EFFECTIVENESS OF NORMAL SALINE IN HEALING OF EPISIOTOMY WOUND AMONG POSTNATAL MOTHERS AT GOVT. HOSPITAL FOR WOMEN & CHILDREN, CHENNAI-8"

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CERTIFICATE

This is to certify that this dissertation titled "**A STUDY TO ASSESS THE EFFECTIVENESS OF NORMAL SALINE IN HEALING OF EPISIOTOMY WOUND AMONG POSTNATAL MOTHERS AT GOVT. HOSPITAL FOR WOMEN & CHILDREN, CHENNAI-8.",** is a bonafide work done by **Mrs. James Beula**, College of Nursing, Madras Medical College, Chennai-600 003, submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai in partial fulfilment of the University rules and regulations towards the award of the degree of Master of Science in Nursing, Branch III, Obstetrics and Gynaecological Nursing, under our guidance and supervision during the academic period from 2012-2014.

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"Blessed is the man who trusts in the Lord and has made the Lord his hope and confidence."

-Jeremiah:17.7

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-Pslam:86.12

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ABSTRACT

Background: To assess the effectiveness of normal saline in healing episiotomy wound among postnatal mothers. Pregnancy and child birth are special events in women's lives. Episiotomy continues to be a frequently used procedure in Obstetrics and Gynaecology despite little scientific support for its routine use. 60 postnatal mothers were selected in Govt. Hospital for Women & Children. **Method:** True experimental design was utilized and data collected by random Sampling method by using the structured interview method. The collected data were analyzed by descriptive and inferential statistics. **Results:** In pre test mean value of episiotomy wound healing score in experimental group is 13.30 and the SD score was 1.06 were as in control group is 13.63 and the SD score .93 respectively. The calculated't' value is 1.29 P=0.19, this difference is small and it is not statistically significant. In post test mean value of episiotomy wound healing score in experimental group is 0.93 and the SD score was .87 were as in control group is 4.53 and the SD score 1.93 respectively. The calculated 't' value is 9.33 P=0.001, this difference is statistically significant. Statistically there is a difference between experimental group and control. Assess the effectiveness of normal saline of healing episiotomy wound of experimental and control group was (82.5-60.6) =21.9% **.**

Conclusion: Application of normal saline in healing of episiotomy wound is very effective among postnatal mothers. This difference was associated in experimental and control group.

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LIST OF ABBREVIATION

S/NO	ABBREVIATIONS	EXPANSION
1.	DF	Degrees of freedom
2.	SD	Standard deviation
3.	CI	Confidence Interval
4.	FIG	Figure
5.	H1 & H2	Research Hypothesis
6.	M. Sc (N)	Master of science in Nursing
7.	X^2	Chi-square test
8.	No	Number

CHAPTER-I
INTRODUCTION

*"**The history of man for the*** nine ***months preceding his birth would, probably be far more interesting and contain events of greater moment than all the three scores and ten years that follow it".***

-Samuel Taylor Coleridge.

Pregnancy is a long and very exciting special journey for an antenatal woman. Maternity services should support the mother, her baby and her family during this journey with a view not only to their short-term safety but also to their long-term well being (UK Department of Health 1993).

In a dynamic society where values, rules and practices concerning childbearing and rearing are changing rapidly, women and their families seek guidance from many sources. However, women rely on maternity nurses to provide specific, accurate and appropriate information about what they should expect and request from the health care system, and about what choices they have regarding their own care.

For some years now, there has been increasing pressure on midwifery and other allied health care professions to make clinical practice more firmly grounded on research evidence rather than on time – honoured ritual, on the basis that patient care and the profession's status can only be enhanced through the development and implementation of relevant, scientifically derived findings. (Hicks Carolyn, 1994).The report of the committee on nursing encouraged the pursuit of research and 'Research Mindedness'. Individual accountability requires maternity nurses to examine the care they provide, It is therefore, important that maternity nurses have access to reliable research based knowledge. Since 1975, there has been an increase in the number of studies, in investigation midwifery practice, (Haris, 1992).

A complex series of events occur with child-birth. One such event is the practice of episiotomy, which has undergone changes in popularity, with rationale for clinical practice not always based upon available scientific evidence. Perineal injury, including episiotomy, has long been accepted as a standard outcome of vaginal delivery. Episiotomy defined as an incision of the perineum during delivery to enlarge the vaginal orifice, has been, in practice since 1742, when a perineal incision was used to facilitate difficult deliveries. However, episiotomy did not become common until the early 1900s when the shift from home to hospital delivery occurred. The popularity of episiotomy among obstetricians continued to grow with the introduction of local anaesthetic and suture material and as a result of advocacy for its performance by two obstetricians, DeLee and Pomeroy (Maier, 1997). It was claimed that an episiotomy should be performed for every women delivering her first child to avoid perineal lacerations and damage to the pelvic floor.

The prevention of perineal trauma is very much at the forefront of midwifery care. It gives many midwives a sense of pride to complete a birth with no perineal trauma. However, this should not be at the expense of trauma to the vaginal mucosa. Episiotomy rates up to 100% have been reported and vary among countries and institutions.

Over 20 years period in the UK, the incidence increased from a national rate 21% in 1958 to as high as 91% in some centres in 1978. In 1967, the Central Midwives Board ruled that midwives could perform episiotomies in emergency situations (MacFarlane and Mugford,1984). Episiotomy rates varied appreciably throughout regions and hospitals in UK ranging from 26% to 67% between1993-1994. Compared with white women, women from the Indians sub-continent were almost twice as likely and those from orient almost 5 times as likely to have to have an episiotomy (Williams, 1998).

Though the Indian statistics on the episiotomy rate is unavailable, it is evident that most of the hospitals carry out episiotomy as a routine procedure especially in primi mothers. In 1983 it was estimated that in USA, 50-90% of

primiparae and 25-30% of multiparae had episiotomy. However, during the same period less than 20% of women having a home delivery had an episiotomy. In South Australia, for hospital confinements in 1991, an overall rate of 23% was noted; in New South Wales the rate was 19% and in Victoria, 18% rate was reported.

Episiotomy is one of the most common procedures done during childbirth to avoid further complication. It is performed during the second stage of labour. The first performance of episiotomy was done in 1742, when perineal incision was used to facilitate deliveries. Episiotomy shortens the pushing phase and thus reduces the chance of oxygen deprivation in the baby and also it protects the foetal skull and brain from damage as it is "thrust against" the pelvic floor. Episiotomy can be at midline or at an angle from the posterior end of the vulva, performed under local anaesthesia and it is sutured closed after delivery. The type of episiotomy includes medio-lateral, median, lateral and J shaped episiotomy. Among this medio-lateral episiotomy is done commonly. Each type of incision has its advantages and disadvantages.

The reason for Episiotomy was usually to prevent wide spread trauma – rigid perineum or to expedite birth for fetal or maternal reasons.
There is no doubt that episiotomy is useful in certain situations.

1. Where perineal acceleration is imminent – a ragged laceration is Substituted by a straight clean surgical incision.
2. For prevention of severe trauma, particularly third and fourth degree perineal tears.
3. For prophylaxis against future pelvic relaxation.
4. To shorten the second stage of labour.
5. To facilitate delivery in forceps application, breech presentation, large babies and fetal distress.

The 17th edition of Williams' Obstetrics in defence of episiotomy, states that it can be said with certainty, that since the era of hospital deliveries with episiotomy, there has been an appreciable decrease in the number of

women hospitalized for the treatment of symptomatic cystocoeles, rectocele, uterine prolapsed and stress urinary incontinence.

The comfort and healing of the perineum wound site should be ascertained by the nurse –midwife, in the postnatal period, which is defined as a period of not less than 10 days and not more than 28 days after the end of labour, during which the continued attendance of a nurse midwife on the mother and baby is requisite (UKCC 1993).

A cross sectional survey was conducted to assess the prevalence of episiotomy wound. The aim of the study was to determine the rates and describe the risk factors for episiotomy and perineal tears in primi-gravida. 83% of women experienced some form of perennial trauma; 40% had episiotomy only; while 6% had episiotomy and perineal tears and 37% had perineal or other tears without episiotomy. The main reasons for performing an episiotomy are fetal distress (27%), impending tears (25%) and delay of the second stage of labour (21%). The distribution of having an episiotomy increased with the duration of the second stage of labour, irrespective of the time of delivery.

Episiotomy is a common surgical procedure experienced by women in Asia. Based on National hospital discharge data for 1999, just over 35% of women who gave birth vaginally had an episiotomy performed; the figure was approximately 33%in 2000. National rates reflect a steady decline over the period of two decades, with 2003 data suggesting that approximately 30 percent of vaginal births include episiotomy.

According to WHO the birth rate in India in 2009 was 21.76 per thousand birth and incidence of episiotomy is high. It has been reported that 23 percent of women have health problems in first month after delivery related to episiotomy as perineal tear, urinary incontinence, uterine prolapsed. In 2004, 29 percent of birth were delivered by caesarean delivery and 60 percent delivered by vaginal.

Postpartum assessment of the mother focuses on the maternal response to the labour and delivery, the biophysical changes, and the physiological adjustment to parenthood. The time of greatest risk for post partum complication is during first 24 hours. It has been noticed that episiotomy wound is a neglected aspect in postnatal case both by the health personnel and mother themselves. One of the reasons for that may be because of disproportionate nurse patient ratio in the ward or lack of understanding for the good healing of episiotomy wound in the long time. Infection of episiotomy wound can lead to puerperal sepsis which is one of the major causes of maternal morbidity and mortality. 11.5 percent of the postnatal mothers are dying with puerperal sepsis.

Although relatively small in size, episiotomy sutures can cause considerable discomfort and pain because the perineum is vascular and an extremely tender area and the muscles of the perineum is involved in many activities such as sitting, walking etc. Many women experience no problem in healing from an episiotomy. While others experience a long vaginal episiotomy repair process, if the incision or tearing was unintentionally extended into the rectum. Other complications include bleeding, infection, swelling and local pain. The typical healing time for an episiotomy is around 4 to 6weeks depending on the size of incision and the type of suture material used to close the wound.

Care of episiotomy would begin immediately after delivery and should include a combination of local wound care and pain management. The care of episiotomy is different from hospital to hospital. Many interventions are in practice to relieve pain and thus enhance the healing of episiotomy wound, which include warm soaks, warm sitz bath, infrared radiation and cooling pads, application of antiseptic solutions. Betadine is widely used in the hospitals for the healing of episiotomy wound. It is an antiseptic skin cleanser. It contains povidine iodine 10%. It helps to reduce bacteria that potentially cause skin infection. Simple principle of episiotomy wound healing is good blood flow, oxygen, nutrients, and absence of infection.

Today when the cost of medical treatment and care is soaring, the core objective of medical treatment is to provide cost effective care to its client. Cost effective interventions can be provided if nurse and midwives realize the relevance of their care in the episiotomy wound healing. The best way of providing care is to empower nurses and health care providers to bring change in their daily practices

Normal saline is favourable as it is an isotonic solution and does not interfere with the normal healing process. It is easily available, efficient, and cost effective. Normal saline is most commonly used solution due to safety (lowest toxicity) and physiologic factors. The application of normal saline is useful in first 24 hours post-partum which reduces inflammatory reaction and oedema. It will not cause any burning pain and does not cause damage to the new tissues and thus promote the healing process.

1. 1. NEED FOR THE STUDY

Pregnancy and child birth are special events in women's lives. Episiotomy continues to be a frequently used procedure in Obstetrics despite little scientific support for its routine use. Mothers however suffer much distress after child birth due to a painful perineum following episiotomy. The American College of Obstetricians and Gynaecologists estimates that as many as 90% of women giving birth to their first child in a hospital will have an episiotomy. Episiotomy is not a pleasant experience as it is painful during and after the procedure. A current medical literature documented that 60% of women with episiotomies reported severe postpartum pain, 25% experienced infection at the site and 20% had problems with intercourse for up to 3 months after birthing. Hence it is evident that special care must be taken to prevent infection, hasten healing and reduce scar.

Puerperium is a period when great changes take place in a woman's physical and mental set up that may pose a challenge to postnatal women in various ways. Episiotomy causes considerable distress

and discomfort to many women following childbirth. Its severity is frequently under-estimated and many women suffer unnecessarily, often in silence. It is the period when women receive less care from the health team and their family, since the new born receive most attention at this moment. A delay in healing may increase the duration of perineal pain and leads to infection, this fosters the need for new alternative interventions.

According to WHO, the number of normal delivery rate was very high 30-72% per 1000 births. The risk of perineal infections ranges from 2.8 % to higher than the 18%, The risk of infection can be high as 20 %. The world health organization has taken a clear stand against routine practice of episiotomy. The episiotomy infections are preventable and can be reduced by practicing clear delivery and post-natal care. Midwives have an important role in the care of episiotomy wound after child birth.

In India, the incidence of episiotomy is high. A population based study was conducted with the objective to estimate episiotomy rate associated with the place of delivery and category of healthcare provider. Results shown that the woman whose delivery was conducted by doctors the episiotomy rate was 77.4% and by nurses it was 53.1%. Episiotomy rate was very high (91.8%) when delivery was conducted in private hospitals and the rates were lower in secondary and primary level institutions. The Study concluded that the episiotomy rate depends on the institutions where deliveries take place and it is very high when doctors conducted the delivery. Probably similar high rates are found in other parts of India.

In Karnataka female population constitutes 43% of total population. According to the senses total percentage of normal deliveries with episiotomy in Karnataka is 58.6%. The crude birth rate is 22.5 per thousand live birth rate while maternal mortality rate is 2 per thousand live births in 2007. The very high levels of the maternal mortality are generally associated with perinea sepsis, harmful practices, infection related to perinea wound, and low female literacy.

Episiotomy or the tear in tiny body will need time to heal. But an episiotomy may cause long lasting pain. Normally the incision will heal within 10-14 days. The stitches are mostly of the kinds that are absorbed into the skin. By five weeks postpartum, the suture should be absorbed and perineum should be healed sufficiently to have intercourse with minimal discomfort. A woman's comfort level depends mostly upon her ability to heal, her tissue type and the extent of the incision. Many mothers are suffering with delayed healing of episiotomy wound during post natal period. This delayed healing can result in puerperal sepsis. The nurse should be aware of the effective treatment of episiotomy wound healing which can reduce the suffering of mothers and enhance healing.

Fernandez R, Griffiths Russia conducted a comparative study assess the effects of normal saline with other solution for wound cleansing. The aim of the study is to promote the healing of episiotomy wound. The study had 11 trials which included 310 postnatal mothers. The findings suggest that 62.9% of mothers treated with normal saline had good healing. The mothers (38%) treated with other solutions had got skin irritation. The result shown that normal saline is effective in reducing the infection rate than any other solutions. The study concluded that normal saline can be used as a healing agent which will not interfere the normal healing process.

In the present situation, cost of medical treatment is a major issue influencing the patient and his treatment. Nowadays the medical insurance companies have started playing a major role in decision making regarding the treatment. Use of normal saline would be cost effective, easy to prepare, readily available and least damaging agent, as the healing occurs without local antibiotics or disinfectants. It does not alter the normal bacterial flora of the skin and has no effect on blood flow in capillaries and on collagen. It is not irritating or harmful to the mucous membrane and it acts as a palliative agent to aid granulation. And it neither donates fluid nor draws it away from the wound bed. It helps to remove things that can irritate the underlying tissue as well as help to

wash out bacteria. It relieves stiffness and muscle cramps and reduces redness and oedema and hastens the healing of episiotomy.

All these facts described above, evoked a thought in the researcher's mind that there is a strong need to incorporate the use of normal saline into nursing practice. Even though the application of normal saline is an effective method of healing the episiotomy wound, it is not widely used like other treatments. Hence the researcher felt the need to evaluate the effectiveness of application of normal saline in the healing of episiotomy wound.

1. 2. STATEMENT OF THE PROBLEM:

"A study to assess the effectiveness of normal saline in healing of episiotomy wound among postnatal mothers at Govt. Hospital for Women & Children, Chennai.8".

1. 3. OBJECTIVES:

1. To assess the pre assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.
2. To assess the post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.
3. To compare the pre assessment and post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.
4. To associate the post assessment level of healing of episiotomy wound among postnatal mothers with selected demographic variables.

1. 4. OPERATIONAL DEFINITIONS:

Effectiveness:

It refers to outcome of normal saline application on episiotomy wound healing among postnatal mothers.

Normal saline:

It refers to a sterile isotonic solution which contains 0.9 % sodium chloride in 500 ml of water.

Episiotomy:

It refers to a surgical incision performed on left mediolateral and right medio-lateral, made on the perineum during childbirth.

Wound healing:

It refers to the ability of perineal skin to regain back in its original pattern after normal saline application on episiotomy wound.

Postnatal mother:

Postnatal mothers who have normal vaginal delivery with left medio-lateral and right medio-lateral episiotomy.

1. 5. RESEARCH HYPOTHESES

HI-There will be significant difference in the pre assessment and post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

H2-There will be significant association in the post assessment level of healing of episiotomy wound among postnatal mothers with their selected demographic variables.

1.6. ASSUMPTION

1. Most of the post-natal mothers may have delayed healing of episiotomy wound.

2. Application of normal saline may have effect in the healing of episiotomy wound.

3. Episiotomy wound care with normal saline may readily available and least damaging agent. It aids in granulation.

CHAPTER – II
REVIEW OF LITERATURE

INTRODUCTION:

"A great literature is chiefly the product of inquiring minds in revolt against the immovable certainties of the human"

- H.L.MENCKEN

The review of literature is an integral component of any study or research project. It enhances the depth of the knowledge and inspires insight into the problem and throws light on the study findings about the problem under study ***Polit and Hungler (1999).***

The investigator carried out an extensive review of literature on the research topic in order to gain insight into the problem and to collect maximum relevant information for building up the study in a scientific manner, so as to achieve the desired results.

The retrieved literature was done for the present study and presented in the following headings.

***Section A*:** Literature review related to episiotomy.

Section B: Literature review related to episiotomy wound healing.

***Section C*:** Literature review related to effectiveness of normal saline.

Section A: Literature related to episiotomy.

Islam, A, etal (2013), conducted study in a prospective randomised control study was conducted at the Military Hospital Rawalpindi's Gynaecology & Obstetrics Department from January 2006 to April 2008. It comprised 100 patients who were given a mediolateral episiotomy at the crowning of the foetal head (group 1). Another group of 100 patients were delivered without an episiotomy (group 2). Postpartum morbidity was compared in the two groups. Morbidity from episiotomy included perineal damage by tears, subjective assessment of pain at perineum, dyspareunia after puerperium,

feeling of pressure puerperium, incontinence and objective assessment of prolapse after puerperium.

Ana Carolina, et al (2012), conducted a study to characterize and measure perineal pain. They have selected 40 puerperal Primiparous women who underwent normal delivery with episiotomy Sao Paulo, Brazil. The intensity of the pain level was assessed by the Brazilian version of the Mc Gill questionnaire. The researcher found out that participants had a mean pain level of 4.2 and they concluded that they noted moderate intensity of perineal pain.

Brain lang, (2008)**,** Episiotomy is done to prevent severe perineal tears, but its routine use. The relative effects of midline compared with midlateral episiotomy are unclear. The objective of this study was to assess the effects of restrictive use of episiotomy compared with routine episiotomy during vaginal birth. Randomized trials comparing restrictive use of episiotomy with routine use of episiotomy, restrictive use of mediolateral episiotomy versus routine mediolateral episiotomy, restrictive use of midline episiotomy versus routine midline episiotomy, and use of midline mediolateral episiotomy. Data collection was done by the two review authors who independently assessed trial quality and extracted the data. The main result was based on eight studies (5541women). In the routine episiotomy group, 75.15 % (2035/2708) of women had episiotomies, while the rate in the restrictive episiotomy group was 28.4% (776/2733). Compared with routine use, restrictive episiotomy resulted in less severe perineal trauma (relative risk (RR) 0.67,95% confidence interval (CI) O.49 TO 91), less suturing (RR 0.71,95% CI 0.61 to 0.81) and fewer healing complications (RR 0.69, 95% CI 0.56 to 0.85).Restrictive episiotomy was associated with more anterior perineal trauma (RR 1.84, 95% CL 1.61 to 2.10).These was no difference in severe vaginal/ perineal trauma (RR 0.92, 95% CL 0.72 to 1.18) dyspareunia (RR 1.02, 95% CL 0.90 to 1.16); urinary incontinence (RR 0.98, 95% CL 0.79 to 1.20) or several pain measures, Results for restrictive versus routine mediolateral versus midline episiotomy were similar to the overall comparison. In conclusion, restrictive episiotomy policies

appear to have a number of benefits compared to policies based on routine episiotomy. There was less posterior perineal trauma, less suturing and fewer complications no difference for most pain measures and severe vaginal (or) perineal trauma, but there was an increased risk of anterior perineal trauma with restrictive episiotomy.

