

THE EFFECT OF ACUPRESSURE THERAPY ON THE INTENSITY OF LOWER BACK PAIN IN THIRD SEMESTER OF PREGNANCY

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ABSTRACT

Lower back pain is one of the discomforts experienced by pregnant women that can interfere with daily activities. One of non-pharmacological methods for dealing with lower back pain is acupressure therapy. The purpose of this study was to determine the effect of acupressure therapy on the intensity of lower back pain in third trimester of pregnancy. This research is a Pre-Experiment with a one group pretest posttest design approach. The population in this study was women in the third trimester who examined their pregnancies in Puskesmas Payung Sekaki in January-March 2020. The samples are 20 women in their third trimester of pregnancies with the complaints of lower back pain. Samples were taken by purposive sampling. The data collection method was an observation method using data collection tools such as Numeric Rating Scale (NRS). The test used is the Wilcoxon Test with a significance level of 95%. The results of the average intensity of lower back pain in the samples before being given the acupressure therapy was 4.45 (SD = 1,234), and after being given the acupressure therapy was decreased to 1.25 (SD = 1,020). There was an effect of acupressure therapy on the intensity of lower back pain in the women in the third trimester of pregnancies ($p = 0,000$).

INTRODUCTION

During pregnancy, the mother will experience changes that occur both physically and psychologically. These changes cause pregnant women to experience various things that can cause discomfort (Manuaba, 2010). The discomfort felt by pregnant women usually varies in each trimester of pregnancy. Changes that occur during pregnancy are often a complaint for pregnant women including nausea, vomiting in early pregnancy, constipation, varicose veins (veins), urinary disorders, hemorrhoids, and swelling of the legs and feet and lower back pain (Bobak, 2010).

The prevalence of low back pain in pregnancy is quite significant as the gestational age increases, namely 16.7% occurs in the first

trimester, 31.3% in the second trimester and increases 53% in the third trimester (Ansari, 2010). In Indonesia, it was found that 68% of pregnant women experienced low back pain of moderate intensity and 32% of pregnant women experienced low back pain of mild intensity (Sinclair, 2014).

Efforts to treat low back pain can use pharmacological and non-pharmacological methods. Pharmacological therapy can be given with non-steroidal anti-inflammatory agents, analgesics and muscle relaxants. For non-pharmacological therapy by providing relaxation, imagination, cold or warm compresses (Lukman and Ningsih, 2009). The use of non-pharmacological therapies such as physical activity that can be applied to treat low back pain in pregnancy that has been developed includes massage (61.4%), relaxation (42.6%), chiropractic (36.6%),

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acupuncture (44, 6%), yoga (40.6%) and acupressure. Acupressure is a form of physiotherapy by giving massage or pressure to certain points on the body which is useful for reducing aches or pains and reducing tension, fatigue and various diseases with the intention of re-activating the circulation of vital energy.

Based on an initial survey of researchers one of Health Center working area clinic in November 2019, out of 15 third trimester pregnant women, 67% of them had complained of lower back pain.

METHOD

This research is a Quantitative Research. This type of research is pre-experiment with a one-group pretest-posttest design approach, that is, the research is given an initial test first, then given an intervention, then tested again. This study aims to see the effect of acupressure therapy on low back pain in third trimester pregnant women.

The sample in this study was pregnant women in their third trimester who experienced lower back pain who checked their pregnancy at the Health Center. The sampling technique was carried out using a non-probability sampling technique using purposive sampling, namely selecting samples based on inclusion criteria and exclusion criteria set by the researcher.

The inclusion criteria made by researchers are:

1. Pregnant women with complaints of low back pain.
2. Respondents are willing not to use pharmacological therapy during the study.
3. Single pregnancy.
4. Normal pregnancy / no complications,

The exclusion criteria made by the researcher are: Respondents who gave birth during the study.

Collecting data in this study is primary data, namely data obtained directly from respondents who are the object of this study using the observation method.

The instrument used for data collection in this study was an observation sheet containing the respondent's number, respondent's bio data, and the type of intervention. The instrument for assessing the degree of pain intensity felt by respondents used a numerical rating scale (Numerical Rating Scale). The tools used in this study were watches and olive oil.

The method of managing data in this study was carried out in the following steps: editing, data entry, cleaning, and processing.

The analysis process used the SPSS computerized program, after the normality test was carried out with Shapiro Wilk, namely the data were not normally distributed, so the test used in this study was the Wilcoxon test with a significance level of 95% ($\alpha = 0.05$).

RESULT AND DISCUSSION

Based on data collection that was carried out from January to March 2020 regarding the effect of acupressure therapy on the intensity of low back pain in third trimester pregnant women with a total sample of 20 people, the research results will be presented in the table below.

Table 1. Average Lower Back Pain Intensity for Trimester III Pregnant mother Before and After Acupressure Therapy

Acupressure therapy	N	Mean	SD	Min	Max
Before	20	4.45	1.234	2	7
after	20	1.25	1.020	0	3

In table 1 it can be seen that the average low back pain intensity before being given

acupressure therapy was 4.45 (SD = 1,234) with a minimum value of 2 and a maximum of 7, while the average intensity of lower back pain in the third trimester after being given acupressure therapy was 1.25 (SD = 1.020) with a minimum value of 0 and a maximum of 3.

