

# Effect of Perineal Self Care instructions on Episiotomy Pain and Healing among postpartum Women

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**Abstract:** Episiotomy is the most common obstetric intervention in the world. Episiotomy care is very essential, if neglected it can lead to severe complications like infection, wound gapping etc. Therefore, it is very important to give special attention to maintain perineal hygiene and episiotomy care.. The present study aimed to determine the effect of perineal self care instructions on episiotomy pain and healing among postpartum women. A quasi-experimental research design was used. The study was conducted at the postpartum unit of Abou Homos general hospital, Albehera Governorate. The study comprised 80 postpartum women who were divided into two groups (study and control). Three tools were utilized for data collection; a socio-demographic and obstetric data sheet, Pain intensity visual analogue scale (VAS), and The standardized REEDA scale. Results revealed a statistically significant difference between both groups after 48 hours as regards intensity of episiotomy pain. As well, there were statistically significant differences between both groups after 48 hours postpartum regards perineal redness, and perineal oedema.. It could be concluded that Puerperal women who had received perineal self care instructions experienced lower episiotomy pain and faster episiotomy healing than those who hadn't received instructions. It was recommended that health professionals must be properly trained and updated regarding guidelines based on evidence, , and its harmful consequences to women's physical and psychic health.

**Keywords:** postpartum Women, Perineal Self Care, Episiotomy Pain and Healing.

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## 1. INTRODUCTION

Postpartum is a very special period for a woman and her family, where new roles and responsibilities are taken in addition to the physiological and psychological changes that affect many facets of women's life. This period starts from the time following delivery of the placenta until the woman's body and reproductive organs return to normal pre-pregnant state. <sup>(1)</sup>Progressive changes are also most obvious in the initiation of lactation and return of menstrual flow. <sup>(2)</sup> Postnatal mothers usually have physical and emotional discomforts, lack of sleep due to new born baby, visitors, noise, and discomfort from episiotomy. <sup>(3)</sup>

Episiotomy is a surgical incision of the perineum that is made both to prevent tearing of the perineum and to release pressure on the fetal head with birth. It is used widely today because it prevents lacerations, heals better, easier to repair than a ragged tear, allows for easier and safer regression of the head thereby preventing possible brain damage and reduces the incidence of uterine prolapsed in subsequent deliveries. <sup>(4)</sup> Women undergoing episiotomy have greater blood

loss in conjunction with delivery, and there is a risk of improper wound healing and increased pain during early postpartum. Perineal trauma is strongly associated with perineal pain and morbidity, including bleeding and infection. <sup>(3,5)</sup>

Perineal pain resulting from episiotomy is a stressful factor for mothers, most postpartum women have some degree of discomfort during the first few postpartum days which interferes with their ability of nursing and doing their duties as mothers and may interfere with urination and defecation. <sup>(6)</sup> It may cause emotional distress in mothers during postpartum that can affect her attitude and activities towards her neonate. The degree of perineal pain and discomfort associated with perineal trauma is often underestimated. Pain often interferes with her basic daily activities such as walking, sitting, urination, defecation and also negatively impacts on motherhood experiences. <sup>(7)</sup> For the majority of postpartum women, episiotomy wound gradually becomes less painful and healing occurs by 7-10 days after birth. <sup>(8)</sup>

It is a priority for health professionals who attend women in the puerperal period to provide all needed information about morbidities driving from normal delivery, particularly the presence of perineal trauma, identification of spontaneous perineal pain and methods used for its relief are considered important to minimize it and offering women the possibility to experience motherhood in a positive and pleasant way. <sup>(9,10)</sup>

The nurse should educate the mother about intervention which will help her gain adequate knowledge and maintain positive health for herself and her baby. <sup>(3)</sup> Meeting the educational needs of the new mother and her family is one of the primary challenges facing the postpartum nurse. However, the mother spends only a brief period of time in the postpartum area, identifying and addressing individual instructional needs can be difficult. Effective education provides the childbearing women with sufficient knowledge to meet their health needs and to seek assistance if necessary. As a part of postpartum care, the mother will need instruction in perineal hygiene and comfort measures. <sup>(11)</sup> Women's awareness regarding self-care during postpartum period is one of the most important measures to reduce maternal death and disability. Self-care strategies should be considered as part of a comprehensive treatment plan. The provision of numerous care measures intended to facilitate perineal healing such as cleanliness, ice packs, sitz baths as an alternative non-invasive method of pain relief was effective in healing of episiotomy wound and reducing perineal pain. <sup>(12)</sup>

**Aim of the study:** This study aims to determine the effect of perineal self care instructions on episiotomy pain and healing among postpartum women.

## 2. MATERIALS AND METHOD

**Research design:** A quasi-experimental research design.

### Hypothesis

**Hypothesis 1:** Puerperal women who receive perineal self care instructions experience lower episiotomy pain than those who do not receive instructions.

**Hypothesis 2:** Puerperal women who receive perineal self care instructions show faster episiotomy healing than those who do not receive instructions.

### Materials

#### Setting:

This study was conducted at the postpartum unit in obstetrics and gynecology department of Abou Homos general hospital, Albehera Governorate. This hospital was selected because it has a high turnover, and high rate of perineal infection among puerperal women undergoing episiotomy.

