

Effect of Regular Perineal Massage during Last Month of Pregnancy on Perineal Outcomes

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Abstract:

Antenatal perineal massage has been proposed as one method of decreasing the incidence of perineal trauma. It contributes to the softening of the tissues and relaxation of the pelvic floor muscles also decrease resistance to pressure during delivery. Most women are keen to give birth without perineal tears, cuts and stitches, as those often cause pain and discomfort afterwards, and can impact negatively on sexual functioning. The **aim** of this study was to evaluate the effect of regular perineal massage during last month of pregnancy on perineal outcomes. The research **design** used for the study was the quasi experimental design. A total of sixty pregnant women (massage and control groups each group consisted of 30 women) was recruited randomly for this study from the ante natal clinic and labor ward at El- Minia General Hospital. **Tools** used for data collection consisted of interviewing sheet, Intrapartum assessment sheet, Visual Analogue Scale (VAS), and follow up sheet. The **Results** of the study revealed that two thirds of massage group had intact perineum as compared to around one third in the control group. Also the first degree tears was less among the massage group (10.0%) compared to (23.3 %) in the control group, the third and fourth degree tear were observed in only one woman in the control group. The study **concluded** that perineal massage was effective in reducing perineal trauma, better labor progress and perineal outcomes. On the light of the study findings it is **recommended** that explanation about perineal massage should be a routine part of childbirth preparation, which is usually offered by nurses. Emphasize on the importance of antenatal follow up for women's education about perineal massage and specific recommendation for future research would be to replicate this study in other settings with different patient population is needed to increase the ability to generalize the findings.

Key words: perineal massage, perineal trauma, second stage of labor.

Introduction

Perineal massage is the practice of gently stretching and massaging the tissues that surround the opening of a pregnant woman's vagina in preparation for childbirth. The intention is an attempt to prevent tearing of the perineum during birth or needing an episiotomy. Several studies have shown that perineal massage when performed regularly during the last weeks of pregnancy can decrease risks of tearing or getting an episiotomy during childbirth (**Paykel**

2005). It contributes to the softening of the tissues and relaxation of the pelvic floor, also decrease resistance to pressure during delivery. Perineal massage during the last month of pregnancy has been suggested as a possible way of enabling the perineal tissues to expand more easily during birth. The review of four trials (2497 women) showed that perineal massage undertaken by the woman or her partner (for as little as once or twice a week from 35 weeks) reduced the

likelihood of perineal trauma (mainly episiotomies) and ongoing perineal pain. The impact was clear for women who had not given birth vaginally before, but was less clear for women who had (**Beckmann & Garrett 2006**).

Most women are keen to give birth without perineal tears, cuts and stitches, as these often cause pain and discomfort afterwards, and can impact negatively on sexual functioning. Also antenatal perineal massage has been proposed as one method of decreasing the incidence of perineal trauma (**Beckmann & Garrett 2006**). The protective value of perineal massage during pregnancy has been evaluated in two randomized trials. In the United Kingdom, a trial of 861 nulliparous women found a non-significant benefit of 6% in the prevalence of perineal trauma (75% v 69%, $P < 0.07$). In a trial from Canada for women having their first vaginal delivery, researchers hypothesized that antenatal perineal massage would result in an increase in the rate of intact perineum of 10% and found non-significant increase of 9% (from 15% to 24%). At follow up three months postpartum there was no difference in perineal function between women who had or had not received perineal massage (**Mei-Dan, et al., 2008** and **Stamp, Kruzin & Crowther, 2001**). More than 85% of women sustain some form of perineal trauma during vaginal delivery in the UK. However, the prevalence is dependent on variations in obstetric practice, including rates of episiotomy, which vary not only between countries but also between individual practitioners within hospitals. In the Netherlands, the rate of episiotomy is 8% compared

to 14% in England, 50% in the USA and 99% in East European countries (**Abdul et al., 2007**).

