

## Effect of Self Perineal Care Instructions on Episiotomy Pain and Wound Healing of Postpartum Women

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**Abstract: Background:** Most women have some degree of discomfort during the first few postpartum days. One of the common causes of discomfort is episiotomy. Nursing interventions are intended to reduce the discomfort and allow the woman to take care of herself and her baby. Simple interventions that can decrease the discomfort associated with perineal trauma is applying an ice pack, moist or dry or topical applications, cleansing the perineum with a squeeze bottle and taking a warm shower or a sitz bath. The **aim** of this study was to evaluate the effect of self perineal care instructions on episiotomy pain and wound healing of postpartum women. The research **design** used for the current study was quasi experimental design. A total of eighty postpartum women (experimental and control groups each group consisted of 40 women) were recruited randomly for this study from the postpartum ward at El- Minia General Hospital. **Tools** used for data collection consisted of interviewing sheet, the numerical rating scale (NRS), the standardized REEDA Scale and follow up sheet. The **Results** of the study revealed that statistically significant reduction in the level of perineal pain at 4, 24, & 48 hours and seven days postpartum between the two groups. A highly statistical significant difference between groups in relation to the interference of pain with walking, sitting, and urination at 24 & 48 hours, and at seven days postpartum. Reduction in the REEDA scores of wound healing in experimental group as compared to control group. The current study **concluded** that, women who received and practice self perineal care instructions on episiotomy pain and wound healing during postpartum period have, lower the level of postpartum episiotomy pain scores, decrease pain related to perineal episiotomy which interfere with women's daily activities postpartum, such as walking, sitting, urination and defecation, and better wound healing progress. On the light of the study findings it is **recommended** that self perineal pain instruction can be introduced to the women antenatal and then it can be used postnatal, the nursing students should be taught the importance of relieving episiotomy pain and enhancing wound healing in postnatal mothers, and there is a need for extensive and intensive research in this area.

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**Key words:** self perineal instruction, episiotomy, wound healing.

### 1. Introduction

Postpartum period is the period during which the woman adjusts, physically and psychologically post pregnancy and birth. It is the period after the end of labor during which the attendance of a midwife upon the woman and baby is required, being not less than 10 days and for a longer period if the midwife considers it necessary <sup>(1)</sup>. An arbitrary time frame divides the period into the immediate postpartum (first 24 hours), early postpartum (first week) and late postpartum (second to sixth weeks). The main goals in postpartum care are to assist and support the woman's recovery to the prepregnant state and educate the mother about her own self care <sup>(2)</sup>.

As the perineum distends, a decision to undertake an episiotomy may very occasionally be necessary. This is a surgical incision through the perineal tissue that is designed to enlarge the vulval outlet during delivery and to minimize the risk of severe spontaneous, maternal trauma and to expedite the birth when there is evidence of fetal compromise <sup>(1)</sup>. Approximately 33% of women

with vaginal delivery had episiotomy <sup>(3)</sup>. Approximately 70% of women who have a vaginal birth will experience some degree of damage to the perineum, due to a tear or cut (episiotomy), and will need stitches. This damage may result in perineal pain during the two weeks after the birth, and some women experience long-term pain and discomfort during sexual intercourse <sup>(4)</sup>. However, the prevalence of episiotomy is not the same in different countries. Asian race are presumed to have smaller and tighter perineum, so the routine episiotomy may reduce the risk of perineal tearing during delivery <sup>(5)</sup>. One study revealed that episiotomy was performed in 97.3% of 510 primiparous women who had vaginal delivery in Tehran <sup>(6)</sup>.

Perineum is a very sensitive area, in which there are muscles involved in sitting, walking, bending down, squatting, urination, defecation (any incision in this area cause pain and disorder. The perineal pain resulting from episiotomy is a stressful factor in mothers, which interferes with their ability of nursing and doing their duties as a mother and may interfere with urination and

defecation. It may causes mental disorders in mother during postpartum and change her attitude and activities towards her neonate <sup>(7)</sup>.

The perineum is assessed for the type and amount of vaginal discharge, unusual swelling, discoloration, healing of the tissues and discomfort. If an episiotomy was performed, the state of healing is assessed by observing for redness, edema, ecchymosis, discharge and approximation of the wound. Foul odor accompanied by drainage indicates infection, further examination of the incision and area of warmth and tenderness should be performed <sup>(2)</sup>. The normal episiotomy site should not have redness, discharge or edema. The majority of healing takes place within the first 2 weeks, but it may take 4 to 6 months for the episiotomy to heal completely <sup>(8)</sup>.

Pain relief measures may begin immediately after birth with application of an ice pack to the perineum for 20 to 30 minutes and removed for at least 20 minutes before being reapplied <sup>(9)</sup>. An ice pack is most effective during the first 24 hours after delivery. Cooling for short time has been used for relieving pain of localized tissue trauma for many years <sup>(10)</sup>. Little research has been done to evaluate the effect of topical application of perineal cold gel pads as an alternative way of treatment for reduction of perineal discomforts <sup>(11)</sup>. In the developed countries, cold therapy has been used for perineal pain control. The purpose of using cold therapy is to reduce the period of inflammation and decrease the soft tissue and helping the women to return to their normal activities faster <sup>(12)</sup>. Most of the women are encouraged to take a regular bath and acetaminophen for pain control. Also heat can be used to decrease the woman's discomfort. Heat increases circulation to the perineal area and relaxes the tissue. Either moist or dry heat can be applied after the first 24 hours <sup>(2)</sup>.

