	Ecchymosis	0	0	0	0	0	0	40	100	0	0	0	0	0	0	40	100
4.	Exudate	0	0	0	0	0	0	40	100	0	0	0	0	0	0	40	100

Table 2.1 Reveals that before hot therapy out of 40 post episiotomy mothers only one mothers (2.5%) had mild swelling in the episiotomy incision and 39 mothers (97.5 %) had no swelling. 100% of mothers had no redness, ecchymosis and exudate in the episiotomy incision. Because signs like redness, ecchymosis, and exudate were absence before hot therapy therefore these signs were not found after hot therapy. 2.5 % of mothers had mild swelling before therapy and it was a found same after hot therapy.

* No other source of infection observed.

TABLE 2.2

**OBSERVATION ON CONDITION OF EPIŖIOTOMY INCISION
BEFORE AND AFTER APPLICATION OF COLD THERAPY**

N=40

S. No	Observation on condition of episiotomy incision	Before application of cold therapy								After application of cold therapy							
		Excessive		Moderate		Mild		Absence		Excessive		Moderate		Mild		Absence	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1.	Redness	0	0	0	0	0	0	40	100	0	0	0	0	0	0	40	100
2.	Swelling	0	0	0	0	*1	2.5	39	97.5	0	0	0	0	1	2.5	39	97.5
3.	Ecchymosis	0	0	0	0	0	0	40	100	0	0	0	0	0	0	40	100
4.	Exudate	0	0	0	0	0	0	40	100	0	0	0	0	0	0	40	100

Table 2.2 Data in table 2.2 represents that 97.5 % of post episiotomy mothers had no swelling in the episiotomy incision before cold therapy and only 2.5 % of post episiotomy mothers had mild swelling. 100% of post episiotomy mothers had no redness, ecchymosis, and exudate in the episiotomy incision. Since, redness, ecchymosis, and exudate were absent before cold therapy they were not seen after cold therapy. Mild swelling was present in 2.5% of post episiotomy mothers, it was not reduced after cold therapy.

* No other source of infection observed.

SECTION : 3 Assessment of perineal pain in post episiotomy mothers, in a time series, after application of hot and cold therapy.

This section describes the perineal pain in post episiotomy mothers, in a time series, immediate, half hour and one hour after application of hot and cold therapy.

TABLE - 3

**ASSESSMENT OF PERINEAL PAIN IN POST EPISIOTOMY MOTHERS
IN A TIME SERIES, IMMEDIATE, HALF HOUR, AND ONE HOUR
AFTER APPLICATION OF HOT AND COLD THERAPY**

N=40

S. No	Perineal pain in a time series	After application of hot therapy								After application of cold therapy							
		Excessive		Moderate		Mild		No Pain		Excessive		Moderate		Mild		No Pain	
		No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
1.	Immediate after therapy	0	0	3	7.5	22	55.0	15	37.5	0	0	2	5.0	7	17.5	31	77.5
2.	Half hour after therapy	0	0	3	7.5	27	67.5	10	25.0	0	0	2	5.0	17	42.5	21	52.5
3.	One hour after therapy	0	0	3	7.5	31	77.5	6	15.0	0	0	2	5.0	20	50.0	18	45.0

