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The effect of effleurage and abdominal lifting massage in the labor pain

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Abstract

This study was aimed to evaluate the effects of effleurage and abdominal lifting massage against a decrease in pain in pregnant women. A total of 36 pregnant women would divided into two groups, i.e. control group (untreated group) and effleurage and abdominal lifting group (group who would undertake efflurage and abdominal lifting massage exercise). The pain assessment was carried out by using a numerical rating scale. In the intervention group, a combination of effleurage massage and abdominal massage was applied simultaneously lifting any contraction in the active phase (2-3 minutes) for 60 minutes. The reduction in the value of pain was found to be significantly greater in the group of pregnant women who undertook effleurage and abdominal lifting massage workout ($p < 0.05$). In conclusion, the results of this study showed that effleurage and abdominal lifting massage is an effective, healthy, and feasible method in reducing pain in the third trimester of pregnancy. Thus, this method is one of the workout alternatives to suppress the pain in the third trimester of pregnancy.

Keywords: Workout, pregnancy, pain, musculoskeletal dysfunctio

Introduction

A woman's body will change throughout pregnancy. These changes include weight gain, changes in posture, weakness of joints and ligaments and musculotendinous stretch [1]. The incidence of back pain in pregnant women is very high, about 30-70% [2-5]. It is also found that 31.7% of pregnant women have pubic symphysis pain. In addition to back and pubis pains, some complaints developed include upper back pain, sacroiliac joint pain, muscle cramps, lower extremity joint pain, limb discomfort, pedal edema, carpal tunnel syndrome, imbalance and collapse [6,7]. The pregnancy-related musculoskeletal dysfunction is influenced by the degree of physical activity, cultural influence, environment, and hormonal changes. Hormone relaxin serves to relax the ligaments in the pelvis for the birthing process [8], this hormone also relaxes the ligaments supporting the spine thus triggering pregnancy pain. This condition is also aggravated by the separation of muscles due to the stretching of the uterus as well as emotional stress [9].

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Non-pharmacological approach is an action without the administration of drugs that are simple, safe, and relatively inexpensive in order to reduce labor pain. Until now, many non-pharmacological was performed to reduce labor pain. Effleurage and abdominal lifting massage is an alternative method that's easier to implement because it does not require a very strong force, just use chuck-chuck mild or gentle touch. Mechanical efflaurage can blockade the pain caused no skin stimulus. Abdominal lifting techniques can reduce back pain, giving the advantage of gravity, which can be done at any stage of labor so that labor becomes faster [10-11]. To date, the application of efflaurage and abdominal lifting massage methods to reduce pregnancy pain has never been carried out. Therefore, this study aims to evaluate the effects of efflaurage and abdominal lifting massage against a decrease in pain in pregnant women.

Material and Methods

Subject

It is an experimental study. A total of 36 pregnant women would be randomly divided into two groups, i.e. Control group (untreated group) and intervention group (a group who would undertake effleurage and abdominal lifting massage exercise). The inclusion criteria of this study include inpartu first stage, maternal age 20-35

years, primigravida, normal presentation of birth, and had no daily activities relatively heavy. The exclusion criteria of this study include mother having complications such as kidney disease (low back pain due to kidney disorder), pre-eclampsia, bone disorder disease, placenta previa, bleeding, premature rupture of membrane.

Assessment of pain

The pain assessment was carried out by using a numerical rating scale. If the respondent has entered the active phase of the first stage (opening 4-8 cm), the measurement of the first pain scale was performed in the intervention group or the control group. In the intervention group, a combination of effleurage massage and abdominal massage was applied simultaneously lifting any contraction in the active phase (2-3 minutes) for 60 minutes. Whereas, for the control group intervention only pain measurement scale with a span of 60 minutes between pretest and posttest.

Effleurage massage and abdominal lifting method

Massage is done when deep breathing to enhance relaxation. Rub both palm and ends of fingers with light pressure from the uterine fundus toward the symphysis, then back toward the uterine fundus. Next, wipe the palm and tip of the fingers toward the waist toward the rear waist mother without pressing on the abdomen. This practice was repeated on every contraction (every 2-3 minutes) within 60 minutes.

Ethics

This study has passed an ethical review from the local Ethics Commission of Health Polytechnic, Semarang, East Java, Indonesia.

Statistical analysis

The age, pain score, education level is shown in mean ± standard deviation. Differences between treatment groups will be analyzed using t-student test and bivariate test with the SPSS 17.0 statistical package. P value < 0.05 was set as statistically significant difference values.

