The effect of ginger compress on reducing back pain on the third trimester pregnant women

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ABSTRACT

Introduction: Ginger is one of the herbal plants that has been known for a long time. However, most people did not know further about the benefits of ginger for pregnant women. Therefore, this study aimed to analyze the ginger effect to compress the lower back in third-trimester pregnant women.

Methods: The data were used in this study obtained from the intensity of pain felt by pregnant women in the third trimester. This study involved 10 respondents who were collected by purposive sampling technique. The analysis used in this study was to determine the difference in the level of the back before the ginger compress and after the ginger compress in the third trimester of pregnant women using the Wilcoxon test.

Results: This study shows that the significant value of ρ=0.005<0.05, from these results, it was shown that there is an effect of ginger compresses on reducing back pain in third-trimester pregnant women.

Conclusion: This study was conducted to analyze the effect of ginger compress on the lower back in third-trimester pregnant women. Furthermore, this study proves that ginger compress can significantly reduce back pain in the third-trimester pregnant women.

Keywords: Ginger Compress, Back Pain, Pregnancy.


INTRODUCTION

Research on complaints of back pain in pregnant women has been widely carried out, this is due to changes that occur during pregnancy, especially in the third trimester, which is often a complaint for pregnant women, one of these complaints is back pain. In general, pregnant women who experience back pain, only know how to reduce pain by doing massage and warm compresses on the back area and taking anti-pain medication.

Several previous studies have analyzed several factors that influence back pain in pregnant women. For example, Garshasbi et al (2005) analyzed the effect of exercise on the intensity of back pain in pregnant women and this study resulted in that exercise performed during pregnancy had a significant effect on spinal flexibility, thereby reducing the intensity of back pain in pregnant women.1 In addition, Podebrad ska et al (2019) analyzed the effect of physiotherapy on leg load and back pain in pregnant women and the study found that intervention with physiotherapy can reduce changes in rigid structures and back pain in pregnant women.2 Furthermore, the previous study analyzed the effectiveness of acupuncture on back pain in pregnant women in the second and third trimesters of pregnancy and the study found that acupuncture affected reducing back pain in pregnant women.

Although several studies on the effect of exercise on back pain (2005), the effect of physiotherapy on back pain (2019), and the effectiveness of acupuncture on back pain (2018) have been carried out, the effect of ginger compresses on reducing back pain in pregnant women has not been widely studied before.1-3

Ginger is one of the most common herbal plants that can be found in our surroundings, however, most people did not know more about the benefits of ginger for pregnant women. ginger whose rhizome has compound of gingerol 294.38 g/mol which functions as an analgesic, antipyretic, and anti-inflammatory. Ginger is used to compress rheumatic pain and headaches by compressing the mashed or grated ginger rhizome and pasting it on the painful body part.4 Ginger contains the enzyme cyclo-oxygenation can reduce inflammation in patients with arthritis or rheumatoid. Moreover, the gingerol, contained in ginger also has a pharmacological effect that tastes hot and spicy, with these flavors, the ginger has ability to relieve the pain, stiffness, and muscle spasms due to vasodilation of blood vessels. These effects will be felt in individual within 20 minutes after heat application.5

Therefore, this study aimed to analyze the effect of a ginger compress to decrease back pain in third-trimester pregnant women. Ginger has beneficial effects in health aspects, such as an analgesic, antipyretic, and anti-inflammatory that can be used by pregnant women to reduce their back pain. In addition, ginger is affordable, can be obtained in our society, safe, and pregnant women can make it to themselves. Ginger is considered as
alternative modalities to treat the back pain condition before using anti-pain medication.

METHODS

Study Design
This study is a cross-sectional study that used the data obtained from the third-trimester pregnant woman who experienced back pain. The design of this study used a pre-test-post-test design by giving warm red ginger compresses to prove the effectiveness or not of warm ginger compresses in reducing back pain in third-trimester pregnant women.

Data Collection
The sample of this study were third-trimester pregnant women who experienced back pain in Kedungpring Village, Balongpanggang Gresik. This study used the purposive sampling technique as a sampling method, which consisted of about 10 pregnant women who suitable to inclusion and exclusion criteria. Inclusion criteria in this study were third-trimester pregnant women who were willing to be examined and experienced back pain while the exclusion criteria in this study were third-trimester pregnant women who experienced allergies, especially in the lower back, used pain-reducing drugs, and the third-trimester pregnant women who could not read and write.

The data collection method in this study refers to Dewi in 2020 with slight modifications. In brief, the stages of data collection are as follows. Explaining the purpose of the study and signing informed consent, the study was carried out by home visits, measuring back pain scale before red ginger compress (pretest) with a questionnaire sheet. Then the researchers carried out a warm red ginger compress for 20 minutes. After that, the back pain scale was measured again after the ginger compress (post-test) with a questionnaire sheet. Then compare the pain pre-test with the post-test. Measurement of pain intensity with a questionnaire sheet using the NRS pain scale or Numeric Rating Scale (NRS) which score 0 was indicated as no pain, 1-3 was indicated as mild pain, 4-6 was indicated as moderate pain, 7-9 was indicated as severe pain controlled, and 10 was indicated as severe uncontrolled pain. The type of ginger used is red ginger obtained from traditional markets as much as 100 grams which is ground and then attached to the lower back of pregnant women for 20 minutes.