Vetvil-ninon-julfunen and Heinonen, (2008), conducted a study on need for and consequences of episiotomy in vaginal birth. The study was to describe and explain the short term effect of lateral episiotomy and determine the factors associated with more /less common of episiotomy. The study was conducted between October and November 2008.Episiotomies were more common among primiparous than multiparous women (55% vs 12%, $p< 0.001$), the maternity hospital was the most significant determinant of the episiotomy rate. It was concluded that episiotomy rates can be reduced without causing harm to women or newborn babies.

Anitha Rani et.al (2005), conducted cross sectional population based study among 442 mothers at Chennai to estimate episiotomy rate in a rural population and to find out if higher episiotomy rate was associated with place of delivery and category of health care provider. Data were obtained through personal interview and from available medical records. The study finding revealed that the overall episiotomy rate was 67% (95% CI 62.6-71.4).For women whose delivery was conducted by doctors, the episiotomy rate was 77.4% and when conducted by nurses it was 53.1%. Episiotomy rate was very high (91.8%) when delivery was conducted in private medical college hospitals and the rates were lower when conducted in secondary and primary level institutions. Researcher concluded that episiotomy rate in the study population is high. The probability of episiotomy was very high when doctors conducted the delivery and when place of delivery was private medical college hospital.

Lior Lowensteina et.al (2004), conducted survey on episiotomy its, beliefs, practice and the impact of educated intervention of the attitude of

obstetrical care given toward episiotomy was conducted among obstetricians and midwives in the three public hospitals in Haifa. Data regarding episiotomy rates, collected for the years 2002-2003. At the beginning of 2002, lectures on the risks and benefits of episiotomy were given in two hospitals. Episiotomy rates before and after the lectures were compared. The study finding reported that there was a significant increase in episiotomy rates was observed in the two hospitals. There were no clinically significant and consistent changes in the episiotomy practices in the third hospital. The researcher concluded that education may play an important role in changing common medical practices, as in episiotomy. It was clearly shown that beliefs are not always up to date. Their needs a call for periodic reassessment of all medical procedures, as common and accepted as they are.

Martin et.al (2003), assessed whether women who had a perineal trauma (episiotomy or spontaneous tear of the second degree or higher) at the first delivery was at increased risk for spontaneous perineal tears at the next delivery and whether the risk increases with the severity of previous perineal trauma. Having a perineal trauma at first delivery more than tripled the risk of spontaneous tears at the second delivery.

Shihadech et.al (2001), investigated the relation of episiotomy to third degree perineal tears and to detect the rate, indication and risk factors of both episiotomy and third degree perineal tears in 17,559 singleton vaginal deliveries. The incidence of episiotomy was 39%, third degree tears occurred in 1% of the deliveries with episiotomy and in 0.2% of the deliveries without episiotomy. In uncomplicated deliveries, no significant relation between third degree perineal tear and episiotomy was found.

Cunningham et.al (2001), states that mediolateral episiotomy protects the perineum from severe lacerations but has been associated with more difficult surgical repairs, faulty healing, increased pain, negative cosmetic effects, and dyspareunia.

Stamp C, et.al (2001), determined the effects of perineal massage in the second stage of labour on perineal outcome. 1340 women were randomized into the trial. Massage and stitching of perineum duri9ng the second stage of labour with the water soluble lubricant was performed. This practice does not increase the likelihood of an intact perineum or reduce the risk of pain, dyspareunia or urinary or fecal problems.

Eason et.al (2001), in his article about episiotomy says that routine episiotomy is no longer advisable. Forces that might inhibit physican's from practising evidence based techniques of obstetric delivery include time pressures, malpractice concerns, lack of experience with slow perineal stretching and an interventionist practice pattern.

Grant A, et.al (2001), assessed the long term implications of four alternative approaches to postpartum perinal repair. 793 women participated. Two stage repair leaving the skin unsutured with standard three stage repair and polyglactin 910 with chromic catgut as suture material for repair was compared. Two stage repair of perineal trauma leaving the skin appears to reduce the likelihood of the perineum feeling different from before delivery, in addition to less pain and dyspareunia initially, there was no apparent disadvantage. Polyglactin 910 reduces dyspareunia long term indicating that the short term benefits of this material over chromic catgut persists.

Shah et.al (2001), conducted a randomised comparative study of polyglactin 910 versus chromic catgut for postpartum episiotomy repair in 226 women and reported that suturing with polyglactin 910, was less likely to result in short term pain and uncomfortable stitches, and healing proceeded more rapidly. After 3 months, there was no difference in pain, resumption of intercourse, dyspareunia or need for resuturing. Removal of suture material was required more often with polyglactin 910.

Calvert and Fleming (2001), indicate a tool that has been developed to assess the degree of perineal trauma is the REEDA tool. (Davidson, 1974). It has some merit as scoring relies on precise measurement of the degree of

trauma, and describes specifically the trauma associated with each individual woman. The difficulties in using the REEDA tool, included placement of the tape to measure trauma and the possible contamination of the tape.

Carroli et.al (2000), assessed the effects of restrictive use of episiotomy compared with routine episiotomy during vaginal birth and indentified that restrictive episiotomy policies appear to have a number of benefits compared to routine episiotomy policies. There was less posterior, perineal trauma, less suturing and fewer complications, no difference for most pain measures, but there was an increased risk of anterior perineal trauma with restrictive episiotomy.

Rizk and Thomas (2000), evaluated the relationship between the length of the perineum and position of the anus and vaginal delivery in 212 primi-gravidae with singleton term pregnancies during the first stage of labour. The distance between the forchette and each of the centres of the anal orifice and the inferior margin of the coccyx were measured. Women with a short perineum (<4 cm) or a small anal position index (<0.42) had significantly higher rates of episiotomy, perineal tears and instrumental delivery.

Otodie & Ogbonmwan (2000), reviewed 1345 vaginal births in Nigeria. The prevalence rate of episiotomy in the Benin Teaching Hospital was 46.6%. Over 90% of the primgravida parturient had episiotomy. The incidence decreased with increasing parity, while the incidence of spontaneous vaginal tears increased with parity.

Wahman et.al (2000), investigated striate gravidarum as a predictor of vaginal lacerations in 168 women having vaginal delivery of infants who weighed more than 4000g in his prospective observational study. Episiotomy was found to prevent spontaneous lacerations. Abdominal stretch marks were found to be statistically significant predictors of lacerations when controlling the episiotomy.

Signorello et.al (2000), performed a retrospective cohort study to identify the association between the midline episiotomy and anal incontinence. Women who had episiotomies had a higher risk of fecal incontinence at three and six months postpartum compared with women with an intact perineum. A non-extending episiotomy tripled the risk of flatus incontinence at 3 months postpartum compared with those who had a second degree spontaneous tear. Midline episiotomy is not effective in protecting the perineum and sphincters during childbirth and may impair anal continence.

Carroli et.al (2000), assessed the effects of restrictive use of episiotomy compared with routine episiotomy during vaginal birth and identified that restrictive episiotomy policies appear to have a number of benefits compared to routine episiotomy policies. There was less posterior perineal trauma, less suturing and fewer complications, no difference for most pain measures, but there was an increased risk of anterior perineal trauma with restrictive episiotomy.

Eason et.al (2000), performed a meta-analysis of more than 1,500 study trails on techniques to prevent perineal trauma during childbirth. The analysis suggested the factors that would increase perineal integrity include avoiding episiotomy, spontaneous or vacuum-assisted rather than forceps birth, and in nulliparas, perineal massage during the weeks before childbirth. Second-stage position has little effect.

Eberhard J et.al (2000), evaluated in a total of 9,418 births the changing pattern of birth methods and birth management in the clinic under the influence of new birth concept. Alternative birth methods, in particular water births were sought after. The episiotomy rate has dropped from a previous rate higher than 80% to a rate lower than 15% thus, insisting upon less invasive natural birth management.

Low & Seng (2000), examined if clinician experience, rather than scientific evidence, forms the basis for continuing this practice. Perineal outcome data were analysed for 865 low risk women who were attended at birth

by the staff nurse-midwives or faculty obstetricians at a university based, tertiary care hospital. Findings indicate that in the absence of episiotomy, rates of perineal integrity were highest among clinicians who usually had the lowest rate of episiotomy use. When an episiotomy was done, rates of third and fourth degree extensions were highest among clinicians who used episiotomy most frequently.

Rogserson L (2000), experimented with the use of Intermit tissue adhesive for 20 perineal repairs in Leeds General Infirmary. Intermit tissue adhesive appears to be quick, painless and effective method of skin closure for episiotomy, as at follow up 13 women were completely without problems, 2 complained of sharp sensation from excess adhesive, one had silver nitrate applied at 6 weeks check up, 2 had small defects in the skin which healed well and in 2 women the skin edges broke down completely but did not need re suturing.

SectionB: Literature related to episiotomy wound healing

Akush Ginekol (2011), conducted efficiency of Cikatridina spray for healing of episiotomy & perineal rupture which included 90 women after spontaneous or operative vaginal delivery with episiotomy or a spontaneous perineal rupture treated with Cikatridina spray. Control group of 90 women was used to compare the efficiency. The status of the wound was determined on the first, third, fifth and 30th day after birth, according to presence of the symptoms: redness, swelling, pain, exudation, epithelisation, open wound .The study concluded that Cikatridina spray effectively eliminates symptoms of redness, swelling and pain regardless of perineal trauma and the method of delivery. There is an earlier epithelisation after using the Cikatridina spray. Open and infected perineal wounds are treated with conventional medicines.

Sooklim, Thinkamrop (2007), conducted a study on the outcome of midline versus mediolateral episiotomy for complications such as extended tears, pains scares wound infections and other complications. All women

included had risk pregnancies and delivered at term. The outcome measures included deep perineal tears, other complications and women satisfaction at 48 hours and 6 weeks postpartum deep perineal tear occurred in 14.8% which is statistically higher compared to 7% in women who underwent a mediolateral episiotomy ($p<0.05$). There was no difference between the group for other outcome such as blood loss, vaginal hematoma and pain. The midline episiotomy compared to mediolateral episiotomy resulted in more perineal tears.

The journal of health (2007), states that an episiotomy might be needed if one of the following circumstances applies. The baby is large; the praticiner needs extra room when using forceps to deliver the baby. The vaginal tissue looks fragile as baby's head begins to crown.

Ivanor et al (2007), conducted prospective study on clinical application of Bionect (Hyaluronic Acid sodium salt) In wound care by caesarean section and episiotomy among 27 patients, delivered by caesarean section and 20 patients with vaginal delivery with episiotomy were included in Bulguria. In 15 cases from caesarean section group and 10 cases from episiotomy group daily application of Bionet was performed. The standard wound care was applied in 12 caesarean section wounds and 10 episiotomies. All patients were monitored for wound healing disturbances on daily basis. The study findings revealed that the incidence of oedema, infiltration, exudation and superficial blood collections was significantly lower in caesarean of Bionect application. No wound dehiscence was observed in cases, in which Bionect was used for wound care. One partial episiotomy dehiscence (10%) and one total caesarean section wound dehiscence were observed in standard wound treatment group. An excellent result in patients, treated with Bionect makes it a reasonable wound care option, especially in cases, when wound complications are expected.

Farud fosse (2006), conducted a study on post delivery care after episiotomy. The objective was to define the most appropriate care after an episiotomy, the best suited treatment of the pain of episiotomy and to examine

the course of repair stitches. A result was the best possible personal hygiene which is a key to healing but no specific treatment has been accepted of teaching on episiotomy and perineal care among primipara women in Karnataka using convenient sampling in 2 phases. The learning needs identified on 30 primipara women according to their knowledge and ability to perform self more postnatal mother from the aseptic perineal care seemed to have get complete healing on the fifth day compared to the perineal care.

Noronha Judith Angelita (2004), convenience sampling technique was used in both phases. The learning needs were identified on 30 primipara women according to their knowledge and ability to perform self perineal care. The phase II of the study consisted of 25 subjects in the experimental group and 30 subjects in control group II, respectively. The data collection instruments developed for generating the necessary data were; an interview to assess the knowledge on episiotomy and self perineal care (r = 0.86), an observation checklist to determine the ability to perform self perineal care, an episiotomy wound assessment scale to measure episiotomy healing 90% agreement using interrater reliability, visual analogue numerical scale (85% agreement using integrate reliability).

Han, H. (2004), conducted a clinical trial study to assess the effect of aromatherapy on a postpartum mothers perineal healing. Clinical trial was used Aromatherapy was applied using essential oil with lavender Rose Nerloli and roman chamomile. The three groups were assigned randomly and data were collected by using REEDA scale. The study revealed that the REEDA score was low in experimental group. This finding indicates that postpartum aromatherapy for perineal care could be effective in healing the perineum.

Calvert & Fleming (2001), made an extensive review of literature that relates to perineal pain and care. Articles evaluated include systematic reviews and research papers from the disciplines of midwifery, physiotherapy and obstetrics. The major themes to emerge were the need for episiotomy, suturing methods and materials, assessment of perineal trauma, treatment of perineum in

the postpartum period, and postpartum recovery. Research has highlighted that many practices related to perineal care remain un-researched and therefore the need for evaluation is urgent. Further postpartum morbidity has been seen to affect many women, but is often unrecognized by practitioners. It is also a topic that requires further evaluation through well-designed and implemented research.

Hay-Smith (2000), conducted four trials involving 659 women for assessing therapeutic ultrasound for postpartum pain and dyspareunia. Women treated with active ultrasound for acute perineal pain were more likely to report improvement in pain with treatment. Those treated with ultrasound were less likely to have bruising at 10 days than women treated with pulsed electromagnetic energy with ultrasound.

Chiarelli and Cockburn (1999), reviewed the available literature regarding the best practice for the sutured damage to the perineum, associated perineal wound breakdown and perineal oedema. Little evidence that might be considered scientifically robust was found. Recommendations based on the available evidence include a careful emphasis on perineal hygiene, cryotherapy, and elevation of the foot of the bed in the presence of oedema and regularly performed pelvic floor exercises.

Olson et.al (1999), studied the analgesic efficacy of liquid ketoprofen compared with liquid dipyrone and placebo administered orally as drops in post-episiotomy pain for 276 women, 69 in each group. Ketoprofen 25mg or 50mg and dipyrone 500mg seems to be equally suited for pain relief. All treatments were well tolerated without any adverse effects.

Section c: Literature review related to effectiveness of normal saline.

P.Manjula (2012), in a descriptive study which was conducted to examine the factors influencing episiotomy wound healing among 60 postnatal women in Goverment Taluk Hospital, Kundapura. Demographic Performa of postnatal women and an observational checklist an episiotomy wound healing

was used to collect data age of the mother, no of vaginal examination done during labour, head circumference of newborn, haemoglobin level had no effect on episiotomy wound healing score. The study conducts that episiotomy wound healing is influenced by parity, frequency of self perineal care, length of episiotomy wound and no of episiotomy sutures present.

Fatemeh Sheikhan etal (2011), A quasi experimental study was conducted to assess the effectiveness of ice pack containing normal saline on the episiotomy wound. The aim was to assess the level of pain, inflammation and bruising of episiotomy wound. The results shown that the mothers had significantly less pain on episiotomy wound. The study concluded that the application of ice pack containing normal saline can be used in the post-natal wards and in home setting as well.

Mahtab Attarha, Griffin Moses (2011) A comparative study was conducted to assess the effect of water and soap irrigation with Povidone-iodine and normal saline in the treatment of patient with un union episiotomy wound. The study included 40 samples. In group I water and soap has been used while in group II normal saline and Povidone-iodine had used for irrigation of un union episiotomy wound. The result shown that 40% of episiotomy wound closure has been occurred faster in normal saline and povidone-iodine group. In water and soap irrigation group 20% episiotomy wound got infection. The study concluded that Povidone- iodine and normal saline enhance the episiotomy wound closure.

Braden K Leung, Lori A, BS Christopher, Carrol (2010), An experimental study was done to assess the effects of normal saline instillation in conjunction with negative pressure wound therapy on wound healing in a procine model. The wound were treated with 4 cycles of normal saline instillation per day. The result shows the instillation therapy with normal saline elicited a faster rate of wound filling. The study concluded that instillation therapy with normal saline may lead to wound fill with higher quality granulated tissue composed of collagen.

Shehnaz torkzahari (2010), a comparative study was conducted on the effect of betadine and warm water in episiotomy wound healing. The objective of the study is to determine the effectiveness of betadine and warm water in episiotomy wound healing The clinical trial strategy of the study was conducted on 100 cases 50 were given with betadine and 50 with warm water and the efficacy was determine according to wound healing redness infection and suture absorption at 1^{st}, 5^{th}, 10^{th} post operation. The result showed that there is no difference between the effect of betadine and warm water in episiotomy wound healing.

Ragbih O D, Mathew J Wall etal (2010), A comparative study was conducted to assess the effectiveness of normal saline and betadine application on episiotomy wound. This study included 120 multiparous women with episiotomy and were randomly assigned into experimental and control group. For the patients in the experimental group, 10cc normal saline, 9 in 1000 cc, was sprinkled on episiotomy wound by a sterile syringe, three times a day for ten days. In the control group, 10% povidone iodine solution, three tablespoons in four glasses of water three times a day. Episiotomy wound were checked based on the standard REEDA checklist on the fifth and tenth day after episiotomy. The result shown that there is no significant difference in the healing of episiotomy wound in both groups. The study concluded that beta dine has no effect on episiotomy wound healing.

Ivaanov C, Michova M, Russeva R, Batashki (2007) An experimental study was conducted to the efficacy of topical application of Sodium Salt in episiotomy and caesarean section surgical wounds. The sample included 27 patients delivered by caesarean section and 20 patients with vaginal delivery with episiotomy. The samples were randomly assigned in two groups. Sodium salt was applied on 15 caesarean wound and 10 episiotomies. Standard wounds care was applied in 12 caesarean wounds and 10 episiotomies. The result shown that REEDA scale was significantly lower in sodium salt application. No wound dehiscence was observed, in which sodium salt was

applied. One partial episiotomy dehiscence (10%) and one total caesarean section wound dehiscence were observed in standard wound treatment group. The study concluded that sodium salt is reasonable wound care option, especially in cases, when wound complications are expected.

Salami, Imosemi, Owoeye (2006), A comparative study was conducted to determine the effectiveness of antiseptic solution, tap water and normal saline in the healing of wound. The study included 3 groups. Group I was treated with antiseptic solution, group II with tap water, group III with normal saline application. The wound was dressed with antiseptic solution, normal saline, and tap water. Healing of the wound measured on 9^{th} day. The result was shown that an inhibitory effect of antiseptic solution in wound healing. Wound infection was occurred on the entire wound cleaned with antiseptic solution. The wound had greenish exudates on their surfaces. There was delayed healing in this group compared to other two groups. There was no statistical difference in the rate of healing in the saline and tap water dressed wounds. The study concluded that normal saline is more effective and cost effective option for wound healing.

Aron j. (2003), A retrospective study was conducted to compare the rate of wound healing and cost of wound care associated with wet-to-dry normal saline gauze dressings with amorphous hydrogel dressings for patients with diabetes. The study included 50 samples. They were randomly divided into wet-to-dry normal saline gauze dressings (n=25) and amorphous hydrogel dressings (n= 25) groups. The study revealed a similar rate of wound healing in the two groups. The wound healing was significantly higher (P = .006) for patients in the normal saline group. The study concluded that the two treatments are equally efficacious in promoting wound healing, but normal saline gauze dressing is significantly more cost effective.

Shahanaz Tork Zaharani, Sedighe Amirali, Valaie (2002), A comparative study was conducted to assess the effect of Betadine and water in the episiotomy wound healing. The objective of this study was to assess the cost

effectiveness of the solutions which is been used for the healing of episiotomy wound. The study included 100 samples. They were randomly divided into Betadine (n=50) and water (n=50) groups. The result shown that swelling was less than 1cm at first and 5th day was 56% and 60% in betadine group and 46% and 62% in water group. Redness less than 3mm was 60%, 46% and 68% respectively, but it was 60%, 38% and 66% in water group. There were no signs of wound opening and infection in both groups. The study concluded that Betadine has no effect on episiotomy wound healing and there is no indication for its uses.

Darlyn Osanatre, Lennart Nord (1996), A comparative study was conducted to assess the effectiveness of normal saline versus other solution on episiotomy wound healing among post natal mothers. The total sample consisted of 40 post natal mothers. They were randomly divided into 20 in experimental group where normal saline was applied and 20 in control group where other solutions were applied on episiotomy. The result revealed that in experimental group 84% satisfactory epithelialisation by 7th day and 100% by 21st day, whereas episiotomy wounds treated with other solutions showed 72% epithelialisation by 7th day and 84% by 21st day. Reparative activity was seen in 80% of wounds treated with the normal saline dressing by the 7th day with minimal inflammation. The study concluded that normal saline is effective in healing of episiotomy.

Phuapradit W, Saropala N, (1992), An experimental study was conducted to assess the wound healing properties of honey. Patients who underwent laparotomy due to certain surgical indication were selected. The control group included 22 patients and the experimental group 11 patients. In the control group, the wound was washed 3 times a day with normal saline . In the experimental group, the wound was washed with normal saline 3 times a day and then covered with a thin layer of honey. The study results proved that mean time of granulation tissue formation started from 2 day to 27 days in the control group and one

day to 25 days in the experimental group. The findings showed that the mean time of granulation tissue formation in both groups was significantly equal.