Perineal trauma is defined as any damage to the genitalia occurring during childbirth, either spontaneously or because of a surgical incision or episiotomy. Perineal trauma affects women's physical, psychological and social well-being in the immediate postnatal period as well as in the longer term. It can result in urinary and fecal incontinence, weaken the pelvic floor muscles, painful intercourse and persistent perineal pain, those problems are less likely in women whose perineum remains intact (**Kalichman, 2008**). Sexual health problems are common in the postpartum period but despite this it is a topic that lacks professional recognition. After delivery, many women experience reduced sexual desire and reduced vaginal lubrication, as well as weaker and shorter orgasms. So limiting perineal trauma during delivery is important for the resumption of sexual intercourse after childbirth and routine episiotomy and fundal pressure should be avoided to prevent perineal trauma (**Rathfisch et al., 2010**).

Randomized controlled trials have provided evidence that antenatal perineal massage is effective in reducing perineal trauma. Whenever, the provision of information on antenatal perineal massage was introduced as a new service for women and a series of training sessions were held to teach perineal massage to midwives working in antenatal clinics (**Gomme, Sheridan & Bewely, 2004**).

Significance of the study

Perineal trauma following vaginal birth can be associated with significant short-term and long-term morbidity. Antenatal perineal massage has been proposed as one method of decreasing the incidence of perineal trauma (Beckmann & Garrett, 2006). Regardless of obstetric and midwifery practices, anal sphincter injury at vaginal childbirth is not completely preventable and occurs in about 3% of first vaginal deliveries. According to the Royal College of Obstetricians and Gynecologists (RCOG, 2007), There is considerable international variation in the rate of episiotomy, It is 8% in Holland, 14% in England, 50% in the USA and 99% in Eastern Europe. Over 85% of women having a vaginal birth sustain some form of perineal trauma, and 60% to 70% receive stitches in the UK. DeFrances, Hall and Podgornik, (2005).

From the clinical experience, it was found that the majority of pregnant women during immediate postnatal period complain of perineal discomfort either due to spontaneous damage of the perineal tissues or surgical incision. This discomfort affects women's physical, psychological and social well-being. It can result in urinary incontinence, painful intercourse and perineal pain. All women are managed by pharmacological measures to relieve this discomfort and little are prepared by practicing perineal massage which is more safe and effective on the perineal during the last two months of pregnancy.

Aim of the study:

The aim of this study was to evaluate

the effect of regular perineal massage during last month of pregnancy on perineal outcomes.

Hypothesis of the study:

- Women who performed perineal massage have little perineal trauma and experience lower level of post partum perineal pain than those who do not
- Women who performed perineal massage show better duration of labor than those who do not.

Subjects and Methods:

Research design:

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

Setting:

The study was conducted at the ante natal clinic and labor ward in obstetrics and gynecological 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.

Sample:

Sixty pregnant women (massage and control groups each group consisted of 30 women) were recruited for this study according to the following criteria:

Inclusion criteria:

- 34 -35 weeks of gestation.
- Expecting a normal vaginal birth of a single baby.
- Nulliparous women.

Sampling technique and sample size:

All nulliparous women coming to antenatal clinic between June and December 2009 were recruited after application of the inclusion criteria.

Two groups were included, massage and control groups, using systematic random sample type in which the first five women were recruited in massage group and the next five women in control group and so on. The massage group received instructions and demonstration about how to do self perineal massage from the investigators, while the control group, received the regular nursing care provided by the hospital personnel (routine hospital care). The sample size was increased to 60 women to compensate for a dropout rate of 20%. The number of women recruited per day ranged from one to three in outpatient clinic.

Tools of data collection:

Tools used for data collection were consisted of

1. **Interviewing sheet**, designed by the investigators to collect socio demographic data such as age, level of education, occupation...etc.
2. **Intrapartum assessment sheet**, designed by the investigators to collect data related to type of delivery, perineum condition (intact, tear, pain), and duration of the second and third stages of labor.
3. **Visual Analogue Scale (VAS)** developed by **Jorgensen, (1995)**, used to identify the degree of

perineal pain (3days, 10days and 3 months) post partum.