#### Subjects:

The study comprised a convenience sample of 80 postpartum women who were divided into two groups (study and control). They were recruited from the previously mentioned setting according to the following criteria: Age from 20 to < 35 years, Primiparae, Had a normal delivery with episiotomy.

**Tools:** Three tools were used for data collection:

**Tool I: Socio-demographic and clinical data structured interview schedule.**

It was developed and used by the researcher to collect the following data: **A-** Socio-demographic data such as: age, level of education, occupation, residence, type of family, crowding index, family income and housing condition ..**B-** Reproductive history including: - data about current pregnancy such as: number and places of antenatal visits, duration of pregnancy during initial visit, Source of antenatal health education about perineal care if received.

**Tool II: Pain intensity visual analogue scale (VAS):**

It is a standardized linear scale developed by McCaffery and Pasero (1999)<sup>(13)</sup>, used to measure the intensity of perineal pain of postnatal women with episiotomy. It 5 scores range from 0-10 corresponding to the degree of pain intensity, where 0 represents no pain, 1 to 3 mild pain, 4 to 6 moderate pain, 7 to 9 severe pain, 10 unbearable pain.

**Tool III: The standardized REEDA scale.**

A descriptive scale known as the REEDA scale developed and utilized by Davidson, (1974)<sup>(14)</sup> measure five components associated with the healing process, using direct measurement and observation. The acronym REEDA is derived from five components that have been identified to be associated with the healing process. These are: redness, edema, ecchymosis, discharge and approximation of skin edges. Each category is assessed using a likert type scale ranging between 0-3 point with a total REEDA score ranging from 0–15. The lesser the score indicates better healing.

**Redness of the perineal area:**0=None-1=within 0.25cm of incision bilaterally (mild)-2=within 0.5cm of incision bilaterally (moderate)-3=beyond 0.5 cm of incision bilaterally (severe).**Edema of the perineal area:**0=None-1=perineal, less than 1cm from incision (mild)-2=perineal and\or vulvar, between 1-2cm from incision (moderate)-3= perineal and\or vulvar, greater than 2cm from incision (severe).**Ecchymosis of the perineal area:**0=None -1=within 0.25cm bilaterally or 0.5cm unilaterally (mild) -2=between 0.25 to 1cm bilaterally or between 0.5 to 2cm unilaterally (moderate) -3=greater than 1cm bilaterally or 2cm unilaterally (severe).**Discharge from the wound :** 0=none -1= serous - 2=serosanguinous - 3=bloody,purulent .**Approximation of skin edges:**0=closed -1=skin separation3mm or less-2=skin and subcutaneous fat separation -3= skin and subcutaneous fat and fascial layer separation.

**Methods:**

Permissions for data collection were obtained from the responsible authority of the study setting after explanation of the aim of the study. **Tool I:** was developed by the researchers,. **Tools II& III:** were adopted and translated into Arabic language, the necessary modification was done both tools were tested for content validity by a jury of five experts in the related obstetric field, the tools were valid.

**A pilot study** was carried out on 8 women, who were excluded from the study subjects to ascertain the relevance, clarity, and applicability of the tools to detect any problem peculiar to the statements and estimate the time needed to complete the tools. Following this pilot study. Tools reliability was checked by Cronbach Alpha test afeter pilot study

**consent**

The purpose of the study was explained to each woman and an informed verbal consent to participate in the study was obtained from her. Confidentiality of the collected data and the right to withdrew at any time were ensured women' privacy was always respected.

**Instructions on self perineal care included the following:**

- Proper technique of perineal self care:**
  - Instruct women to wash her hands before and after each perineal care.
  - Remove soiled pad from front to back and discard in waste container.
  - Squeeze peri bottle (fill the bottle with cleaning warm water) or pour warm water or cleansing solution over perineum without opening labia. Avoid sitting in the warm water to prevent contamination and cross infection.
  - Instruct the woman how to pour the solution over her perineal area and ensuring that the solution flow is from the front to the back.
  - Dry the perineal area with dry tissue from front to back, and then discard it.
  - Apply medicated spray, ointment or pad as directed. Do not apply perineal pad for one to two minutes .
  - Apply clean perineal pad from front to back, touching only sides and outsides of pad to lessen risk of infection.
  - Always perform perineal care after elimination or at least every 4 hours during Puerperium. start at the

front and proceed toward the back to prevent contaminations from the anal area. • Perineal pad should be changed regularly (2-4 hours) to prevent infection.

2. **Ice pack application :** • The researcher provided information about the purpose of the ice pack, anticipated effects, benefits, possible problems and ways of preparing an ice pack for home use if edema is present. • Apply perineal ice packs intermittently for the first 24 hours after birth wrapped in tissue and don't directly applied to the skin to prevent cold burn. • Instruct the woman that the ice pack should remain in place approximately 20 minutes and then removed for about 10 minutes before it is replaced.

