rnal Penelitian Kebidanan & Kespro	Vol. 9 No. 1	Edition: April – Oktober 2026
	http://ejournal.delihusada.ac.id/index.php/JPK2R	
eived : 10 Oktober 2026	Revised: ----------	Accepted: 30 Oktober 2026

THE EFFECT OF FOOT MASSAGE ON THE DEGREE OF EDEMA ON THE MOTHER III TRIMESTER PREGNANCY IN INDEPENDENT MIDWIFERY PRACTICE KASIH IBU IN 2026

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Abstract

Based on WHO data in 2017, it was found that the incidence of edema was around 75%. In pregnant women, swelling commonly occurs in the second trimester and third trimester. From the data above, swelling complaints rank second with 75% of cases. Edema in pregnant women can be dangerous or not. This research was conducted at the Sriulina Ginting Independent Midwife Practice. The aim of this research is to determine the effect of giving foot massage on the degree of edema in third trimester pregnant women at the Kasih Ibu Independent Midwife Practice in 2026. The design type of this research is Quasi Experimental with the design used being a One Group Pretest-Posttest Design. The population of this study was 30 third trimester pregnant women with sample size drawn using the Slovin formula and sampling using simple random sampling technique. Data analysis used the paired sample T test. The results of the research show the effect of foot massage on the degree of edema in pregnant women in the third trimester at the Helen Clinic in 2021. It can be concluded that the results of the brivariate test obtained a p-value = 0.000 or p <0.05, which means that Ho failed to be accepted and Ha was accepted, so there is The effect of giving foot massage on the degree of edema in third trimester pregnant women. The suggestion from this research is that pregnant women and their families can apply foot massage therapy to reduce edema in third trimester pregnant women.

Keywords: *Foot Massage Therapy, Edema Degree, Third Trimester Pregnant Women.*

INTRODUCTION

Maternal health refers to women's health during pregnancy, childbirth and the postnatal period (WHO,2019). Pregnancy is a condition where a woman has an embryo or fetus in her womb.Kehamilan dimulai saat masa coception resulting in the birth of the

fetus, and the length of pregnancy is estimated from ovulation to delivery which is estimated at around 40 weeks and does not exceed 43 weeks (Kuswanti, 2014).

The health condition of the prospective mother during the early stages of pregnancy will greatly influence the success rate of pregnancy as well as the health status of the prospective baby who is still in the womb or who has already been born, so it is recommended that prospective mothers maintain healthy lifestyle habits and avoid factors that can influence the condition. prospective mothers during pregnancy (Johnson, 2016).

In 2017 maternal deaths were very high at around 295,000 during and after pregnancy and childbirth. Most of these deaths (94%) occurred in low-resource settings, and most were preventable. Sub-Saharan Africa and South Asia accounted for about 86% (254,000) of the estimated global maternal deaths in 2017. Sub-Saharan Africa accounted for about two-thirds (196,000) of maternal deaths, while South Asia accounted for almost one-fifth (58,000)(WHO, 2019).

In 2017 there were 15 countries considered very alert or highly alert as fragile states such as South Sudan, Somalia, the African Republic Tengah, Yemen, Syria, Sudan, Democratic Republic of Congo, Chad, Afghanistan, Iraq, Haiti, Guinea, Zimbabwe, Nigeria, and Ethiopia, of which 15 countries had MMRs in 2017 ranging from 31 (Syria) to 1150 (South Sudan). The high maternal mortality rate in several countries reflects inequalities in access to quality health services and highlights disparities (WHO, 2019).

Women can pass away because of problems that happen during or after giving birth. The majority of these complications arise during pregnancy, but they can be prevented and treated with various methods. Other issues might already exist before pregnancy but can get worse during pregnancy, especially if they aren't managed as part of women's healthcare.

According to data from the World Health Organization in 2017, about 75% of cases involved edema. Swelling is a common occurrence in pregnant women during the second and third trimesters. From the data provided, swelling complaints are the second most reported issue, with 75% of cases. Edema in pregnant women can be harmful or not. Cases of edema in the feet require an important role for midwives to overcome them, namely by choosing comfortable footwear with flat-soled footwear, reducing heavy work, reducing sitting for too long, massaging the feet, lying on a comfortable mattress or sofa with the feet positioned higher than the upper part of the body, more often moves the ankle in a circular motion. Relaxing in the morning (Aswandi, 2014).