All women should be asked about discomfort in the perineal area, regardless of whether the birth resulted in actual perineal trauma. Advices from the midwife may be welcomed and clear information and reassurance are helpful where women have poor understanding of what happened and are anxious about urinary, bowel or sexual function in the future. For the majority of women, the perineal wound gradually becomes less painful and healing should occur by 7-10 days after the birth <sup>(1)</sup>

### Significance

Perineal trauma is a major problem affecting millions of women around the world each year. The degree of perineal pain and discomfort associated with perineal trauma is often underestimated. Pain often interferes with basic daily activities for the woman such as walking, sitting and passing urine and also negatively impacts on motherhood experiences <sup>(13)</sup>.

Most women have some degree of discomfort during the first few postpartum days. One of the

common causes of discomfort is episiotomy. Nursing interventions are intended to reduce the discomfort and allow the woman to take care of herself and her baby. Simple intervention that can decrease the discomfort associated with perineal trauma is applying an ice pack, moist or dry or topical applications, cleansing the perineum with a squeeze bottle and taking a warm shower or a sitz bath <sup>(2)</sup>. Perineal pain in the early postpartum period has been reported to be one of the most common causes of maternal morbidity. It also impairs the mother's ability and willingness to care for her baby <sup>(14)</sup>.

Meeting the educational needs of the new mother and her family is one of the primary challenges facing the postpartum nurse. Each woman's educational needs vary according to age, background, culture, experience and expectations. However, because 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.

### Aim of the study

The aim of this study was to evaluate the effect of self perineal care instructions on episiotomy pain and wound healing of postpartum women.

### Hypothesis of the study:

Women who received self perineal care instructions will:

- Experience lower level of post partum episiotomy pain scores than those who do not.
- Show better wound healing progress than those who do not.
- Have decrease the pain interfering with postpartum women's daily activities.

## 2. Subjects and Methods

### Research design:

The research design used for the study was quasi experimental design.

### Research Setting:

The study was conducted at the postpartum ward in Obstetrics and Gynecology Department at El Minia General Hospital which is affiliated to the Ministry of Health and Population (MOHP) It provide free services for rural and urban areas in El Minia governorate.

### Research Sample:

A convenient random sample composed of 80 postpartum women (experimental and control groups, each group consisted of 40 women) were representative from the previously mentioned setting; whereas the women were recruited for this study according to the following criteria:

**Inclusion criteria:**

- Primiparous women aged between 17-35 years.
- Gestational age between 37-42 weeks.
- Had medio-lateral episiotomy.
- Newborn weight between 2500 to 4000 grams.
- No history of disease impaired wound healing.

**Exclusion criteria:**

- Median episiotomy.
- Perineal tear grades 3 and 4
- Newborn hospitalization.
- Having valvovaginitis and hematoma or abscess in perineum,.

**Sampling technique and size:**

Eighty women who delivered their first baby by assisted vaginal delivery with an episiotomy done were recruited after application of the inclusion and exclusion criteria, after that they randomized into either an experimental or control group using systematic random sample type in which the first five women were recruited in experimental group and the next five women in control group and so on. Each group consisted of 40 women. The experimental group received instructions and demonstration about how to do self perineal care from the investigators, while the control group received the routine hospital care nursing care provided by the hospital personnel. The number of women recruited per day ranged from two to four women. The investigators collected data for a period of two months from the beginning of July to the end of August 2007.

**Tools of data collection:** Tools used for data collection were consisted of

1. **An Interviewing Sheet:** it was designed by the investigators to collect socio demographic data such as age, level of education, occupation...etc.
2. **The Numerical Rating Scale (NRS)** ('0-10' point pain intensity scale) developed by **McCaffery & Pasero** <sup>(15)</sup>: it was used to measure the intensity of perineal pain of postnatal mothers with episiotomy.
3. **The Standardized REEDA Scale:** (Redness, Edema, Ecchymosed, Discharge, Approximation). It was adopted from **Jahdi *etal*** <sup>(16)</sup>, it was used to assess postpartum healing of the perineum following an episiotomy repair.
4. **Follow Up Sheet:** it was designed by the investigators to collect data related to level of perineal pain, interference of pain with daily activities and wound healing at day seven after episiotomy. All analgesics were consumed by the mothers should be recorded.

**Operational Design:**

This design covers the preparatory phase, the pilot study and then the fieldwork or procedures.

**Preparatory phase:**

Investigators reviewed the current local and international related literature using textbooks, articles, and scientific magazines. This helped the investigators to be acquainted with the problem and guided them in the process of tools designing. The tools were then prepared and presented to experts for review and validation.

**Pilot Study:**

To assess the applicability of the tools used in the study for data collection, a pilot study was conducted with 10% of the predestinated sample size, eight women according to the stated study criteria was instructed to practice self perineal care by the investigators. The results of the pilot study helped in the necessary modifications of the tools in which omission of unneeded or repeated questions, adding missed questions was done. Also the steps of perineal care were evaluated for simplicity of language. The sample of the women who shared in the pilot study was excluded from the main study sample.