3. **Ways to speed healing and relieve discomfort:** These are things to speed healing of the perineum and promote comfort: Avoid standing and sitting positions that put pressure on the perineal area also avoid standing or sitting for long periods of time. • Take the sting out when urinate by pouring warm water over perineum while urinate. • Lie on side while resting or napping and put pillow in between leg. • Use ice packs made of gauze soaked in cold to relieve pain. • Try not to strain with bowel movements press a pad of toilet paper against stitches when bear down. Call your doctor if any of the following symptoms are occurs: Severe pain in perineum, pelvis, or lower abdomen. • Heavy vaginal bleeding . • High fever > 38°C. • Bad-smelling discharge from the vagina. • Burning pain with urination. • Urge to pass urine frequently, but only going a small amount.

- **Actual Data collection: Collection** of data covered a period of 8 months from first of January to end of august 2016. the researcher attended the postpartum ward of the studied setting introduced herself to the woman and briefly explained the nature and the aim of the study to the approached ones who met the criteria for inclusion in the sample. Data of tool I was collected from both groups through an interview schedule, which was conducted individually and in total privacy. Each study subject was interviewed 5-10 minutes immediately during postpartum period ,after transferee from labor unit women were assigned to control group and study group alternating.

- The control group subjects have received the routine hospital care provided by hospital personnel, assessment of episiotomy pain and healing **immediately postpartum** , then **after 48 hours** and **7 days** at home using Tool II and Tool III.

- The study group was assessed their episiotomy pain and healing **immediately postpartum** after episiotomy as a basic assessment then they were instructed to follow perineal self care instructions through individualized educational session, the researcher demonstrated for each woman how to do perineal self care, and it was followed by redemonstrations and discussions. **After 48 hours and 7 days** home visit was done to assess the intensity of perineal pain using VAS (tool II) and degree of episiotomy healing using REEDA scale (tool III), to compare it with the previous observation done immediately postpartum also instructed the woman to prepare the equipment she used to make perineal self care and redemonstrated perineal self care as mentioned before at hospital. the second home visit was done to assess the intensity of perineal pain using VAS (tool II) and degree of episiotomy healing using REEDA scale (tool III)

- **Statistical analysis:** Analysis of data was carried out by the help of statistical specialist, the collected data were categorized, coded, computerized, tabulated and analyzed using Statistical Package for Social Sciences (SPSS) version 16. The Simple frequency tables were used for description. test was used to compare the significant. The level of significant used was < 0.05.

### 3. RESULTS

**Table (I)** shows the number and percent distribution of the control and study groups according to their socio-demographic data. It demonstrates that great majority (90%) & (85%) of both groups were in their twenties.. The majority (80% ) & (87.5%) of the control and study groups were housewives. The percent of subjects from rural area was 67.5% & 60% of the control and study groups. Again the percent of subject from extended families 70% & 55% of both groups. The majority of them (82.5%) & (92.5%) of the control and study groups lives in uncrowned places. All of them (100%) the control and study groups had water, electricity and sewage disposal

**Table (II)** exhibits the number and percent distribution of control group according to their reproductive history. Slightly more than two-thirds (67.5%) & (65%) of the control and study groups went to private clinic for antenatal visit. Almost

equal proportions (12.5%) & 10%) of the control and study groups went to MCH centre or health care unit for follow up visits. The majority of them (85%) & (95%) of the control and study groups had antenatal follow up more than 4 times. Again the majority of them (80%) & (77.5%) of the control and study groups had the initial visit during first trimester. About one-quarter (25%) & (40%) of the control and study groups had received antenatal health education about perineal care.

**Table (III)** shows the number and percent distribution of postpartum women according to the intensity of episiotomy pain using VAS. It revealed that more than one-third (37.5%) of the control group had mild episiotomy pain immediately postpartum compared to more than one-fifth (22.5%) of the study group. More than one-half (52.5%, 55%) of the control and study group complained from moderate episiotomy pain immediately postpartum. Severe episiotomy pain was observed among only 10% from the control group compared to more than one-fifth (22.5%) from the study group immediately postpartum.

After 48 hours postpartum it was observed that almost two-thirds (65%) of the control group compared to one-half (50%) of the study group had mild episiotomy pain. More than one-fifth (22.5%) of the control group compared to one-half (50%) of the study group complained from moderate episiotomy pain. Severe episiotomy pain was observed only among 12.5% of the control group. After 7 days postpartum it was observed that only 15% of control group compared to less than three-quarters (72.5%) of the study group complained from mild episiotomy pain. Three-fifths (60%) of control group compared to only 17.5% of the study group had moderate episiotomy pain. One-quarter (25%) of control group compared to only 10% of the study group had severe episiotomy pain. There was a statistically significant difference between both groups on 48 hours ( $p = 0.005$ ) and 7<sup>th</sup> postpartum day ( $^{MC}p < 0.001$ ) as regards intensity of episiotomy pain.