4. **Follow up sheet** designed by the investigators to collect data related to perineal pain, urinary & bowel incontinence and sexual functions.

To measure content validity of the tools the investigators assure that items of an instrument adequately represent what are supposed to measure by presented it to experts for revision and validation. Also using Visual Analogue Scale to measure perineal pain is considering stander evidence support validity of the tools.

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, a six women according to the stated study criteria was instructed to practice self perineal massage 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 massage are evaluated for simplicity of language. The sample of the women who shared in the pilot study was excluded from the main study sample.

Fieldwork:

The investigators attended the antenatal clinic of the studied setting two days per week, from 9.00 a.m. to 1.00 p.m. The investigators introduced them self 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. Each

woman was randomly assigned to the control or massage group and each constituted 30 women. The field work lasted over than six months. All women were interviewed to collect socio demographic data and telephone number. Each interview took for 10-15 minutes with each woman in control and massage groups.

After orienting the women about the purpose of the perineal massage, the massage group was instructed to practice a 5-10 minutes perineal massage daily from the 34th. or 35th.weeks of gestation until delivery. Through individualized

educational session, the investigators demonstrate for each woman how to do self perineal massage, this session took about one hour to cover all information and practices towards how to do self perineal massage. 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 and illustrated pictures for illiterate women. At the end of the session the investigators gave each woman health education about the importance of weekly follow-up to ensure woman compliance for practicing perineal massage. On the other hands, the control group received only the regular routine hospital care provided by hospital personnel. All the women asked to call the investigators when admitted labor ward. The investigators motivated the women to perform self perineal massage through their visits and through telephone calls by

reminding the women with the benefits of perineal massage.

Maternal assessment was performed during labor to collect data related to mode of delivery, duration of labor, episiotomy, perineal tear and intact perineum rates for both groups. To determine intensity of perineum pain, women in both groups were assessed for pain intensity using Visual Analogue Scale.

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 that demonstrates the level of her pain. If the woman has difficulty reading or understanding, the investigators asked the woman to give score about the intensity of her pain. Range was 1-10 degrees according to the pain intensity. Perineal pain at three days, 10 days and three months postpartum was assessed by telephone calls. Data on urinary, bowel and sexual intercourse outcomes were collected at three months postpartum by asking the women through telephone calls.

Written and oral instructions about how to do perineal massage:

The oral instructions and written pamphlet included the following:

- Perineal massage can be done by self or husband. The first few times, take a mirror and look at the perineum so know what are doing. Be sure fingernails are short.
- Wash hands before beginning.
- Choose the comfortable position, in a semi-sitting position, squatting against a wall, sitting on the toilet,

or standing with one foot up on the edge of the tub or a chair.

- Lubricate the fingers well with oil or water-soluble jell such as olive oil or water-based lubricants such as K-Y jell.
- Wash hands before dipping into the lubricant again.
- Rub enough oil or jelly into the perineum to allow the fingers to move smoothly over the tissues and lower vaginal wall.
- If are doing the massage by self, it is probably easiest to use the thumb. The husband can use his index fingers Put the fingers or thumb well inside the base of the vagina (up to the second knuckle).
- Using gentle but firm pressure, move the thumbs from the base of the vagina up the side walls in a rhythmic U or sling-type movement. This movement will stretch the vaginal tissue (mucosa), the muscles surrounding the vagina and the skin of the perineum. Can also massage by rubbing the skin of the perineum between the thumb and forefinger (thumb on the inside, finger on the outside or vice versa). In the beginning, will feel tight, but with time and practice, the tissues will relax and stretch.
- Concentrate on relaxing the muscles when apply pressure. After become comfortable massaging, increase the pressure just enough to make the perineum begin to sting from the stretching.
- If you feel pain at any point stop the massage and try again at another time.
- It is recommended to do this

massage for 5-10 minutes daily from the 34th or 35th. Weeks of pregnancy until labor.