**Field work:**

The investigators attended the postpartum ward of the studied setting three days per week, from 9.00 a.m. to 1.00 p.m. The investigators introduced themselves 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. Then her consent was obtained. All women were informed that participation was voluntary and that the collected data would be only used for purpose of the study, as well as for their benefit. Each woman was randomly assigned to an experimental or control groups. The field work lasted over than two months. All women were interviewed to collect socio demographic data and telephone number. Each interview took for 10-15 minutes with each woman in both groups.

After orienting the women about the purpose of the self perineal care, the experimental group was instructed to practice self perineal care. Through individualized educational session, the investigators demonstrated for each woman how to do self perineal care, this session took about one hour to cover all information and practices needed. Demonstration on the woman, verbal instructions and an illustrated pamphlet using a series of detailed drawings were used for ensuring, followed by re demonstration and discussion. Written instructions were given to ensure retention knowledge.

The investigators provide the woman with instructions for home care on how and when to use peribottle home (fill the bottle with cleaning warm water) or pour warm water or cleansing solution over perineum after the first 24hours. Reinforce this practice each time she changes her pad, voids, or defecates, making sure that she understands to direct the flow of water from front to back. Also advice the woman to use

the sitz bath with warm water several times daily to provide hygiene and comfort for the perineal area. Encourage her to continue these measures after discharge.

At the end of the session the investigators gave each woman health education about the importance of follow-up to ensure woman compliance for practicing self perineal care and to assess progress of wound healing. The investigators motivated the women to perform self perineal care through telephone calls by reminding the women with the benefits of perineal care and importance of follow up. On the other hands, the control group received only routine hospital care provided by hospital personnel.

The intensity of perineum pain in both groups were evaluated by using the numerical rating scale (NRS) ('0-10' point pain intensity scale). It was scored and colour differentiation given for an easy understanding of mothers. Intensity of pain scored as follows: 0 - No Pain (Green), 1-3 Mild pain (Yellow), 4-6 Moderate pain (Orange) and 7-10 Severe pain (Red). Also the interference of pain with daily activities such as walking, sitting, urination and defecation were measured with the same numerical pain intensity scale (0-10). Postpartum women were assessed on their pain level during the first 2 hours after episiotomy as a basic assessment, at 4, 24, 48 hours and the seven day after episiotomy. For both groups all analgesics were consumed by the mothers should be recorded. In addition the interference of pain with walking, sitting, urination and defecation at 24hours day postpartum was assessed.

Wound healing in both groups were evaluated by inspect the episiotomy site for ecchymoses, tenderness, redness, swelling, purulent discharge or hematomas and suture approximation of the wound edges using a REEDA scale within 2hours after episiotomy repair as a basic assessment. Each item is rated on a scale of 0 to 3 scores. To reduce perineal edema, pain and promoting healing for women in the experimental group, the investigators applied ice packs during the first 4 hours of labor. Ice packs are wrapped in a disposable covering or clean washcloth and are applied to the perineal area for 20 minutes and removed for 10 minutes. To ensure effectiveness, ask the woman to frequently apply and remove the ice packs only during the first 24 hours postpartum according to their pain. In addition at the first 24hours signs of infection were assessed by position the woman on her side with her top leg flexed upward at the knee, if necessary use pen light to provide adequate lighting during assessment. Large areas of swollen, bluish skin with complains of severe pain in the perineal area indicates vulvar hematomas. Redness, swelling increasing discomfort or purulent drainage may indicate infection.

For both groups at discharge of the woman, the

investigators provided again a clear and concise explanation of the pain scale and asked the woman to circle the number or color that demonstrates the level of her pain. Perineal pain and pain interference with daily activity at 48 hours postpartum were assessed by telephone calls. At 7 days postpartum follow up, the investigators interview the mothers in both groups to assess intensity of perineum pain, interference of pain with daily activities and observe perineal status for healing.

#### **Written and oral instructions on self perineal care**

The oral instructions and written pamphlet included the following:

#### **Proper technique of self perineal 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.
- 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 (otherwise medication will be observed in pad).
- Apply clean perineal pad from front to back, touching only sides and outsides of pad to lessen risk of infection.
- Do not flush toilet until she is standing upright, otherwise, the flushing water can spray perineum.
- Always perform perineal care after elimination (urination or defecation) or at least every 4 hours during Puerperium. She should be taught to start at the front (area just under the symphysis pubis) and proceed toward the back (around the anus) to prevent contaminations from the anal area.
- Perineal pad should be changed regularly to prevent infection.

#### **Ice pack application if edema is present**

- The nurse provides 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.
- 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.

#### **Ways to speed healing and relieve discomfort**

These are things you can do to speed healing of the perineum and make yourself more comfortable:



- Expose the perineum to the air by letting your pad down while you are resting or napping. Be sure to protect your furniture and bedding by placing a thick towel or plastic-lined pad under you.
- Avoid standing and sitting positions that put pressure on this area; avoid standing or sitting for long periods of time.
- Take the sting out when you urinate by pouring warm water over your perineum while you pee.
- Lie on your side while resting or napping.
- Take sitz baths, or sit in a tub of warm water.
- Use ice packs made of gauze soaked in cold to relieve pain.
- Try not to strain with bowel movements; you can press a pad of toilet paper against your stitches when you bear down.