**Table (IV)** shows the number and percent distribution of postpartum women according to healing of their episiotomy using REEDA scale. It was found that all of the study and control groups showed no signs of redness of episiotomy wound immediately after delivery. While 48 hours postnatally, absence of perineal redness was observed 10% of the study group only. Mild redness around episiotomy incision area was observed 62.5% of the study group compared to 45% of the control group. Two-fifths (40%) of the control compared to 27.5% of study group had moderate redness around both sides of episiotomy incision area. Severe perineal redness was observed among 15% of the control group. Then after 7 days postnatal it was observed that 20% of the study group had no signs of redness of episiotomy. While, 70% of the study group had mild redness of perineal area compared to 20% of the control group. 45% & 35% of control group had moderate to severe redness of perineal area. There was statistically significant differences.

After 48 hours postnatal 27.5% of the study group showed no signs of edema of episiotomy wound compared to only 2.5% of control group. More than two-fifths (42.5%) of the control group had mild edema in perineal area compared 47.5% from the study group. A sizable proportion (27.5%, 25%) of the control and study groups was observed to have moderate perineal edema. After 7 days postpartum perineal edema was absent among 30% from the study group. Severe edema in perineal area was observed among 32.5% of control group compared to only 5% of study group. There was statistically significant difference.

Concerning ecchymosis of episiotomy wound no signs of ecchymosis were observed among all (100%) of study and control groups immediately after delivery. While 48 hours postnatally, sizable proportions (87.5%, 82.5%) of the study and control group had showed no signs of ecchymosis at perineal area. One-tenth (10%) of the control group had mild ecchymosis of perineal area compared to only 7.5% from the study group. Moderate ecchymosis in perineal area was observed among 7.5% from the control group compared to 5% from the study group. As regards perineal ecchymosis after 7 days postpartum, all (100%) and the majority (92.5%) of the study and control groups were free from any signs of ecchymosis of perineal area. It was observed that only 7.5% of control group had mild ecchymosis of the perineal area.

As expected, none of the study subjects did have any type of discharge from the episiotomy suture line immediately postpartum. After 48 hours postpartum all of the study group showed no type of discharge from episiotomy sutures compared to only 2.5% from the control group who had serum discharge from episiotomy suture line. After 7 days postpartum it was observed 10% from the control group had no type of discharge from episiotomy suture compared to 37.5% from the study group. Sizable proportions (45% and 42.5%) of the study and control groups were observed with serum discharge from episiotomy wound. While, 42.5% of the control group compared to 17.5% of the study group were observed with serosanguinous discharge from episiotomy wound. Purulent discharge from episiotomy wound incision

was observed among only 2.5% of the control group. There was a statistically significant difference between both groups on 7<sup>th</sup> postpartum day as regards type of discharge from episiotomy wound (<sup>MC</sup>p = 0.004).

Again as expected, all of the study and control groups had closed episiotomy suture line immediately postpartum. After 48 hours postpartum, 40% from the control group had closed episiotomy suture line compared to 75% from the study group. After 7 days postpartum, more than one-third (35%) of the control group had closed episiotomy suture line compared to 47.5% from the study group. While 17.5% from the control group had slight skin edge separation of episiotomy wound compared to 45% from the study group. More than two-fifths (45%) of the control group had skin and subcutaneous fat separation of episiotomy wound compared to only 7.5% from the study group. There was a statistically significant difference

#### 4. DISCUSSION

Episiotomy is the most common obstetric intervention in the world. Episiotomy care is very essential, if neglected it can lead to severe complications like infection, wound gapping etc. Therefore, it is very important to give special attention to maintain perineal hygiene and episiotomy care.<sup>(14,15)</sup> The incidence of episiotomy ranges from 20% to 62.5% worldwide.<sup>(16)</sup> Post episiotomy pain has been always stressful for primiparous women, with negative impacts on their first motherhood experience and mother-child communication.<sup>(17)</sup>

The results of the current study revealed that no statistically significant difference was observed among both groups in relation to pain intensity immediately postpartum before giving the perineal self-care instructions. While there was significant decrease in pain intensity among the study group compared to the control group after 48 hours and 7 days postpartum. These results suggest a possible positive effect of proper perineal self-care during postpartum as ice pack which was effective in reducing perineal pain in addition to warm water which enhances vascular circulation and decreases perineal discomfort. The finding of the present study is in line with that of **Mohamed and Elnaggar (2012)**<sup>(7)</sup> who investigated They concluded that women who received and practiced self perineal care instructions on episiotomy pain and wound healing during postpartum period had a lower level of postpartum episiotomy pain scores, and decreased pain related to perineal episiotomy which interfere with women's daily activities postpartum, such as walking, sitting, urination and defecation.

In addition, this result is in accordance with the study done by **Amani et al (2015)**,<sup>(18)</sup> They concluded that applying cold gel pad is an effective non-invasive method of relieving perineal discomforts. In this respect, **Ricci (2013)**<sup>(19)</sup> stated that an ice pack is the first measure used after vaginal birth to relieve perineal discomfort from edema, episiotomy, and to prevent hematoma formation thus reducing pain and promoting healing. Local swelling or accumulation of fluid in an inflamed, injured area occurs due to increased permeability of the dilated peripheral blood vessels. When cold is applied, the skin blood supply is reduced, which may reduce tissue swelling (edema), bleeding and therefore reduce bruising and localized pain.