Fig. 2 : PERINEAL PAIN IN POST EPISIOTOMY MOTHERS IMMEDIATELY AFTER HOT AND COLD THERAPY

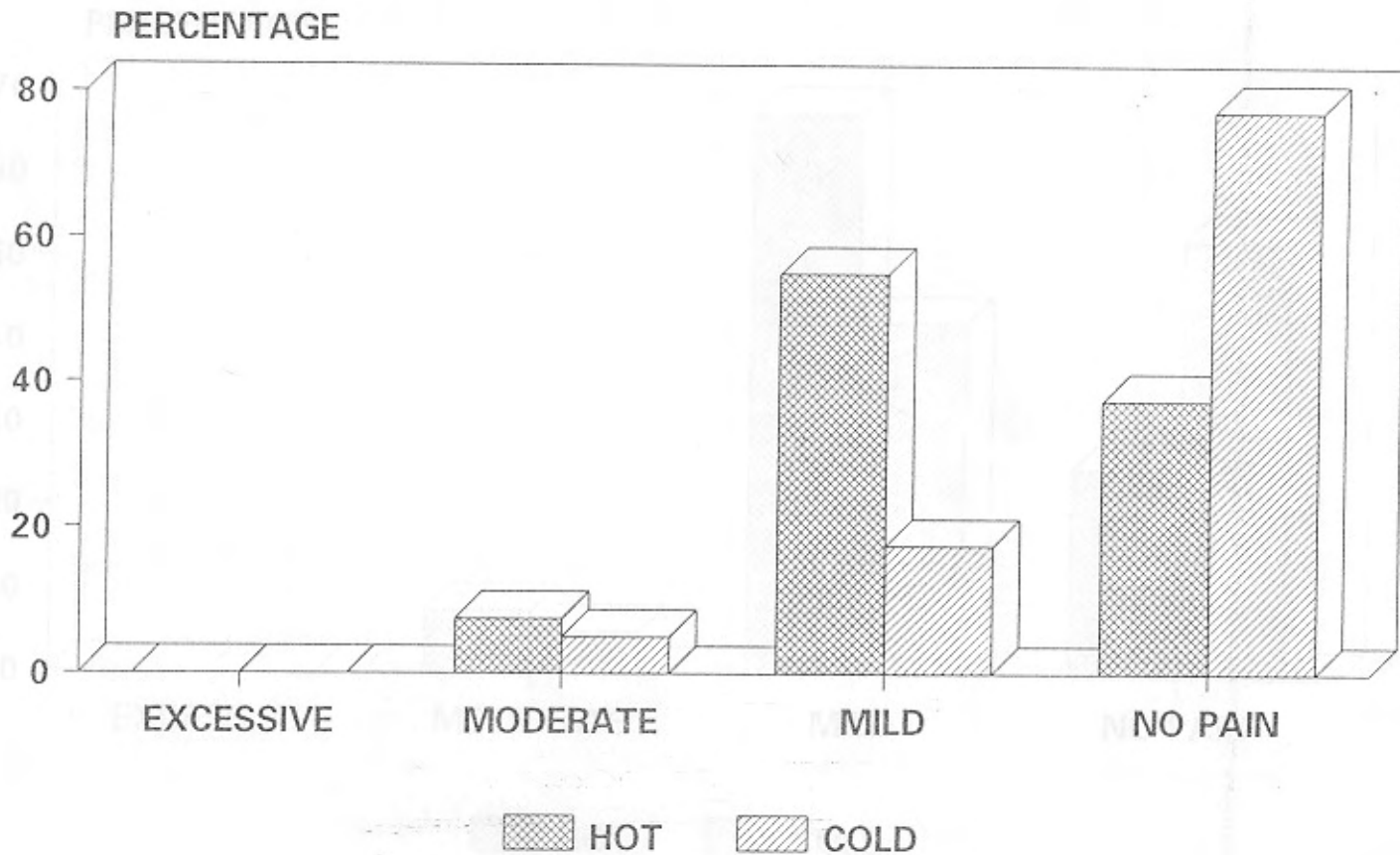
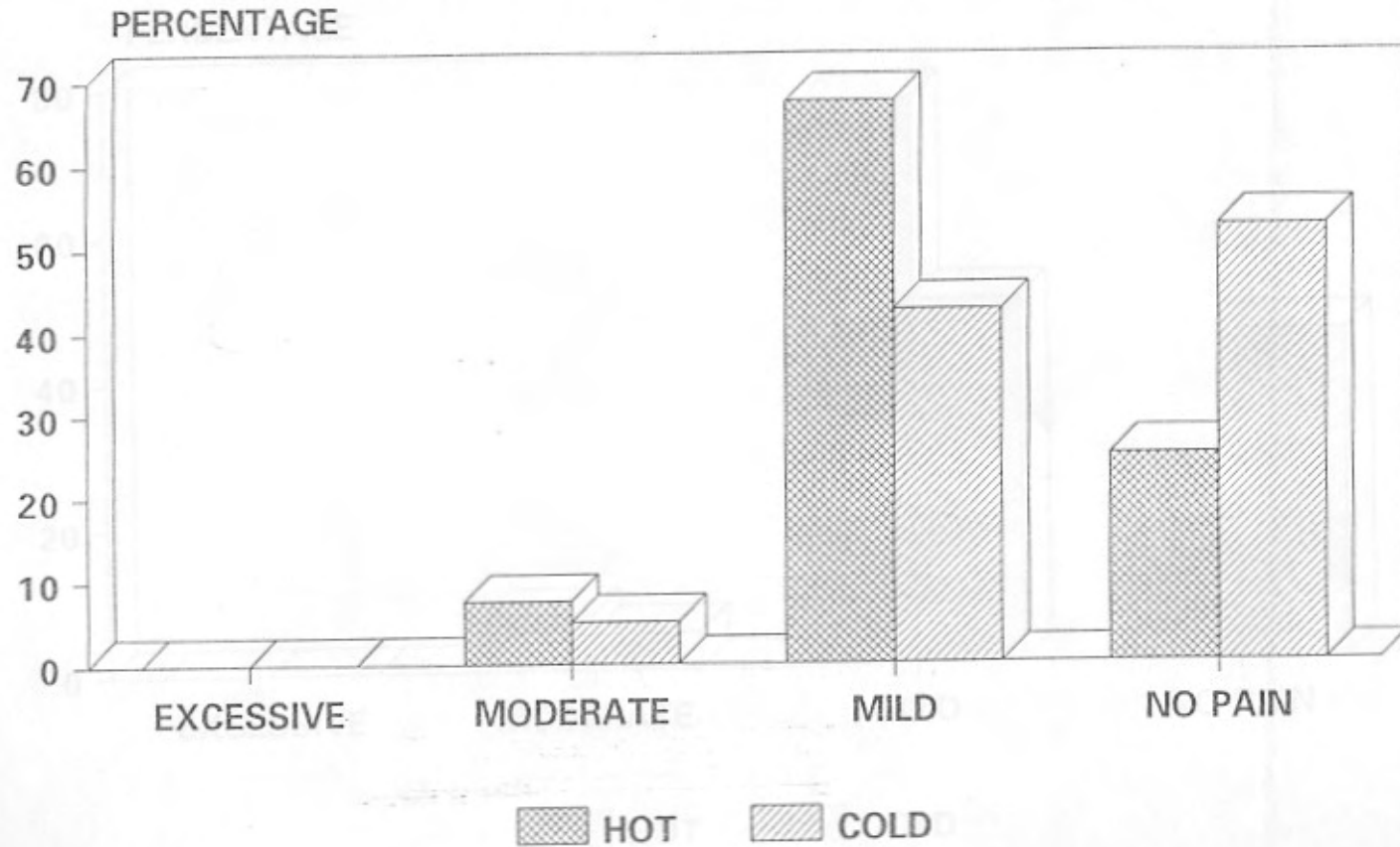