#### **When to seek medical care**

Call your doctor if any of the following symptoms occurs:

- Bad-smelling discharge from your vagina.
- Burning pain with urination.
- Passing urine more frequently than usual.
- Urge to pass urine frequently, but only going a small amount.
- Severe pain in your perineum, pelvis, or lower abdomen.
- High fever.
- Nausea and vomiting.
- Heavy vaginal bleeding (soaking through more than one pad every hour).

#### **Administrative Design:**

An official letter clarifying the purpose and setting of the study was obtained from the directors of El Minia General Hospital and it was submitted to the directors of Obstetrics and Gynaecology departments requesting their approval for data collection to conduct the study.

#### **Ethical considerations:**

- Obtaining the acceptance of women to participate in the study.
- All women were informed that participation was voluntary and that the collected data would be only used for purpose of the study, as well as for their benefit.
- Code number for each woman was is maintained.

#### **Statistical Design:**

The collected data were organized, revised, tabulated and analyzed, using the SPSS computer application for statistical analysis. Descriptive statistics was used to calculate percentages, frequencies & standard deviations for the two groups.  $X^2$  and T- test was used to estimate the statistical significant differences between the groups. A significant *P*-value was considered when *P* was less than 0.05 and it was considered highly significant when *P*- value was less than or equal 0.01.

### **3. Results**

The results of this study are presented under 4 heading: demographic characteristics of the women, perineal pain scores during (2, 4, 24, 48 hours and 7 days postpartum), pain interference with daily activities during 24,48hours and 7days postpartum) and wound healing (2, 24hours and 7 days postpartum)

#### *Demographic characteristics of the study sample*

The mean age of the experimental group was 21.8 +3.188 years while the mean age of the control group was 22.2+2.943 years. As regards to the educational level, the present study showed that 17.5% in experimental group were illiterate as compared to 20% in the control group, 20% in both groups had basic education, 25% and 27.5% in experimental and control group had secondary education respectively, while 37.5% of the experimental group had university education as compared to 32.5% in control group. More than one third (35%) of the experimental group versus one quarter (25%) of the control group were working, while, approximately two thirds (65%) of the experimental group versus three quarters (75%) of the control group were house wives (**Figure 1-3**).

#### *Perineal pain scores*

***Pain score before intervention:*** Assessment of the perineal pain 2hours after episiotomy repair and before intervention provided among both groups. Results of the present study showed that nearly one third (35%) in experimental group had strong perineal pain as compared to 30% in control group. Around half of women (45%) in both group had moderate perineal pain, while 20% in experimental group had mild perineal pain versus to 25% in control group, there wasn't significant differences between two groups ( $t = .550$  at  $p = .586$ ) (**Figure 4**).

***Pain score after intervention:*** The mean scores for the intensity of the pain 4 hours after intervention in experimental group was  $5 \pm 1.300$  and it was  $7.07 \pm 0.6558$  in control group that indicated a significant differences between two groups ( $p = 0.000$ ). As regards to perineal pain scores 24hours, 48hours, and 7days after episiotomy. The mean level of pain scores was ( $4.67 \pm 0.997$ ) in experimental group and it was ( $7.17 \pm 1.298$ ) in control group 24 hours after episiotomy ( $p = 0.000$ ). In addition, a significant difference between the pain scores was shown 48 hours and 7 days after episiotomy. The mean level of pain scores was ( $3.25 \pm 1.126$ ), ( $1.55 \pm 0.932$ ) in experimental group and it was ( $4.22 \pm 0.999$ ), ( $3.4 \pm 1.104$ ) in control group in the 48 hours and 7 days after episiotomy ( $p = 0.001$  &  $p = 0.00$ ) (**Table 1**).

Moreover, only 5% of the women in experimental group hadn't taken analgesics. About one third (33%) of participants in experimental group had consumed one tablet as compared to 15% in the control group. Only 3% in the experimental group had consumed two tablets

as compared to three quarter (75%) in the control group. Very few of the women (2%) in experimental group had consumed three tablets as compared to 10% in the control group after episiotomy. A highly statistical significant difference was found between the two groups ( $t = 12.49$  at  $p = .000$ ) (Figure 5).

**Interference of pain with daily activities**

Regarding to interference of pain with daily activities at 24hours, 48hours, and 7days, the results of the current study indicated that the perineal pain scores reduced during walking, sitting, and urination, with highly statistical significant differences ( $p = .000$ ) was found between the two groups. In relation to perineal pain scores during defecation the result of the present study showed statistical significance difference between two groups at 24hours after delivery ( $t = 2.762$  at  $p = 0.009$ ), While there was no statistical difference between two groups upon 48hours and 7days during defecations ( $t = 802$  at  $p = 0.427$ ) and ( $t = 1.776$  at  $p =$

0.08) respectively (Table 2).