The current finding is also similar to that of **East et al (2012)**<sup>(20)</sup> They found that the use of cold gel pad, as an alternative non-invasive method of pain relief, was effective in reducing perineal pain. In addition, **Navvabi et al (2009)**<sup>(21)</sup> They found a statistically significant difference at 4 hours, while on days 1 and 5 there was evidence of a reduction in the intensity of pain but this did not reach statistical significance. This trial has demonstrated evidence that localized cooling of the perineum reduces the intensity of pain.

The finding of the present study is also in agreement with the result of study done by **Vergheese and Malathi (2016)**<sup>(22)</sup> They found that pain severity in the heat therapy group was less than that in the control group. They also concluded that hot application has significant effect on episiotomy pain and this non-invasive technique decreases the episiotomy pain. In addition, the current finding is in accordance with the result of **Ahmad and Turky (2010)**<sup>(23)</sup> They concluded that the application of warm perineal packs had potential benefits on decreasing the level of perineal pain immediately and on the first day after birth.

Moreover, a study was done by **Venkadalakshmi et al (2011)**<sup>(24)</sup> Venkadalakshmi's result revealed that the majority of the participants in both the control group (96.6%) and the experimental group (90%) had moderate episiotomy pain during observation I, whereas less than one-quarter of them (20%) in control group compared with 83.3% in experimental group

expressed mild pain in observation III on the first day. On the third day, only 10 % of participants in the control group and all of the participants in the experimental group expressed no pain in observation III.

Healing of an episiotomy is the same as any surgical incision. Signs of infection (pain, redness, warmth, swelling, and discharge) or loss of approximation may occur. Healing should occur within 2-3 weeks postpartum. The result of the current study revealed no statistically significant difference among both groups in relation to healing of episiotomy wound immediately postpartum before giving the perineal self care instructions. While there was significant improvement in healing of episiotomy wound as regards redness, edema, discharge and approximation of episiotomy wound among the study group compared to the control group after 48 hours and 7 days postpartum.

This result suggests a possible positive effect of proper perineal self care during postpartum. The literature review stressed the importance of cold and warm therapy in relieving edema, inflammation and promoting episiotomy wound healing. Cold therapy is used in the management of acute injury/trauma, chronic pain, muscle spasm, inflammation, and edema. Ice pack is the first measure used after vaginal birth to relieve perineal discomfort from edema, episiotomy, and to prevent hematoma formation thus reducing pain and promoting healing. Local swelling or accumulation of fluid in an inflamed, injured area occurs due to increased permeability of the dilated peripheral blood vessels. <sup>(25)</sup>

When cold is applied, the skin blood supply is reduced, which may reduce tissue swelling (edema), bleeding and therefore reduce bruising and localized pain. Meanwhile, warm therapy increased tissue temperature, stimulates vasodilation and increases tissue blood flow, which is thought to promote healing by increasing the supply of nutrients and oxygen to the site of injury. The rate of local tissue metabolism is also increased by warming which may further promote healing. <sup>(25,26)</sup>

As a usual inflammatory response to injury redness of perineal area was observed among the study and control group after 48 hours and 7<sup>th</sup> day postpartum. Significantly lower redness of perineal area score was observed after 48 hours postpartum. More than one-quarter had moderate redness of perineal area and absence of severe redness of perineal area among study group compared to two-fifths had moderate redness of perineal area and 15% had severe redness of perineal area among control group. While after 7<sup>th</sup> postpartum day only 7.5% had moderate redness and 2.5% had severe redness among study group compared to more than two-fifths of control group who had moderate redness and more than one-third had severe redness of perineal area.

This finding is in line with that of **Mohamed and Elnaggar (2012)** <sup>(7)</sup> who found a significantly reduction in the REEDA score of wound healing in experimental group as compared to control group at 7days after episiotomy in relation to redness of perineal area. This similarity could be explained as applying perineal self care instructions as the right technique of perineal care and using ice pack during first 24 hours postnatal. **Steen et al (2007)** <sup>(27)</sup> stated that cooling treatment was applied within half an hour of suturing in an attempt to quickly counteract the inflammatory response and alleviate perineal pain. Localized cooling reduces the cutaneous blood supply, resulting in less bleeding, redness, tissue swelling and decreasing associated bruising and localized pain.

The findings of the present study showed that edema of perineal area was absent after 48 hours and 7 days postnatal among more than one-quarter of the study group compared to 2.5% of control group. Such difference may be due to the effect of application of ice packs during the first 24 hours postpartum also warm water used after 24 hours postnatal in prevention of edema formation. According to the literature, ice packs used during the first 24 hours postpartum for the immediate symptomatic relief of pain anesthetizes the perineum and relieves perineal edema. After 24 hours, heat is recommended because it increases circulation to the perineal region. It helps to reduce perineal oedema, avoid the formation of hematomas, relieve discomfort, promote recovery of the wound by cleaning the perineum and anus, and reduces inflammation. <sup>(20,28)</sup>

In this respect, **Sheikhan et al (2011)** <sup>(29)</sup> They found that the use of cold gel pads resulted in statistically significant differences detected in perineal edema on the 5<sup>th</sup> day after episiotomy, compared with the use of betadine. **Navvabi et al (2009)** <sup>(21)</sup> reported that wound healing rates were better in the cooling gel pad group as regards edema of episiotomy wound when compared to the other two groups.