Joy P Clause, Margaret Hary H Flock, Boonie Ford Smith, (1977), an experimental study was conducted to compare chlorhexidine-alcohol versus povidone iodine for surgical site asepsis. In this study 849 subjects were selected randomly. There were 409 patients who preoperatively cleansed with chlorhexidine alcohol whereas 440 were cleansed with povidone iodine. Presence of infection was assessed after 30 days. The overall rate of infection was significantly lower in chlorhexidine alcohol group than povidone iodine group(9.5% v/s 16.1%,p<0.04;relative risk 0.59,95% confidence interval,0.41 to 0.85). Chlorhexidine alcohol was significantly more protective than povidone iodine against both superficial incision infections (4.2% vs 8.6%,p=0.008) and deep incision infection(1% vs 3%, p=0.05)but not against organ space infection (4.4% vs 4.5%). The Study concluded that preoperative cleansing of patient's skin with chlorhexidine-alcohol is superior to cleansing with povidone iodine for preventing surgical site infection after surgery.

2.2 CONEPTUAL FRAMEWORK

"Conceptual framework is a group of mental images or concepts that are related but the relationship is not explicit."

–Polit and Beck

Talbot (1995), stated that a conceptual framework is a network of inter related changes that provide a structure for organizing and describing the phenomenon of interest. Research studies are based on the theoretical or conceptual framework that facilitates visualizing the problem and places the variables in a logical concept.

The study is based on the concept that application of normal saline on episiotomy wound the postnatal mothers will enable effective healing of episiotomy wound.

The researcher adopted the modified conceptual framework based on Modified Ludwig Von Bertalarffy's General system theory. They are open because there is an ongoing exchange of matter, energy and information. In general system theory, the systems are composed of both structural and functional components that interact with in boundary, which filter the type and rate of exchange with the environment. A structure refers to the arrangements of the part at a given time whereas function is the process of continuous change in the system as matter, energy and information.

For survival a system must achieve a balance internally and externally. Equilibrium depends on the system's ability to regulate input and output to achieve a balanced relation of the interactive part and the process applied for proper balance. The system uses various adaptation mechanisms to maintain equilibrium. Adaptation may occur through accepting or rejecting the matter, energy or information or by accommodating the input and modifying the system responses.

Ludwig Von Bertalarffy's general system theory focuses on three areas.

- ❖ Input
- ❖ Throughput
- ❖ Output

INPUT

According to general system input refers to the matter, energy or information from the environment into the system. Here the input includes subject, age, religion, educational status, occupation, residential state, type of family, income and haemoglobin and pre assessment level of wound status in both groups by using REEDA scale.

1. Redness
2. Edema
3. Ecchymosis
4. Discharge
5. Approximation

THROUGHPUT

In this model throughput refers to the procedure by which matter, energy and information that is modified or transformed within the system. In the present study it includes application of normal saline on episiotomy wound in experimental group and hospital routine care for control group.

OUTPUT

Output refers to matter, energy and information that are released from the interaction of the system into the environment. In the present study it involves post assessment level of wound status in both groups followed by the maximum wound healing in experimental group and minimum wound healing for control group by using REEDA scale.

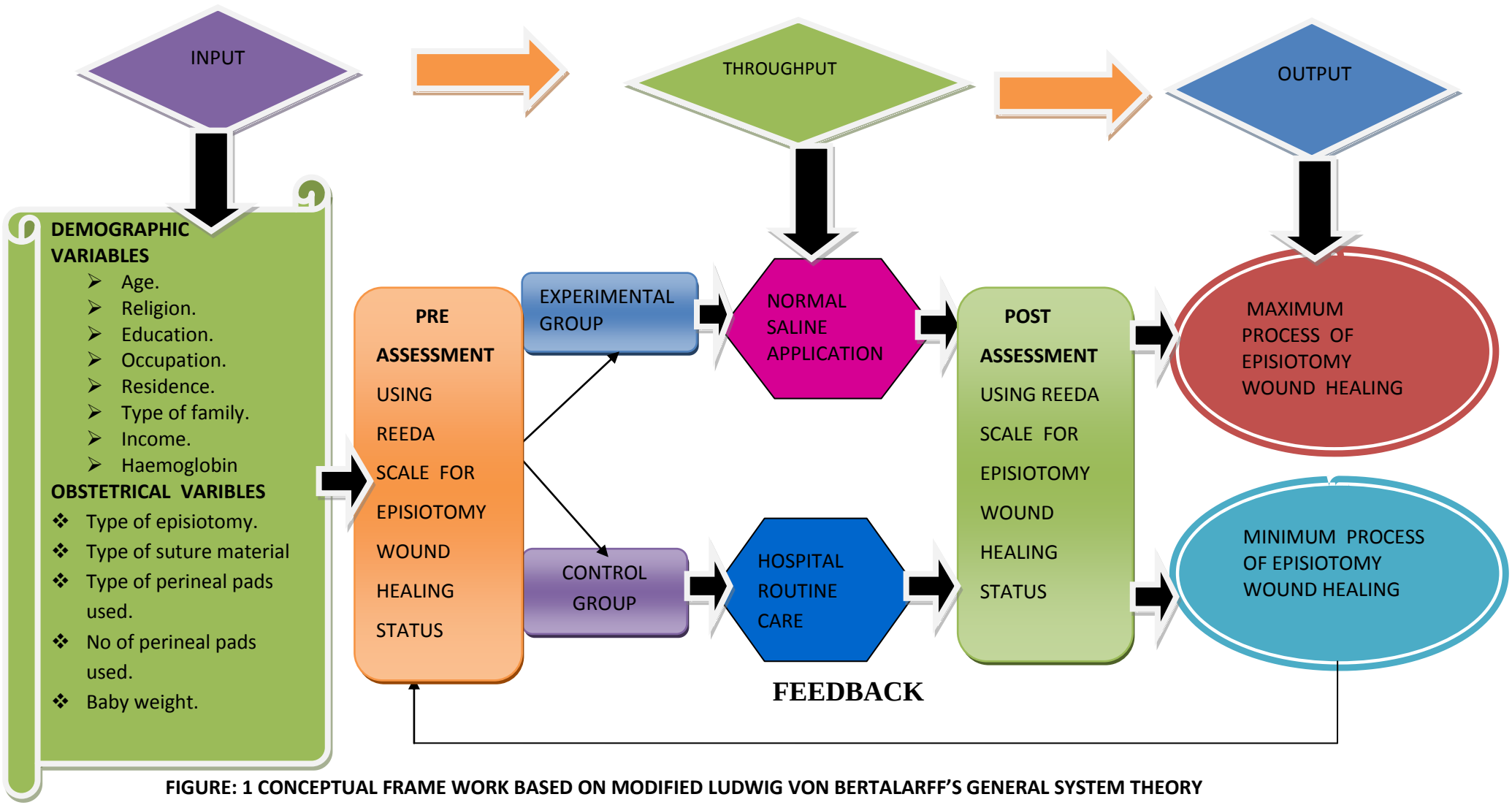


FIGURE: 1 CONCEPTUAL FRAME WORK BASED ON MODIFIED LUDWIG VON BERTALARFF'S GENERAL SYSTEM THEORY

CHAPTER-III

METHODOLOGY

"Research methodology is the way to solve the problems systematically. It indicates the general pattern of organising the procedures for gathering the valid and reliable data for the purpose of investigations."

-Denise and Polit

This chapter deals with research design, setting of the study, variables under the study, population, sample size, sampling technique, criteria for sample selection, description of the tools, pilot study, data collection procedure and plan for data analysis.

3.1. RESEARCH APPROACH

The selection of research approach is the basic procedure for the research analysis. The research approach helps the researchers to determine what data to collect and how to analyse it. It also suggests possible conclusions to be drawn from the data. In the view of nature of the problem selected for the present study to assess the effectiveness of normal saline on episiotomy wound healing among postnatal mothers and for the objectives to be accomplished a **quantitative approach** was considered appropriate for the present study.

3.2. RESEARCH DESIGN

Research design is a plan, structure and strategy of investigations of answering the research question. It is the overall plan or blue print the researcher selects to carry out the study. The selection of design depends upon the purpose of the study, research approach and variable to be studied.

The research design used in this study was only pre test and post test design of basic experimental design which comes under **true experimental design**. As the study fulfils the criteria such as manipulation, randomization and control, the investigator has rightly chosen this design.

GROUP	PRE ASSESSMENT	INTERVENTION	POST ASSESSMENT
EXPERIMENTAL GROUP	RE1	X	RE2
CONTROL GROUP	RC1	-	RC2

The true experimental designs

Where,

RE1–Pre assessment level of episiotomy wound status in randomized experimental group.

RE2 –Post assessment level of episiotomy wound status in randomized experimental group.

X – Application of normal saline on episiotomy wound.

RC1 – Pre assessment level of episiotomy wound status in randomized control group.

RC2 –Post assessment level of episiotomy wound status in randomized control group.

In this study pre assessment level of episiotomy wound of the experimental and control group were measured by using REEDA scale followed by implementation of normal saline on episiotomy wounds for 3 days in experimental group. At the end of this period the post assessment level of wound status were obtained from the mothers of both experimental group and control group by using the same scale.

3.3. VARIABLES

The two categories of variables discussed in the present study were.

Independent variable: Normal saline

Dependent variable : Episiotomy wound healing

3.4. SETTING OF THE STUDY

The location for conducting the research is referred to as setting

-Baras and Groove (2002)

The study was conducted at postnatal wards in Govt. hospital for women & children, Chennai -8. This institute is unveiled on 26th July 1844 for Public service. It is a 754 bedded reputed maternity hospital and referral centre. It is situated in the heart of Chennai city. The hospital is renowned for its excellent medical expertise, nursing care and quality diagnostic services. It offers advanced medical technological services and it serves around 33,120 inmates per year. All the facilities are provided for conducting normal, high risk and instrumental deliveries. Around 40-50 normal deliveries are conducted every day, of those 8-10 mothers delivery naturally with episiotomy in the labour ward. It is one of the biggest research institutes in which all types of research concerning with the health of the women and children are being carried out.

3.5. STUDY POPULATION

Population is the total number of people, who meet the criteria that the researcher has established for a study from whom subjects will be and with whom the findings will be, generalized **Polit and Hungler** (1999).The target population of this study was the postnatal mothers.

Accessible population:

The accessible population was the postnatal mothers with episiotomy wound and were admitted at Govt. Hospital for Women & Children, Chennai-8.

3.6. SAMPLES

The samples were the postnatal mothers who had normal vaginal delivery with episiotomy and full-fill the inclusive criteria.

3.7. SAMPLE SIZE

The sample size for this present study was 60 postnatal mothers out of which 30 mothers belong to experimental group and 30 mothers belong to control group.

3.8. SAMPLING TECHNIQUE

Sampling is the process of selecting a portion of the designated population to represent the entire population

-Laura and Talbot (2005)

Probability Sampling Technique – Simple random sampling – lottery method used. Samples were randomly assigned to Experimental and control group.

3.9. CRITERIA FOR SAMPLE SELECTION

The researcher specified certain inclusion and exclusion characteristics for the population to be considered as a sample. Accordingly the population is studied and those that come under inclusion are selected as the sample and the other elements are excluded from the study. The criteria are as follows

a) Inclusion criteria

1. Postnatal mothers who have normal vaginal delivery with left medio-lateral and right medio-lateral episiotomy.
2. Postnatal mothers within 8 hours of delivery.
3. Postnatal mothers who were willing to participate in the study.

b) Exclusion criteria

1. Postnatal mothers who were having immediate postnatal complications like primary postpartum haemorrhage, shock, amniotic fluid embolism.

2. Postnatal mothers who underwent instrumental procedures like forceps or vacuum delivery.

3. Postnatal mothers who had 3^{o} or 4^{o} perineal tear.

3.10. DEVELOPMENT OF THE TOOL

The researcher developed the tool on the basis of objective of the study. The following steps were adopted prior to the development of the tool. Review of literature provided adequate content for the tool presentation, personal experience of the researcher in the clinical field and opinion from experts of Obstetrical and Gynaecology, department helped in devising the tool. The tool was developed in English and translated into Tamil. Congruency was maintained in translation.

3.11. DESCRIPTION OF THE TOOLS

The tools consist of two groups: Group A and Group B.

Group A:-

Demographic data which give baseline information obtained from mothers such as age, religion, education, occupation, residence, type of family, income, Haemoglobin level and obstetrical data. Post natal mothers in control group received standard hospital routine treatment Betadine solution. REEDA scale was used to assess the level of healing of episiotomy wound before and after intervention.

Group B:-

Demographic data which give baseline information obtained from mothers such as age, religion, education, occupation, residence, type of family, income, haemoglobin and obstetrical data. Postnatal mothers in experimental group received normal saline solution. REEDA scale was used to assess the level of healing of episiotomy wound before and after intervention.

REEDA SCALE:

The scale used is a standardized REEDA scale, (Davidson, 1974) which has five components, namely:

1. Redness
2. Edema
3. Ecchymosis
4. Discharge
5. Approximation

3.12. SCORE INTERPRETATION

To measure the episiotomy wound status REEDA scale was used which has four categories

The four categories are

0 – Healed

1-5 Moderately Healed

6-10 Mild Healed

11-15 Not Healed

Total score is 15. Higher the score, is more severe the wound infection.

3.13 ETHICAL CONSIDERATION

The study was conducted after getting the approval from the Institutional Ethical Committee and Director, Institute of Obstetrics and Gynaecology and Hospital for Women & Children, Chennai-8 as well. Informed consent was obtained from each study participant after giving full information about the study. Anonymity was assured to each participant and maintained by the researcher.

3.14. TESTING OF THE TOOLS

The content validity of the tool was established on the basis of opinion from two experts**.**

a) Content validity

Content validity is the degree to which the items in an instrument adequately represent the universe of content for concept being measured.

Polit and Beck (2004)

The content validity of the tool was established on the basis of opinion from two experts, Medical expert and Nursing expert and the tool was finalized.

b) Pilot study

Pilot study is the small scale version, or trial done in preparation for a main study. **Denise F. Polit,(2004)**

With formal permission from the Head of the department and content validity from the experts, the study was conducted in postnatal wards at Govt. Hospital for Women & Children, Chennai-8. By simple random sampling technique, 10 samples with postnatal mothers with episiotomy selected. Pre assessment of episiotomy wound status was done by using REEDA scale. For experimental group, normal saline applied on episiotomy wound and for control group hospital routine care was followed. Post assessment was done after 3days

of immediate intervention by REEDA scale. The study shows the feasibility to conduct the proposed study as planned.

c) Reliability of the tool

After pilot study, reliability of the tool was assessed by using inter rater method and its correlation coefficient r –value is 0.83. This correlation coefficient is very high and it was good tool for assessing effectiveness of Normal Saline in healing of episiotomy wound among postnatal mothers.

3.15. DATA COLLECTION PROCEDURE

Written permission was obtained to conduct the study from the human ethical committee from Madras Medical College, Chennai-3 and the formal permission was obtained from the Director, Govt. Hospital for Women and Children, Chennai-8 as well as from unit chief and ward in-charge staff. Data collection was done within the given period of 4 weeks. The researcher personally explained the purpose of the study and established good rapport with the post natal mothers before giving the intervention assured confidentiality. The data was collected from each sample as follows: First, the sample was selected according to the convenience of the researcher into two groups. As a pre assessment, the researcher assessed the level of episiotomy wound status using REEDA scale in both groups. For the experimental group, the episiotomy wound was cleaned with sterile gauze dipped into normal saline solution from forchette to anus three times with different sterile gauze. Repeat the procedure for twice a day for three days at 8 hours of interval. By the end of the third day, immediately after the intervention, assess the level of healing of the episiotomy wound by REEDA scale.

The same is done for the control group post natal mothers with hospital routine care (betadine) solution instead of normal saline and the level of healing of episiotomy wound is assessed with the help of REEDA scale.

The mean pre assessment and post assessment scores of experimental and control group are compared for the effectiveness. The above said procedure was done in three phases:

Phase I:

The researcher assessed the pre assessment level of healing of episiotomy wound by using REEDA scale in both experimental and control group.

Phase II:

For experimental group the researcher applied the normal saline on episiotomy wound twice in a day at the interval of 8 hours for three days. In control group routine hospital care given by the researcher.

Phase III:

In experimental group and control group the researcher assessed the post assessment level of healing of episiotomy wound by the end of 3rd day immediately after the last intervention by using REEDA scale

3.16. PLAN FOR DATA ANALYSIS

Descriptive and inferential statistics were used to analyse the data

Descriptive statistics

1. Frequency, percentage distribution was used to describe the distribution of demographic variables.

2. Frequency and percentage distribution were used to assess the episiotomy wound status among experimental and control group of postnatal mothers.

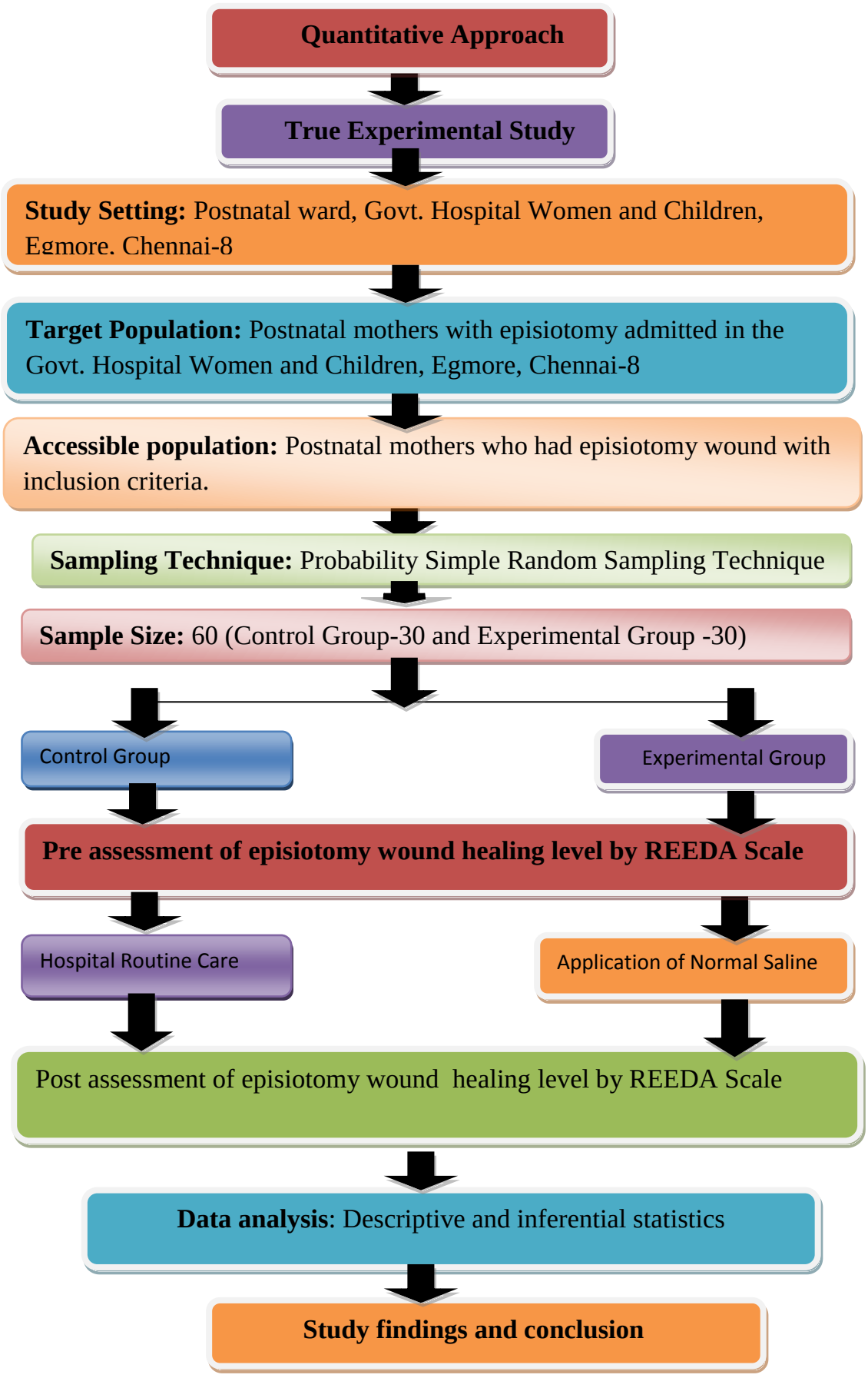
3. Mean, range and standard deviation was used to assess the level of healing of episiotomy wound before and after the intervention.

Inferential statistics

1.Paired 't' was used to compare the pre and post test level of episiotomy wound status among the control and experimental group of postnatal mothers before and after normal saline application on episiotomy wound.

2. Unpaired't' test was used to compare the pre test level of episiotomy wound status among both control group and experimental group of postnatal mothers.