Ethical & administrative considerations:

Acceptance of women to participate in the study was obtained after explaining the aim of study. All women were informed that participation was voluntary and that the collected data would be only used for purpose of the study and confidentiality of the information gathered was ensured.

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

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.

Limitations of the study:

- Some of women agreed to be included in the study but they refused later when perineal massage would be done.
- Few cases did not complete the

study so they were excluded from the study sample.

Results

The results of this study are presented under 3 heading: demographic descriptions of the women, perineal outcomes assessment during labor, which includes episiotomy, and perineal tear rates, and intact perineum, Post partum maternal assessment which includes perineum pain, sexually function, urinary & fecal urgency and incontinence.

Demographic characteristics of the sample

The mean age of the massage group was 22.56 ± 3.729 years while the mean age of the control group was 20.76 ± 1.406 years. As regards to the educational level, the study showed that 26.7% in massage group were illiterate, 13.3% in massage and 23.3

% of control group respectively had basic education , 43.3% in study and 26.7% of the control group respectively had secondary education. Sixteen percent of the study group had university education as compared to 13.3% in control group. Thirty three percent of the massage group versus 30% of the control group was working, while 66.7% of the massage group versus 70% of the control group was house wives (**Table1**).

Perineal outcomes As regards to perineal outcomes, about two thirds (66.7%) of massage group had intact perineum as compared to around one third (36.7%) in the control group. Vaginal deliveries with episiotomies in the massage group were 16.7% as compared to 26.7% in the control group. Only 10% in massage and 23.3

% of control group had first degree perineal tear respectively. The third and fourth degree tear was observed only in one woman in the control group. A highly statistical significant difference was found between the two groups ($X^2=5.313$ at $p=0.021$) (Table 2).

Post partum maternal assessment

Regarding to perineal pain score, the results of the study showed that the mean pain score at day 3, day 10 and three months post partum in massage group were ($5.13 \pm .628$), ($3.76 \pm .773$) and ($2.20 \pm .406$) compared to ($5.56 \pm .504$), ($4.26 \pm .691$) and ($2.40 \pm .498$) in the control group respectively. There were statistically significant differences between the two groups ($t. =2.443$ at $p= 0.02$ and $t. =2.186$ at $p=.03$ and $t. =1.795$ at $p=0.08$) respectively (**Table 3 & figure 1**).

Only two women had dyspareunia and sexual intercourse not resumed at three months postpartum in massage group as compared to four women in the control group. Ten percent of women in the massage group complained of loss of urinary control as compared to 6.7% of the control group while only one woman in the control group complained of loss of bowel control and bowel urgency (**Table 4**). As regards to mode of delivery, most of the women in massage group had spontaneous vaginal delivery (93.3%) as compared to 83.3% in control group. The mean duration of second and third stage of labor in the massage group was shorter than in the control group (47.93, 14.30 & 53.43, 15.0 respectively). A statistically significant difference were found between the two groups in

relation to duration of second stage of labor ($t = 3.812$ at $p = .001$) (**Table 5**).

Discussion

The aim of this study was to evaluate the effect of regular perineal massage during last month of pregnancy on perineal outcomes. Results of this study supported the following investigated hypothesis that women who performed perineal massage will have little incidence rate of perineal trauma, shorter duration of labor and experience lower level of perineal pain during postpartum.

During pregnancy the body prepares for childbirth by producing more hormones, which soften the ligaments so that, the vaginal tissue can stretch enough to give birth. Regular massage around the perineum and vagina increases the softness of the tissues and encourages blood to circulate, it helps the perineal tissues to recover and back in shape more quickly post-birth.