Ecchymosis results from blood seeping out into the inner layers of skin due to damage to blood vessels. It may also spread to areas adjacent to the affected parts of the skin depending on the seriousness and its location. Ecchymosis usually heals on their own without the need for treatment. Applying ice on the affected area promotes vasoconstriction of the broken

vessels, decreases hematoma formation and prevents Ecchymosis from spreading to adjacent unaffected areas of the skin. <sup>(30,31)</sup> In this study, it was observed that the majority of the study and control groups showed no signs of ecchymosis of perineal area after 48 hours postnatal. No significant difference was observed among the study and control groups regarding ecchymosis of episiotomy wound which resolved spontaneously.

Normally, wound exudates (discharge) is not observed immediately after suturing the wound. The presence of discharge influences the process of wound healing as discharge generated a part of the inflammatory response. It is essential to the healing process together with inflammation, should be considered as a necessary and vital component of the reparative process. In wound healing through primary intention a small amount of exudate will be visible on the apposed edges of the skin, providing an effective seal to bacteria and debris. A narrow border of erythema will surround the incised edges; this, together with the dried surface exudates, is a normal and welcome sign that healing is progressing. <sup>(32,33)</sup>

Wound discharge has a high protein content it contains essential nutrients for epithelial cells, facilitates the ingress of white cells and provides the moist environment so important for healing. It also contains electrolytes and a number of inflammatory components, such as leukocytes, fibrinogen and fibrin. Different wound discharge includes: Bloody discharge is thin, bright red, watery and can be observed immediately after wound suture. Serosanguineous discharge is thin, watery, pale red to pink. Serous discharge is thin, watery, and clear, it is normal sign of healing process, and purulent discharge is thin or thick, opaque yellow or green with offensive odor which indicates the presence of wound infection. <sup>(34,35)</sup>

the present study showed better wound healing score after 7 days postnatal among study group than control group as regards the type of wound discharge. It was found that presence of serosanguineous discharge was observed among only 17.5% of study group compared to more than two-fifths of control group. Absence of purulent discharge was observed among study group compared to 5% of control group. These findings reflect the successful process of wound healing and normal nature of wound discharge among study group and absence of infection.

Wound edges should approximate each other lightly. A major reason for relatively loose suturing is to compensate for the edema which usually follows skin closure and to prevent the formation of an ugly linear scar. <sup>(36)</sup> Obvious improvement in healing score was observed in this study as regards approximation of episiotomy wound, more than two-fifths of study group had skin separation, and only 7.5% had skin and subcutaneous fat separation compared to 17.5% and more than two-fifths of control group.

The finding of the present study is in line with that of **Raman (2015)** <sup>(37)</sup> who concluded that episiotomy wound healing was better in self-perineal care group compared with aseptic perineal care group. In both groups, the rate of wound healing decreased from 1<sup>st</sup> postnatal day but increased from 3<sup>rd</sup> postnatal day onwards with no sign of infection.

**Amandeep et al (2015)** <sup>(38)</sup> They concluded that experimental group had greater change in mean score of episiotomy pain and wound healing on day 1 post intervention, day 2 and day 3 which was statistically significant as compared to control group. Thus, the application of sitz bath therapy was more effective in relieving episiotomy pain and improving wound healing. In this respect **Rajakumari (2015)** <sup>(39)</sup> He found that the maternity gel pad has been shown in this study to have a greater effect on perineal edema, bruising and pain than the comparison treatments. This allowed the pad to be molded around the vulva and perineal regions even at the point of removal from the freezer, unlike the ice packs. It is also likely that the larger surface area of the gel, pads will ameliorate the pain associated with hyperalgesia of the area surrounding the episiotomy wound.

the study done by **Albers et al,(2013)** <sup>(40)</sup> **Farrag et al (2016)** <sup>(41)</sup> revealed that there was highly statistically significant difference between both study and control groups regarding REEDA score at 8<sup>th</sup> and 14<sup>th</sup> day after delivery. The postnatal women who adopted Kegel exercises had lower wound healing score than those who did not adopt Kegel exercises. **Farrag et al (2016)** explained their results as Kegel exercises have effect in increasing the circulation in this area, improving the tone and elasticity of perineum, so the perineal muscle became healthier and strong which helped in healing of episiotomy wound faster. Also, the mother in this period had less perineal pain so she can contract the muscles efficiently. In addition, **Beckmann and Stock (2013)** <sup>(42)</sup>, **Mcguinness et al (2013)** <sup>(43)</sup> They found that Kegel Exercise accelerates the healing of wound within first 24 hours after the intervention..



## 5. CONCLUSION AND RECOMMENDATIONS

### CONCLUSION

Based on the overall results of the current study, it could be concluded that Puerperal women can benefit from perineal self care instructions to lower episiotomy pain and foster episiotomy healing.