3. Chi –square test was used to associate the effectiveness of normal saline for episiotomy wound status among experimental group of postnatal mothers with their selected demographic variable



FIQURE: 3 SCHEMATIC REPRESENTATION OF STUDY DESIGN

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the description of sample analysis and interpretation of the collected data according to the True experimental study which is centred on a clinical trial which was undertaken to analyze the effectiveness of application of normal saline on episiotomy wound healing among postnatal mothers admitted to postnatal wards of the government hospital for women and children, Chennai-8.

Polit Hungler (2007) defines analysis as the method of categorising, ordering, manipulating and summarising of data reduced to intelligible form. So that research problem can be studied and tested including relationship between the variables.

The analysis was done for the samples collected and the findings from the 60 postnatal mothers (30 experimental groups and 30 control group) are included here. In this chapter, study findings are grouped analysed based on the descriptive and inferential statistical analysis and presented under the following headings based on the objectives of the study.

ORGANISATION OF DATA:

The data obtained were mainly classified into following sections.

Section-I

Distribution of demographic variables of experimental group and control group of postnatal mothers.

Section-II

Distribution of obstetrical variables of experimental group and control group of postnatal mothers.

Section –III

1**.** Distribution of statistical value of pre assessment level of healing of episiotomy wound status on experimental group and control group of postnatal mothers.

2. Distribution of statistical value of pre assessment level of healing of episiotomy wound score on experimental and control group of postnatal mothers.

Section-IV

1 To assess of the post assessment level of healing of episiotomy wound status among the postnatal mother in both group.

2 Distribution of statistical value of post assessment level of healing of episiotomy wound score on experimental group and control group of postnatal mothers.

Section-V

1. Comparison of statistical values of the level of healing of episiotomy wound status between the experimental and control group.

2. Comparison of statistical values of the level of healing of episiotomy wound score between the experimental and control group

Section-VI

To assess the effectiveness of Normal saline in healing of episiotomy wound among postnatal mothers

Section- VII

1. Association between level of healing score and demographic variables on Experimental group.

2. Association between level of healing score and demographic variables on control group.

SECTION-I

Table. 4. 1 Distribution of demographic variables of experimental group and control group of postnatal mother.

N=30/Group

Demographic variables		Group			
		Experimental		Control	
		N0	%	N0	%
Age	18 -21 years	11	36.7%	8	26.7%
	22 -25 years	15	50.0%	14	46.7%
	26 -29 years	2	6.7%	6	20.0%
	>29 years	2	6.7%	2	6.7%
Religion	Hindu	13	43.3%	13	43.3%
	Christian	10	33.3%	12	40.0%
	Muslim	2	6.7%	2	6.7%
	Others	5	16.7%	3	10.0%
Education	Non formal	4	13.3%	4	13.3%
	Primary	12	40.0%	12	40.0%
	Secondary	8	26.7%	10	33.3%
	Graduate	6	20.0%	4	13.3%
Occupation	Housewife	14	46.7%	13	43.3%
	Permanent workers	9	30.0%	5	16.7%
	Temporary workers	7	23.3%	12	40.0%
Residence	Rural	11	36.7%	7	23.3%
	Urban	12	40.0%	14	46.7%
	Suburban	7	23.3%	9	30.0%
Type of Family	Joint family	9	30.0%	6	20.0%
	Nuclear family	14	46.7%	17	56.7%
	Extended family	7	23.3%	7	23.3%
Income	< Rs.2000	2	6.7%	1	3.3%
	Rs.2000 - 3000	5	16.7%	2	6.7%
	Rs.3000 - 4000	14	46.7%	13	43.3%
	>Rs. 4000	9	30.0%	14	46.7%
Hb%	< 10 gram	13	43.3%	13	43.3%
	10 -12 gram	10	33.3%	13	43.3%
	> 12 gram	7	23.3%	4	13.3%

TABLE 1: Shows frequency and percentage distribution of demographic variables of experimental and control group.

- In considering the **age**, the majority of respondents about 15 (50%) were between 22-25 years in experimental group whereas in control group majority of mothers 14 (46.7%) were between 22-25 years.

- Regarding religion most of them belongs to **Hindu** religion 13 (43.3%) in both group.

- As for the **education** most of the mothers 12 (40%) completed primary education in experimental and in control 12 (40%) have studied up to primary education.

- Regarding **occupation** most of the mothers14 (46.7%) are housewives in experimental group and majority of mothers 13 (43.3%) are housewives in control group.

- Regarding place of **residence** majority are residing in urban 12(40%) in experimental, 14 (46%) in control group.

- Most of them are living as a nuclear **family** 14(46.7%) in experimental and 17(56.7%) in control group.

- In experimental, the majority of respondents about14 (46.7%)are in the income group between 3000-4000 and in control group14(46.7%) above 4000 are in the monthly **income.**

- Regarding **Haemoglobin %** most of them are below 10 gram 13 (43.3%) in both experimental and control group.

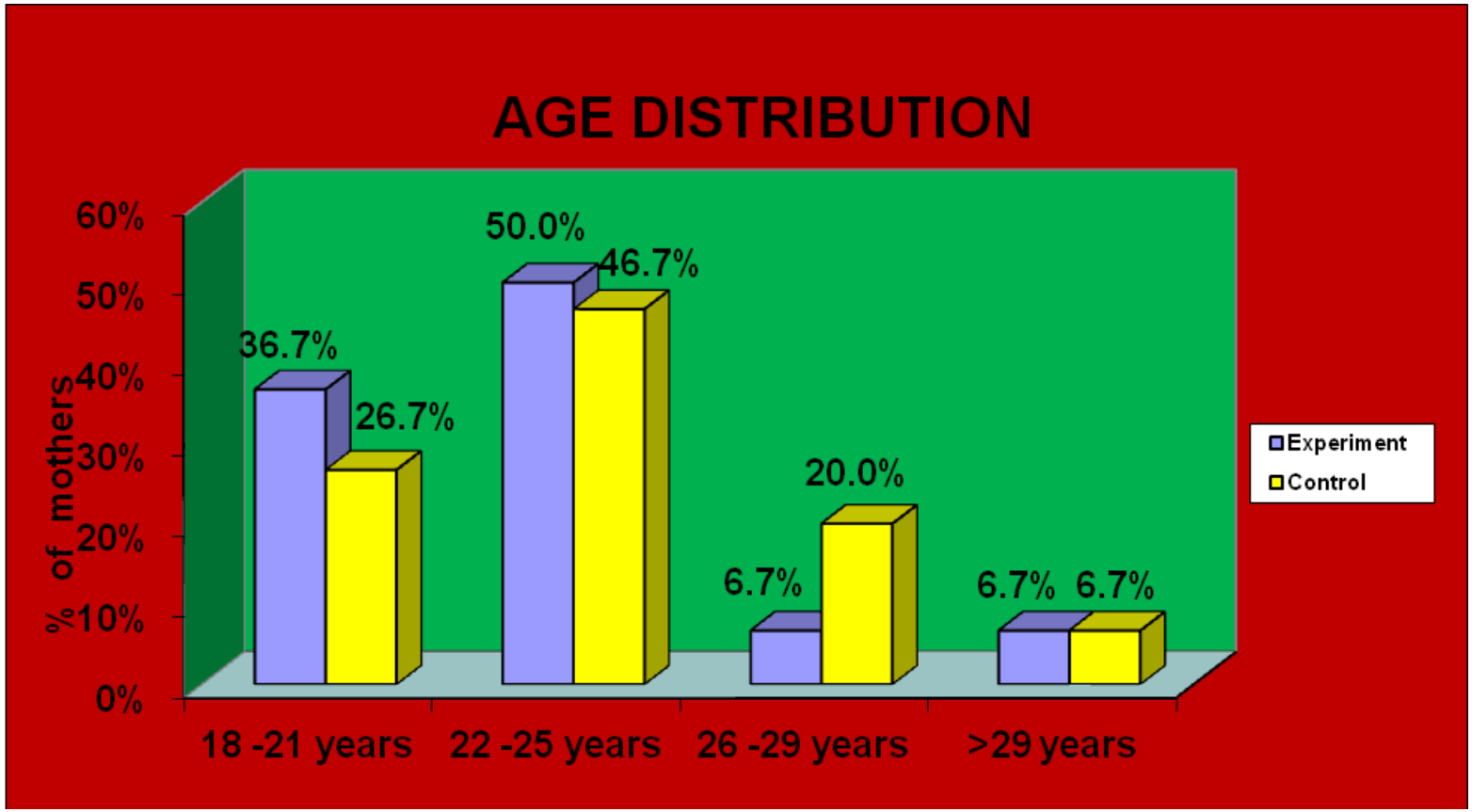


Fig-3: Percentage distribution of age in experimental and control group

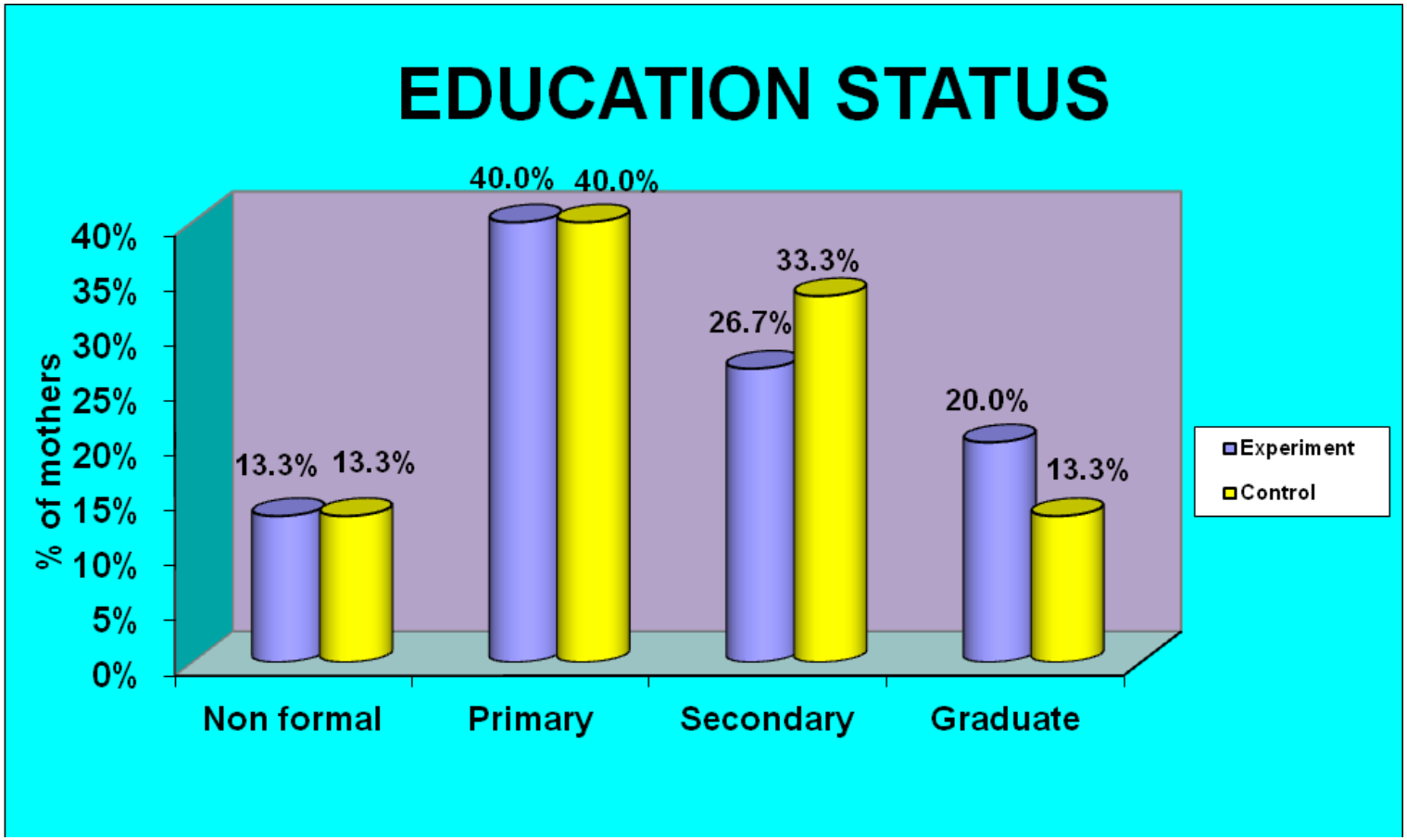


Fig-4 Percentage distribution of education status in experimental and control group

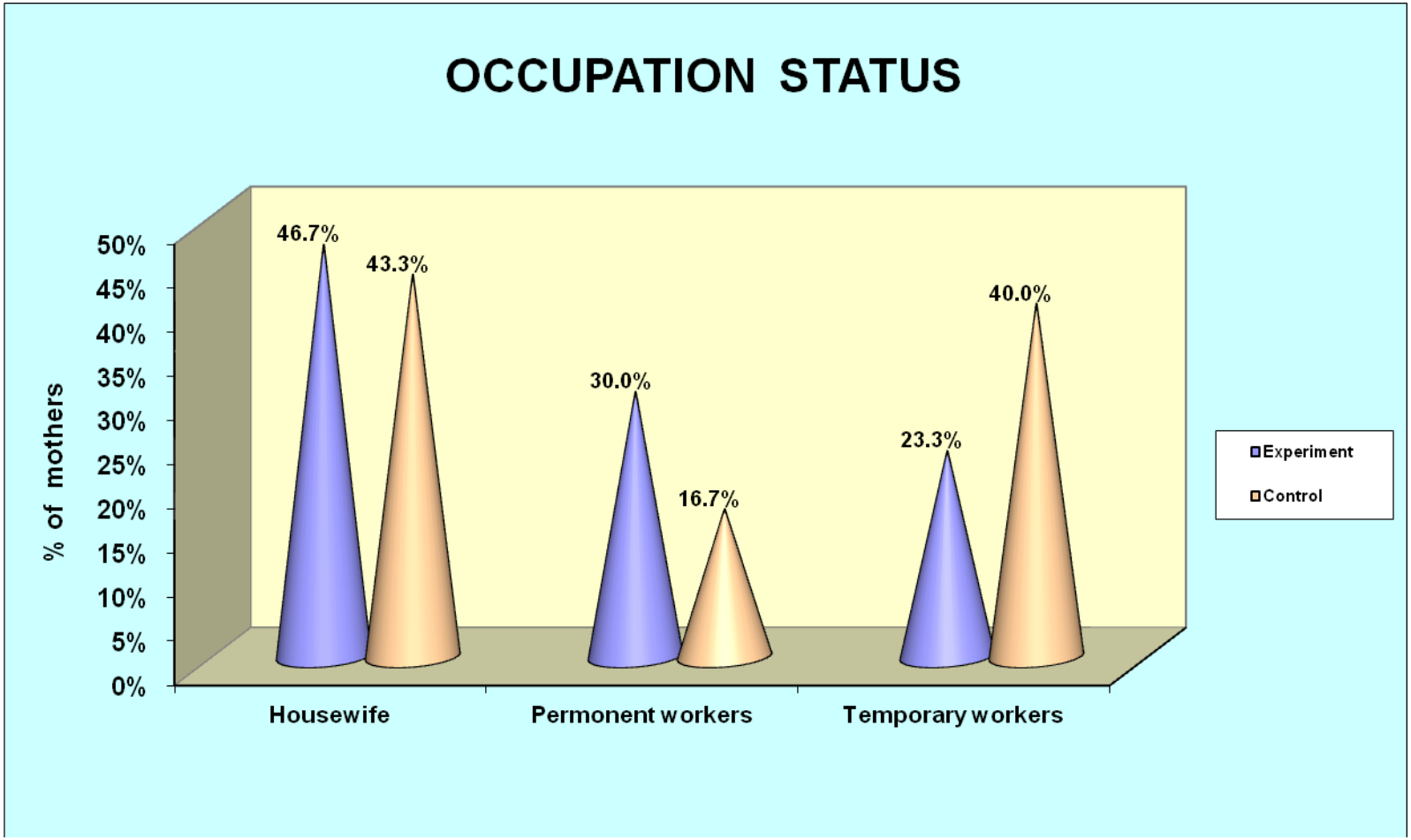


Fig-5: Percentage distribution of occupational status in experimental and control group

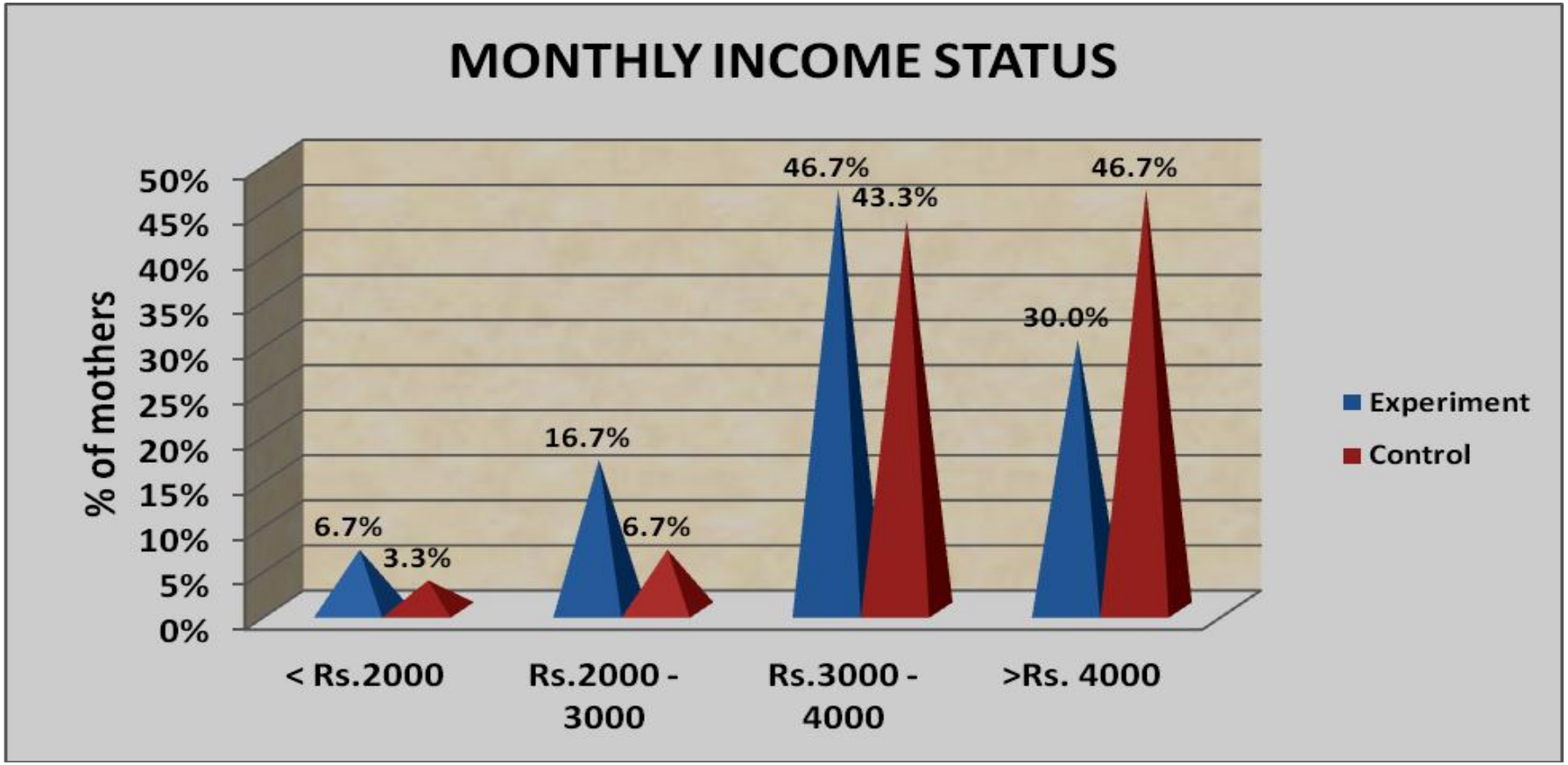


Fig-6: Percentage distribution of monthly income status in experimental and control group