As regards to demographic characteristics of the sample, the present study showed that the mean age in the massage and control groups (22.56 and 20.76 years) respectively. The old age women had less elasticity in their tissues which would prevent the perineum from stretching as easily as younger women **Mei-Dan et al., (2008)** they reported that the mean maternal age in the massage group was significantly higher than in the control group (27.6 and 25.4 years respectively, ($P < 0.05$). **Eogan, Daly and Herlihy (2006)** reported that women in the massage group were statistically significantly older than those in the control group (30.0 years compared to 25.9 years, $p = 0.001$). Also the study done by **William and Martha,**

(2002), on prevention of childbirth injuries to the pelvic floor, showed that the perineal massage during last weeks of pregnancy and labor reduces the risk of instrumental deliveries particularly in women over 30 years of age. As regards the education level, the study showed that 26.7% in the massage group and 36.7% of control group illiterate respectively, 43.3% in massage group as compared to 26.7 % in control group had secondary education. This is reflected upon women cooperation during accepting and practicing perineal massage. As regard the occupation about 70% of the sample in both groups is working. **Sayiner et al., (2010)** reported that, in the study group, 53.4% of women ($n = 802$) had first school and under educational level, and 79.9% of women ($n = 1198$) were housewives.

In relation to perineal outcomes, the finding of the present study showed that perineal massage in the last weeks of gestation have a beneficial effect by reducing perineal trauma for women who practiced perineal massage. This may be due to positive effect of antenatal perineal massage which increases elasticity of the perineal tissues. The incidence of perineal tears in women in the massage group less than in the women in the control group, this finding may be due to stretching and massaging of the perineum has been promoted as a means of relaxing the perineum and possibly preventing tearing and the need for episiotomy. A highly statistical significant difference was found between the two group as regards to the perineal outcomes ($\chi^2 = 5.313$ at $p \leq .023$). This results accord with the study which done by **Beckmann and Garrett (2006)** mentioned that the antenatal perineal

massage was associated with an overall reduction in the incidence of trauma requiring suturing and no differences were seen in the incidence of 1st or 2nd degree perineal tears or 3rd/4th degree perineal trauma.

Moreover, **Gomme Sheridan and Bewely, (2003)**, they provided evidence that antenatal perineal massage is effective in reducing perineal trauma. Also, **Dame, Neher and Safranek (2008)** stated that massage reduced perineal trauma requiring suturing by 10% among primigravida patients, compared with controls. **Berghella, Baxter and Chauhan, (2008)**, **Vendittelli, Tabaste and Janky, (2003)** and **Floyed (2003)** supported that antenatal perineal massage seemed valid in reducing perineal trauma. While the study done by **Mei-Dan et al. (2008)**, they found that episiotomy rates, overall spontaneous tears and intact perineum rates were similar in the study and control groups. Women in the massage group had slightly lower rates of first-degree tears (73.3% vs. 78.9%, $P = 0.39$) and slightly higher rates of second-degree tears (26.7% vs. 19.3%, $P = 0.39$), although both of these outcomes did not reach statistical significance. Moreover, **Atarha et al., (2009)** revealed that, in the intervention group, the rate of intact perineum, episiotomy, and laceration were 43.5%, 16.5%, and 40%, respectively and in the control group, they were 2.4%, 80% and 17.6%, respectively ($P < 0.001$). In the intervention group, the first- and second-degree lacerations were 28.2% and 11.8%, respectively; but, the third and fourth degree lacerations were not seen. In the control group, first, second, and third degree lacerations were 4.7%, 7.1%, and 5.9%, respectively ($P < 0.001$).

The fourth degree laceration was not seen.

Also **Beckmann and Garrett (2006)** assessed the effect of antenatal perineal massage on the incidence of perineal trauma at birth and subsequent morbidity. They concluded that antenatal perineal massage reduces the likelihood of perineal trauma (mainly episiotomies). There is no significant differences were observed in the incidence of instrumental deliveries, sexual satisfaction, or incontinence of urine, faces or flatus for any women who practiced. Perineal massage compared with those who did not massage. Moreover, **Eogan et al. (2006)** concluded that antenatal perineal massage did not impact on the incidence of intact perineum at delivery, postnatal continence scores, anal manometry pressures, or endoanal ultrasound findings. While **Labrecque, Eason and Marcoux, (2003)** reported that at follow up three months postpartum there was no difference in perineal function between women who had or hadn't received perineal massage.