### RECOMMENDATIONS

According to the results and conclusion driven from the current study, the following recommendations are suggested: All obstetric hospitals provide adequately planned in-service training programs for the maternity nurses regarding the benefits of perineal self care instructions for all postnatal women in order to develop their best practice. The nursing subject should be revised and updated to include perineal self care instructions. Women must be informed and guided during their prenatal care concerning the episiotomy's procedure. Health professionals must be properly trained and updated regarding guidelines based on evidence, and its harmful consequences to women's physical and psychic health.

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APPENDIX - A

Table (I): Number and percent distribution of postpartum women according to their socio-demographic data.

Socio-demographic data	Study Group (40)		Control Group (40)	
	No	%	No	%
<b>Age:</b>				
20<30	34	85.00	36	90.00
30- 35	6	15.00	4	10.00
<b>Education:</b>				
- Illiterate/Read & write	10	25.00	20	50.00
- Primary\ Preparatory				
- Secondary	17	42.50	9	22.50
	13	32.50	11	27.50
<b>Working status:</b>				
- Housewife	35	87.50	32	80.00
- Working	5	12.50	8	20.00
<b>Residence:</b>				
- Rural	24	60.00	27	67.50
- Urban	16	40.00	13	32.50
<b>Type of family:</b>				
- Nuclear	18	45.00	12	30.00
- Extended	22	55.00	28	70.00
<b>Crowding index:</b>				
- Un-crowded (<2)	37	92.50	33	82.50
- Crowded (≥2)	3	07.50	7	17.50
<b>Housing condition: #</b>				
- Presence of water	40	100.0	40	100.0
- Presence of electricity	40	100.0	40	100.0
- Presence of sewage disposal				
- Shared bathroom	40	100.0	40	100.0
	5	12.50	6	15.00

# Responses are not mutually exclusive,

Table (II): Number and percent distribution of postpartum women according to their reproductive history

Reproductive history	Study Group (40)		Control Group (40)	
	No	%	No	%
<b>Gravidity:</b>				
1	33	82.50	25	62.50
2	5	12.50	11	27.50
3	2	05.00	4	10.00
<b>Place of antenatal visits #</b>				
- Private clinic	26	65.00	27	67.50
- Governmental hospital	11	27.50	8	20.00
- MCH centre	4	10.00	5	12.50
- Health care unit	10	25.00	5	12.50
<b>No. of antenatal visits</b>				
< 4	2	05.00	6	15.00
≥ 4	38	95.00	34	85.00
<b>Duration of pregnancy during initial visit:</b>				
- The 1 <sup>st</sup> trimester	31	77.50	32	80.00
- The 2 <sup>nd</sup> trimester	9	22.50	8	20.00
<b>Receiving antenatal health education about perineal care</b>				
- Yes	16	40.00	10	25.00
- No	24	60.00	30	75.00
<b>If yes, source of antenatal health education about perineal care: #</b>				
	(n=16)		(n=10)	
- Doctors	16	100.0	10	100.0
- Nurses	4	25.00	1	10.00

# Responses are not mutually exclusive,

Table (III): Number and percent distribution of postpartum women according to their perceived intensity of episiotomy pain ( VAS.rwsults)

Intensity of episiotomy pain	Control (n =40 )						Study (n =40 )						p <sub>4</sub>	MC p <sub>5</sub>	p <sub>6</sub>
	Immediately		After 48 hour		After 7 days		Immediately		After 48 hour		After 7 days				
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			
-Mild pain	15	37.50	26	65.0	6	15.0	9	22.5	20	50.0	29	72.5	0.179	0.005*	<0.001*
-Moderate pain	21	52.50	9	22.5	24	60.0	22	55.0	20	50.0	7	17.5			
-Severe pain	4	10.00	5	12.5	10	25.0	9	22.5	0	0.0	4	10.0			
<b>Sig. bet .periods</b>	MC p <sub>1</sub> =0.016*, p <sub>2</sub> =0.036*, p <sub>3</sub> <0.001*						MC p <sub>1</sub> =0.001*, p <sub>2</sub> <0.001*, MC p <sub>3</sub> =0.002*								

Sig. bet .groups was done using chi square test

Sig. bet .periods was done using chi square test

MC: Monte Carlo for Chi square test

p<sub>1</sub> : p value for comparing between Immediately and after 48 hour

p<sub>2</sub> : p value for comparing between Immediately and after 1 week

p<sub>3</sub>: p value for comparing between after 48 hour and 1 week

p<sub>4</sub>: p value for comparing between control and study group in immediately

p<sub>5</sub> : value for comparing between control and study group in after 48 hour

p<sub>6</sub> : value for comparing between control and study group in after 1 week

**Table (IV): Number and percent distribution of postpartum women according to healing of their episiotomy (REEDA scale results)**