**Wound healing**

Regarding to wound healing systematic assessment of the wound edges using a REEDA scale showed no statistically significant difference in both groups at 2hours post episiotomy repair (Table 3). A highly statistically significant difference between two groups in relation to redness, edema, ecchymosis, discharge and suture approximation within 24 hours of episiotomy repair ( $t = 5.353$  at  $p = 0.000$ ), ( $t = 8.119$  at  $p = 0.000$ ), ( $t = 2.568$  at  $p = 0.01$ ), ( $t = 9.884$  at  $p = 0.0000$ ), ( $t = 2.223$  at  $p = 0.03$ ) respectively (Table 4). Also REEDA scale showed statistically significant difference between two groups at 7days postpartum after episiotomy in relation to redness, edema, and suture approximation ( $t = 2.962$  at  $p = 0.005$ ), ( $t = 2.399$  at  $p = 0.02$ ), ( $t = 1.857$  at  $p = 0.07$ ) respectively (Table 5).

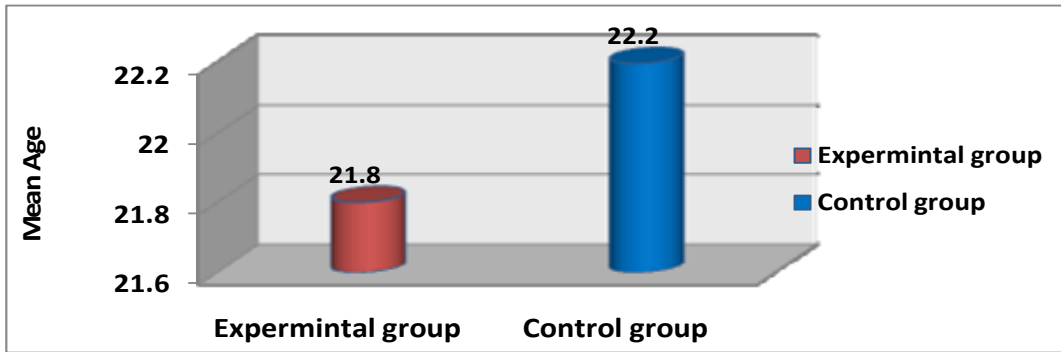


Figure 1. Mean Age Distribution among Two Groups

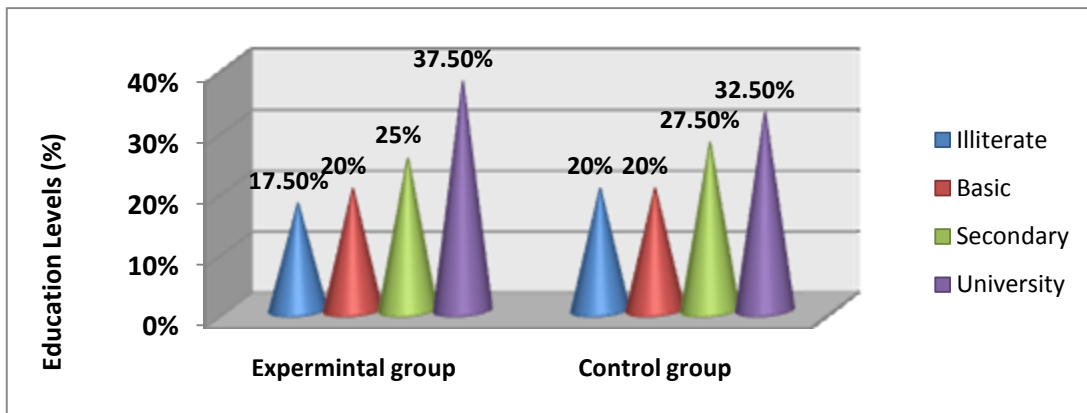


Figure 2. Distribution of the Two Groups Regarding Their Level of Education

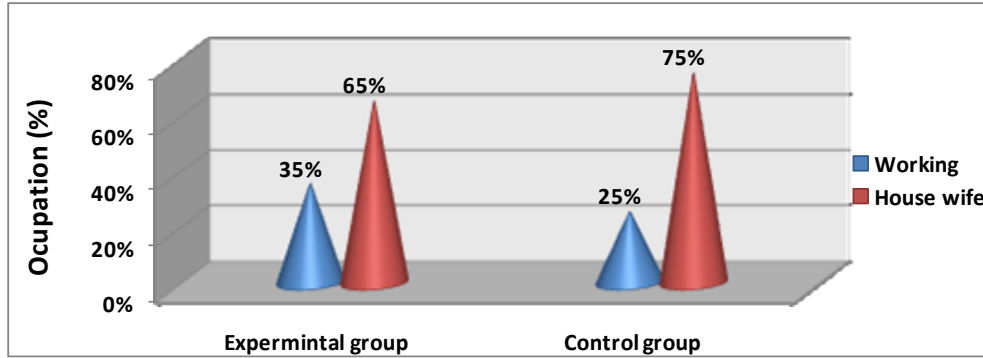
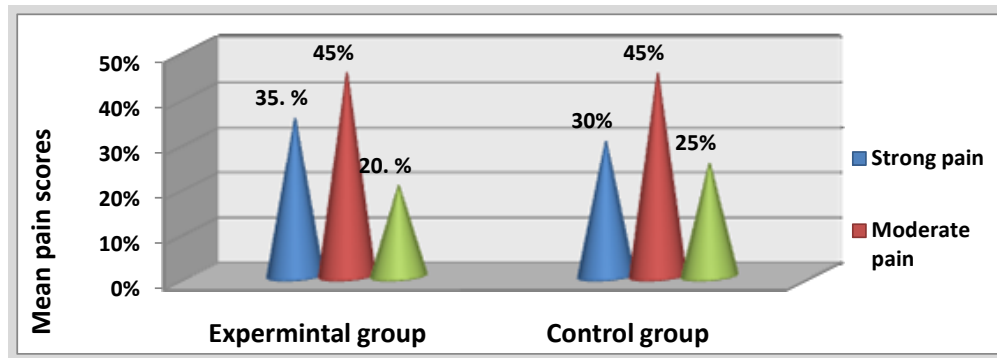


