

Comparison Of Foot Massage With Mixed Galangal Foot Soak Against Edema In The Feet Of Pregnant Women In The Third Trimester At The Nasywa Clinic

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ARTICLE INFO

ABSTRACT

Keywords:

Edema, Pregnancy, Foot Massage, and Mixed Warm Water Foot Soak Aromatic Ginger.

Edema occurs in around 80% of pregnant women. There are several non-pharmacological interventions to reduce edema, namely foot massage and soaking in warm water mixed with galangal. Based on WHO data in 2020, pregnant women usually experience swelling in the second and third trimesters in the second trimester, namely 75%. If this edema is not treated quickly, it can be dangerous. Research Objective: to find out which foot massage or soaking in warm water mixed with Kaempferia galanga is more effective for pregnant women in the third trimester. Method: Quasy Experimental with a Two Group Pretest - Posttest Design. The population in this study was 40 people. The sample was divided into a control group of 20 people and an intervention group of 20 people using a sampling technique called total sampling. Data analysis used the t-dependent statistical test with a confidence level of 95%. Results: analysis of data obtained from the P-value shows no difference in the degree of foot edema in pregnant women who do foot massage and soak in warm water with a mixture of Kaempferia galanga. P-value = 0.814 (< 0.05) Conclusion: foot massage and soak in warm water The galangal mixture is equally effective in reducing edema in the legs of pregnant women in the third trimester.

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1. INTRODUCTION

Pregnancy is the period most awaited by married couples and is also a period that requires adaptation both physiologically and psychologically. Most women experience minor discomfort during pregnancy to throughout the normal pregnancy period. Even though the discomfort is not too serious, this can reduce a woman's sense of discomfort and well-being (Reedar, M, in Nurhayati, S., et al, 2019). One of the discomforts and dangerous signs of pregnancy experienced by pregnant women in the third trimester is edema. Edema or swelling of the lower legs and ankles that occurs during pregnancy. About 75% of pregnant women will experience swelling of the legs (edema), which usually occurs in the third trimester. Edema is made worse by standing or sitting for a long time (Hutahean, in Nurhayati, S., et al. 2018).

Edema occurs in approximately 80% of pregnancies. A common edema that occurs in pregnancy is edema in the legs. Edema can be an early symptom that leads to a pathological condition that is an indicator of serious chronic disease in pregnancy. Some diseases that cause edema include chronic heart disease, kidney failure, joint disease, pregnancy, excessive salt intake, and physical fatigue. Edema in pregnancy is triggered by changes in the hormone estrogen, which can increase fluid retention. This increase in fluid retention is related to physical changes that occur in the final trimester of pregnancy, namely the increasing enlargement of the uterus along with the increase in fetal weight and gestational age. In addition, increasing body weight will increase the load on the legs to support the mother's body. This triggers circulation problems in the veins in the legs which result in the appearance of edema (Junita et al, in Maita, L & Kirani, M, D 2019)

Based on data from WHO in Safitri, N, T., (2019), the number of complaints such as nausea and vomiting is 80-85%, back pain during pregnancy is 35-60%, hemorrhoids occur around 8%, while

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swelling occurs. as much as 75%. In pregnant women, swelling usually occurs in the second trimester and third trimester. From the data above, complaints of swelling are in second place at 75%. Edema in pregnant women can be dangerous if not treated quickly and can also be harmless.

Data from the Indonesian Ministry of Health in Safitri, N, T., (2019), 80% of pregnant women in Indonesia experience complaints of swelling in the legs, 45% of the swelling in the legs is due to comorbidities such as hypertension, 35% due to physiological factors in the body. pregnancy, pregnant women who have comorbidities, swelling in the legs is difficult to deflate even though they have had enough rest, usually the swelling in the legs can go down with regular treatment, but this is different for mothers who do not have comorbidities, the swelling that occurs can go down If you rest, swelling in pregnant women can also be reduced if the mother gets regular massages, because one of the benefits of massage is to improve blood circulation.