Based on 2018 Riskesdas data, there are 10 ranking provinces in Indonesia with the highest number of pregnant women, birthing women and postpartum women, namely West Java, East Java, Central Java, North Sumatra, Banten, DKI Jakarta, South Sulawesi, South Sumatra, Riau and Lampung. . The average number of pregnant women in Indonesia is 155,622 people. The average number of mothers giving birth/postpartum in Indonesia is 148,548. National

coverage of maternal and newborn health services is the lowest for the indicator of antenatal care (70.4%), followed by postnatal care for newborns (71.3%) and postnatal care for mothers (78.1%) (WHO , 2017).

Apart from being used to assess the success of maternal health programs, this indicator is also able to assess the level of public health because of its sensitivity to health services, both in terms of accessibility and quality. Based on data, there was a decrease in maternal mortality during the 2015-2018 period, in 2018 it was 53 per 100,000 live births, the MDGs target that must be achieved is 102 per 100,000 live births in 2015. The data in the table above shows that there were 98 maternal deaths in DKI Jakarta in 2018, with the highest number occurring during the postpartum period, specifically 53 deaths.This corresponds to a maternal mortality rate of 53 per 100,000 births, as shown in the graph below. Several types of causes of death in postpartum and pregnant women include bleeding, hypertension, infection, circulatory system disorders, metabolic disorders and others. From the table above, the biggest cause of maternal death is bleeding, accounting for 39.7% of all deaths in pregnant women, childbirth and the postpartum period (DKI Jakarta Health Profile, 2018).

During the third trimester, most pregnant women experience several discomforts such as breast enlargement, frequent urination, difficulty sleeping, back pain, headaches, cramps and swelling of the legs (edema). Edema is an accumulation of body fluids caused by disturbances in the body's fluid pressure system, damage to the endothelium, or pharmacosynthesis reactions that occur in the body which are caused by many factors. Edema in pregnancy can be caused by internal and external factors. Internal factors can lead to the body's hormonal reactions during pregnancy, this could be due to congenital and accompanying diseases can cause edema until it is at the same momentum during the period pregnancy. From factors externally, environmental mechanical factors (gravity) are the prodisposing factors that cause edema (natsir, 2018).

In Indonesia, around 80% of pregnant women experience pregnancy disorders, namely bleeding 20%, hypertension in pregnant women 15%, abortion 10%, preeclampsia 20%. Accompanied by leg edema of 15% (RI Health Office, 2017). There were 40 cases of pregnancy leg edema or accompanied by other diseases in Central Java in 2016 and in 2017 there were 45 cases (Central Java Health Office, 2017). In the Sragen area, according to the results of a preliminary study in 3 community health centers, there were quite a lot of cases of pregnancy leg edema. The most cases were in the Sidoharjo Public Health Center, Sragen, with 25 cases.

Based on the 2018 Central Java Province Riskesdas, there are pregnant women who experience disorders or complications during pregnancy with swelling of the legs as much as 3.22% in urban areas and 2.73% in rural areas, so it is known that edema that occurs in pregnant women can be a sign there are complications during pregnancy that can be prevented from the start (Central Java Province Riskesdes report, 2018).

Based on North Sumatra BPS data in 2019, there were 334,401 number of pregnant women, percentage of marriage age Firstly, a female minor is 5.90%. According to districts/cities, the percentage of women whose first marriage age is under 17 years varies between 0.57% in Humbang Hasundutan District to 12.47% in Mandailing Natal District. The age of a woman's first marriage greatly influences fertility levels, apart from that the age of marriage also influences the stability of a family and the health of the mother and child born. The lower the age at first marriage, the greater the risks faced during pregnancy and childbirth. This condition is caused by the immaturity of a young woman's uterus for the development process of the fetus, or her not being mentally ready to face the pregnancy process. On the other hand, the higher the marriage age that exceeds the recommended limit, the higher the risk of pregnancy and childbirth (North Sumatra BPS, 2019).

The changes that happen during pregnancy involve adapting in both the body and the mind. The process of adapting can lead to physical or health-related discomfort when trying to meet health service goals that focus on caring for mothers and babies.Reducing this discomfort involves proper prevention and care for pregnant women. Inconvenience during pregnancy between others: nausea, vomiting, ptialism (excessive salivation), fatigue, upper back pain (nonpathological), leukorrhea, increased frequency of urination (nonpathological), heartburn, flatulence, uterine ligamentum, lower back pain (nonpathological), hyperventilation (nonpathological), tingling, swollen feet and supine hypotension syndrome (irianti, 2014).