Randomized controlled trial evaluating the effectiveness of perineal massage during pregnancy in primiparous women was performed by **Shimada (2005)**, he studied 63 women were randomly assigned to an intervention group (30 women) and a control group (33 women). He pointed out that the episiotomy rates in the massage group reduced by 21%, which cannot be said to be a statistically significant decrease. As for the comparison of the degree of perineal injury, women in the massage group had less injury than those in the control group. **Abdalla (2005)** and **youssef et al., (2005)** investigated the effect of

second stage perineal massage on labor progress and outcomes. She concluded that perineal massage during labor decrease different types of perineal trauma, decrease post natal perineal pain and offer shorter duration of second stage of labor. Also results of the study done by **Geranmayeh et al., (2011)** revealed that the second stage of delivery was significantly shorter in the massage group than the control group and the massage group had significantly more intact perineum ($P = 0.004$). In addition, lower episiotomy and higher first and second-degree perineal tears were seen in the massage group in comparison with the control one ($P < 0.001$). Moreover study done by **Atarha et al., (2009)** revealed that, the mean duration of the second stage of labor in the intervention and control groups were 40.06 ± 20.74 and 51.06 ± 21.23 minutes, respectively ($P = 0.003$).

Perineal trauma and the use of obstetric instrumentation were factors related to the frequency or severity of postpartum dyspareunia. This indicating that it is important to minimize the extent of perineal damage incurred during childbirth. **Stamp et al., (2001)** they studied the effects of perineal massage in the second stage of labor on perineal outcomes. They found that the rates of intact perineum, first and second degree tears and episiotomies were similar in the massage and the control groups. There were fewer third degree tears in the massage group (12 (1.7%) v 23 (3.6%)) and also concluded that practice of perineal massage in labor does not increase the likelihood of an intact perineum or reduce the risk of pain, dyspareunia or urinary and fecal problems. While **Mei-Dan et al., (2008)** concluded that although perineal

massage in the last weeks of pregnancy did not increase the likelihood of an intact perineum, it is probably harmless. Women who wish to perform massage should not be discouraged but they should be informed that the scientific proof of any possible benefit is still controversial. Also **Kettle and Tohill (2008)** stated that tear in the perineum are less likely and less likely to need an episiotomy in women who wish to perform massage. Antenatal perineal massage for nulliparous women is associated with lower rates of obstetric lacerations and related pain following spontaneous vaginal birth (**Albers et al., 2005 & Albers & Borders, 2007**).

As regards to perineal pain, applying perineal massage during pregnancy is very important to decrease score of pain. This was clear in the present study where, there was statistically significant reduction in the level of perineal pain at 3 days, 10 days and 3 months postpartum, between the two groups ($t = 2.443$ at $p = 0.02$ and $t = 2.186$ at $p = .03$ and $t = 1.795$ at $p = 0.08$) respectively. These results imply some protective effect of perineal massage, which improve perineum's blood flow and capacity to stretch more easily. Perineal area and rectum may be swollen for few weeks and cause post partum pain and discomfort, also episiotomy increase blood loss and is related to greater initial postpartum pain and dyspareunia. Moreover this result was in accord with the results of the study done by **Eogan et al., (2006)**, they reported that antenatal perineal massage was found to significantly affect postnatal perineal pain scores. **Albers and Borders (2007)** they reported that, perineal massage may help women recognize and tolerate the stretching and

pressure sensations they may feel when giving birth.