Fig. 3 : PERINEAL PAIN IN POST
EPISIOTOMY MOTHERS HALF HOUR
AFTER HOT AND COLD THERAPY



**Fig. 4 : PERINEAL PAIN IN POST
EPISIOTOMY MOTHERS ONE HOUR
AFTER HOT AND COLD THERAPY**

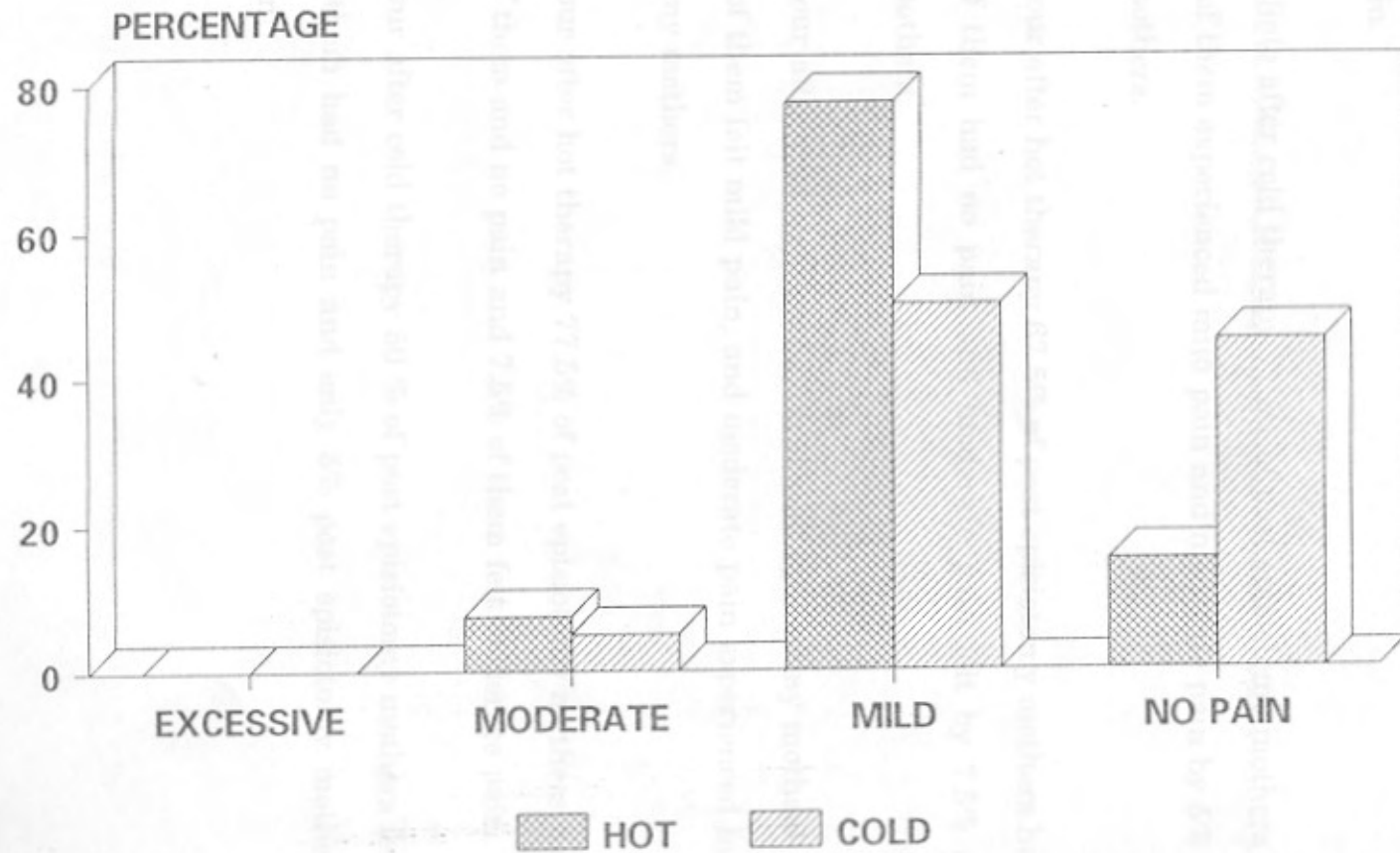


Table 3 reveals that immediate after hot therapy 55 % of post episiotomy mothers experienced mild pain, 37.5% of them had no pain and only 7.5% had moderate pain.

Immediate after cold therapy 77.5% of post episiotomy mothers had no pain, 17.5% of them experienced mild pain and moderate pain by 5% of post episiotomy mothers.

Half hour after hot therapy 67.5% of post episiotomy mothers had mild pain, 25% of them had no pain and moderate pain felt by 7.5% of post episiotomy mothers.

Half hour after cold therapy 52.5% of post episiotomy mothers had no pain, 42.5% of them felt mild pain, and moderate pain experienced by 5% of post episiotomy mothers.

One hour after hot therapy 77.5% of post episiotomy mothers had mild pain, 15 % of them and no pain and 7.5% of them felt moderate pain.

One hour after cold therapy 50 % of post episiotomy mothers felt mild pain, 45% of them had no pain and only 5% post episiotomy mothers felt moderate pain.

SECTION - 4 : Assessment for degree of discomfort in post episiotomy mothers after hot and cold therapy.

TABLE 4.2

This section describes the degree of discomfort experience by post episiotomy mothers while sitting, getting up, walking and voiding after hot and cold therapy.

TABLE 4.1

DEGREE OF DISCOMFORT IN POST EPISIOTOMY MOTHERS AFTER HOT THERAPY

N = 40

S. No.	Degree of discomfort experienced by post episiotomy mothers while	Degree of discomfort after hot therapy							
		Excessive		Moderate		Mild		No discomfort	
		No	%	No	%	No	%	No	%
1.	Sitting	1	2.5	7	17.5	20	50.0	12	30.0
2.	Getting up	0	0	10	25.0	17	42.5	13	32.5
3.	Walking	0	0	12	30.0	16	40.0	12	30.0
4.	Voiding	4	10.0	12	30.0	17	42.5	7	17.5

From table 4.1 it is seen that the degree of discomfort in post episiotomy mothers after hot therapy:

While Sitting: 50% of mothers felt mild discomfort.
30 % had no discomfort
17.5 % felt moderate discomfort
2.5 % experienced excessive discomfort

While getting up: 42.5% of mothers felt mild discomfort
32.5% had no discomfort
25 % had moderate discomfort

While walking: 40% Felt mild discomfort
30% felt moderate discomfort
30% had no discomfort