Massage provides pressure that can increase blood circulation, reduce swelling and discomfort caused by swelling, relax muscles, eliminate muscle spasms, and can also reduce anxiety, and can reduce symptoms of depression. (Chase, B., in Yanti, et al. 2019). Foot massage is expected to improve blood circulation in the process of distributing nutrients and oxygen throughout the body, as well as reducing edema and improving the circulation of body fluids. (Adiguna. P in Widiastini, et al, 2018).

Yuhendra's book in Yanti, et al (2018) explains that apart from massage, warm water can also increase blood circulation so that it can reduce edema. Soaking in warm water can also be combined with a mixture of galangal because the flavonoid content in galangal has an anti-inflammatory function which can reduce edema. Foot massage therapy and foot soaks in warm water mixed with *Kaempferia galanga* are useful for helping increase blood circulation by widening blood vessels so that more oxygen can enter the edematous tissue (Wulandari, in Widyastuti, W & Yunitasari, A., D 2019).

Based on an initial survey conducted by researchers on pregnant women at the Nasywa clinic. It was found that of the 10 people who experienced edema in pregnant women after interviews, 10 people used massage therapy, and none used a foot soak mixed with galangal. Therefore, researchers are interested in conducting research with the title "Comparison of Foot Massage with a Mixed Galangal Foot Soak Against Edema in the Feet of Pregnant Women in the Third Trimester at the Nasywa Clinic."

2. METHOD

This research is a type of Quasy Experimental research with a Two Group Pretest-Posttest Design. The population and sample in this study were all 40 third-trimester pregnant women who experienced edema/swelling at the Nasywa Kisanan Clinic. The sample collection technique in this study used a total sampling technique, namely all third-trimester pregnant women at the Nasywa clinic.

3. RESULTS AND DISCUSSION

Univariate Analysis

Characteristics of control group respondents (foot massage)

Table 4.1 Frequency distribution of age characteristics of respondents at the Nasywa clinic

| Maternal Age | Total (f) | Persentase (%) |
|--------------|-----------|----------------|
| <20 Year | 3 | 15% |
| 21-35 | 9 | 45% |
| >36 | 8 | 40% |
| Amount | 20 | 100% |

Based on the table above, there are 3 respondents aged <20 years (15%), 9 respondents aged 21-35 years, and 8 respondents aged >36 years (40%).

Table 4.2 Frequency distribution of respondents' educational characteristics Nasywa clinic

| Education | Total (f) | Percentage (%) |
|--------------------------|-----------|----------------|
| Elementary-middle school | 3 | 15% |

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| Education | Total (f) | Percentage (%) |
|------------------------|-----------|----------------|
| high school equivalent | 15 | 75% |
| College | 2 | 10% |
| Amount | 20 | 100% |

Based on the table above, there are 3 respondents with elementary-middle school education (15%), 15 respondents with high school or equivalent education, and 2 respondents with tertiary education (10%).

Table 4.3 Frequency distribution of respondents' job characteristics Nasywa clinic

| Work | Total (f) | Percentage (%) |
|--------------|-----------|----------------|
| Work | 11 | 55% |
| Doesn't work | 9 | 45% |
| Amount | 20 | 100% |

Based on the table above, 11 respondents (55%) are working, and 9 respondents (45%) are not working.

Table 4.4 Frequency distribution of respondents' parity characteristics Nasywa clinic

| Parites | Total (f) | Percentage (%) |
|----------------|-----------|----------------|
| Primigravida | 2 | 10% |
| Secundigravida | 12 | 60% |
| Multigravida | 6 | 30% |
| Amount | 20 | 100% |

Based on the table above, there were 2 respondents with primigravida pregnancies (10%), 12 respondents with secundigravida (60%), and 6 respondents with multigravida (30%).

