THE EFFECT OF BACK MASSAGE ON LOWER BACK PAIN IN INTRAPARTUM

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Abstract

Child birth is a painful and stressful event in a woman life which is accompanied with fatigue, fear and negative feelings and as labor proceeds, the state worsens (Mortavazi, 2012). The majority of pregnant women would prefer to experience labour without medical intervention, including pharmacological pain relief. The aim of this study is to analyze the effects of back massage to reduce lower-back pain in active phase of first stage of labour. A quasi-experimental design which involves both pre-test post-test control group design, an experimental group was used to study the effect of back massage intervention on first stage in intrapartum women and no intervention in control group. Data were analyzed Paired sample t-test was used to compare the pre-test and post-test data. Thus the hypotheses which stated that there is significant difference between the intervention group and the control group on were accepted. However, the hypotheses which stated that there is significant difference between the ntervention group and control group on hemoglobin levels were rejected. Thus, it can be concluded from the results of the present study that back massage has a significant effect in reducing back pain in intrapartum.

Keywords : *The Effect of Back Massage, Lower Back Pain, Intrapartum*

PENDAHULUAN

Latar Belakang

Child birth is a painful and stressful event in a woman life which is accompanied with fatigue, fear and negative feelings and as labor proceeds, the state worsens (Mortavazi, 2012). Nearly 25–65% of women experience lower back pain, which may slow down the progress of labor. This pain can be ascribed to uterine changes, uterine ischemia and distention of the fetal occiput posterior position in which the fetal head stretches the ligaments of the sacroiliac joints. Most babies will rotate during birth and relieve the pressure on the lower back (Stillerman, 2008).

The pain that women experience during labour varies greatly. Some women feel little pain whilst others find the pain extremely distressing. It can be affected by many physiological and psychological factors, including fear and anxiety, prior experience and the degree of emotional support received. Most women in labour require some form of pain relief and there are many drug and drug-free interventions available which aim to relieve pain or help women cope with it better (Jones, 2012).

The majority of pregnant women would prefer to experience labour without medical intervention, including pharmacological pain relief (Downe et al, 2015).

Cochrane reviews summary more evidence to support the use of drugs, but alongside their beneficial effects, one must consider their known adverse effects. Otherwise, most drug-free methods of pain management are non-invasive and appear to be safe for the mother and baby; but their effectiveness is unclear because of a lack of reliable evidence from research (Jones, 2012).

Various techniques have been proposed to relieve labour pain including massage therapy, which, in addition to promoting pain relief, provides physical contact with the parturient, potentiating the effect of relaxation and reducing emotional stress (Gallo et al, 2013).

Massage therapy has been theorized to create a stimulus that interferes with the transmission of pain to the brain, effectively "closing the gate" to the reception of pain (Janssen, 2012).

Massage involves manipulating the body's soft tissues and it can be done by the midwife or partner. It helps women relax and so reduces the tension which increases pain in labour (Smith, 2012).

Back massage is manual soft tissue manipulation, and includes holding, causing movement, and/or applying pressure to the body or back (stillerman, 2008; Kenny, 2011).

The aim of this study is to analyze the effects of back massage to reduce lower-back pain in active phase of first stage of labour.

METHODS

1. Statement of the problem

To analyze the effects of back massage to reduce lower-back pain in active phase of first stage of labour.

2. Operational Definition

Lower-Back Pain (LBP). Lower-back pain is pain in lower back of women in active phase of first stage of intrapartum.

Back Massage. Back massage is manual soft tissue manipulation, and includes holding, causing movement, and/or applying pressure to the body or back.

3. Hypothesis

There is significant difference of lower back pain between intervention and control group after back massage

4. Research design

A quantitative paradigm was used in the study. A quasi-experimental design which involves both pre-test post-test control group design, an experimental group was used to study the effect of back massage intervention on first stage in intrapartum women and no intervention in control group.

5. Sample

The sample chosen for the study was 46 primigravida on active phase of first stage in intrapartum with lower back pain. The inclusion criteria were single fetus with head presentation, low-risk pregnancy, aterm, with out the use of pain medication. The exclusion criteria were dermatologic condition that would contraindicate the application of massage. The participants could choose who will massage her partner or midwife. The midwife would teach the partner first before gave the massage. Sample size by Sastroasmoro formula with the value of SD from previous study is 1,3. 23 participants were assigned to the intervention group and 23 to the control group. The sample was chosen based on convenience sampling by approaching primigravida on active phase of first stage from GPS that showed lower back pain based on observation form.