While voiding: 42.5% felt mild discomfort
 30 % Moderate discomfort
 17.5 % had no discomfort
 10% had excessive discomfort

TABLE 4.2

DEGREE OF DISCOMFORT IN POST EPISIOTOMY MOTHERS
 AFTER COLD THERAPY

N = 40

S. No.	Degree of discomfort experienced by post episiotomy mothers while	Degree of discomfort after cold therapy							
		Excessive		Moderate		Mild		No discomfort	
		No	%	No	%	No	%	No	%
1.	Sitting	1	2.5	3	7.5	20	50.0	16	40.0
2.	Getting up	0	0	4	10.0	18	45.0	18	45.0
3.	Walking	0	0	6	15.0	15	37.5	19	47.5
4.	Voiding	2	5.0	11	27.5	19	47.5	8	20.0

From table 4.2 it is seen that the degree of discomfort in post episiotomy mothers after cold therapy:

While Sitting: 50% of mothers felt mild discomfort.
 40 % had no discomfort
 7.5 % felt moderate discomfort
 2.5 % experienced excessive discomfort

While getting up: 45% of mothers felt mild discomfort
 45% had no discomfort
 10 % had moderate discomfort

While walking: 47.5 % had no discomfort
37.5% Felt mild discomfort
15% felt moderate discomfort

While voiding: 47.5% felt mild discomfort
27.5 % Moderate discomfort
20 % had no discomfort
5% had excessive discomfort

SECTION - 5

TABLE 5.1

COMPARISON OF THE EFFECT OF HOT ON THE CONDITION OF EPISIOTOMY INCISION BEFORE AND AFTER APPLICATION OF HOT THERAPY

N=40

S. No.	Condition of episiotomy incision	Before hot application		After hot application	
		Mean	Standard Deviation	Mean	Standard Deviation
1.	Redness	.00	.00	.00	.00
2.	Swelling	.025	.16	.025	.16
3.	Ecchymosis	.00	.00	.00	.00
4.	Exudate	.00	.00	.00	.00

Table 5.1 reveals that the mean value of swelling in the episiotomy incision was 0.025 with .16 standard deviation before application of hot therapy, and after application of hot therapy mean and standard deviation of swelling in the episiotomy incision was .025 and .16 respectively, it suggests that there is no significant difference between the effect of hot on the episiotomy incision before and after hot therapy. Other variables are not comparable because of their 0 value.

TABLE 5.2

COMPARISON OF THE EFFECT OF COLD ON THE CONDITION OF EPISIOTOMY INCISION BEFORE AND AFTER APPLICATION OF COLD THERAPY

N=40

S. No.	Condition of episiotomy incision	Before cold application		After cold application	
		Mean	Standard Deviation	Mean	Standard Deviation
1.	Redness	.00	.00	.00	.00
2.	Swelling	.025	.16	.025	.16
3.	Ecchymosis	.00	.00	.00	.00
4.	Exudate	.00	.00	.00	.00

Table 5.2 reveals that the mean value of swelling in the episiotomy incision was 0.025 with .16 standard deviation before application of cold therapy, and after application of cold therapy mean and standard deviation of swelling in the episiotomy incision was .025 and .16 respectively, it suggests that there is no significant difference between the effect of cold on the episiotomy incision before and after cold therapy. Other variables are not comparable because of their 0 value.

SECTION - 6

TABLE 6

COMPARISON OF THE EFFECT OF HOT AND COLD THERAPIES
IN A TIME SERIES, IMMEDIATE, HALF HOUR AND ONE HOUR
INTERVAL AFTER EACH APPLICATION

N=40

S. No.	Time series	Effect of hot		Effect of cold		Difference		't' Value
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
1.	Immediately after	.70	.61	.27	.55	.42	.59	4.52***
2.	Half hour after	.82	.55	.52	.60	.30	.56	3.36**
3.	One hour after	.92	.47	.60	.59	.32	.57	3.59***

* $P < .05$, ** $P < .01$, *** $P < .001$

The table 6 depicts that the mean immediate after hot application was .70 with .61 standard deviation and in the immediate after cold application it was .27 with standard deviation .55. The mean difference was .42 and standard deviation was .59.

The computed "t" value suggests there is highly significant difference between hot and cold application immediate after therapy, at $P < 0.001$ level.

Data in the table 6 communicates that the mean half hour after hot application was .82 with .55 standard deviation and half hour after cold application it was .52 with standard deviation .60. The difference mean and

standard deviation between half hour application of hot and cold therapy was .30 and .56 respectively.

The " t "^{value}_Λ was estimated to be 3.36 therefore this represents that statistically there is a significant difference between hot and cold therapy half hour after application at $<.01$ level.

Data in the table 6 reveals that the mean one hour after hot application was .92 with .47 standard deviations and one hour cold application the mean was .60 with standard deviation .59. The difference was .32 mean with standard deviation .57.

The computed " t " value suggest highly significant difference between hot and cold therapy one hour after application at $P <.001$ level.

SECTION - 7

TABLE 7

COMPARISON OF THE EFFECT OF HOT AND COLD THERAPY
AFTER EACH APPLICATION ON DEGREE OF DISCOMFORT
WHILE VARIOUS ACTIVITIES

S. No.	Degree of Discomfort while activities	Effect of hot		Effect of cold		Difference		't' Value
		Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	
1.	Sitting	.92	.76	.72	.72	.20	.52	2.45 *
2.	Getting up.	.92	.76	.65	.66	.27	.60	2.91 **
3.	Walking	1.00	.78	.67	.73	.32	.66	3.13 **
4.	Voiding	1.32	.89	1.17	.81	.15	.62	1.52 N.S

Table 7 Demonstrates that the mean discomfort while sitting after application of hot therapy was .92 with standard deviation of .76 and the mean of discomfort while sitting after application cold therapy was .72 with standard deviation of .72. The difference of mean and standard deviation between discomfort while sitting after hot and cold therapy was .20 and .52 respectively.