In addition **Browne et al., (2010)**, and **Mei-Dan et al., (2005)**, they suggests that postpartum perineal pain, sexual dysfunction, and delayed time to resume sexual intercourse are frequent by products of perineal injury, with some women still experiencing significant problems up to a year after giving birth. The resulting perineal pain and sexual problems have also been linked to postpartum depression. These results supported the study done by **DaSilva, Junqueira and Norb (2009)** they conclude that mean labour pain scores in the control group were significantly higher than those in the experimental group. Also **Rathfisch et al., (2010)** reported that women, who had both episiotomy and second degree perineal tears, had lower levels of libido, orgasm and sexual satisfaction and more pain during intercourse. Urinary incontinence, perineal pain and dyspareunia frequencies were higher in women with perineal trauma than women without perineal trauma in their first childbirth ($p < 0.05$) (**Imarengiaye & Andet (2008)**, **Bay dock et al., (2009)** and **Sayiner et al., (2010)**). Moreover the study done by **Kettle and Tohill (2008)** revealed that up to 10% of women continue to have long-term perineal pain up to 25% will have dyspareunia or urinary problems, and up to 10% will report fecal incontinence.

In relation to mode of delivery, the finding of the present study revealed that the majority of women (93.3%) in massage group had spontaneous vaginal delivery as compared to (83.3%) in the control group, this means that perineal massage useful for the labor process by

making the perineum more able to stretch and a woman can increase the chances that she will not need to have an episiotomy related to better labor progress. Only two women in massage group delivered by cesarean section as compared to five women in control group, this finding due to ineffective uterine action in massage group. Contradictly **Eogan, et al., (2006)**, emphasized that mode of delivery was not influenced by perineal massage. While **Mei-Dan et al., (2005)** they stated that higher satisfaction rates with vaginal delivery in women who practiced antenatal perineal massage.

Conclusion:

Results of current study supported the investigated hypothesis of study, it could be concluded that women who practice perineal massage during last month of pregnancy have:

- Little incidence rate of perineal trauma and operative delivery.
- Reductions on the level of postpartum perineal pain scores.
- Shorter duration of second stage of labor.

Recommendations:

On the light of this finding it is recommended that:

- The explanation about perineal massage should be a routine part of childbirth preparation, which is usually offered by nurses.
- Emphasize on the importance of antenatal follow up for women's education about perineal massage.

- Specific recommendation for future research would be to replicate this study in other settings with different patient population is needed to increase the ability to generalize the findings.

Table (1): Distribution of the two groups regarding their demographic data

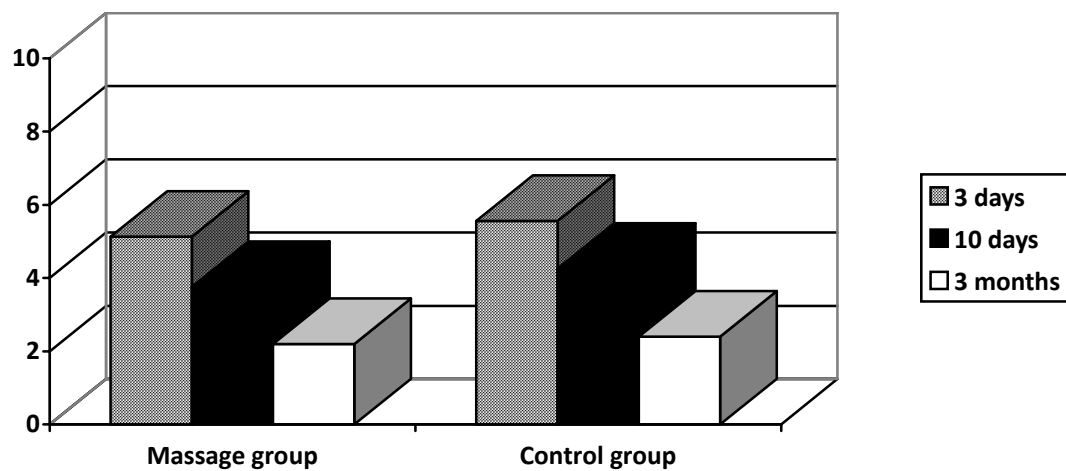
| Items | Massage group (N = 30) | | Control group (N = 30) | |
|---------------------|---------------------------|------|---------------------------|------|
| | N. | % | N. | % |
| Mean Age | 22.56±3.729 | | 20.76±1.406 | |
| Level of education: | 8 | 26.7 | 11 | 36.7 |
| • Illiterate | | | | |
| • Basic | 4 | 13.3 | 7 | 23.3 |
| • Secondary | 13 | 43.3 | 8 | 26.7 |
| • University | 5 | 16.7 | 4 | 13.3 |
| Occupation : | 10 | 33.3 | 9 | 30.0 |
| • working | | | | |
| • House wife | 20 | 66.7 | 21 | 70.0 |