Table 2. Lower Back Pain before and after Acupressure Therapy

Acupressure therapy	N	Mean	SD	Min-Max	Wilcoxon	P Value
Before	20	4.45	1.234	2 – 7	-3.949	0.000
After	20	1.25	1.020	0 – 3		

In table 2 it can be seen that the results of the Wilcoxon statistical test with a degree of confidence of 95% showed that there was an effect of acupressure therapy on the intensity of low back pain in third trimester pregnant women ($p = 0.000$).

Based on the results of data collection, it can be seen that the average pain intensity before being given acupressure therapy was 4.45 (SD = 1.234) which is a moderate pain level (Potter and Perry, 2012). Most pregnant women will experience lower back pain during pregnancy as a symptom of discomfort (National Health System, 2019). Pain is an unpleasant sensory and emotional experience resulting from actual or potential tissue damage. Pain arises as a form of sensory response after receiving painful stimuli. Pain can be caused due to tissue damage in the body as a result of injuries, accidents, or medical procedures such as surgery (Ratnasari, 2013).

Low back pain during pregnancy is caused by changes in anatomical and hormonal structures. Anatomical changes occur because the role of the spine is getting heavier to balance the body. Another cause is an increase in the hormone relaxin which can affect the flexibility of the ligament tissue thereby

increasing the mobility of the pelvic joints, this will have an impact on spinal and pelvic instability. Predisposing factors are weight gain for pregnant women, rapid changes in body posture, previous back pain, repeated stretching, and posture errors for pregnant women when sitting, standing, lying down and even while doing household activities (Fraser and Cooper, 2011).

Efforts to treat low back pain in pregnancy must be treated so that it does not interfere with the daily activities of pregnant women. Low back pain can be reduced by non-pharmacological methods, namely acupressure therapy by giving strokes or pressure to the back of third trimester pregnant women which can increase endorphins and serotonin.

Based on data collection after being given acupressure therapy to pregnant women in their third trimester with complaints of lower back pain in the working area of the Payung Sekaki Public Health Center, Pekanbaru City, it was found that the average pain intensity was 1.25 (SD=1.020) which is a mild pain level (Potter and Perry, 2012).

Acupressure therapy has the ability to reduce pain in labor as well as speed up the process. Acupressure also reduces pain during menstruation, back pain, headaches, knee pain, arthritis pain, neck pain and breast cancer pain. The mechanism that contributes to acupuncture analgesia is stimulation of the pituitary-hypothalamic complex causing systemic release of beta-endorphins into the bloodstream from the pituitary gland. The release of beta-endorphins is accompanied by the release of adrenocorticotrophic hormone. Acupressure therapy, both stimulation and sedation, is depending on the yin and yang state of the patient. Acupressure on acupuncture points will have a local effect, namely reducing pain in the area around the

pressure point. Acupressure energy at the acupuncture point will flow through the meridians to the target organ. Stimulation or sedation of target organs will effect changes in biochemistry, physiology, and perception/taste. Biochemical changes can be in the form of increased levels of endorphins and serotonin, physiological changes can be in the form of blood flow and oxygen activity, while changes in perception/taste can be in the form of a decrease in pain levels (Adikara 2015).

The results of this study were obtained ($p = 0.000$), which means that there is an effect of acupressure therapy on the intensity of low back pain in third trimester pregnant women. This research is in line with that conducted by Aswitami and Mastiningsih (2018) regarding the effect of acupressure therapy on low back pain in third trimester pregnant women in the working area of the Abian Semal 1 Public Health Center, Bandung Regency, with a p value = 0.001, this indicates that there is a significant influence ($p < 0.05$) Acupressure Therapy for Lower Back Pain in Third Trimester Pregnant Women in the Work Area of the Abiansemal I Health Center, Badung Regency.

When the ligaments around the pelvis tighten and no longer provide strong support to the joints, the muscles become a second line of defense helping to prevent excessive stress on the pelvic ligaments. Excessive stress on the pelvis and weakening of the abdominal muscles is what causes back pain. The main points of acupressure to reduce low back pain are points BL23, GV3 and GV4 (Hartono et al, 2012), which are given 2 times a week for 3 consecutive weeks can help reduce low back pain because emphasis on these points can increase endorphin levels and serotonin which can reduce pain (Wahyuni, 2016).

This is reinforced by research conducted by Permatasari (2019) regarding the effectiveness of acupressure techniques at points BL23, GV3 and GV4 in reducing lower back pain in the third trimester of pregnancy at the Jelakombo Health Center, Jombang, with the result p value = 0.001, which means that H_a is accepted so there is a difference mean the average value of low back pain before and after being given acupressure intervention in third trimester pregnant women.

According to the assumptions of researchers, low back pain in every pregnant woman is different and is caused by various factors. Although lower back pain in pregnant women is normal, it must be treated to increase the comfort of the mother. Pregnant women with the discomfort of lower back pain that can be resolved can carry out their daily activities. Mothers can sleep, sit, walk and do household activities comfortably without feeling pain.

In addition, low back pain that can be handled properly can trigger changes in the mood of pregnant women for the better and relax. Pregnant women will feel happy and comfortable with their pregnancy. This has a direct impact on the fetus they contain, namely the fetus feels the same way as the mother. Fetal brain cells are formed from 3-4 months in the mother's womb, so that the mother's emotions will have an impact on the growth and development of the fetus. (Sudjatmiko, 2012)

CONCLUSION

In this study, the results showed that there was an effect of acupressure therapy on the intensity of low back pain in third trimester pregnant women ($p = 0.000$).

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