Computed "t" value suggests that there is significant difference between the effect of hot and cold therapy on discomfort while sitting, at $P < 0.05$ level.

The mean of discomfort while getting up after hot therapy was .92 with standard deviation of .76 and the mean after application of cold therapy while getting up shows .65 with standard deviation of .66. The difference of mean and standard deviation between discomfort while getting up after hot and cold therapy was .27 and .60 respectively.

Computed "t" value suggest that there is significant difference between the effect of hot and cold therapy after each application on discomfort while getting up, at $P < .01$ level.

The mean of discomfort while walking after hot therapy was 1.00 with standard deviation of .78 and the mean of discomfort while walking after cold therapy was .67 with standard deviation .73. The difference of mean and standard deviation between discomfort while walking after hot and cold therapy was .32 and .66 respectively.

Computed "t" value suggest that there is significant difference between the effect of hot and cold therapy on discomfort while walking, at $P < .01$ level.

The mean discomfort while voiding after hot therapy was 1.32 with standard deviation of .89 and mean of discomfort while voiding after cold therapy was 1.17 with standard deviation of .81. The difference of mean and standard deviation between discomfort while voiding after hot and cold was .15 and .62.

Computed "t" value 1.52 signifies that there is no significant difference between the effect of hot and cold on discomfort while voiding.

CHAPTER V

DISCUSSION

The discussion of the study is based on the findings obtained from the statistical analysis. The objective of this study was to evaluate the effect of hot and cold application in relieving perineal pain.

Demographic data showed that 75% of post episiotomy mothers were primiparous. Most of the mothers in the sample were between the age of 21-25 years, 97.5% of them were house wives with middle school education.

The first objective of this study was to observe and document the condition of the episiotomy incision before and after hot and cold application. After observation of condition of episiotomy incision, the results showed that redness, ecchymosis, and exudate in the episiotomy incision were absent in 100% of mothers before and after hot and cold therapy. 97.5% of mothers had no swelling in the episiotomy incision, mild swelling in the episiotomy incision was present in 2.5% of mothers before and after hot and cold therapies. It is found that there was no change in the mild swelling after both hot and cold therapies. The reason for this might be time factor because the effect was evaluated immediately after therapy.

The study finding of LaFoy-J⁵⁰ revealed that both hot and cold therapies were found comparable, with the exception of that the cold bath was significantly more effective in reduction of edema. But in the present study computed 't' value suggest that there is no significant difference between the

effect of hot and cold, on swelling in the episiotomy incision. Others variables like redness, ecchymosis, and exudate are not comparable because of their 0 values. Hill P.D⁴³ (1989) found in his study that there was no difference in REEDA (redness, edema, ecchymosis, discharge and approximation) scores before or two hours after treatment, which support this study.

Second objective was to alternately give hot and cold application for each mother with episiotomy at four hourly intervals. The objective was achieved by providing hot and cold therapies alternately for each mother with episiotomy at four hourly intervals.

Third objective was to evaluate the effectiveness of hot and cold application for perineal pain in a time series: immediate, half hour, and one hour intervals after each application. The effect of hot and cold therapies was evaluated and compared in relieving perineal pain and degree of discomfort while sitting, getting up, walking and voiding.

Immediately after evaluation of hot and cold therapies, the result revealed that majority, 22 (55%) of the post episiotomy mothers felt mild pain, where as after cold therapy majority, 31 (77.5%) of mothers had no pain. It is seen that cold therapy was more effective in relieving perineal pain immediately after application, because out of 40 mothers 31 (77.5%) of them had no pain.

Half hour after evaluation of hot and cold therapies it is found that majority 27 (67.5%) of mothers experienced mild pain, where as after cold therapy most of the mothers 21 (52.5%) had no pain. The result demonstrate that cold therapy was more effective even half hour after application.

One hour after evaluation of hot and cold therapies, the results showed that majority 31 (77.5%) of mothers felt mild pain and 6(15%) of them had no pain after hot therapy, where as after cold therapy most of the mothers, 20(50%) felt mild pain and 18 (45%)of them had no pain. It reveals that cold therapy was more effective even one hour after application. This finding also suggests that cold effect remained longer. According to Mc Caffery (1989) cold relieves pain at a faster rate; once it is removed, relief from pain last longer.

The null hypothesis of this study was there is no significant difference between the effect of hot and cold application for relief of perineal pain.

The effect of hot and cold was evaluated and compared for its effectiveness in a time series, immediate, half hour and one hour intervals after each applications.

After comparison between the effect of hot and cold therapies in relieving perineal pain, immediately after each application, the mean difference between the hot and cold was .42 with standard deviation .59. The calculated 't' value 4.52 suggests that cold therapy is significantly more effective in relieving perineal pain immediately after application at $P < 0.001$ level and

null hypothesis was rejected. The immediate effect of cold therapy in relieving perineal pain were significantly greater than hot therapy.

Low mean value .27 after cold application compare to .70 mean value after hot application indicates that the greatest amount of perineal pain relief was experineded immediately after cold application. The finding of this study is supported by the finding of Ramler D⁶² (1986), in which he found that cold sitz baths were significantly more effective in relieving the perineal pain.

Qn comparison of the effect of hot and cold therapies in relieving perineal pain half hour after each application, the mean difference between the hot and cold therapies was .30 and standard deviation was .56. The 't' value computed was found 3.36 which indicates that there is significant difference between the effect of hot and cold therapies half hour after application, at $P < 0.01$ level and null hypothesis was rejected. The mean value. 52 after cold therapy lower than mean value .82 after hot therapy confirmed that cold therapy was effective in relieving perineal pain even half hour after application. This finding does not coincide with Ramler D's⁶² findings which showed no significant difference between the hot and cold baths half hour after application.