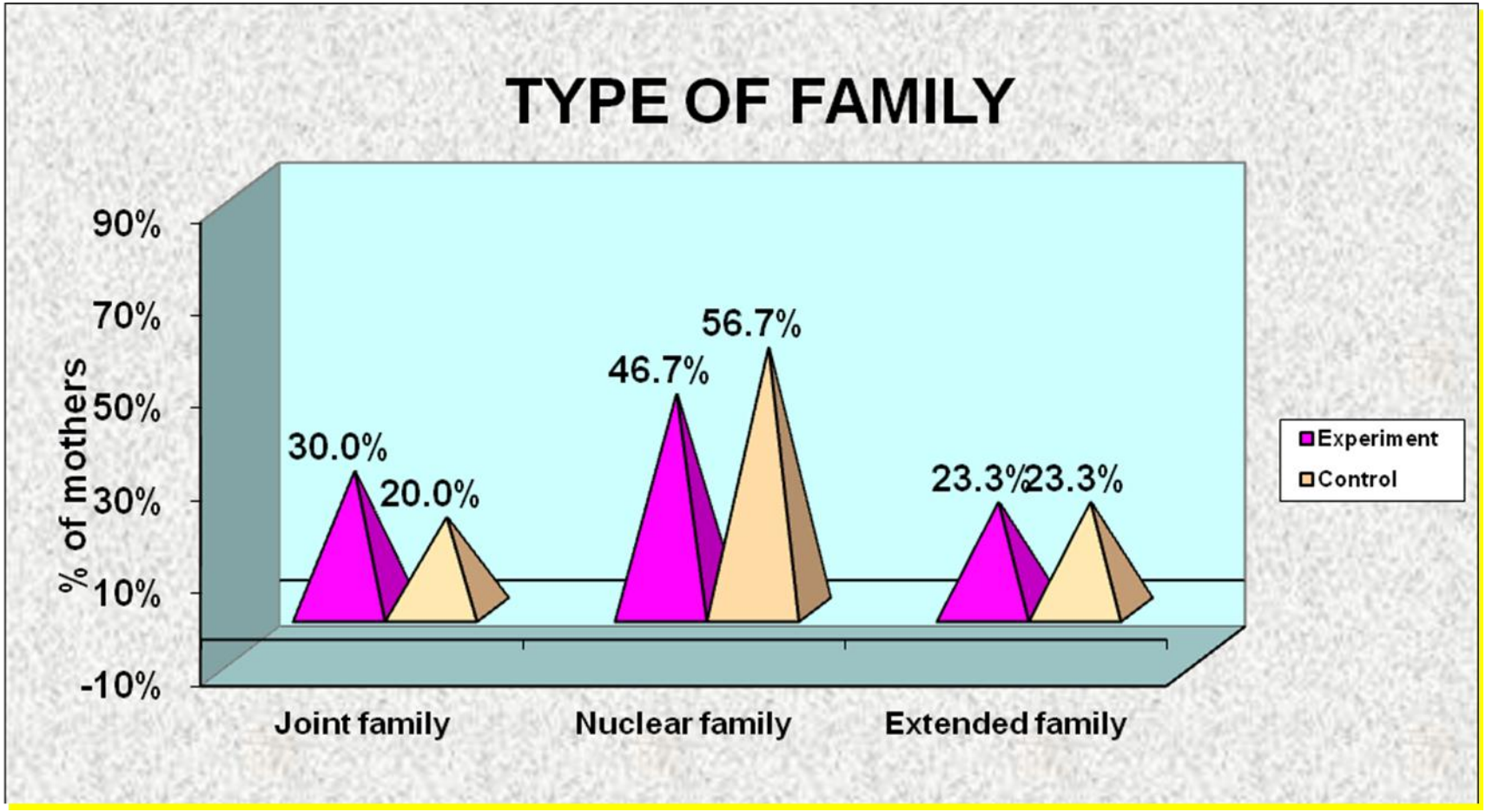


Fig 7: Percentage distribution of type of family in experimental and control group

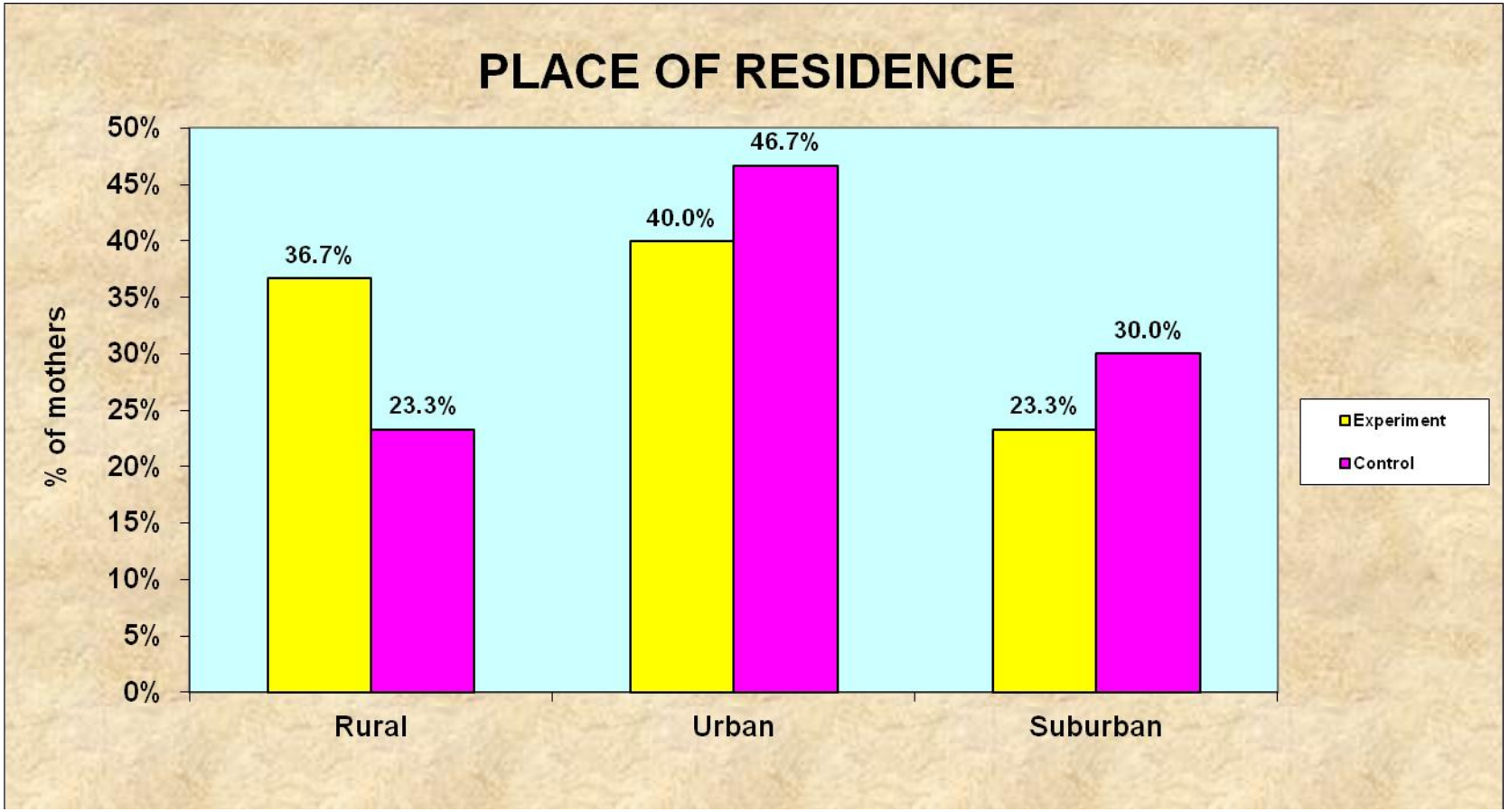


Fig 8: Percentage distribution of place of residence in experimental and control group

SECTION II

Table 4.2 Distribution of obstetrical variables of experimental group and control groupof postnatal mothers.

Table2: OBSTETRICAL VARIABLES

Obstetrical Variables		Group			
		Experimental		Control	
		No	%	No	%
Type of Episiotomy	Left medio-lateral	22	73.3%	19	63.3%
	Right mediolateral	8	26.7%	11	36.7%
Type of suture material used	Chromic catgut	24	80%	25%	83.3
	Silk	1	3.3%	1	3.3%
	Vicryl	5	16.7%	4	13.3%
Type of perineal pads used	Hospital made	16	53.3%	13	43.3%
	Commercial	10	33.3%	9	30%
	Home made	4	13.3%	8	26.7%
Number of perineal pads used	3 - 4 pads	7	23.3%	5	16.7%
	5 - 6 pads	20	66.7%	22	73.3%
	> 6 pads	3	10.0%	3	10.0%
Baby weight	2.1 -2.5 kg	2	6.7%	3	10.0%
	2.6 -3.0 kg	5	16.7%	8	26.7%
	3.1 -3.5 kg	20	66.7%	17	56.7%
	> 3.5 kg	3	10.0%	2	6.7%

Table: 2 -Shows frequency and percentage distribution of obstetrical variables of experimental and control group.

- Regarding the type of episiotomy majority of mothers 22 (73.3%) had left medio-lateral in experimental group,19 (63.3%) in control group.

- Considering the type of suture material chromic catgut 24(80%) in experimental group, chromic catgut 25 (83.3%) in control group.

- Regarding the type of perineal pads used per day majority of the respondents 16 (53. 3%) in experimental group used hospital pad,13 (43.3%) used hospital pads in control group.

- Regarding no of perineal pads used 5-6 pads (66.7%) in experimental group and 22 (73.3%) in control group.

- With regard to the weight of the babies 20 (66.7%) in experimental group and 17(56.7%) in control group weighed between 3.1-3.5 kg.

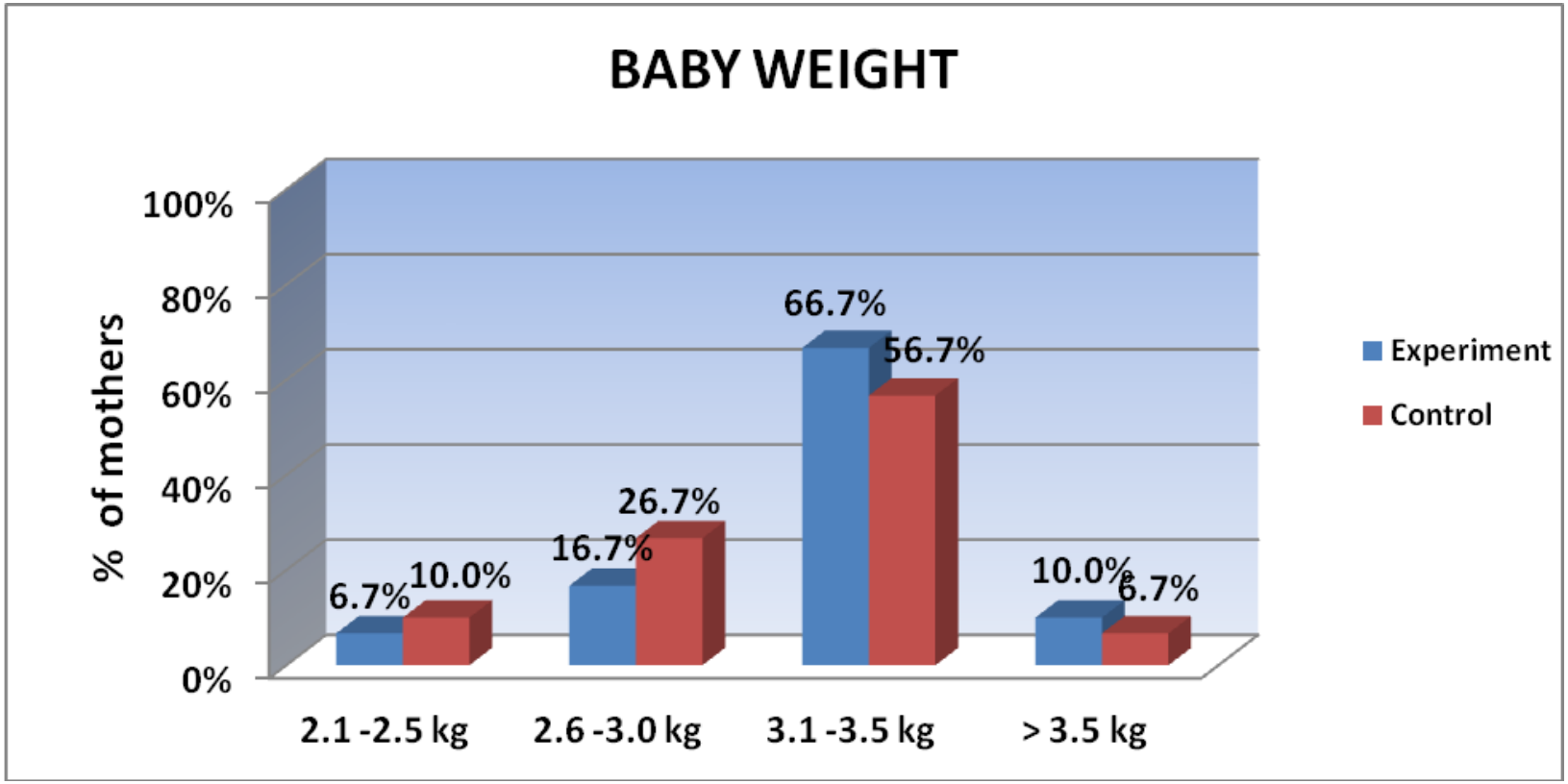


Fig-9: Percentage distribution of baby weight in experimental and control group

SECTION:-III.1

Table-3:1 Distribution of statistical value of pre assessment level of healing of episiotomy wound status on experimental group and control group of postnatal mothers.

PRE ASSESSMENT OF LEVEL OF HEALING

	Experimental		Control		Chisquare test
	No. of mothers	%	No. of mothers	%	
Healed	0	0.0%	0	0.0%	$\chi 2=0.00$ P=1.00 Not Significant
Moderately healed	0	0.0%	0	0.0%	
Mildly healed	0	0.0%	0	0.0%	
Not healed	30	100.0%	30	100.0%	
Total	30	100.0%	30	100.0%	

TABLE NO.3: Shows the pre assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

Before **normal saline**, 100% of the mothers do not have healed status in both experimental group and control group. Statistically there is no significant difference. Chisquare test was used to test statistical significance.

SECTION. III.2

Table. 4.4 Distribution of statistical value of pre assessment level of healing of episiotomy wound score on experimental and control group

PRE ASSESSMENT HEALING OF EPISIOTOMY WOUND SCORE

Components	Group				Student independent t-test
	Experimental		Control		
	Mean	SD	Mean	SD	
Redness	2.77	.43	2.87	.35	t=0.99 p=0.32
Edema	2.87	.35	2.73	.45	t=1.28 p=0.22
Ecchymosis	2.23	.43	2.37	.49	t=1.12 p=0.26
Discharge	2.77	.43	2.90	.31	t=1.38 p=0.17
Approximation	2.67	.48	2.77	.43	t=0.85 p=0.39
Total	13.30	1.06	13.63	.93	t=1.29 p=0.19

TABLE-4: Reveals the frequency and percentage distribution of pre assessment level of episiotomy wound status among the experimental group and the control group of postnatal mothers.

Considering pre-test wound healing score, in all components, there is small difference between experiment and control group of mothers, that difference is not statistically significant. Statistical significance was calculated by using student's independent 't' test.

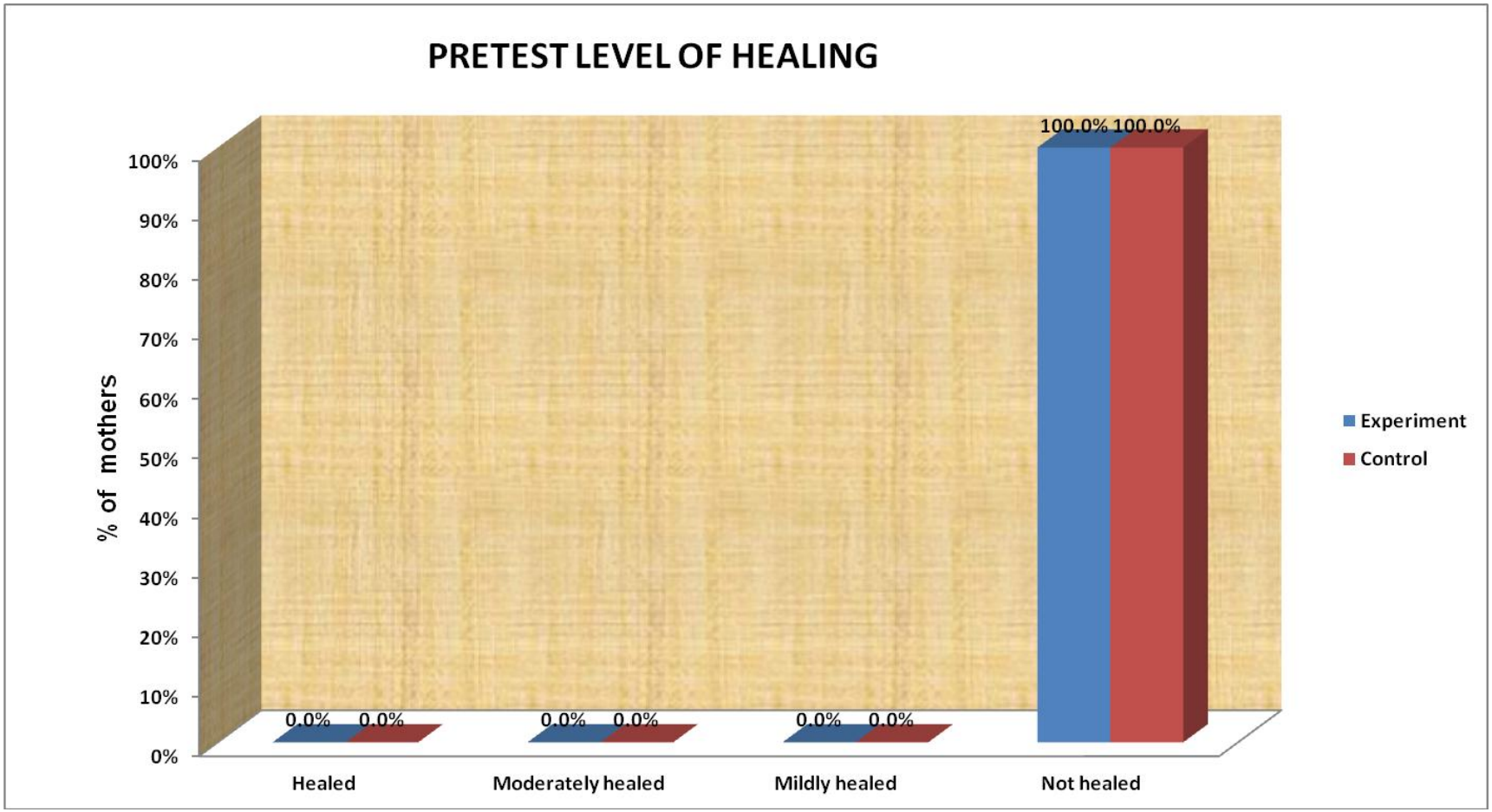


Figure-10: Percentage distribution of pretest level of episiotomy wound status on experimental and control group .

SECTION–IV.I

TABLE 4.5: TO ASSESS OF THE POST ASSESSMENT LEVEL OF HEALING OF EPISIOTOMY WOUND STATUS AMONG THE POSTNATAL MOTHER IN BOTH GROUPS.

ASSESSMENT OF POST ASSESSMENT LEVEL OF HEALING

	Experiment		Control		Chisquare test
	No. of mothers	%	No. of Mothers	%	
Healed	10	33.3%	3	10.0%	$\chi 2=10.76$ P=0.01** Significant
Moderately healed	20	66.7%	18	60.0%	
Mildly healed	0	0.0%	9	30.0%	
Not healed	0	0.0%	0	0.0%	
Total	30	100.0%	30	100.0%	

Table.4.5 Shows the post-test level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

In post-test**,** in experiment group, 33% of the mothers are healed, 66.7% are moderately healed.

In post-test**,** in control group, 10% of the mothers are healed, 60.0% are moderately healed,30% are mildly healed. .

Statistically there is a significant difference at P<O.O1, Chisquare test was used to test statistical significance.

SECTION IV. 2.

Table 4.6: Distribution of statistical value of post test level of healing of episiotomy wound score on experimental group and control group of postnatal mothers

POST ASSESSMENT LEVEL OF HEALING OF EPISIOTOMY WOUND SCORE

Components	Groups				
	Experimental		Control		
	Mean	SD	Mean	SD	Student independent t-test
Redness	0.17	.38	0.57	63	t=2.99 p=0.01**
Edema	0.30	.47	0.77	77	t=2.82 p=0.01**
Ecchymosis	0.13	.35	0.63	67	t=3.63 p=0.001**
Discharge	0.17	.38	0.90	66	t=5.26 p=0.001**
Approximation	0.13	.35	0.67	71	t=3.69 p=0.01**
Total	0.93	.87	4.53	1.93	t=9.33 p=0.001***

TABLE-6: Shows the post assessment level of healing of episiotomy wound score among postnatal mothers in both experimental group and control group.

Considering post-test wound healing score, in all components, there is a difference between experiment and control group of mothers, that difference is statistically significant. Statistical significance was calculated by using student's independent't' test.

Considering **overall,** the experimental mothers are having 0.93 healing score wheras in control group it is 4.53 healing score, so the difference is 3.60.This difference between prê assessment and post assessment is large and it is very highly statistically very high significant at P< 0.001.Statistical significance was calculated by using student's independent 't' test.