Figure 3. Distribution of the two Groups regarding their Occupation

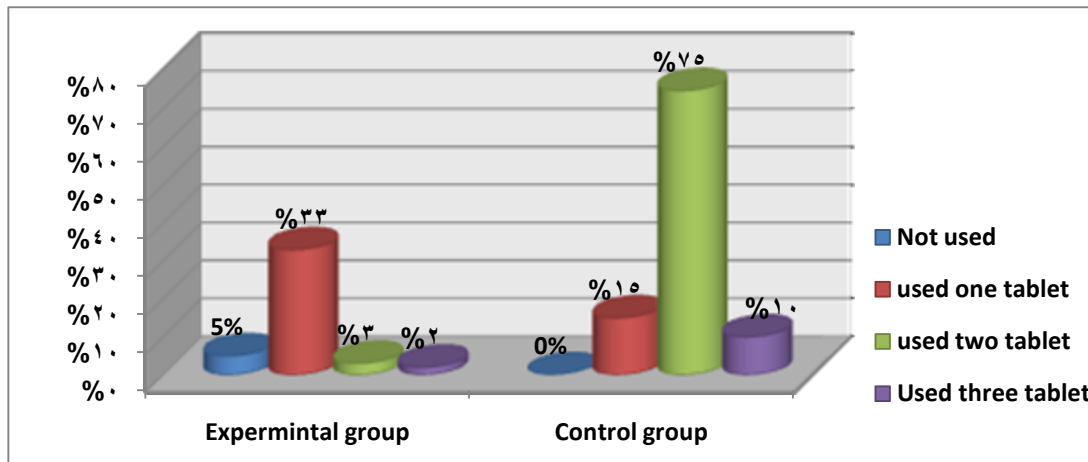


(t = .550 at p= 0.586)

Figure 4. Distribution of Perineal Pain Scores at 2hours after Episiotomy Repair among Both Groups

Table 1. Mean Perineal Pain Scores at 4, 24, 48 hours and 7 days Postpartum among Both Groups

| Variables  | Experimental (N = 40) |       | Control (N = 40) |       | t. test | P. value |
|------------|-----------------------|-------|------------------|-------|---------|----------|
|            | X                     | +S.D  | X                | +S.D  |         |          |
| • 4hours   | 5                     | 1.300 | 7.07             | 0.655 | 8.901   | 0.000    |
| • 24 hours | 4.675                 | 0.997 | 7.17             | 1.298 | 11.326  | 0.000    |
| • 48 hours | 3.25                  | 1.126 | 4.22             | 0.999 | 3.531   | 0.001    |
| • 7 days   | 1.55                  | 0.932 | 3.400            | 1.104 | 7.573   | 0.000    |



(t=12.49 at P= 0.000)

Figures 5. Distribution of Analgesics Tablets Consumption per day During First Week after Delivery

**Table (2): Mean Score of Pain Interference with Daily Activities at 24 hours, 48 hours and 7 days Postpartum among Both Groups**

| Daily activities  | Experimental (N = 40) |       | Control (N = 40) |       | t. test | P. value |
|-------------------|-----------------------|-------|------------------|-------|---------|----------|
|                   | X                     | +S.D  | X                | +S.D  |         |          |
| <b>Walking</b>    |                       |       |                  |       |         |          |
| • 24 hours        | 4.125                 | 1.264 | 6.100            | 0.708 | 8.004   | 0.000    |
| • 48 hours        | 4.02                  | 1.187 | 5.50             | 0.751 | 7.284   | 0.000    |
| • 7 days          | 1.30                  | 1.324 | 2.10             | 1.721 | 2.495   | 0.01     |
| <b>Sitting</b>    |                       |       |                  |       |         |          |
| • 24 hours        | 5.37                  | .704  | 5.80             | 1.09  | 2.379   | 0.02     |
| • 48 hours        | 3.72                  | 1.413 | 4.17             | 0.549 | 1.964   | 0.05     |
| • 7 days          | 1.47                  | 1.601 | 2.35             | 1.641 | 3.232   | 0.003    |
| <b>Urination</b>  |                       |       |                  |       |         |          |
| • 24 hours        | 5.17                  | 1.009 | 5.42             | 0.896 | 2.360   | 0.02     |
| • 48 hours        | 3.32                  | 0.525 | 4.45             | 0.749 | 6.993   | 0.000    |
| • 7 days          | 1.50                  | 1.17  | 2.32             | 1.384 | 3.794   | 0.001    |
| <b>Defecation</b> |                       |       |                  |       |         |          |
| • 24 hours        | 4.77                  | 0.999 | 5.07             | 0.916 | 2.762   | 0.009    |
| • 48 hours        | 3.20                  | 1.381 | 3.45             | 1.131 | 0.802   | 0.427    |
| • 7 days          | 1.27                  | 1.320 | 1.975            | 2.336 | 1.776   | 0.08     |