Based on the results of Famela's research (2016) entitled "Foot Massage to Treat Physiological Foot Edema in Third Trimester Pregnant Women," Mrs. S is 28 years old, G2P1A0, at BPM Hj. After doing a foot massage for 20 minutes each day over 5 days, Mrs.Maunah Tambakagung from Klirong, Kebumen experienced noticeable improvements in her foot health and overall well-being.The regular massage helped reduce foot pain, improve circulation, and promote relaxation.Mrs.Maunah found the routine to be both effective and enjoyable, and she continues to incorporate foot massage into her daily self-care practice. The decrease in foot edema made the results more comfortable for S. The use of non-pharmacological interventions, foot massage and soaking in warm water mixed with galangal is one of the non-pharmacological interventions that can be used for pregnant women. This foot massage is a therapy in the form of slow massage of the foot area for 20 minutes a day for 5 days in an area that is safe and does not cause contractions. Third trimester pregnancy discomforts include frequent urination around 50%, vaginal discharge 15%, constipation 40%, flatulence 30%, edema (swelling) of the legs 20%, leg cramps 10%, headaches 20%, striae graviderum 50%, hemoroid 60%, shortness of breath 60% and back pain 70% (rahmawati, et al 2016).

Based on the results of research from Sukroni (2017) with the title the relationship between physical comfort disorders and disease with the sleep

quality of pregnant women in the third trimester in the working area of the Gading Health Center, Surabaya City, around 36 pregnant women who underwent examinations in the third trimester, 78% of pregnant women had complaints such as pregnant women feeling sick. back, leg cramps or tingling, and swollen feet which often occur at night and disrupt the quality of sleep of pregnant women.

According to research done by Junita in 2017, the study looked at how foot massage affects swelling in pregnant women during their third trimester at the Sidomulyo inpatient health center in Pekanbaru City.The study found that among the 17 pregnant women involved, there was a clear connection between getting foot massages and the level of swelling they experienced. In the third trimester, according to Chase, B.(2016), the theory suggests that massage therapy can be used to treat edema during pregnancy. The therapy works by applying direct pressure and targeting the swollen area of the body. Massage therapy can be helpful in managing swelling during pregnancy. Based on the results of a preliminary survey at the Sriulina Ginting Independent Midwife Practice, the number of pregnant women who visited ANC from January – September was 337 pregnant women. When conducting an initial survey at the clinic, I conducted interviews with clinic staff about complaints experienced by pregnant women in the third trimester and from data in September there were 33 out of 35 patients in the third trimester experiencing edema in the lower extremities and with complaints that they often experienced fatigue and difficulty carrying out activities. activity. Researchers also conducted interviews with 5 pregnant women who came for ANC visits. The pregnant women said that the edema they experienced made it difficult to carry out activities, so they often felt They get tired if they move too much to overcome it prefer not to do much activity.

RESEARCH METHODS

The type of this research is a quasi experiment (pseudo experiment) with a pre-post test design. This study provides foot massage treatment on the degree of edema in third trimester pregnant women. The sampling process is carried out using a simple random sampling technique, namely that the sample is taken in such a way that every member of the population has the opportunity to be selected as a sample.

So that the characteristics of the sample do not deviate from the population desired by the researcher, before taking the sample it is necessary to determine (Notoatmodjo, 2012). Researchers have determined the criteria for the samples to be studied, including:

A. inclusion criteria

1. Third trimester pregnant women who experience edema
2. willing to be a respondent and sign informed consent
    1) b. exclusion criteria
    2) 1. Pregnant women who are not willing to be respondents.
    3) The location of the research was in Riulina Ginting. The reason for choosing the location was that when researchers carried out observations, it was found

that several pregnant women experienced edema in the legs during the third trimester of pregnancy. The research was conducted in December-March 2024.

4) There are several methods for processing data (Mymawati, 2017): primary and secondary data that has been obtained is analyzed through a data processing process which includes the following activities:

5) 1) Editing, data editing is done to avoid errors or the possibility that there will be questionnaires that have not been filled out.

6) Coding, assigning a code or scoring to each answer to facilitate the data entry process

7) Data entry, after the coding process, the data is entered into the computer using a computer program

8) Cleaning, before data analysis, checking and correcting the data that has been entered is carried out.