6. Tool used

NRS (Numerical Rating Scale) : The Numerical Rating Scale Form by Potter and Perry (2005) was used to see the lower back pain intensity of Participants.

7. Procedure

The participant were approached by the researcher for participation in the study through interview. They were asked whether experienced lower back pain, and than filled the NRS form to know their score. 32 participants with lower back pain were be selected and 16 participants were assigned to the intervention group and 16 to the control group respectively. The experimental group received massage from midwife or their partner at active phase in first stage of labour. The intensity of the massage was determined by the participant, who was instructed to request greater or lesser force during execution of the massage according to her preference. The massage technic according to Elaine Stillerman.

The researcher gave the participants the massage at 4-5 cm of uterus dilatation for 45 minutes. The control group was not given any intervention. However they completed the NRS form.

5. Massage Technique

a. Start massage between contractions with an effleurage (long, gliding stroke) in the mid-back down to the sacrum, in the direction of the muscle fibers. The pressure should be as deep or light as participant prefers. Participant can be sitting on a stool, leaning over a bed or pile of pillows, or side-lying. Gradually work deeper into the lower erector spinae muscles from T11 to the sacrum using midwive's fingertips, thumbs, knuckles or elbows across the muscles fibers from the lateral borders of the erector spinae to the transverse processes of the spine and down to the lumbosacral joint.

b. Stroke up the entire back from the sacrum, up the spine and over participants shoulders. Massage around and over participant shoulders and up participant neck.

c. When a contraction starts, apply counter-pressure at the site of any pain or discomfort. Keep midwive's wrist neutral and alternate between using wrists, knuckles, elbows or knees (on her sacrum). Hold this counter-pressure throughout the contraction—and remember to breathe.

d. Use the sacral lift during a contraction to reduce the pressure of the fetal head on the spinal nerves, relieve lower abdominal pressure, ease engorgement of hemorrhoids and support the bulging pelvic floor. Place the midwive's hand low on participant sacrum and lift upwards and slightly towards participant umbilicus. (This stroke cannot be performed on anyone with coccyx pain or subluxation.) Use midwive's knuckles, forearms, shoulder, knee and foot as alternatives to midwive's hands. Hold this for the entire contraction. This is best performed when the mother is sitting down, but can be very effective in a side-lying position using only midwive's neutral fist. Fold a small hand towel or dry wash cloth over midwive's knuckles to prevent bone-on-bone discomfort.

e. During a contraction, use the pelvic tilt, done with participant on her side. This elongates the lumbar spine, stretches the compressed muscles and reduces lower back pain. Use midwive's fleshy forearm on participant top hip and gently pull toward participant head while midwive's lower hand is on participant sacrum, gently pulling toward her feet. A variation of the pelvic tilt is the knee press, also performed with participant on her side. Sit behind participant and secure midwive's hip directly next to her sacrum. Lean over and clasp midwive's hands around her top knee. Position her hip at a right angle and pull her knee toward midwive's hip. For additional support, press midwive's body onto her hip, thereby providing a pelvic squeeze at the same time.

DATA ANALYSIS

Paired sample t-test was used to compare the pre-test and post-test data.

RESULTS AND DISCUSSION

Results

Table 1 showing the characteristic of the intervention group and control group

Characteristic	Intervention Group Mean±SD	Control Group Mean± SD	*Sig*
Age	23 ± 2,5	23,3 ±3,4	*p>0,05*
Contraction in 10 minutes	2,6 ±0,6	2,7 ± **0**,6	*p>0,05*
LBP scores	6,1 ± 1,5	5,8 ± 1,6	*p>0,05*

There is no significant difference of characteristics between the the intervention group and control group.

Table 2 showing the results of t_ test of post-test total score of back massage between intervention group and control group on intensity of LBP

LBP Intensity	Mean ± SD	*p*
Intervention Group	3.5 ± 1.3	0.001
Control Group	6.2 ± 1.1	

There is a significant difference between the intervention group (M=3.5 ± 1.3) and control group (M= 6.2 ± 1.1) on the post-test of back massage on the intensity of LBP; p = 0.001.