**Table 3. Mean REEDA Scales Scores among two Study Groups 2hours Postpartum**

| Variable        | Experimental (N = 40) |      | Control (N = 40) |      | t. test | P. value |
|-----------------|-----------------------|------|------------------|------|---------|----------|
|                 | X                     | +S.D | X                | +S.D |         |          |
| ▪ Redness       | 1.95                  | .638 | 2.02             | .357 | 1.525   | 0.135    |
| ▪ Edema         | 2.05                  | .220 | 2.07             | .266 | 0.723   | 0.474    |
| ▪ Ecchymosis    | 2.32                  | .474 | 2.17             | .384 | 0.572   | 0.570    |
| ▪ Discharge     | 2.15                  | .426 | 2.05             | .220 | 1.275   | 0.210    |
| ▪ Approximation | 2.02                  | .276 | 2.07             | .266 | 0.813   | 0.421    |

**Table 4. Mean REEDA Scales Scores among two Study Groups 24hours Postpartum**

| Variable        | Experimental (N = 40) |      | Control (N = 40) |      | t.test | P. value |
|-----------------|-----------------------|------|------------------|------|--------|----------|
|                 | X                     | +S.D | X                | +S.D |        |          |
| ▪ Redness,      | 1.10                  | .590 | 1.70             | .607 | 5.353  | .000     |
| ▪ Edema,        | 1.225                 | .422 | 2.07             | .525 | 8.119  | .000     |
| ▪ Ecchymosis    | 1.77                  | .765 | 2.22             | .659 | 2.568  | .01      |
| ▪ Discharge,    | .67                   | .693 | 2.02             | .530 | 9.884  | .000     |
| ▪ Approximation | 1.05                  | .749 | 1.350            | .483 | 2.223  | .03      |

**Table (5): Mean REEDA Scales Scores among two Study Groups at 7 days after Episiotomy**

| Variables       | Experimental (N = 40) |      | Control (N = 40) |      | t. test | P. value |
|-----------------|-----------------------|------|------------------|------|---------|----------|
|                 | X                     | +S.D | X                | +S.D |         |          |
| ▪ Redness       | .47                   | .505 | .80              | .464 | 2.962   | .005     |
| ▪ Edema         | .65                   | .483 | .95              | .638 | 2.399   | .02      |
| ▪ Ecchymosis    | .56                   | .662 | .82              | .635 | 1.554   | .128     |
| ▪ Discharge     | .27                   | .452 | .45              | .552 | 1.361   | .181     |
| ▪ Approximation | .22                   | .422 | .45              | .503 | 1.854   | .07      |



#### 4. Discussion

The aim of the present study was to evaluate the effect of self perineal care instructions on episiotomy pain and wound healing of postpartum women. Results of the current study supported the following investigated hypothesis that women who received self perineal care instructions will experience lower level of post partum perineal pain and better wound healing progress than those who do not and they have decrease the pain interfering with postpartum women's daily activities.

The mother undergoing episiotomy is characterized by greater blood loss in conjunction with delivery, and there is a risk of improper wound healing and increased pain during early postpartum. Perineal trauma is strongly associated with postpartum pain and morbidity, including bleeding and infection. The provision of numerous care measures are intended to facilitate perineal healing, such as cleanliness, ice packs, sitz baths and thorough perineal care. The use of an alternative non-invasive method of pain relief was effective in reducing perineal pain.

##### Demographic characteristics of the sample

As regards to the demographic characteristics of the study sample, it was found that the mean age in the experimental and control groups (21.8 and 22.2 years) respectively. As regards to the educational level, the results showed that more than three quarters of women (80%) from both groups were educated women. This is reflected upon women cooperation during accepting and practicing self perineal care in the study group. As regards their occupation, it also found that around two thirds of the samples in both groups were house wives.

##### Perineal pain scores

As regards to the level of perineal pain scores, the present study showed statistically significant reduction in the level of perineal pain at 4, 24 & 48 hours and seven days postpartum between the two groups. ( $t=8.901$  at  $p < 0.000$ ), ( $t=11.326$  at  $p < 0.000$ ), ( $t=3.531$   $p = 0.001$ ) and ( $t=7.573$  at  $p = 0.000$ ) respectively. This could be due to the effect of proper self perineal care during postpartum as ice pack effective of reducing perineal pain and edema in addition to warm therapy which enhance vascular circulation and decrease perineal discomfort. These results were in accordance with the study done by <sup>(17)</sup> they concluded that applying cold gel pad is an effective non-invasive method of relieving discomforts. An ice pack is the first measures used after vaginal birth to relieve perineal discomfort from edema, episiotomy, and to prevent hematoma formation thus reducing pain and promoting healing <sup>(18)</sup>.