Healing of episiotomy	Control (n =40 )						Study (n =40 )						P <sub>4</sub>	P <sub>5</sub>	P <sub>6</sub>
	Immediately		After hour 48		After 7 days		Immediately		After hour 48		After 7 days				
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			
<b>Redness</b>															
-None	40	100.0	0	0.0	0	0.0	40	100.0	4	10.0	8	20.0			
-Mild	0	0.0	18	45.0	8	20.0	0	0.0	25	62.5	28	70.0	-	MC <sub>p</sub> = 0.004*	MC <sub>p</sub> <0.001*
-Moderate	0	0.0	16	40.0	18	45.0	0	0.0	11	27.5	3	7.5			
-Severe	0	0.0	6	15.0	14	35.0	0	0.0	0	0.0	1	2.5			
<b>Sig. bet .periods</b>	MC <sub>p1</sub> <0.001*, MC <sub>p2</sub> <0.001*, p <sub>3</sub> =0.028*						p <sub>1</sub> <0.001*, MC <sub>p2</sub> <0.001*, MC <sub>p3</sub> =0.055								
<b>Edema</b>															
-None	40	100.0	1	2.5	0	0.0	40	100.0	11	27.5	12	30.0			
-Mild	0	0.0	17	42.5	5	12.5	0	0.0	19	47.5	20	50.0	-	<0.001*	MC <sub>p</sub> <0.001*
-Moderate	0	0.0	11	27.5	22	55.0	0	0.0	10	25.0	6	15.0			
-Severe	0	0.0	11	27.5	13	32.5	0	0.0	0	0.0	2	5.0			
<b>Sig. bet .periods</b>	p <sub>1</sub> <0.001*, MC <sub>p2</sub> <0.001*, MC <sub>p3</sub> =0.005*						p <sub>1</sub> <0.001*, MC <sub>p2</sub> <0.001*, MC <sub>p3</sub> =0.456								
<b>Ecchymosis</b>															
-None	40	100.0	33	82.5	37	92.5	40	100.0	35	87.5	40	100.0			
-Mild	0	0.0	4	10.0	3	7.5	0	0.0	3	7.5	0	0.0	-	MC <sub>p</sub> = 0.815	FE <sub>p</sub> = 0.241
-Moderate	0	0.0	3	7.5	0	0.0	0	0.0	2	5.0	0	0.0			
<b>Sig. bet .periods</b>	MC <sub>p1</sub> =0.011*, FE <sub>p2</sub> =0.241, MC <sub>p3</sub> =0.246						MC <sub>p1</sub> =0.051, p <sub>2</sub> = -, MC <sub>p3</sub> =0.053								

Table( IV) cont,

Healing of episiotomy	Control (n =40 )						Study (n =40 )						p <sub>4</sub>	p <sub>5</sub>	p <sub>6</sub>
	Immediately		After 48 hour		After 7 days		Immediately		After 48 hour		After 7 days				
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%			
<b>Discharge</b>															
-None	40	100.0	39	97.5	4	10.0	40	100.0	40	100.0	15	37.5			
-Serum	0	0.0	1	2.5	17	42.5	0	0.0	0	0.0	18	45.0	-	<sup>FE</sup> p=1.000	<sup>MC</sup> p=0.004*
-Serosanguinous	0	0.0	0	0.0	17	42.5	0	0.0	0	0.0	7	17.5			
-Bloody /purulent	0	0.0	0	0.0	2	5.0	0	0.0	0	0.0	0	0.0			
<b>Sig. bet .periods</b>	<sup>FE</sup> p <sub>1</sub> =1.000, <sup>MC</sup> p <sub>2</sub> <0.001*, <sup>MC</sup> p <sub>3</sub> <0.001*						p <sub>1</sub> = -, <sup>MC</sup> p <sub>2</sub> <0.001*, <sup>MC</sup> p <sub>3</sub> <0.001*								
<b>Approximation</b>															
-Closed	40	100.0	16	40.0	14	35.0	40	100.0	30	75.0	19	47.5			
-Skin separation	0	0.0	23	57.5	7	17.5	0	0.0	10	25.0	18	45.0			
-Skin & subcutaneous fat separation	0	0.0	1	2.5	18	45.0	0	0.0	0	0.0	3	7.50	-	<sup>MC</sup> p=0.004*	<sup>MC</sup> p<0.001*
- Skin, subcutaneous fat and fascial layer separation	0	0.0	0	0.0	1	2.5	0	0.0	0	0.0	0	0.0			
<b>Sig. bet .periods</b>	<sup>MC</sup> p <sub>1</sub> <0.001*, <sup>MC</sup> p <sub>2</sub> <0.001*, <sup>MC</sup> p <sub>3</sub> <0.001*						p <sub>1</sub> =0.001*, <sup>MC</sup> p <sub>2</sub> <0.001*, <sup>MC</sup> p <sub>3</sub> =0.015*								

Sig. bet .groups was done using chi square test

Sig. bet .periods was done using chi square test

<sup>MC</sup>p: p value for **Monte Carlo** for Chi square test

<sup>FE</sup>p: p value for **Fisher Exact** for Chi square test

p<sub>1</sub> : p value for comparing between Immediately and after 48 hour and after 1 week

p<sub>2</sub> : p value for comparing between Immediately

p<sub>3</sub>: p value for comparing between after 48 hour and 1 week

Statistically significant at P≤ 0.05

p<sub>4</sub>: p value for comparing between control and study group in immediately

p<sub>5</sub> : value for comparing between control and study group in after 48 hour

p<sub>6</sub> : value for comparing between control and study group in after 1 week