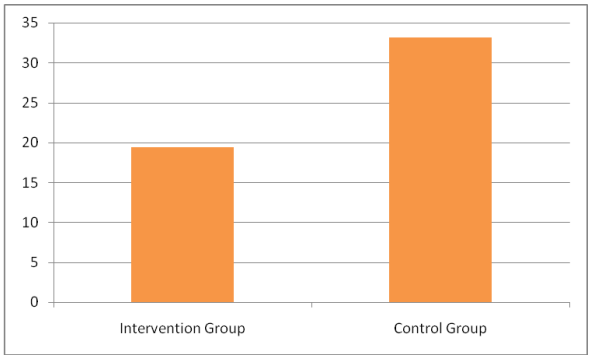

figure 1. Mean of SPAF Score post test between intervention group and control group.

Table 3 showing the results of mann_whitney test of post-test total score of back massage between intervention group and control group on PDSD Score

PDSD Score	Mean ± SD	*Sig*
Intervention Group	426,9 ± 17,1	0,001
Control Group	526,5 ± 7,3	

There is significant difference between the intervention group (M=426,9 ± 17,1) and control group (M= 526,5 ± 7,3) on the post-test of back massage on the PDSD Score; *p* = 0.001.

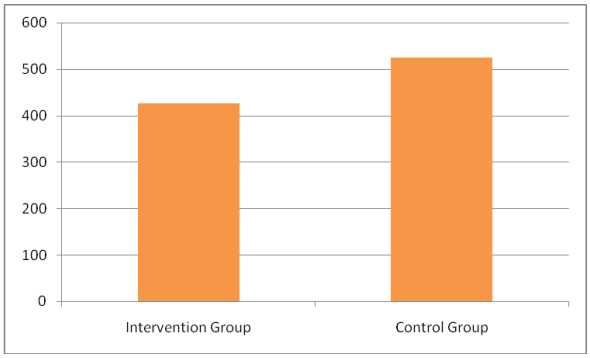

figure 2. Mean of PDSD Score post test between intervention group and control group.

DISCUSSION

The purpose of the present research was to study the effectiveness of back massage on the premenstrual syndrome.

The results of the study indicate that back massage has had a significant effect on the intervention group, leading to a reduction in the symptoms of premenstrual syndrome.

Table 1, 2 and 3 shows that the pre-test scores of the participants in the intervention group on SPAF and PDSD Score are higher than the post-test scores, indicating a reduction in the severity of premenstrual syndrome's symptoms after the intervention. The post-test scores between the intervention group is lower compare to the control group and with the t_test, statistically siginificant. Based on this, the hypothesis which states that there is significant difference in the SPAF and PDSD Score of the participants in the intervention group compare to control group is accepted.

Hence, based on these results, a conclusion can be drawn that back massage has a significant effect on the reduction of severity in symptoms of premenstrual syndrome.

back massage statistically significant decreases in stress, faigue, pain, anxiety and depression, improve physical function, as wll as to enhance a sense of self efficacy for managing symptoms related to chronic pain condition (Menzeis, 2014)

Arias in Poornima said that meditation techniques have an effect on different illnesses, including premenstrual syndrome (Poornima, 2015).

ACOG recommendations for reduction of PMS symptoms include exercise, relaxation techniques, rich complex carbohydrate and low sugar diet, low fat and salt diet, and emotional support (Arab, 2015).

Previous study showed that menstrual distress coping education program that include relaxation can be effective for decrease menstrual distress (Choi, 2015).

Relaxation influence hormones adrenaline and cortisol that causes stress will decrease. In the relaxed condition, the body will stop the production of adrenaline hormones and all hormones that is required when stress occured. Because of the sex hormones (estrogen and progesterone) and the stress hormone (adrenaline) are produced from the same chemical building blocks, when we reduce stress then

will reduce the production of the sex hormone (Potter and Perry, 2005).

Practice of meditation like back massage leads to the relaxation resonse, which is a set of pyhsical changes that include increased blood flow to the brain and release of muscle tension (Gurung, 2014). That will decrease abdominal cramp due to symptoms of premenstrual syndrome.

Benson's relaxation response in Kegel 2014 showed changing thought patterns through meditation, impact on the subjects, that decreased metabolism, respiration, and heart rates, and had slower brain waves. This relaxation also effective in lower back pain (Kegel, 2014).

CONCLUSION

Thus the hypotheses which stated that there is significant difference between the intervention group and the control group on were accepted. However, the hypotheses which stated that there is significant difference between the ntervention group and control group on hemoglobin levels were rejected. Thus, it can be concluded from the results of the present study that back massage has a significant effect in reducing the back pain in intrapartum.

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