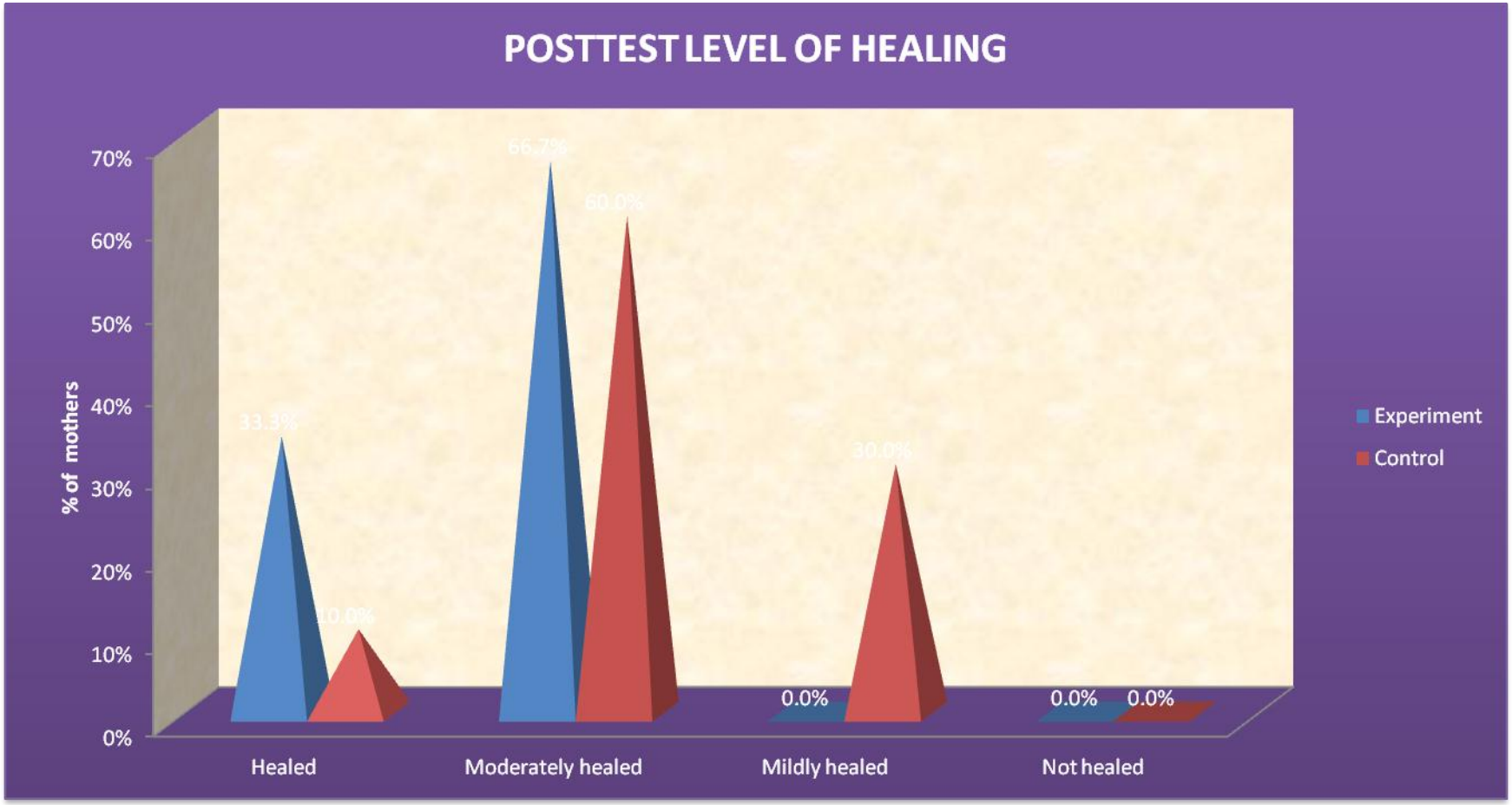


Fig-11:Percentage distribution of post assessment level of episiotomy wound status on experimental and control group

SECTION-V: 1

Table 4.7 Comparison of the level of healing of episiotomy wound status between the experimental and control group.

COMPARISON OF PRE ASSESSMENT AND POSTASSESSMENT LEVEL OF HEALING

	Level of healing	Pre assessment		Post assessment		Chi square test
		N	%	N	%	
Experimental	Healed	0	0.0%	10	33.3%	$\chi 2=60.00$ P=0.001 DF=2 Significant
	Moderately healed	0	0.0%	20	66.7%	
	Mildly healed	0	0.0%	0	0.0%	
	Not healed	30	100.0%	0	0.0%	
Control	Healed	0	0.0%	3	10.0%	$\chi 2=60.00$ P=0.001*** DF=2 Significant
	Moderately healed	0	0.0%	18	60.0%	
	Mildly healed	0	0.0%	9	30.0%	
	Not healed	30	100.0%	0	0.0%	

Table -7 : Reveals of the comparison of pre assessment and post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

In experiment group, in pre-test, none of the mothers have healed wound, after post-test, 33% of the mothers are having healed wound, 66.7% are having moderately healed wound. This is statistically significance at P< 0.001. In control group, in pre assessment, all mothers are having not healed wounding, after post assessment, 10% of the mothers are having healed wound, 60.0% are having moderately healed wound and 30% of the mothers are having mildly healed wound. This is statistically very highly significant at P< 0.001. Chisquare test was used to test statistical significance.

SECTION-V: 2.

Table 4.8: Comparison of statistical values of the level of healing of episiotomy wound score between the experimental and control group.

PREASSESSMENT AND POST ASSESSMENT HEALING OF EPISIOTOMY WOUND SCORE

		Group				Student paired t-test
		Pretest		Posttest		
	Components	Mean	SD	Mean	SD	
Experimental	Redness	2.77	.43	0.17	.38	t=22.91 p=0.001**
	Edema	2.87	.35	0.30	.47	t=27.89 p=0.001**
	Ecchymosis	2.23	.43	0.13	.35	t=23.63 p=0.001**
	Discharge	2.77	.43	0.17	.38	t=25.26 p=0.001**
	Approximation	2.67	.48	0.13	.35	t=27.34 p=0.001**
Control	Redness	2.87	.35	0.57	.63	t=17.94 p=0.001***
	Edema	2.73	.45	0.77	.77	t=12.10 p=0.001***
	Ecchymosis	2.37	.49	0.63	.67	t=10.46 p=0.001***
	Discharge	2.90	.31	0.90	.66	t=17.02 p=0.001***
	Approximation	2.77	.43	0.67	.71	t=15.15 p=0.001***

TABLE NO.8: Comparison of pre assessment and post assessment level of healing of episiotomy wound score.

Considering experimental group, in all components, there is a statistically very highly significant at $P < 0.001$ difference between pre assessment and post assessment healing score, that difference is statistically significant. Statistical significance was calculated by using student's paired't' test.

Considering control group, in all components, there is a statistically significant difference between pre-test and post-test healing score, that difference is statistically very highly significant at P < 0.001. Statistical significance was calculated by using student's paired't' test.

Table 9: COMPARISON OF PREASSESSMENT AND POSTASSESSMENT OF HEALING SCORE

	No. of mothers	PRE ASSESSMENT		POST ASSESSMENT		Student's paired t-test
		Mean	SD	Mean	SD	
Experimental	30	13.30	1.06	.93	.87	t=10.03P=0.001***
Control	30	13.63	.93	4.53	1.93	t=0.86P=0.39

Table 9: Compares pre assessment and post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

Considering **overall**, in **experiment group**, mothers are having 13.30 healing score and they are having 0.93 healing score in post assessment, so the difference is 12.37. This difference between pre assessment and post assessment healing score is large and it is statistically significant. Differences between pre test and post test healing was analysed using paired t-test.

Considering **overall**, in **control group**, mothers are having 13.63 healing score and they are having 4.53 healing score in post test, so the difference is 9.10. This difference between pre test and post test healing score is large and it is statistically significant. Differences between pre test and post test healing was analysed using paired t-test.

Statistical significance was calculated using **student's paired t-test.**

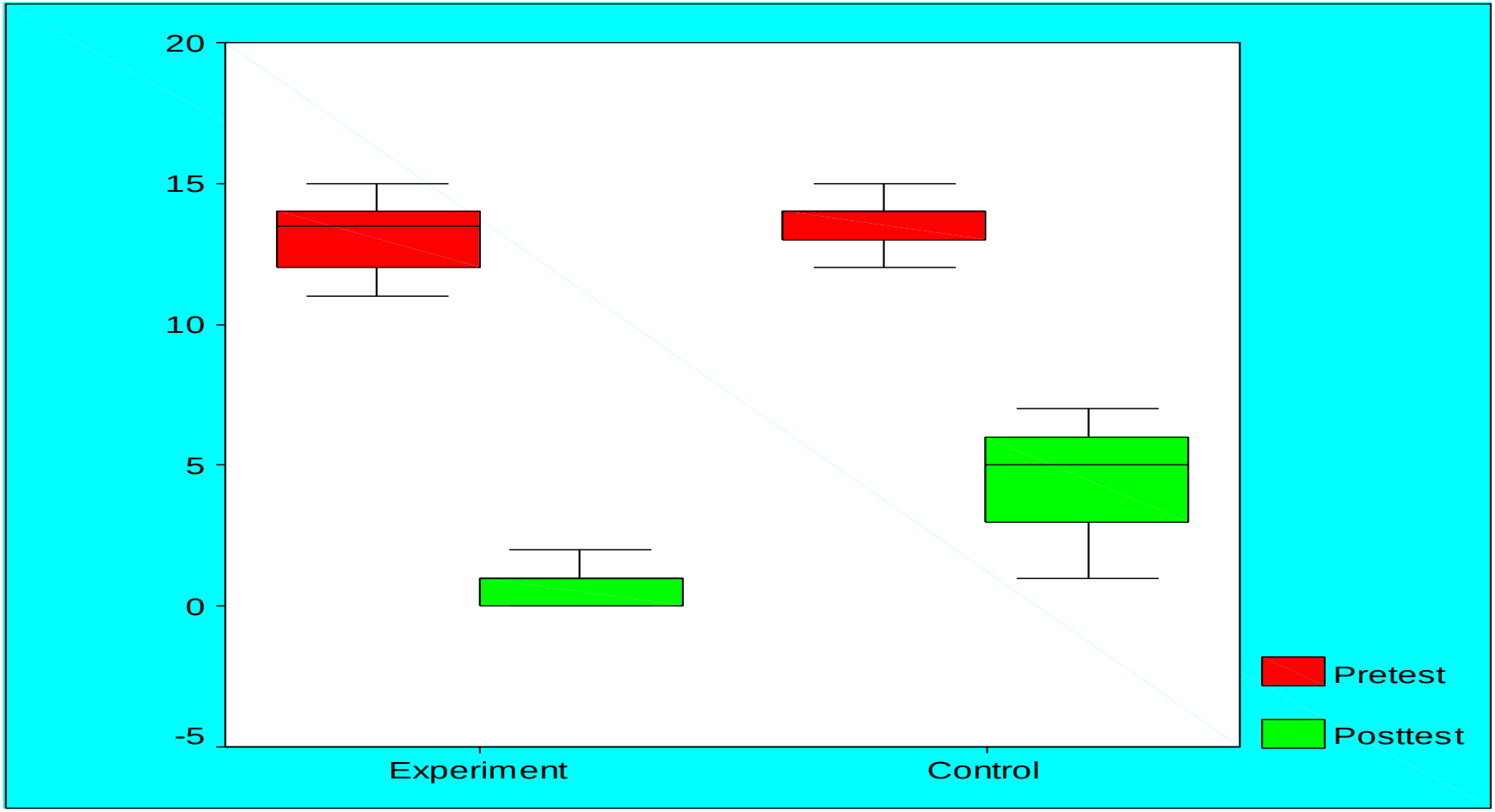


Fig 12: Box plot compares pre assessment and post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

SECTION. VI

Table 10: To assess the effectiveness of Normal saline in healing of episiotomy wound among postnatal mothers

		Max score	Mean score	Mean difference with 95% Confidence interval	Percentage difference with 95% Confidence interval
Experimental	**Pre assessment**	15	13.30	12.37(11.97-12.76)	**82.5% (79.8%-85.1%)**
	Post assessment	15	0.93		
Control	**Pre assessment**	15	13.63	9.10(8.39—9.81)	**60.6% (55.9%-65.4%)**
	Post assessment	15	4.53		

Table No: 10 Assess the effectiveness of normal saline in healing of episiotomy wound among postnatal mothers.

On an average, experimental mothers are having 82.5% of healing score whereas in control group mothers are having 60.6% healing score. Differences between pre test and post test score was analysed using proportion with 95% CI and mean difference with 95% CI. **This difference shows the effectiveness of Normal saline in healing of episiotomy wound.**

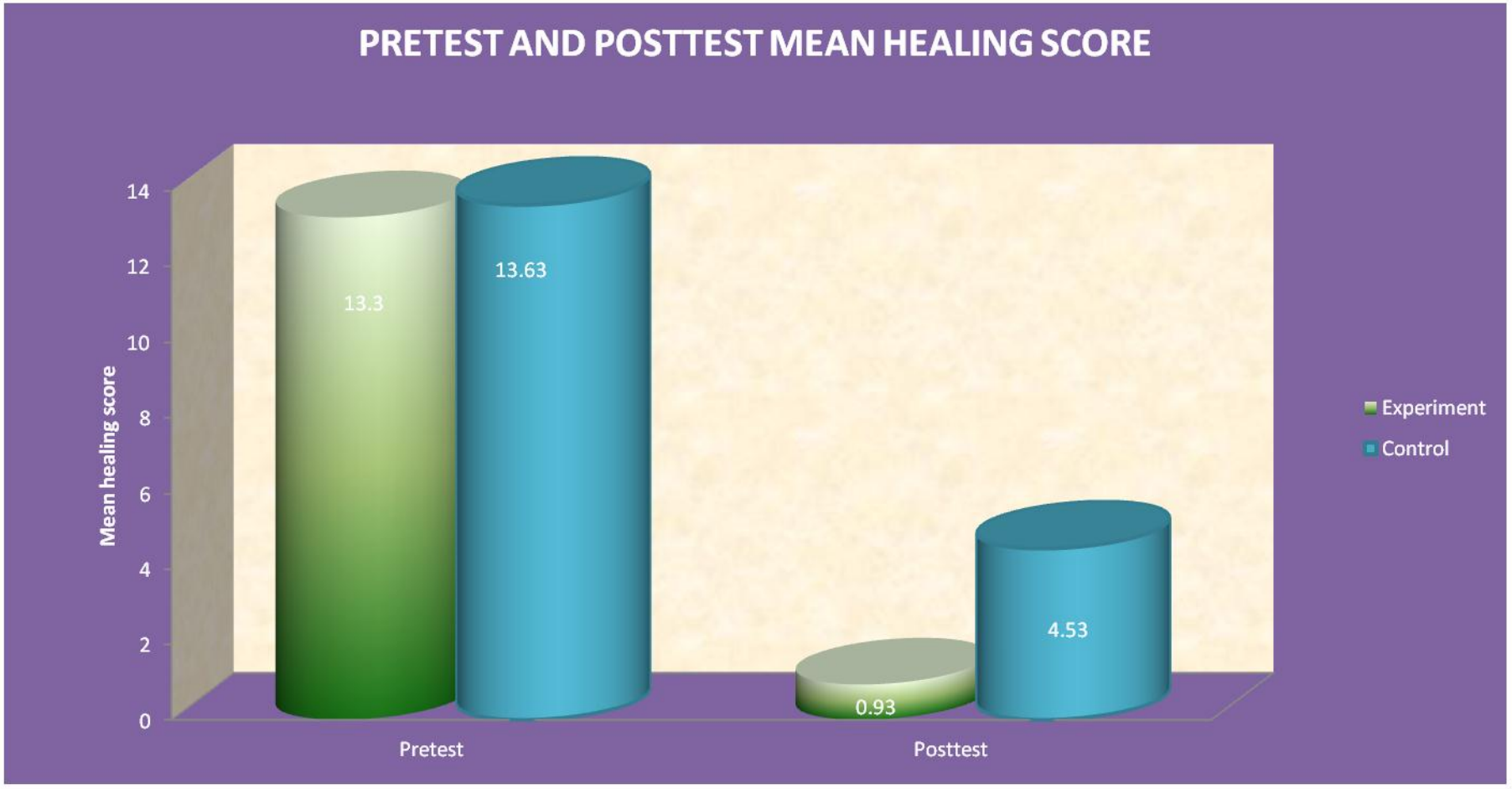


Figure: 13 – pre assessment and post assessment mean healing score of both experimental and control group

SECTION.VII

Table11: Association between level of healing score and demographic variables (Experimental)

Demographic variables		Level of healing score				Total	Chi square test
		Below average(<12.3)		Above average(>12.3)			
		score	%	score	%		
Age	18 -21 years	2	22.2%	9	77.8%	11	**χ^2=9.05**
	22 -25 years	9	60.0%	6	40.0%	15	
	26 -29 years	2	100.0%	0	0.0%	2	**P=0.02***
	>29 years	2	100.0%	0	0.0%	2	
Religion	Hindu	7	53.8%	6	46.2%	13	χ^2=2.67
	Christian	4	40.0%	6	60.0%	10	
	Muslim	2	100.0%	0	0 .0%	2	P=0.44
	Others	2	40.0%	3	60.0%	5	
Education	Non formal	2	50.0%	2	50.0%	4	χ^2=3.33
	Primary	8	66.7%	4	33.3%	12	
	Secondary	2	25.0%	6	75.0%	8	P=0.34
	Graduate	3	50.0%	3	50.0%	6	
Occupation	Housewife	7	50.0%	7	50.0%	14	
	Permanent workers	5	55.6%	4	44.4%	9	χ^2=0.25
	Temporary workers	3	42.9%	4	57.1%	7	P=0.88
Residence	Rural	7	63.6%	4	36.4%	11	χ^2=2.10
	Urban	6	50.0%	6	50.0%	12	
	Suburban	2	28.6%	5	71.4%	7	P=0.34
Type of Family	Joint family	6	66.7%	3	33.3%	9	χ^2=2.28
	Nuclear family	5	35.7%	9	64.3%	14	
	Extended family	4	57.1%	3	42.9%	7	P=0.31
Income	< Rs.2000	0	0.0%	2	100.0%	2	χ^2=2.59
	Rs.2000 – 3000	2	40.0%	3	60.0%	5	
	Rs.3000 – 4000	8	57.1%	6	42.9%	14	P=0.45
	>Rs. 4000	5	55.6%	4	44.4%	9	
Hb %	< 10 g %	10	76.9%	3	23.1%	13	**χ^2=7.74**
	10 -12 g %	4	40.0%	6	60.0%	10	
	> 12 g %	1	14.2%	6	85.8%	7	**P=0.02***

Table No :11 Shows the association between level of healing and demographic variables among postnatal mothers.

In younger age 22 -25 years (60%) of postnatal mothers gained more healing.

Haemoglobin level more than 12grams of postnatal mothers gained more healing.

Statistical significance was calculated using chi square test.