In comparing the effect of hot and cold therapy in relieving perineal pain one hour after application, the mean difference between the two therapies was .32 with standard deviation .57. The test significance 't' value 3.59 explains that there is highly significant difference between the effect of hot and cold at $P < 0.001$ level and null hypothesis was rejected. it indictes that cold therapy

is more effective in relieving perineal pain. This findings rejects the finding of Ramler D⁶² which demonstrate there was no significant difference between hot and cold baths one hour after application.

The effect of hot and cold on degree of discomfort in post episiotomy mothers while sitting, getting up, walking and voiding were assessed. The findings of discomfort while sitting showed 50 % of mothers felt mild discomfort and 2.5% them had excessive discomfort after both hot and cold therapies. However, 30% of mothers had no discomfort after hot therapy and 40 % of them had no discomfort after cold therapy. The mean difference between the effect of hot and cold therapy on discomfort while sitting was .20 with standard deviation .52. Computed 't' value suggest that there is significant difference between hot and cold therapies on discomfort while sitting at $P < 0.05$ level.

The effect of hot and cold therapies on discomfort while getting up is as follows: excessive discomfort was not felt by any mothers after both hot and cold therapies; majority 42.5% of mothers had mild discomfort after hot therapy, 45 % of them had no discomfort, and mild discomfort was felt by 45% of mothers. The mean difference between the effect of hot and cold therapies on discomfort while getting up was .27 and standard deviation .60. The test of significance 't' value 2.91 shows that there is significant difference between the two therapies on discomfort while getting up at $P < .01$ level.

The effect of hot and cold therapies on discomfort while walking: excessive discomfort was not felt by any post episiotomy mother after hot and

cold therapies. Majority 40% of them experienced mild discomfort, 30% had no discomfort after hot therapy, after cold therapy majority 47.5% of mothers had no discomfort and 37.5% of them felt mild discomfort. The mean difference between the effect of hot and cold therapies on discomfort while walking was .32 and standard deviation was .66. The test significance 't' value 3.13 indicates that there is significant difference between the effect of two therapies while walking at $P < .01$ level.

The effect of hot and cold on discomfort while voiding: most of the mothers felt mild and moderate discomfort after hot and cold therapies. After hot therapy 42.5% of mothers felt mild discomfort and moderate discomfort was felt by 30 % of them. After cold therapy 47.5% of mothers experienced mild discomfort and 27.5 % of them had moderate discomfort. the mean difference between the effect of hot and cold on discomfort while voiding was .15 with .62 standard deviation. Calculated 't' value 1.52 confirms that there is no significant difference between the effect of hot and cold therapies on discomfort while voiding.

Above findings showed that after cold therapies more mothers are comfortable while getting up, and walking, compared to while sitting and voiding. Not a single post episiotomy mother felt excessive discomfort while walking and getting up.

In this study the investigator found that post episiotomy mothers experienced more discomfort while voiding than other three activities included in the study.

In this study cold therapy was found to be more effective in relieving the discomfort of mothers while performing various activities as mentioned in this study except while voiding. Though the discomfort scores were numerically lower from cold therapy, statistically it does not show significant difference between the two therapies.

Nam H.K and Park YS⁵⁷ (1991) found in their study that ice bag was more effective than heat lamp in relieving perineal discomfort and support the finding of this study.

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS

SUMMARY

High percentage of mothers under went episiotomy during child birth. Though episiotomy is an intervention in some of the maternal and fetal indications it also has some unfavourable consequences like perineal pain, discomfort, and episiotomy wound infection. Perineal pain may be present in varying degree in post episiotomy mothers and interfere with the daily activities of mothers. Minimizing perineal pain, episiotomy wound infection and promoting the wound healing, the nurse can help the mother to get relief from suffering. By keeping this concept in mind, the investigator conducted the study to evaluate the effectiveness of hot and cold applications in relieving the perineal pain. In this study cold therapy is found more effective in relieving perineal pain and discomfort while sitting, getting up, walking and voiding.

The objectives of the study were to observe and document the condition of the episiotomy incision before and after application of hot and cold therapies, to alternately give hot and cold application for each mother with episiotomy at four hourly intervals, to evaluate the effectiveness of hot and cold application for perineal pain in a time series, immediate, half hour, and one hour interval after each application and to evaluate the degree of discomfort in episiotomy mother after hot and cold therapy,.

The null hypothesis formulated was, there is no significant difference between the effect of hot and cold application for relief of perineal pain.

Conceptual frame work is based on Orlando's theory of the deliberative nursing process, which includes clients behavior, nurse reaction and nurse action. Clients express verbally or non verbally some unmet needs. To meet these needs nursing process is used by the nurse. Research approach was evaluative in nature to evaluate the effectiveness of hot and cold therapy. Quasi experimental design was used in which hot and cold therapy were manipulated on post episiotomy mother with perineal pain, who served as their own control. Non probability sampling technique was adopted and sample size was 40. The tools developed were; format for demographic data collection to collect demographic data; format for details of deliveries to collect delivery details; observation checklist to assess and document the condition of episiotomy incision; format for pain assessment to assess perineal pain and format for degree of discomfort assessment to assess the degree of discomfort while sitting, getting up, walking and voiding. The investigator in few places of the tools had written the spoken language Tamil in Hindi script for better communication with mothers who speak only Tamil. Some could understand English and Hindi. The content validity was obtained from experts and the reliability tested by the pilot study. The study was conducted at postnatal wards of Sir Ivan Stedeford Hospital. The data collected was tabulated, analysed and interpreted. Findings revealed there is highly significant difference between hot and cold therapy in relieving the perineal pain,

indicating that the amount of pain relief was significantly greater after cold therapy.

CONCLUSION

The present study revealed that :

- 75% of post episiotomy mothers were primiparous.
- Majority 55% were between the age of 21-25 years of age.
- Educational status 37.5% had middle school education.
- Occupational status 97.5% were housewives.

Calculated 't' value suggests that there is no significant difference between the effect of hot and cold on mild swelling in the episiotomy incision before and after hot and cold therapy.