Table 4.5 Frequency distribution of respondents' edema degree characteristics Nasywa clinic

| Degree of edema | Total (f) | Percentage (%) |
|-----------------|-----------|----------------|
| Degree 1 | 4 | 20% |
| Degree 2 | 11 | 55% |
| Degree 3 | 3 | 15% |
| Degree 4 | 2 | 10% |
| Amount | 20 | 100% |

Based on the table above, 4 respondents (20%) complained about degrees of edema in the legs, 11 respondents (55%), 3 respondents (15%), 3 respondents (15%), and 2 respondents at grade 4 (15%). 10%).

Characteristics of intervention group respondents (Soak feet in warm water mixed with galangal)

Table 4.6 Frequency distribution of age characteristics of respondents at the Nasywa clinic

| Mother's Age | Total (f) | Percentage (%) |
|-----------------|-----------|----------------|
| <20 years | 3 | 15% |
| 21-35 years old | 14 | 70% |
| >36 years | 3 | 15% |
| Amount | 20 | 100% |

Based on the table above, there are 3 respondents aged <20 years, 14 respondents aged 21-35 years (70%), and 3 respondents aged >36 years (15%).

Table 4.7 Frequency distribution of characteristics and education of respondents at the Nasywa clinic

| Education | Total (f) | Percentage (%) |
|--------------------------|-----------|----------------|
| Elementary-middle school | 5 | 25% |
| high school equivalent | 13 | 65% |
| College | 2 | 10% |
| Amount | 20 | 100% |

Based on the table above, there are 5 respondents with an elementary-middle school education (25%), 13 respondents with a high school education or equivalent (65%), and 2 respondents with a tertiary education (10%).

Table 4.8 Frequency distribution of characteristics and occupation of respondents at the Nasywa clinic

| Work | Total (f) | Percentage (%) |
|--------------|------------------|-----------------------|
| Work | 12 | 60% |
| Doesn't work | 8 | 40% |
| Amount | 20 | 100% |

Based on the table above, 12 respondents (60%) are working, while 8 respondents (40%) are not working.

Table 4.9 Frequency distribution of characteristics with parity of respondents at the Nasywa clinic

| Parity | Total (f) | Percentage (%) |
|----------------|------------------|-----------------------|
| primigravida | 6 | 30% |
| secundigravida | 14 | 70% |
| Amount | 20 | 100% |

Based on the table above, there were 6 respondents (30%) with primigravida pregnancies, while there were 14 respondents (70%) with secundigravida pregnancies.

Table 4.10 Frequency distribution of characteristics and degree of edema of Nasywa clinic respondents

| Degree of edema | Total (f) | Percentage (%) |
|------------------------|------------------|-----------------------|
| Degree 2 | 12 | 60% |
| Degree 3 | 4 | 20% |
| Degree 4 | 4 | 20% |
| Amount | 20 | 100% |

Based on the table above, 12 respondents (60%) complained of edema in the legs, namely grade 2, 4 respondents (20%), grade 3 and 4 respondents (20%).

Bivariate Analysis

The variable measured in this study was the degree of edema in the legs which was divided into two groups, namely the control group and the intervention group. The results can be seen in the table below.

Table 4.11 Comparison of foot massage and foot soak with kencur mixture on edema in the feet of pregnant women in the third trimester at the Nasywa clinic

| Intervention | n | Mean | elementary school | t-independent | P value |
|--|----------|-------------|--------------------------|----------------------|----------------|
| Foot massage | 20 | 4.60 | 1,231 | 237 | 0.814 |
| Soak your feet in the galangal mixture | 20 | 4.50 | 1,433 | | |

Based on the table above, it can be seen that the average degree of edema during foot massage was 4.60 (SD: 1.231) and the group given a warm water soak mixed with galangal was 4.50 (SD: 1.433). The results of the T-dependent statistical test with a degree of edema of 90% showed that there was no significant comparison between the two variables, namely foot massage and a galangal mixed foot soak on reducing physiological foot edema in third trimester pregnant women (p value=0.814).