Data Analysis
This analysis in this study was aimed to determine the difference in the effectiveness of reducing pain intensity before and after being given treatment using the Wilcoxon Match Pairs Test.

RESULTS
Table 1 shows the distribution of back pain intensity data for the third trimester, pregnant women, before and after ginger compress. Before the ginger compress was applied, it was known that half of the respondents experienced moderate pain, totaling 5 respondents (50%) and after the ginger compress, most of the respondents experienced mild pain, amounting to 8 respondents (80%). This shows a decrease in pain intensity after the ginger compress intervention with a p-value = 0.005 < 0.05, meaning that this study shows that giving ginger compresses affects lowering back pain in third-trimester pregnant women.

DISCUSSION
Pregnancy may cause some discomfort in women, one of them is back pain. Stretching on the body, especially in the spine due to the growing uterus and getting heavier with gestational age, will cause pain or pain in the back of pregnant women. Back pain is pain that occurs in the upper or lower back area when gestational age increases, the woman’s center of gravity shifts, and postural compensation occurs in kyphosis of the lumbar spine which accommodates distension abdominal.

Compress Ginger is an alternative therapy that is used to reduce pain or prevent spasm muscle and provide a feeling of warmth in certain areas. Ginger compress can reduce pain due to the ginger’s ability that can increase the ability to control pain. Ginger has a spicy taste and is warm. Some of the ingredients in ginger include gingerols, limonene, linolenic acid, aspartic, sitosterol, starch, caprylic acid, capsaicin, chlorogenic acid, and farnesol. The pharmacological effects of ginger include stimulating an erection, inhibiting the release of 5-lipoxygenase enzymes, and cyclooxygenase increasing the activity of the endocrine glands.

At the stage of physiological pain, ginger is compressed to relieve their pain stage transduction which gingerol, one of ginger's components containing cyclooxygenase can inhibit the formation of prostaglandins as mediators of pain, resulting in a decrease in pain. So, ginger can be used as an alternative treatment non-pharmacological to reduce joint pain. This is because one of the ginger’s contents has heat properties that can provide a warm

Table 1. Distribution of Back Pain Intensity Data for Third-trimester Pregnant Women Before and After Ginger Compresses in Kedungpring Village, Balongpanggang District, Gresik.

<table>
<thead>
<tr>
<th>No.</th>
<th>Pain level category Pain</th>
<th>Group</th>
<th>Level before Ginger Compress</th>
<th>Pain Level After ginger compress</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Number of respondents</td>
<td>%</td>
<td>Number of respondents</td>
</tr>
<tr>
<td>1</td>
<td>No pain</td>
<td></td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Mild pain</td>
<td></td>
<td>1</td>
<td>10%</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Moderate pain</td>
<td></td>
<td>5</td>
<td>50%</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Controlled severe pain</td>
<td></td>
<td>3</td>
<td>30%</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Uncontrolled severe pain</td>
<td></td>
<td>1</td>
<td>10%</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>10</td>
<td>100%</td>
<td>10</td>
</tr>
</tbody>
</table>
effect or the body’s response to heat, which causes dilation of blood vessels, lowers the viscosity of blood, reduces muscle tension, increases tissue metabolism, and increases permeability capillary. This response from heat is used for therapeutic purposes in various conditions and conditions that occur in the body.7

The findings from this study support the results of the Halawah (2018) study which showed that there was a difference between warm compresses and ginger compresses in reducing pain scale in the elderly with low back pain because ginger contains inflammatory, antioxidant, and analgesic properties.8 This is also supported by Dewi’s research in 2020 which said that the ginger decoction compress was carried out for three days with a frequency of 2 times a day, showing the results that the ginger decoction compress was found to be effective in reducing low back pain in pregnant women.9 The results of research conducted by Tassim in 2020 found that the herbal compress ball can reduce muscle pain, joint pain and low back pain besides that it can be done easily by respondents at home because the technique is simple and the ingredients are easy to obtain.10 The results of a study conducted by Tessa in 2010 showed that ginger has anti-inflammatory, analgesic, and provides a warm feeling. This ginger compress technique will stimulate the body and the warm feeling it causes to open blood vessels and facilitate blood circulation which is a natural pain reliever against painful stimuli from nerve activity.11

CONCLUSION
This study concluded that giving ginger compresses can significantly reduce back pain in third-trimester pregnant women. In addition, ginger compresses can be considered an easy, safe, and effective alternative therapy to reduce the back pain condition in third-trimester pregnant women so that it can be used as a reference in conducting midwifery care for pregnant women with back pain complaints.

REFERENCES

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