There was statistically high significance between hot and cold therapy immediately after application at $P < 0.001$ level, half hour after at $P < 0.01$ level and one hour after therapy at < 0.001 level.

All three results indicate that the amount of pain relief was significantly greater after cold therapy.

For discomfort while sitting, getting up and walking, the calculated 't' value explain that there is significant difference between the effect of hot and cold therapy. However while voiding no statistically significant difference was found between the effect of hot and cold.

IMPLICATION

The findings of the study has implication in the field of nursing service, nursing education, nursing research and nursing administration.

Implication for nursing practice : The findings of the study explain that cold therapy is more effective in relieving the perineal pain. More pain relief was experienced after cold therapy. By implementing the findings of this study in the clinical practice during the management of perineal pain large numbers of mothers could be benefitted. Past episiotomy mothers are able to manage their episiotomy incision if they get information and encouragement from the nurses about hot and cold therapy and perineal hygiene.

Nursing education, maternity practice could be strengthened including the current concept of perineal pain management. Thus enables the students to provide current information to the clients and also apply it in the clinical practice.

Nursing Administration: By providing in service education to the nursing staff with latest concept, nursing administrator could help them in updating their knowledge. For conducting in service education, nurse administrator has an important role to allocate the budget. The administrator could facilitate required resource in maternity ward (postnatal units) for the above care . Adequate staffing ratio will enhance quality care.

Nursing Research : The findings of the research study will help in building and strengthening the body of knowledge in the discipline of nursing. The findings of the study are tested for their usefulness by nurses in the clinical practice by proper implementation.

LIMITATION

The brief questions in Tamil framed for eliciting the subjective symptoms of pains and discomfort were over come by writing in Nepali's script and using the Tamil words on practicing with class mates. Only 3 mothers had difficulty in following the investigator questions and staff on duty were helpful.

RECOMMENDATIONS

Based on the finding of the study the investigator proposes the following recommendations.

1. Study can be replicated on larger samples in different settings.
2. Same study can be conducted with an experimental research approach.
3. The effect of hot and cold on episiotomy incision (Reeda) can be assessed for consecutive days.
4. Other nursing measure like a simple relaxation technique for relieving post episiotomy pain can be done providing structured teaching.
5. Effect of perineal massage in the last 6 weeks of pregnancy in decreasing the need of episiotomy can be assessed.

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UNPUBLISHED DISSERTATION

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✓ The Director
Sir Ivan Stedeford Hospital
Ambattur
Chennai 600 053.

Sir,

Mrs.Purnakala Sarma is the student of M.Sc.(Nursing) of this College. She is conducting a study on

a "A comparative study on the effect of hot and cold application for the perineal pain in mother with episiotomy in the post-natal ward of Sir Ivan Stedeford Hospital"

This is for her research project to be submitted to the Tamilnadu Dr.M.G.R.Medical University requirement for the award of the M.Sc.(Nursing) Degree and will be beneficial in improving the nursing care of patient.

Permission may kindly be granted to her to conduct the above study. The hospital norms, eyhics, policies practised by your institution shall be adhered by our student.

Thanking you,

Yours sincerely,

A.Raman
PRINCIPAL.

OMAYAL ACHI COLLEGE OF NURSING

Copy to:

Head of the Department
Maternity UNIT (06244)
Sir Ivan Stedeford Hospital.



Phone : { 680980
680256

SIR IVAN STEDEFORD HOSPITAL

AMBATTUR, CHENNAI - 600 053

Date 30.4.98

C E R T I F I C A T E

This is to certify that Mrs.Purnakala Sarma, M.Sc.(Nursing), Omayal Achi College of Nursing, Chennai is permitted to conduct research study on

"A comparative study on the effect of hot and cold application for the Perineal pain in mother with episiotomy in the post-natal ward of Sir Ivan Stedeford Hospital".

Dr. S. VASUDEVAN, MS., FICS.,
DIRECTOR.

DIRECTOR
SIR IVAN STEDEFORD HOSPITAL
AMBATTUR, CHENNAI-600 053



APPENDIX C

LIST OF EXPERTS FOR CONTENT VALIDITY OF THE TOOLS USED FOR THE STUDY

1. **Prof. Mrs. Deenama Koshy**
Vice Principal
Omayal Achi College of Nursing
Satyamoorthy Nagar, Avadi, Chennai.
2. **Prof. Kamala Saini**
Professor and Head of the Dept., Maternity
College of Nursing
CMC, Ludhiana.
3. **Dr. E.S. Thylambal**
No.9, Nagi Reddy Street
Sri Devi Karumari AmmanNagar
Valasaravakkam, Chennai-87.

APPENDIX D

LETTER SEEKING EXPERTS OPINION FOR
CONTENT VALIDITY OF THE TOOLS

From

Mrs. Purna Kala Sharma
II Year, M.Sc., (N)
Omayal Achi College Nursing,
Avadi, Chennai - 600 062.

To

.....
.....
.....

Respected Sir/Madam,

**Sub : Requisition for expert opinion and suggestion for
content validity of the tools.**

I am a student of M.Sc., (Nursing), II Year, at the Omayal Achi College of Nursing, Avadi, Chennai - 600 062, affiliated to the Dr.M.G.R. Medical University, Chennai.

As a partial fulfillment of the M.Sc. (Nursing), programme, I am conducting a study on, "A COMPARATIVE STUDY ON THE EFFECT OF HOT AND COLD APPLICATION ALTERNATELY FOR PERINEAL PAIN IN MOTHERS WITH EPISIOTOMY IN THE POST NATAL WARD OF S.I. STEDEFORD HOSPITAL, AMBATTUR, CHENNAI."

Herewith I am sending the developed tools for content validity and for your expert opinion and possible suggestions.

I will be very kind of you to return the same to the undersigned by

.....

Thanking you,

Yours sincerely,

Enclosures :

(Mrs. PURNA KALA SHARMA)

1. Blue Print of the Tools
2. Stamped Envelope

APPENDIX E
DATA COLLECTION TOOLS

SECTION A

PART I

Name

Age

Parity

Bed NO.