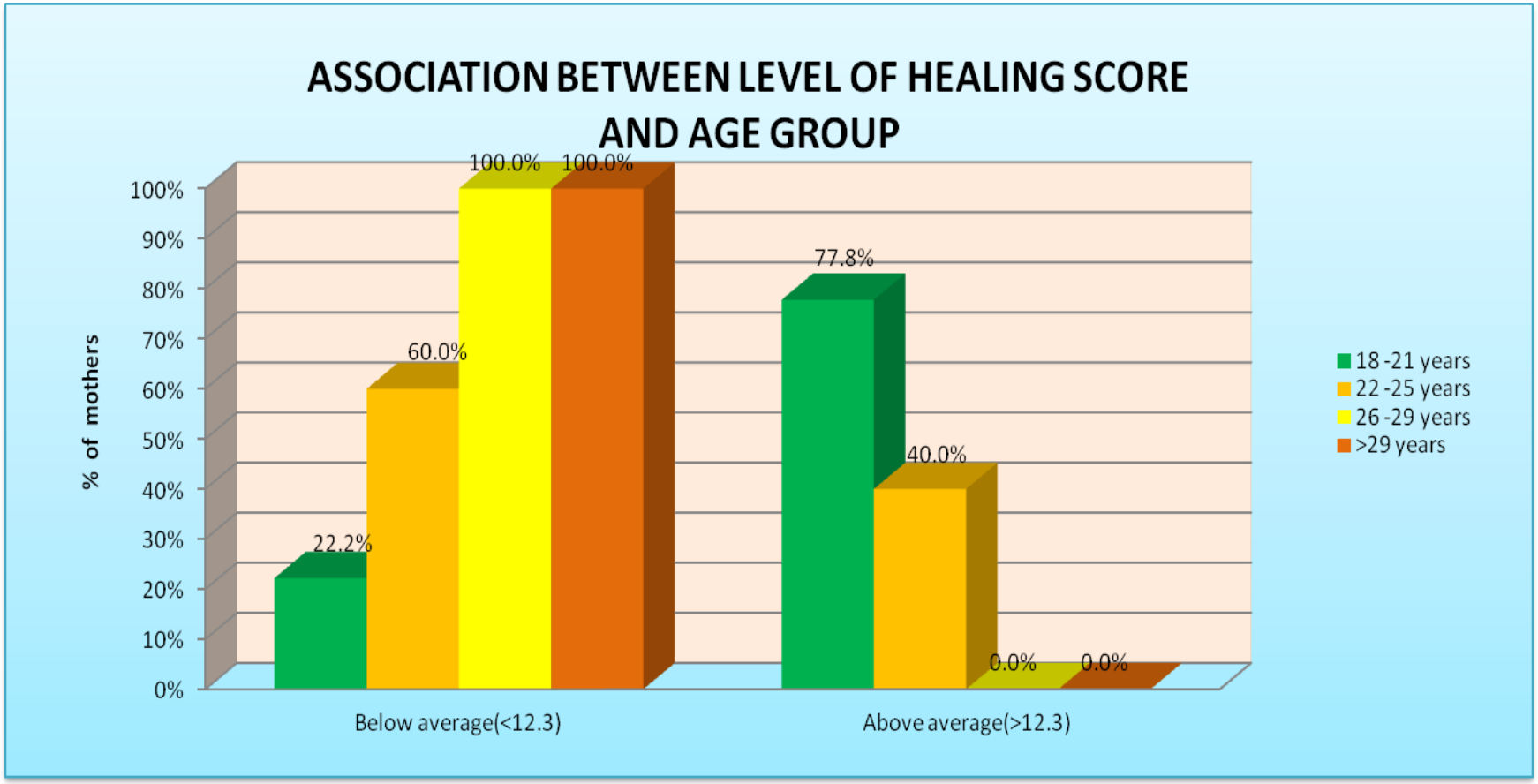


Fig-14: Association between level of healing score and age group in experimental group

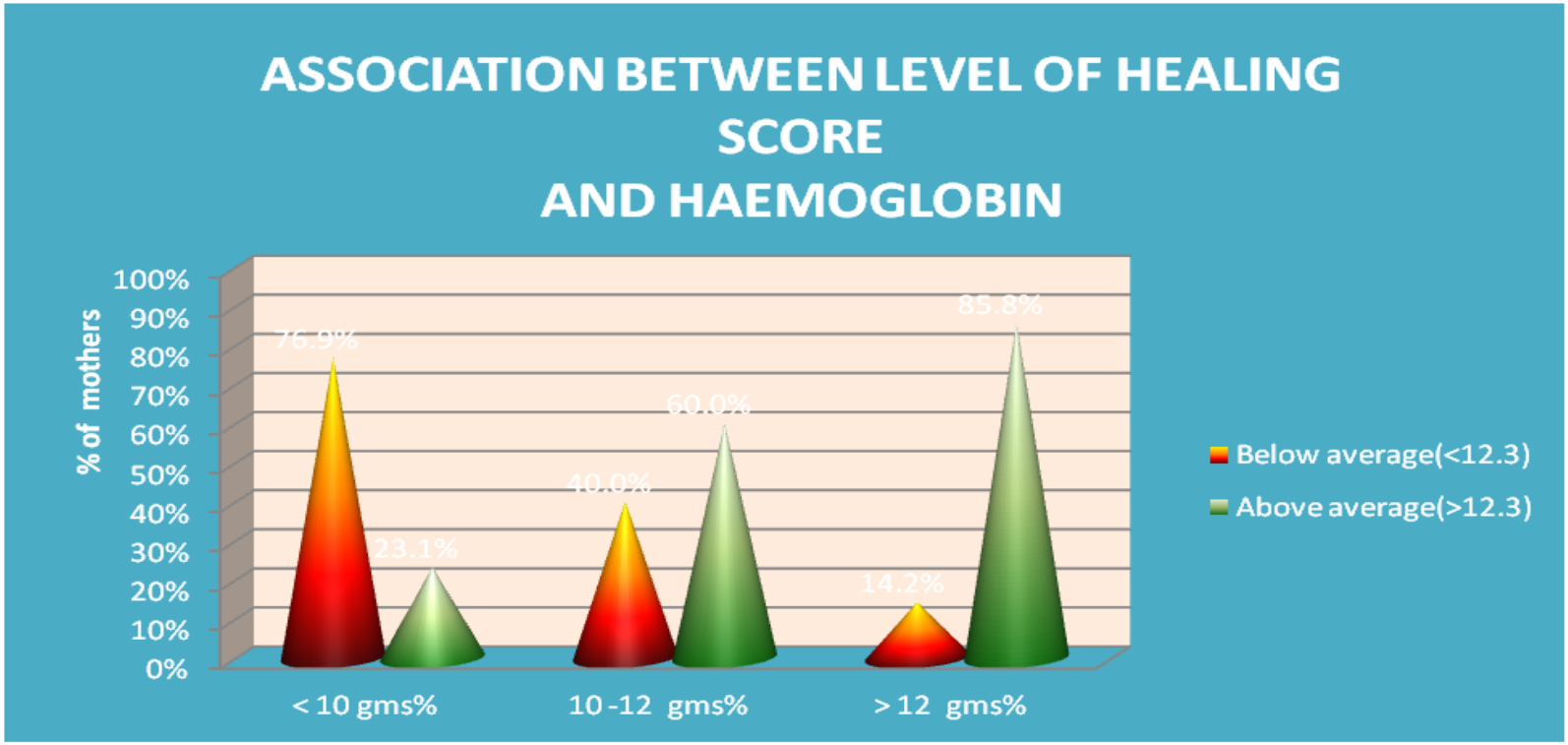


FIGURE-15 : Association between level of healing score and Haemoglobin in experimental grou

Table12: To Associate between level of healing score and demographic variables (control)

Demographic variables		Level of healing score				Total	Chi square test
		Below average(<9.1)		Above average(>9.1)			
		Score	%	Score	%		
Age	18 -21 years	3	37.5%	5	62.5%	8	$\chi 2=0.78$
	22 -25 years	8	57.1%	6	42.9%	14	
	26 -29 years	3	50.0%	3	50.0%	6	P=0.86
	>29 years	1	50.0%	1	50.0%	2	
Religion	Hindu	6	46.2%	7	53.8%	13	$\chi 2=2.74$
	Christian	5	41.7%	7	58.3%	12	
	Muslim	2	100.0%	0	0.0%	2	P=0.43
	Others	2	66.7%	1	33.3%	3	
Education	Non formal	2	50.0%	2	50.0%	4	$\chi 2=5.60$
	Primary	9	75.0%	3	25.0%	12	
	Secondary	3	30.0%	7	70.0%	10	P=0.13
	Graduate	1	25.0%	3	75.0%	4	
Occupation	Housewife	8	61.5%	5	38.5%	13	$\chi 2=1.22$
	Permanent workers	2	40.0%	3	60.0%	5	P=0.52
	Temporary workers	5	41.7%	7	58.3%	12	
Residence	Rural	4	57.1%	3	42.9%	7	$\chi 2=4.06$
	Urban	9	64.3%	5	35.7%	14	
	Suburban	2	22.2%	7	77.8%	9	P=0.13
Type of Family	Joint family	4	66.7%	2	33.3%	6	$\chi 2=0.86$
	Nuclear family	8	47.1%	9	52.9%	17	
	Extended family	3	42.9%	4	57.1%	7	P=0.64
Income	< Rs.2000	1	100.0%	0	0.0%	1	$\chi 2=1.98$
	Rs.2000 - 3000	1	50.0%	1	50.0%	2	
	Rs.3000 - 4000	5	38.5%	8	61.5%	13	P=0.55
	>Rs. 4000	8	57.1%	6	42.9%	14	
Hb %	< 10 g %	9	69.2%	4	30.8%	13	**$\chi 2=6.00$**
	10 -12 g%	6	46.1%	7	53.9%	13	
	> 12 g%	0	0.0%	4	100.0%	4	**P=0.05***

Table: 12 Shows the association between level of healing and demographic variables among postnatal mothers on control group.

Above 12 g % Haemoglobin of post mothers gained more healing.

Statistical significance was calculated using chi square test.

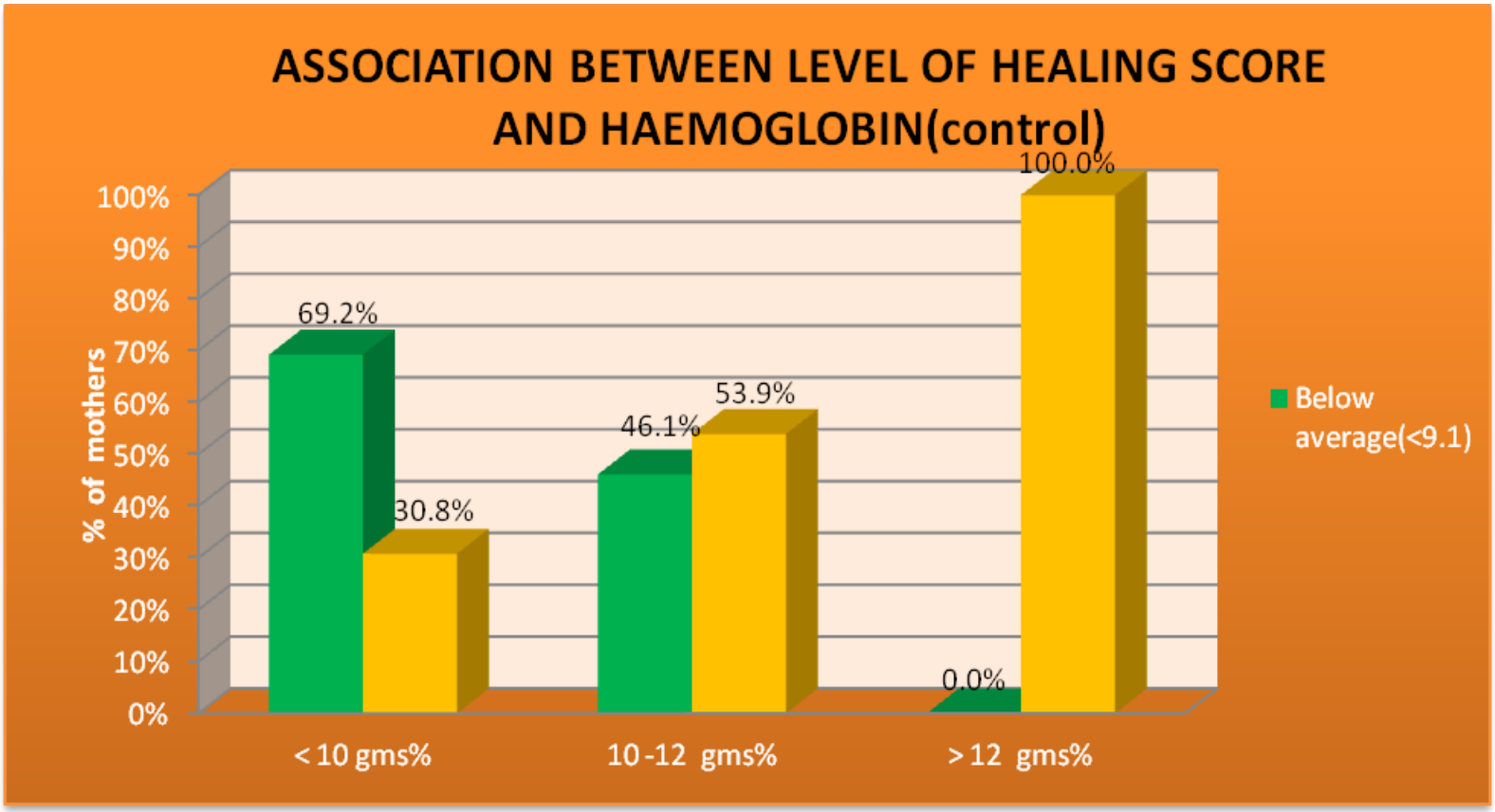


Fig 16: Association between level of healing score and Haemoglobin on control group

CHAPTER – V

DISCUSSION

"Almost everybody is enthusiastic about the promise of biotechnology to cure disease and to relieve suffering"

- Blaine Lee

The study is aimed at assessing the effectiveness of episiotomy wound healing after the application of normal saline. Episiotomy, the commonest intervention during childbirth, was first introduced for complicated deliveries, but in many countries became a routine policy in clinical practise. Further more, the suggested advantages of the routine episiotomy are challenged easily and the surgery is not without risks. Adverse effects arising from episiotomy include an increased evidence of source lacerations, blood loss, pain, delayed healing, dyspareunia, psychological trauma and medical cost. As research findings have the potential to streamline and rationalise practise at every level, the effectiveness of normal saline on episiotomy wound in postnatal mothers was assessed and findings are discussed here.

In the study two groups, true experimental design was adopted in both experimental and control group. The result of major study was discussed according to the objectives. .

This study was carried upon 60 postnatal mothers in Government Hospital for Women & Children, Chennai.8". Their wound healing was assessed with REEDA scale before and after application of normal saline on episiotomy wound.

1) The first objective of the study was to assess the pre assessment level of episiotomy wound among postnatal mother in both experimental and control group.

The Chi square test was performed to assess the condition of episiotomy wound before application of normal saline on postnatal mothers. The calculated Chi square value in pre assessment level of healing is $X^2 = 0.000$ at P = 1.00

statistically there is no significant difference. It was confirmed using student independent‘t’ test and the calculated‘t’ values was ‘t’ = 1.29 and P = 0.19. There was no significant difference in episiotomy wound healing among postnatal mothers before application of normal saline. 100% of the mothers are not in healed status in both experimental group and control group.

This result was supported by study conducted by Islam A,et al.(2013) in a prospective randomised control study was conducted at the Military Hospital Rawalpindi's Gynaecology & Obstetrics Department from January 2006 to April 2008. It comprised 100 patients who were given a mediolateral episiotomy at the crowning of the foetal head (group 1). Another group of 100 patients were delivered without an episiotomy (group 2). Postpartum morbidity was compared in the two groups. Morbidity from episiotomy included perineal damage by tears, subjective assessment of pain at perineum, dyspareunia after puerperium, feeling of pressure puerperium, incontinence and objective assessment of prolapsed after puerperium.

II. The second objective was to assess the post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

. The result, shows that there was a significant difference existing between the experimental and control group in the healing process. In post assessment experimental group 33% of the mothers are healed. 66.7% are moderately healed.

In post assessment control group 10% of the mothers are healed, 60.0% are moderately healed. 30% are mildly healed. Statistically there is a significant difference. The calculated chisquare value in post assessment level of healing was $X^2 = 10.76$ at P = 0.01. The student independent‘t’ test was conducted to confirm the above findings. The‘t’ values were 9.33 at P=0.001.

This result was supported in a study conducted by Akush Ginakol (2011)**.** Efficiency of Cikatridina spray for healing of episiotomy & perineal rupture.Which included 90 women after spontaneous or operative vaginal

delivery with episiotomy or a spontaneous perineal rupture treated with Cikatridina spray. Control group of 90 women was used to compare the efficency. The status of the wound was determined on the first, third, fifth and 30th day after birth, according to presence of the symptoms: redness, swelling, pain, exudation, epithelization, open wound. The study concluded that Cikatridina spray effectively eliminates symptoms of redness, swelling and pain regardless of perineal trauma and the method of delivery. There is an earlier epithelisation after using the Cikatridina spray. Open and infected perineal wounds are treated with conventional medicines.

III. The third objective was to compare the pre assessment and post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.

The researcher compared the level of healing of episiotomy wound among postnatal mothers, who were given normal saline application and those who were not given normal saline application. While analyzing the area of significance by difference of mean‘t’ test, it was found that there was a significance difference between levels of healing between mothers in experimental group and control group. When comparing the healing score between pre assessment and post assessment level of healing of episiotomy wound among post natal mothers in both experimental and control group it was found that the student’s paired t-test value was 10.03 and P= 0.001 for experimental group which is highly significant when compared to that of control group where’t’ test value was 0.86 and P= 0.39.

The calculated value by‘t’ test in control group mothers are having 13.63 healing source and they are having 4.53 healing score is post assessment, so the difference is 9.10. This difference between pre assessment and post assessment score is large and it is statistically significant.

Now when we assess the overall effectiveness of normal saline solution on healing of episiotomy wound among post natal mothers we can conclude that on

an average experimental mothers are having a healing score of 82.5% whereas in control group the healing score is 60.6%.The difference is calculated to be 21.9% which is a high value. Thus we can conclude that application of normal saline is highly effective than normal hospital routine care.

This result was supported in a study conducted by Fatemeh Sheikhan etal (2011) to assess the effectiveness of ice pack containing normal saline on the episiotomy wound. The aim was to assess the level of pain, inflammation and bruising of episiotomy wound. The results shown that the mothers had significantly less pain on episiotomy wound. The study concluded that the application of ice pack containing normal saline can be used in the post-natal wards and in home setting as well.

IV. The fourth objective was to associate the post assessment level of healing of episiotomy wound among postnatal mothers with selected demographic variable.

There was a significant association between the level of healing and demographic variables. Younger age between 22-25 years and post natal mothers who had above 12 gram of haemoglobin gained more healing. Statistical significance was calculated using chi square test. It was found that association was at a P value=0.02 in both group.

This result was supported by P.Manjula (2012) in a descriptive study which was conducted to examine the factors influencing episiotomy wound healing among 60 postnatal women in Government Talk Hospital, Kundapura. Demographic Performa of postnatal women and an observational checklist on episiotomy wound healing was used to collect data. Age of the mother,no of vaginal examination done during labour, head circumference of newborn, haemoglobin level had some effect on episiotomy wound healing score. The study reveals that episiotomy wound healing is influenced by parity, frequency of self perineal care, length of episiotomy wound and no of episiotomy sutures present.

CHAPTER-VI
SUMMARY AND CONCLUTIONS

6.1 SUMMARY

The study was conducted to determine the effectiveness of normal saline on healing of episiotomy wound among the postnatal mothers.

Episiotomy is the most commonly performed obstetric operation in the world. The pain on the episiotomy wound causes an added distress among in the postpartum mothers. Manual obstetrical surgical procedures are widely employed like forceps, ventouse extraction etc; during vaginal delivery. Various modalities of treatments have been tried by the health personnel to add comfort to the clients and for freedom from pain and for better treatment. The present study was conducted to evaluate the effectiveness of normal saline application on episiotomy wound healing in postnatal women.

The purpose of the study was to improve the healing process of the episiotomy wound in postnatal mothers and unable to cope with the discomfort they experience during the postpartum period.

A formal permission was obtained from the Director of Govt. Hospital for Women and Children; Chennai-8.The data was collected with the help of structured questionnaire and pre-test, post-test assessment method for a period of four weeks.

The conceptual framework adopted for the study was modified Ludwig Von Bertalarffy's general system theory. The model helped the researcher in approaching the problem in a comprehensive and systematic manner. Review of the research helped the researcher in the preparation of the conceptual model, tool and methodology of the study.

The experimental approach was utilised to achieve the overall purpose. The research design used for the study was true experimental design. Samples were collected using random sampling technique for the study and this continued till the desired size was met. The study was conducted in Govt. Hospital Women & Children, Chennai-8, at post natal ward. The samples

consist of 60 post natal mothers with episiotomy wound, 30 in experimental and 30 in control group.

The following objectives were set for the study:

1. To assess the pre assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.
2. To assess the post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.
3. To compare the pre assessment and post assessment level of healing of episiotomy wound among postnatal mothers in both experimental group and control group.
4. To associate the post assessment level of healing of episiotomy wound among postnatal mothers with selected demographic variable.

The hypothesis set for the study was there is a significant difference between the healing of experimental and control group after normal saline application to the experimental group.

6.2 THE MAJOR FINDINGS OF THE STUDY WERE AS FOLLOWS

- The pre assessment level of healing in experimental and control were not healed 100%. The mean value of pre assessment value of episiotomy wound healing score in experimental group is 13.30 and in control group is 13.63 respectively. The obtained‘t’ value is t=1.29 at P= 0.19 respectively.
- In experimental group the post assessment level of healing scores were as follows: 33.3% were healed completely; 66.7% were moderately healed. In control group 10% were healed completely; 60% moderately healed and 30%were mildly healed. The mean value of post assessment level of healing in experimental group is 0.93 and in control group is 4.53.The obtained ‘t’ value in post assessment level of healing is ‘t’=9.33 at P= 0.001.
- The Chi square value in pre and post assessment level of healing was x2 =60.00 at P=0.001 & DF=2 significantly.
- The compared pre and post assessment level of healing of episiotomy wound score has t=15.15 at P=0.00. The overall comparison of pre and post

assessment healing score value in experimental group is t=10.03 at P=0.001 & in control group is t=0.86 at P=0.39 respectively.

- The difference in effectiveness of level of healing in experimental group is 21.9% [82.5% (experimental group) – 60.6% (control group).

6.3 CONCLUSION

The study concluded that there was significant improvement of healing process in experimental group compared with control group due to the application of normal saline on episiotomy wound in experimental group than the application of hospital routine care in control group. Moreover it is cost effective, easy to apply and not harmful.

Women health is much important to have family integrity.

6.4 IMPLICATIONS

The researcher had drawn the following implications from the study which is of vital concern in the field of nursing education, nursing practice, nursing administration and nursing research

Nursing Implications:

The study has implication in various areas such nursing practice, nursing education, nursing administration and nursing research.