Table (2): Distribution of massage and control groups by their perineum outcomes

| Perineum outcome | Massage group (N = 30) | | Control group (N = 30) | | X ² | P. value |
|----------------------|---------------------------|------|---------------------------|------|----------------|----------|
| | N. | % | N. | % | | |
| • Intact perineum | 20 | 66.7 | 11 | 36.7 | 5.313 | .021 |
| • Episiotomy | 5 | 16.7 | 8 | 26.7 | | |
| • First degree tear | 3 | 10.0 | 7 | 23.3 | | |
| • Second degree tear | 2 | 6.7 | 2 | 6.7 | | |
| • Third degree tear | 0 | 0 | 1 | 3.3 | | |
| • Fourth degree tear | 0 | 0 | 1 | 3.3 | | |

Table (3): Mean perineal pain scores at 3 days, 10 days and 3 months postpartum among massage and control groups

| Items | Massage group (N = 30) | | Control group (N = 30) | | t. | P. value |
|------------|---------------------------|------|---------------------------|------|-------|----------|
| | X | ±S.D | X | ±S.D | | |
| • 3 days | 5.13 | .628 | 5.56 | .504 | 2.443 | .02 |
| • 10 days | 3.76 | .773 | 4.26 | .691 | 2.186 | .03 |
| • 3 months | 2.20 | .406 | 2.40 | .498 | 1.795 | .08 |

**Figure (1): Mean perineal pain scores at 3 days, 10 days and 3 months postpartum among massage and control groups****Table (4): Distribution of sexual, bowel, and bladder outcomes at 3 months postpartum in both groups**

| Items | Massage group (N = 30) | | Control group (N = 30) | |
|---------------------------|---------------------------|------|---------------------------|------|
| | N. | % | N. | % |
| • No complain. | 22 | 73.3 | 15 | 50 |
| • Intercourse not resumed | 2 | 6.7 | 4 | 13.3 |
| • Dyspareunia | 2 | 6.7 | 4 | 13.3 |
| • Urinary urgency | 1 | 3.3 | 3 | 10.0 |
| • Loss of urinary control | 3 | 10.0 | 2 | 6.7 |
| • Bowel urgency | 0 | 0 | 1 | 3.3 |
| • Loss of bowel control | 0 | 0 | 1 | 3.3 |

Table (5): Distribution of the sample as regard to mode of delivery and duration of labor in both groups

| Mode of delivery | Massage group (N = 30) | | Control group (N = 30) | | p. value | |
|--|---------------------------|-------------|---------------------------|-------------|-----------|-------------|
| | N. | % | N. | % | | |
| • Spontaneous vaginal delivery. | 28 | 93.3 | 25 | 83.3 | | |
| • Emergency C.S | 2 | 6.7 | 5 | 16.7 | | |
| Duration of labor | X | ±S.D | X | ±S.D | T. | Sig. |
| • Duration of 2 nd Stage (min) | 47.93 | 7.371 | 53.43 | 4.717 | 3.812 | .001 |
| • Duration of 3 rd .stage (min) | 14.30 | .749 | 15.00 | 1.838 | 1.707 | .09 |

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