Discussion

Comparison of foot massage and foot soak with kencur mixture on edema in the feet of pregnant women in the third trimester at the Nasywa clinic. Based on the results of different tests using the Dependent T-Test test, it can be seen that the significance value is $0.814 < 0.05$, so it can be seen that there is no difference between foot massage and the galangal mixed foot soak on edema in the feet at the Nasywa clinic in 2023. Physiologically, the application of This massage can increase

blood flow. Compression in muscles can stimulate venous blood flow in subcutaneous tissue and can also result in decreased blood retention in peripheral vessels and increased lymph drainage.

Foot massage can improve blood circulation in the process of distributing nutrients and oxygen throughout the body, and can also reduce edema in the feet and improve the circulation of body fluids. (widiastini, et al 2018). In the book Yuhendra in Yanti, et al (2019) explain that apart from massage, warm water therapy can also increase blood circulation so that it can reduce edema. Warm water soaking can also be combined with galanga because it contains flavonoids which function as an anti-inflammatory that can reduce edema.

Foot massage therapy and foot soaks in warm water mixed with galanga are useful for helping increase blood circulation by widening blood vessels so that more oxygen enters tissues experiencing edema. The results of this study are in line with previous research conducted by Mutia, Z, et al (2019) which showed that the average for foot massage (0.9) and foot soak with galangal mixture was (2.0). What can be seen is that 95% showed that there was no difference in the effectiveness of foot massage and soaking in warm water mixed with galangal in reducing the degree of foot edema of pregnant women in the third trimester.

The results of applying massage therapy and soaking in warm water with a mixture of galanga were carried out by pregnant women who experienced edema in their feet. In pregnant women who did foot massage who experienced degrees of edema, the degree of edema decreased by 6 mm, while in pregnant women who did the mixed foot soak. galanga also decreased the degree of edema by 7mm. This can show the effectiveness of foot massage and soaking in warm water mixed with galanga, which research conducted by Octavariny & Sari (2019), has shown a reduction in the degree of edema in the feet of pregnant women in the third trimester.

The results of this research are also in line with research conducted by Tri Endah Widi Lestari (2018), based on the analysis that has been carried out and it can be concluded that foot massage and soaking in warm water mixed with galanga can effectively reduce edema on the feet of pregnant women in the third trimester. The working principle of massage therapy is to apply direct and focused pressure to the edema area, by moving extravascular fluid without disturbing intravascular fluid. This foot massage therapy can increase blood circulation by widening blood vessels so that they can supply more oxygen to edematous tissues (Wulandari, P. 2017).

Soaking the feet using warm water which can reduce edema in the feet in research is combined with galangal. Galangal is efficacious as an anti-inflammatory which inhibits the release of serotonin and can inhibit the synthesis of prostaglandins from arachidonic acid which inhibits the workings of cyclooxygenase. Apart from reducing edema, you can also produce aromatherapy from galanga, namely essential oil. The effect of aromatherapy can provide comfort, and tranquility, and can reduce pain and stress, as well as provide relaxation to cause vasodilation of blood vessels which can improve blood circulation and reduce the degree of edema (Yanti, et al 2019).

4. CONCLUSION

From the results of the research and discussions that have been carried out, it can be concluded that there is no difference between a foot massage and a foot soak mixed with galangal on edema in the feet of pregnant women in the third trimester. It is known that the degree of edema on the feet of pregnant women after a foot massage is an average of 4.60 with a standard deviation (1.231), and after soaking the feet in a mixture of galangal, the average is 4.50 with a standard deviation (1.433), so there is a difference in the average after the massage. feet and a foot soak mixed with galangal and a significant value of $0.814 < 0.05$ which can be seen that there is no significant difference between a foot massage and a foot soak mixed with galangal that has been carried out on samples with degrees of edema at the Nasywa clinic.

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