NURSING PRACTICE

Several implications may be drawn from the present study for the nursing practice. All postnatal women in the process of delivery and immediate postpartum period undergo a lot of physical and psychological stress and strain. One of the procedures that cause discomfort is episiotomy. In this area, nurses could utilize the normal saline application along with the routine perineal care.

These measures would help to reduce the wound sepsis, general infection and hasten healing. Nurses also can impact the knowledge of self perineal care, toileting, along with the normal saline, application to enhance the healing of

episiotomy wound. The health workers in the rural health centres also can use normal saline application.

NURSING ADMINISTRATION

Nurse administrator or leaders should take interest in formulating principles and adopting the various modalities of treatment for postnatal care. Through In Service Education Program, nurses can be motivated to learn and practice the normal saline application. Regular supervision of the staff can also be carried out while doing these procedures. The nursing administrator should make arrangements to see that sufficient manpower; money and materials are available for applying normal saline. Evaluate the quality of nursing care by conducting regular clinical audit.

NURSING REASERCH

Further research studies can be conducted enhancing the healing and relief of episiotomy wound in the field of warm, moist compression, cold compression, sitz bath, dry heat and various antibiotic ointment applications. For generalisation of normal saline application, further studies could be conducted in the hospital for a longer duration of larger samples.

NURSING EDUCATION

Nursing curriculum is a mean through which future nurses are prepared. The emphasis needs to be planned on preventive and promotive health practice. The result of the study emphasize learners to utilize the knowledge of normal saline application to enhance the healing of episiotomy wound, decubitus ulcers and surgical wound. This procedure can be incorporated in the nursing curriculum. Periodic conferences, seminars, symposium etc., can be arranged on normal saline episiotomy wound.

6.5 RECOMMENDATION

The study recommends the following for the future research

- This study results can be implemented in all settings like hospitals and community.
- A similar study can be done for large samples.
- A comparative study can be conducted between various alternative complementary methods to promote episiotomy wound healing among postnatal mothers.
- An exploratory study can be conducted to find out the effect of normal saline for other wound healing.
- A study can be conducted to assess the knowledge and practice of the nurses regarding application of normal saline for wound healing.

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APPENDIX-II

INTERIVEW / OBSERVATION SCHEDULE ON EPISIOTOMY WOUND HEALING

PART-I (DEMOGRAPHIC VARIABLES)

Sample Number

1) The age of the mother----Years

a) 18-21 years ☐

b) 22-25 years ☐

c) 26-29 Years ☐

d) Above 29 Years ☐

2) Religion

a) Hindu ☐

b) Christian ☐

c) Muslim ☐

d) Others ☐

3) Educational status

a) Non formal ☐

b) Primary ☐

c) Secondary ☐

d) Graduate and above ☐

4) Occupation

a) Housewife ☐

b) Permanent workers ☐

c) Temporary workers ☐

5) Residential state

a) Rural ☐

b) Urban ☐

c) Suburban ☐

6) Type of family

a) Joint Family ☐

b) Nuclear Family ☐

c) Extended Family ☐

7) The family monthly income

a) Less than Rs.2,000 ☐

b) Rs. 2,000-3,000 ☐

c) Rs. 3,000-4,000 ☐

d) More than Rs.4,000 ☐

8) The haemoglobin level during pregnancy—gram %

a) less than 10 gram % ☐

b) 10 –12 gram % ☐

c) More than 12 gram % ☐

PART-II

OBSTETRICAL VARIABLES

1) The type of incision

a) Left medio-lateral ☐

b) Right medio-lateral ☐

2) Type of suture material used

a) Chromic catgut ☐

b) Silk ☐

c) Vicryl ☐

3) Type of perineal pads used

a) Hospital made ☐

b) Commercial ☐

c) Home made ☐

4) Number of perineal pads used per day

a) 3-4 pads ☐

b) 5-6 pads ☐

c) > 6 pads ☐

5) Baby weight

a) 2.1- 2.5 kg ☐

b) 2.6-3.0 kg ☐

c) 3.1- 3.5 kg ☐

d) Above ☐

SECTION – II

REEDA (REDNESS, EDEMA, ECCHYMOSIS, DISCHARGE, APPROXIMATION) SCALE FOR ASSESSING EPISIOTOMY WOUND HEALING

PURPOSE: This scale is used to measures the wound healing.

PARAMETER	FINDINGS	SCORE	PRE TEST	POST TEST
REDNESS	None. Within 0.25 of the incision bilaterally. Within 0.5cm of the incision bilaterally. Beyond 0.50cm of the suture incision bilaterally.	0 1 2 3		
EDEMA	None. Perineal< 1cm from the incision. Perineal & or vulval 1cm-2cm from the incision. Perineal & (or) vulval > 2cm from the incision.	0 1 2 3		
ECCHYMOSIS	None. Within 0.25cm bilaterally or 0.5cm unilaterally. Between 0.25cm to 1.ocm bilaterally(or) o.5-2.0cm unilaterally. Above1cm bilaterally (or) >2cm unilaterally.	0 1 2 3		
DISCHARGE	None. Serum . Serosanguinous discharge. bloody purulent.	0 1 2 3		
APPROXIMATION	Closed. Skin separation. Skin and subcutaneous fat separation. Skin and subcutaneous fat & facial layer separation.	0 1 2 3		
REEDA SCORE				

REEDA SCORE sum of points of all 5 parameters

The resulting score were ranged as follows

No infection – 0

Mild infection – 1-5

Moderate infection - 6-10

Severe infection -11-15 Total score-15

நேர் காணல்

பிரிவு -1

ஆய்வு பற்றின விவரம்

1) தாயின் வயது

அ) 18-21 வயது ☐

ஆ) 22-25 வயது ☐

இ) 26-30 வயது ☐

ஈ) 30 வயது க்கு மேல் ☐

2) மதம்

அ) இந்து ☐

ஆ) கிறிஸ்தவம் ☐

இ) முஸ்லீம் ☐

ஈ) மற்றவை ☐

3) கல்வித்தகுதி

அ) இல்லை ☐

ஆ)ஆரம்பநிலை ☐

இ) உயர் நிலை ☐

ஈ) கல்லூரி படிப்பு அதற்க்கு மேல் ☐

4) தொழில்

அ) குடும்பதலைவி ☐

ஆ) நிரந்தர பணியாளர் ☐

இ) தற்காலிக பணியாளர் ☐

5) வசிக்கும் இடம்

அ) கிராமம் ☐

ஆ) நகரம் ☐

இ) வளரும் நகரம் ☐

6) குடும்ப வகை

அ) தனிக்குடும்பம் ☐

ஆ) கூட்டுக்குடும்பம் ☐

இ) இனணந்த குடும்பம் ☐

7) குடும்ப மாத வருமானம்

அ) 3,000-4,000 ☐

ஆ) 4,001-6,000 ☐

இ) 6,001-8,000 ☐

ஈ) 8,001-க்கு மேல் ☐

8) பேறுகாலத்தின் போது ஹீமோகுளோபின் அளவு

அ) 10 மில்லிகிராம்க்குள் ☐

ஆ)10-12 மில்லிகிராம் ☐

இ) 12 மில்லிகிராம்க்கு மேல் ☐

பிரிவு –இரண்டு

<u>மகபேறு பற்றின விவரம்</u>

1) எந்தவகையான தையல் பொருள் பயன்படுத்தப்பட்டது

அ) க்ரொமிக் ☐

ஆ) சில்க் ☐

இ) வைக்ரல் ☐

2) பிரசவத்தின் போது எந்த கோணத்தில் அறுவை செய்யப்பட்டது?

அ) இடது புறம்சரிவாக ☐

ஆ) வலது புறம்சரிவாக ☐

3) நீங்கள் ஒரு நாளைக்கு எத்தனை நாப்கின்கள் அல்லது துணிகள் உபயோகிக்கிறீர்கள்?

அ) 3-4 முறை ☐

ஆ) 5-6 முறை ☐

இ) 6 க்கும் அதிகமாக ☐

4) எந்த வகையான நாப்கினை உபயோகித்தீர்கள்?

அ) மருத்துவமனையில் தயாரித்தது ☐

ஆ) கடையில் வாங்கியது ☐

இ) வீட்டில் தயார் செய்தது ☐

5) குழந்தையின் எடை(கிலோ கிராம்)

அ) 2.1 – 2.5 கிலோ கிராம் ☐

ஆ) 2.6 – 3.0 கிலோ கிராம் ☐

இ) 3.1 – 3.5 கிலோ கிராம் ☐

ஈ) 3.6 கிலோ கிராம்க்கு அதிகமாக ☐

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI -3

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

CERTIFICATE OF APPROVAL

To

James Beula,

M.Sc., (N) II Year,

College of Nursing,

The Institutional Ethics committee of Madras Medical College, reviewed and discussed your application for approval of the proposal entitled "A study to assess the effectiveness of normal saline in healing of episiotomy wound among postnatal mothers at Govt. Hospital for women and children, Chennai—8."No.17072013

The following members of Ethics Committee were present in the meeting held on 06.07.2013 conducted at Madras Medical College, Chennai -3.

1. Dr.G.SivaKumar, MS FICS FAIS --- Chairperson
2. Prof. R. Nandhini MD -- Member Secretary
   Director, Instt. of Pharmacology ,MMC, Ch-3
3. Prof. Shyamraj MD -- Member
   Director i/c , Instt. of Biochemistry , MMC, Ch-3
4. Prof. P. Karkuzhali. MD -- Member
   Prof., Instt. of Pathology, MMC, Ch-3
5. Prof. Kalai Selvi -- Member
   Prof of Pharmacology, MMC, Ch-3
6. Prof. Siva Subramanian, -- Member
   Director, Instt. of Internal Medicine, MMC, Ch-3
7. Thiru. S. Govindsamy. BABL -- Lawyer
8. Tmt. Arnold Saulina MA MSW -- Social Scientist

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

Sd/ Chairman & Other Members

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

R Nandini 17/7/13

Member Secretary, Ethics Committee

CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Mrs.James Beula, M.Sc Nursing II year, College of Nursing, Madras Medical College which is to be used in her study titled **"A Study to assess the effectiveness of normal saline in healing of episiotomy wound among postnatal mothers at Hospital for Women and Children, Chennai-08".**has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

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

SIGNATURE WITH SEAL

NAME : DR. T. GOMATHY

DESIGNATION :

INSTITUTION : INSTITUTE OF OBSTETRICS & GYNAECOLOGY

PLACE : CHENNAI

DATE :

CERTIFICATE OF TOOL VALIDATION

This is to certify that the tool constructed by Mrs.James Beula, M.Sc Nursing II year, College of Nursing, Madras Medical College which is to be used in her study titled **"A Study to assess the effectiveness of normal saline in healing of episiotomy wound among postnatal mothers at Hospital for Women and Children, Chennai-08".**has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then she can proceed to do the research.

16/8/13

SIGNATURE WITH SEAL

NAME : Mrs. KANAGAVALLI. P

DESIGNATION : READER

COLLEGE : MADHA COLLEGE OF NURSING

PLACE : KUNRATHUR, CHENNAI-69

DATE : 16/08/2013

MADHA COLLEGE OF NURSING
16 AUG 2013
CHENNAI - 600 069

Lr. No. 261 / Con/mmc/ CH.3 / Dr. 12.07.13

From

Ms.James Beula,
M.Sc(Nursing) II year,
College of Nursing,
Madras Medical College,
Chennai-3.

17/7/13 Permitted.

To

The Director & Superintendent,
Institute of Obstetrics &Gynaecology,
Egmore,
Chennai-8

Through Proper Channel,

Respected Sir,

Forwarded for R. Sanyg 12.7.13

Sub: Requesting Permission to conduct a research study-reg

I, Ms.James Beula, studying M.Sc.Nursing II year ,College of nursing, Madras Medical college, kindly request you to grant me permission for the study proposed to conduct on the topic **"A study to assess the effectiveness of normal saline in healing episiotomy wound among postnatal mothers at Hospital for Women &Children Chennai."**to fulfill the requirement of data collection. I assure you that it will not interfere with routine activities of the study settings.

Thanking you,

Date: Chennai
Place: 12/07/13

Yours obediently,

Beula
(James Beula)

APPENDIX -I

GUIDELINES FOR APPLICATION OF NORMAL SALINE

FOR POST NATAL MOTHERS

APPLICATION OF NORMAL SALINE

EPISIOTOMY:

Episiotomy care is an important aspect of postnatal period. The area is conducive to the group of the pathogenic organisms, because its warm, moist and is not well ventilated. If the episiotomy care is not done properly it leads to complication like infection, discharge from the site redness, ecchymosis and approximation of suture line. Normal saline can be used as a therapeutic purpose. It is commonly used and rapid healing process etc. It also can be used to promote the healing process of episiotomy wound.

MEANING:

Episiotomy care means cleaning of the perineal stitches to minimize the occurrence of the infection after delivery.

Definition of Normal saline

It refers to a sterile isotonic solution which contains 0.9% sodium chloride in 500 ml of water.

PURPOSE

To aid episiotomy wound healing associated with the wound through application of normal saline.

ARTICLES REQUIRED

- Gloves
- Towels
- Artery forceps
- Sterile cotton balls and sterile gauze pieces
- 0.9% Normal Saline Solution
- Kidney tray
- Perineal pad

S/NO	**PROCEDURE**	**SCIENTIFIC PRINCIPLE**
1.	Explain the procedure.	Explanation alleviates anxiety.
2.	Assemble equipment.	Organization helps increase efficiency.
3.	Position mother supine with knees flexed apart.	It helps to visualize the perineum and also to focus the episiotomy wound.
4.	Wash hands and wear gloves.	To prevent infection.
5.	Asses the episiotomy wound status before intervention.	To know the pre intervention status of the wound.
6.	Using sterile technique, clean the perineum and episiotomy wound with 0.9% normal saline solution dipped sterile gauze, one swab for each stroke.	To promote wound healing because is a known antiseptic and aids in tissue granulation.
7.	Evaluate the mother's tolerance and response the procedure.	Helps to assess the effectiveness of the treatment.
8.	Apply peripad, front to back holding the pad by the bottom side or ends.	Prevents contamination and prevents risk of infection.
9.	After care of the equipment.	Proper placement helps in easy access.
10.	Wash hands.	To prevent cross infection.
11.	Record completion of procedure, condition of the perineum and other checklists.	Documentation provides additional means for evaluating care and outcomes.

ஆய்வு தகவல் தாள்

பங்கேற்பாளர் பெயர் :

ஆராய்ச்சியாளர் பெயர் : ஜேம்ஸ் பியூலா

ஆய்வு தலைப்பு : **"பிரசவ கால ஊண் அல்லது ரணத்தினை சாதாரண சலைன் நீர் கொண்டு துடைப்பதின் மூலம் ஊண் அல்லது ரணம் தேறி வரும் நிலையினை ஆராய்தல் பற்றிய ஓர் ஆய்வு"**

இந்த ஆய்வு சென்னை அரசு தாய் சேய் குழந்தை நல மருத்துவமனையின் பின்பேறுகால உள்நோயாளிகள் பிரிவில் மேற்கொள்ளப்பட உள்ளது.

நீங்கள் இந்த ஆய்வில் பங்கேற்க அழைக்கிறோம். நீங்கள் இந்த ஆய்வில் பங்கேற்கலாமா அல்லது வேண்டாமா? என்பதை முடிவு செய்ய இந்த ஆவணத்தில் உள்ள தகவல் உதவியாக இருக்கும். உங்களுக்கு ஏதேனும் சந்தேகம் இருந்தால் நீங்கள் எங்களிடம் வெளிப்படையாக கேட்கலாம்.

எங்களுடைய அடிப்படை தகுதிகளில் நீங்கள் திருப்தியாக இருப்பதால் உங்களை இந்த ஆய்வில் பங்கேற்க அழைக்கிறோம்.

ஆய்வின் நோக்கம் மற்றும் செயல்பாடு:

பிரசவ கால ஊண் அல்லது ரணத்தினை சாதாரண சலைன் நீர் கொண்டு துடைப்பதின் மூலம் ஊண் அல்லது ரணம் தேறி வரும் நிலையினை ஆராய்தல் பற்றிய ஓர் ஆய்வு.

இந்த ஆய்வில் உங்கள் பெயர், வயது, பரிந்துரைக்கப்பட்ட மருந்து களின் பெயர், சிகிச்சை கால அளவு ஆகிய தகவல்கள் பெற்றுக் கொள்வோம்.

சில தகவல்கள் உங்களிடம் பெறப்படும்:

உங்களுக்கு உங்களுடைய மருத்துவத் தகவலை இரகசியமாக வைக்க உரிமை உண்டு. நீங்கள் இந்த ஆய்வில் கையொப்பமிடுவதால் நீங்கள் உங்களுடைய தகவலை ஆய்வு குழு மற்றும் நிறுவனத்திடம் காட்ட வேண்டும். இந்த ஆராய்ச்சியின் தகவல்கள் விஞ்ஞான இதழ்கள் மற்றும் விஞ்ஞான கூடத்தில் வெளியிடப்பட்டாலும் உங்களுடைய அடையாளங்கள் காட்டப்படமாட்டாது.

ஆராய்ச்சியாளர் கையொப்பம்
தேதி:

பங்கேற்பாளர் கையொப்பம்
தேதி:

சுய ஒப்புதல் படிவம்

ஆய்வு செய்யப்படும் தலைப்பு

"பிரசவ கால ஊண் அல்லது ரணத்தினை சாதாரண சலலன் நீர் கொண்டு துலடய்தின் மூலம் ஊண் அல்லது ரணம் தேறி வரும் நிலலயினை ஆராய்தல் பற்றிய ஓர் ஆய்வு"

பங்கு பெறுபவரின் பெயர்: வயது: தேதி: உள் நோயாளி எண்:

..... என்பவராகிய நான் இந்த ஆய்வின் விவரங்களும் அதன் நோக்கங்களும் முறையாக அறிந்து கொண்டேன். எனது சந்தேகங்கள் அனைத்திற்கும் தகுந்த விளக்கம் அளிக்கப்பட்டது. இந்த ஆய்வில் முழு சுதந்திரத்துடன் மற்றும் சுயநினைவுடன் பங்கு கொள்ள சம்மதிக்கிறேன்.

எனக்கு விளக்கப்பட்ட விஷயங்களை நான் புரிந்துகொண்டு நான் எனது சம்மதத்தைத் தெரிவிக்கிறேன். இச்சுய ஒப்புதல் படிவத்தை பற்றி எனக்கு விளக்கப்பட்டது.

இந்த ஆய்வினை பற்றிய அனைத்து தகவல்களும் எனக்கு தெரிவிக்கப்பட்டது. இந்த ஆய்வில் எனது உரிமை மற்றும் பங்கினை பற்றி அறிந்து கொண்டேன்.

இந்த ஆய்வில் பிறரின் நிர்பந்தமின்றி என் சொந்த விருப்பத்தின்பேரில் தான் பங்கு பெறுகிறேன் மற்றும் நான் இந்த ஆராய்ச்சியிலிருந்து எந்நேரமும் பின்வாங்கலாம் என்பதையும் அதனால் எந்த பாதிப்பும் ஏற்படாது என்பதையும் நான் புரிந்து கொண்டேன்.

இந்த ஆய்வில் கலந்து கொள்வதன்மூலம் என்னிடம் பெறப்படும் தகவலை ஆய்வாளர் இன்ஸ்டிட்யூசனல் எத்திக்ஸ் கமிட்டியினரிடமோ, அரசு நிறுவனத்திடமோ தேவைப்பட்டால் பகிர்ந்து கொள்ளலாம் என சம்மதிக்கிறேன்.

இந்த ஆய்வின் முடிவுகளை வெளியிடும்போது எனது பெயரோ, அடையாளமோ வெளியப்படாது என அறிந்து கொண்டேன். இந்த ஆய்வின் விவரங்களைக் கொண்ட தகவல்தாளைப் பெற்றுக் கொண்டேன். இந்த ஆய்விற்காக சலைன் நீர் துணை கொண்டு துடைத்து பரிசோதனை செய்துக் கொள்ள சம்மதிக்கிறேன்.

இந்த ஆய்வில் பங்கேற்கும்பொழுது ஏதேனும் சந்தேகம் ஏற்பட்டால், உடனே ஆய்வாளரை தொடர்பு கொள்ள வேண்டும் என அறிந்து கொண்டேன்.

இச்சுய ஒப்புதல் படிவத்தில் கையெழுத்திடுவதன்மூலம் இதிலுள்ள அனைத்து விஷயங்களும் எனக்கு தெளிவாக விளக்கப்பட்டது என்று தெரிவிக்கிறேன். இச்சுய ஒப்புதல் படிவத்தின் ஒரு நகல் எனக்கு கொடுக்கப்படும் என்று தெரிந்து கொண்டேன்.

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தேதி:

CERTIFICATE OF ENGLSH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation titled **"A study to assess the effectiveness of normal saline in healing of episiotomy wound among postnatal mothers at Govt. Hospital for Women and Children, Chennai-08."** done by Ms.James Beula, M.Sc (Nursing) II year, student of College of Nursing, Madras Medical college, Chennai-3 is edited for English language appropriateness by Mr. Jeba Sundar Singh.

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