Also the study done by East et al, Thangaraju and Moey <sup>(10, 14)</sup> showed 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.*<sup>(19)</sup> studied the effectiveness of cooling gel pads and ice packs on perineal pain and they found a statistical significant difference was reported at 4 hours ( $P=0.003$ ); day 2 ( $P=0.004$ ); and at day 10 ( $P=0.044$ ). At days 1 and 5 there was evidence of a reduction in the intensity of pain but this did not reach a statistical significant difference. This trial has demonstrated evidence that localized cooling of the perineum reduces the intensity of pain.

According to the study done by Venkadalakshmi *et al.*<sup>(20)</sup> they evaluated the effect of infrared therapy on episiotomy pain and wound healing in postnatal mothers. Results revealed that the majority of the participants in both the control group (96.6%) and the experimental group (90%) had moderate 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.

##### Interference of pain with Dailey activity

Swelling or bruising of the tissues surrounding the bladder and urethra may lead to difficult urination. Fearing the sting of urine on the tender perineal area may have the same effect. Straining with bowel movements will stretch the episiotomy scar and perineum and can cause pain. The interference of acute pain with daily activities has been paid less attention. Just a few studies have been performed to evaluate the relation between acute pains with impairment of usual daily activities. The results of the present study indicated that there was a highly statistical significant difference between groups in relation to the interference of pain with walking, sitting, and urination at 24 & 48 hours, and at seven days postpartum. However, it was found that only there was statistical significant difference between groups in relation to the interference of pain with defecation at 7day postpartum. Effective postpartum perineal care can decrease discomfort related to perineal episiotomy which interfere with women's daily activities postpartum, such as walking, sitting, urination and defecation.

This result was in agreement with study done by <sup>(21)</sup> who reported that pain and discomfort related to perineal trauma interfere with women's daily activities postpartum, such as sitting, walking and lifting the baby. Also, other investigators <sup>(22, 23)</sup> stated that pain can cause decreased mobility and discomfort with passing urine or faeces and it has many negative impacts on the women's ability to care for their newborns also their ability to breast feed and attending to their baby's need would decrease significantly. Pain following perineal trauma can be severe and persist into the postpartum period. It will inhibit normal daily

activities such as walking, sitting and micturition and can influence the bonding with their neonates<sup>(13, 24)</sup>. Pain following perineal trauma can be severe and persist into the postpartum period. It will inhibit normal daily activities such as walking, sitting and micturition and can influence bonding with the neonate. Therapeutic ultrasound, antiseptics and non-pharmacological applications such as ice packs, cooling gel pads and baths are all commonly employed<sup>(25, 26)</sup>.

### Wound healing

As regards to perineal healing the present study revealed that, there was no statistical significant difference in both groups at 2 hours post episiotomy repair. After 24 hours the present study showed a reduction in the REEDA scores of wound healing in experimental group as compared to control group. This results may be due to applying ice packs on the wound is a great way to reduce the swelling and numb the pain. Additionally, squirting water while the postpartum women with episiotomy are urinating helps to reduce the sting and disinfect the wound. Proper perineal care could be effective in healing the perineum.

According to Jahdi *et al.*,<sup>(17)</sup> that the use of cold gel pads resulted in statistically significant differences detected in perineal edema, ecchymosis, approximately at 5 days after episiotomy, compared with use of bethadine. Also the study done by Venkadalakshmi *et al.*<sup>(20)</sup> indicated that the infrared therapy reduces the acceleration of wound healing in postnatal mothers. It is a suitable alternative intervention for those with episiotomy wound.<sup>(27)</sup> Studied the effect of aromatherapy on a postpartum mother's perineal healing and they found that the REEDA scale was significantly low in the experimental group at postpartum 5th and 7th days ( $P=.009$ ,  $P=.003$ ), respectively. These results were in line with the results of the study done by<sup>(28)</sup> they concluded that a more commonly employed management regimen is to allow the wound to heal by secondary intention with frequent wound packing and dressing. These results contradicted with<sup>(21)</sup> who reported that the wound healing by the REEDA scale was found similar results at 24–48 hours and 10 days postpartum. Wound healing on day 10 evaluated by number of gaping wounds  $>0.5$  cm was also similar between groups. Navvabi *et al.*,<sup>(19)</sup> Reported that wound healing rates were also reported to be better in the cooling gel pad group when compared to the other two groups ( $P<0.001$ ). Women's views and treatment to alleviate perineal pain without any adverse affects on wound healing are important aspects of midwifery care. Women were more satisfied when applying cooling gel pads and this treatment appeared to assist in wound healing.

### 5. Conclusion

Results of the current study supported the

investigated hypothesis of the study, it could be concluded that women who received and practice self perineal care during postpartum period had:

- Lower the level of postpartum episiotomy pain scores.
- Better wound healing progress.
- Decrease pain related to perineal episiotomies which interfere with women's daily activities postpartum, such as walking, sitting, urination and defecation.

### Recommendations

**On the light of the study findings, it is recommended that:**

- Self perineal care instructions can be introduced to the women antenatal and then it can be used postnatal.
- The nursing students should be taught the importance of relieving episiotomy pain and enhancing wound healing in postnatal mothers.
- Nurse educators should orient the students towards various forms of interventions for episiotomy pain and wound healing.
- Hospitals and birthing centers should provide self perineal care guidelines for nurses providing postpartum care.
- Further extensive and intensive researches are needed in this area.

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