Ward

Date of Admission

In patient NO

Education - Illiterate /primary/Middle School/High School/Graduate

Occupation - House wife/Service holder.

Address :

PART II DETAILS OF DELIVERY

Nature of Delivery

Date of Delivery

Time of Delivery

Who perform episiotomy

- Type of episiotomy

Reason for performing episiotomy

Sex of the baby - Male / Female

SECTION B

Episiotomy incision condition observation scale 0-3

Excessive = 3

Moderate = 2

Mild = 1

Absence = 0

S.No.	Criteria	Hot Application		Cold application	
		Before	After	Before	After
i.	Redness around the episiotomy incision				
1.1	Redness extend beyond the suture line of the episiotomy incision.3				
1.2	Redness limited within the suture of the episiotomy incision. 2				
1.3	Redness over the one or two suture of the episiotomy incision 1				
1.4	Redness is not present 0				
2.	Swelling around the episiotomy incision 3				
2.1	Swelling extend beyond the suture of the episiotomy incision 3				
2.2	Swelling is limited within the sutures of the episiotomy incision 2				

S.No.	Criteria	Hot Application		Cold application	
		Before	After	Before	After
2.3	Swelling is limited within one or two sutures of episiotomy incision 1				
2.4	There is no swelling 0				
3.	Ecchymosis in the area of episiotomy incision				
3.1	Ecchymosis is greater than 1 cm. around or 2 cm unilaterally.3				
3.2	It is between 0.25 cm to 1 cm around or between 0.5 to 2. cm unilaterally 2				
3.3	It is within 0.25 cm around the incision or 0.5 cm unilaterally 1.				
3.4	It is not present 0				
4.	Exudate:				
4.1	Bloody purulent discharge from the incision of episiotomy 3				
4.2	Serosanguinous discharge from the episiotomy incision 2				
4.3	Serum discharge from the episiotomy incision 1				
4.4	There is no discharge 0				

SECTION C - PAIN SCALE - 0.3

Excessive = 3

Moderate = 2

Mild = 1

No pain = 0

1. After Hot application	3	2	1	0
How much pain are you feeling now? Immediate after hot application Half hour after hot application One hour after Hot application				
2. After Cold application	3	2	1	0
How much pain are you feeling now - Immediate after Cold application - Half hour after cold application - One hour after cold application				

SECTION - D

DISCOMFORT SCALE 0.3

Excessive = 3

Moderate = 2

Mild = 1

No discomfort = 0

Hot Cold

S.No.	Criteria	After Hot Application	After Cold Application
1.	How much of discomfort did you have while sitting after hot/cold application		
1.1	Discomfort was not managed with support.3		
1.2	Had discomfort but managed with support		
1.3	Had discomfort but managed without support 1		
2.	How much of discomfort did you have while getting up after hot/cold application		
2.1	Got up with the help of assistant but experienced some difficulty.3		
2.2	Had discomfort but got up with the help assistant without difficulty.2		
2.3	Had discomfort but got up without assistant		
3.	How much of discomfort did you have while walking after hot/cold application		
3.1	Walks slowly because of difficulty 3		

S.No.	Criteria	After Hot Application	After Cold Application
3.2	Had discomfort but able to walk with some difficulty 2		
3.3	Had discomfort but able to walk without difficulty 1		
4.	How much of discomfort did you have while voiding after hot/cold application		
4.1	Passed urine in standing position-3.		
4.2	Passed urine in sitting position with tolerable discomfort.2		
4.3	Passed urine insisting position with some discomfort.1		

ABSTRACT

A comparative study was conducted to determine the effectiveness of hot and cold therapies in alleviating the perineal pain of mothers with episiotomy at postnatal wards of Sir Ivan Stedeford Hospital, Ambattur, Chennai, as partial fulfillment of requirement for the Degree of Master of Science in Nursing from Dr. M.G.R. Medical University, Chennai by Purnakala Sharma.

The objectives of the study were

- (a) to observe and document condition of episiotomy incision before and after hot and cold application,
- (b) to alternately give hot and cold application for each mother with episiotomy at four hourly intervals,
- (c) to evaluate the effectiveness of hot and cold application for perineal pain in time series, immediate, half hour, and one hour interval after each application and
- (d) to evaluate the degree of discomfort in post episiotomy mothers after hot and cold therapy.

The null hypothesis formulated was that there is no significant difference between the effect of hot and cold application for relief of perineal pain. A conceptual frame work was developed based on Orlando's deliberative nursing process.

Primi or multiparous mothers who had spontaneous vaginal delivery with episiotomy after completion of 24 hours were included in the sample. Forty mothers were randomly assigned to participate in the initial hot and cold therapies.

Mothers were provided perineal care before application of hot and cold therapies. The observation and documentation of the condition of episiotomy incision were done before and after each therapy, using observation check list, on a four point scale 0-3 (absence, mild, moderate, excessive), 0 for absence and 3 for excessive.

The effect of hot and cold therapies were evaluated in a time series, immediate, half hour and one hour after each application using a modified McGill's 4 point pain scale consisting 0-3, 0 representing no pain and 3 excessive pain.

Degree of discomfort for mothers while sitting, getting up, walking and voiding were also assessed using a discomfort scale, which consists 0-3, 0 represent no discomfort and 3 excessive discomfort.

Analysis of observation on condition of episiotomy incision showed that there is no significant difference between the effect of hot and cold on the condition of episiotomy incision.

After analysis of the effectiveness of hot and cold application in relieving perineal pain, the finding showed that there is highly significant difference between the effect of hot and cold on time series. Cold therapy is significantly more effective in relieving perineal pain.

Analysis of degree of discomfort while sitting, getting up, walking, it was found that cold therapy was significantly effective in alleviating the discomfort. However discomfort while voiding had no statistical significance between the effect of hot and cold therapy.