Results

Table 1 presents subject age, educational level, pain scores, duration of labor, and body mass index in both treatment groups. There are no significant differences in mean age, educational level, pain scores, duration of labor, and body mass index between the two treatment groups ($p > 0.05$).

Table 1. The demographic characteristics of the groups

	Control	Treatment	P value
Age	24.50 ± 5.54	24.88 ± 5.34	p > 0.05
Educational degree			p > 0.05
Elementary school	3 (16.66 %)	3 (16.66 %)	
Junior high school	8 (44.44 %)	6 (33.33 %)	
Senior high school	4 (22.22 %)	7 (38.88 %)	
Postgraduate	3 (16.66 %)	2 (11.11 %)	
Pain score	6.11 ± 2.19	6.44 ± 1.68	p > 0.05
Body mass index	24.90 ± 3.2	25.40 ± 2.98	p > 0.05
Duration of labour	13.60 ± 2.19	13.44 ± 2.38	p > 0.05

Figure 1 shows pain intensity before workout, pain intensity after workout, and differences between the two treatment groups. Values of pain in both groups before undertaking workout are comparable ($p < 0.05$). After undertaking workout, there is a reduction in the values of pain in efflurage and abdominal lifting massage groups. The reduction in the value of pain are found to be significantly greater in the group of pregnant women undertaking efflurage and abdominal lifting massage workout compared with the control group ($p < 0.05$).

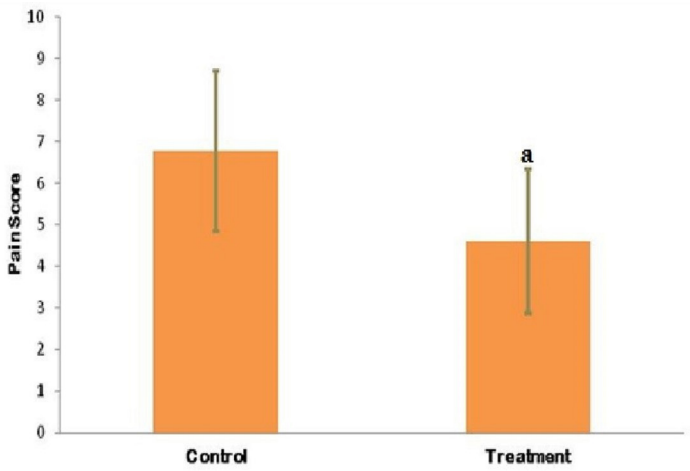

Figure 1. The pain score in control and experimental group. The pain score was significantly lower in pregnant women undertaking efflurage and abdominal lifting massage workout than in the control group.

Discussion

In this study, subjects were asked to do slow, deep breath aims to control stress [12,13]. In addition, there were no significant differences in age, educational level, pain scores, duration of labor, and body mass index between the two study groups thus could be compared. This study is the first one to assess the effects of efflurage and abdominal lifting exercise against a decrease in pain in pregnant women. In this study, after undertaking workout, there was a reduction in the value of pain in both groups. The reduction in the value of pain was found to be significantly greater in the group of pregnant women who undertook efflurage and abdominal lifting massage ($p < 0.05$). This shows that the efflurage and abdominal lifting massage is better than common workout in the reduction of pain in pregnant women in the third trimester. Various factors can influence the effectiveness of massage, including a number of weeks, the duration of each massage session, and pressure when massaging [14-16]. Researchers suspected that the reduction of pain in pregnant women who undertook efflurage and abdominal lifting massage workout is caused by a decrease in hormone relaxin, which needs to be proven in future studies. Massage aimed at influencing the motor, nervous and cardiovascular systems, triggering rest and relaxation throughout the body and breath. In addition, massage also aims to restore venous and lymph flow, stimulates the sensory receptors in the skin and sub skin to reduce the feeling of pain [17-19]. Besides, the relaxin hormone serves to relax ligaments in the pelvis for birthing process [8], this hormone also relaxes the ligaments supporting the spine thus triggering pregnancy pain. This condition is also aggravated by the separation of muscles due to the stretching of uterus as well as emotional stress [9].

Conclusion

In conclusion, the results of this study showed that effleurage and abdominal lifting massage is an effective, healthy, and feasible method in reducing pain in the third trimester of pregnancy. Thus, this method is one of the workout alternatives to suppress the pain in the third trimester of pregnancy.

Declaration of interest

The author(s) declare(s) that there is no conflict of interests regarding the publication of this article.

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