This is data analysis carried out on each variable from the research results. In general, this analysis is only to produce distribution values and percentage values of variables. Meru. After that, data analysis was done to find out how each independent variable affects the dependent variable.A Paired T-test was used for this, and it was applied to data that follows a normal distribution, with a 95% confidence level. In this study, the researcher applied for permission from the clinic owner as a research site. Next, a consent form was delivered to the respondent with emphasis on the ethics involved (Swarjana, 2012).

RESULTS AND DISCUSSION

Research results for each variable from demographic data in Independent Midwife Practice Kasih Ibu in 2024.

Table 4.1 Frequency Distribution of the Effect of Foot Massage on the Degree of Edema in Pregnant Women in the Third Trimester at the Practice of Independent Midwife Kasih Ibu in 2026

No	Variabel	Jumlah (N)	%
1.	**Umur**		
	1. < 20 year	2	8,7
	2. 20-35 year	17	73,9
	3. > 35 year	4	17,4
	Total	23	100
2.	**Education**		
	1. Elementary school	0	0
	2. Middle school	4	17,4
	3. SMA	13	56.5
	4. S1	6	26,1
	Total	23	100
3.	**Paritas**		
	1. Nullipara	10	43,5
	2. Primipara	11	47,8
	3. Multipara	2	8,7
	4. Grade multipara	0	0
	Total	23	100

To determine the effect of the independent variable (foot massage) on the dependent variable (degree of edema in pregnant women in the third trimester), bivariate analysis was carried out using the paired sample t-test if the data was normally distributed (p>0.05). However, this has been done before First test the normality of the data. Data normality is a requirement that must be met when using the t-test. The normality test aims to determine whether the data used is normally distributed using the Shapiro Wilks test with the reason that the

sample was 23 pregnant women in the third trimester.

The effect of foot massage on the degree of edema in pregnant women in the third trimester in the practice of independent midwives Kasih Ibu in 2026

The first stage in the quasi-experimental research, after the normality test was carried out, the pretest and posttest data on the degree of edema showed that the data was normally distributed, so the paired t-test was used.

The Effect of Foot Massage[E on the Degree of Edema in Pregnant Women in the Third Trimester at the Practice of Independent Kasih Ibu in 2026

Based on the research results in table 4.1 above, it is known that the majority of respondents aged 20-35 years were 17 people (73.9%), the minority of respondents were <20 years old, namely 2 people (8.7%). on education, the majority of respondents with There were 13 people (56.5%) with high school education, the minority of respondents with elementary school education was 0 people (0%). in terms of parity, the majority of respondents with primiparous parity were 11 people (47.8%) and the minority of respondents with grandemultipara were 0 people (0%). Looking at table 4.2 above, we can see that there was a change in the level of swelling among third trimester pregnant women after they received foot massage.Before the massage, most of them had grade 2 swelling, which was 17 people or 73.9%.After the massage, most of them had grade 1 swelling, which was also 17 people or 73.9%. Based on table 4.4 above, the average value of the degree of edema in pregnant women in the third trimester before being given treatment was 2.09 with a standard deviation of 0.449. It can be concluded that H0 failed to be accepted. There is an effect of giving foot massage on the degree of edema in pregnant women in the third trimester with a p value <0.05.

The average degree of edema in third trimester pregnant women before treatment was 2.09, with a standard deviation of 0.515. Edema during pregnancy refers to the buildup of too much fluid in the body's tissues. Edema happens when there's a blockage in the body's fluid movement, slowing down how fluids move.This reduces the blood flow to the tissues, causing a backup of venous blood and leading to swelling, which is known as edema. Sometimes cause the

appearance of edema, acne, masculinization, and the appearance of acromengali (James, 2013).

Edema during pregnancy can have different meanings.For example, about 40% of women with normal pregnancies experience edema.Around 60% of women with hypertensive disorders during pregnancy (HDK) have edema.And up to 80% of women with both hypertension and proteinuria (pre-eclampsia) develop edema. During her pregnancy, a woman may notice swelling in different parts of her body.This swelling can be in specific areas like her legs, or it can spread to almost the entire body. The causes of this edema can be physiological or pathological. Edema is found in the tibia, face, hands, even the whole body (anasarca). Pathological edema refers to swelling that occurs in the face and hands, or throughout the body, and is often associated with a rapid decrease in body weight (Prawirohardjo, 2016). Based on the research results, according to the researcher's assumption, every edema experienced by pregnant women is influenced by mobility factors and the pregnancy itself. The better the pregnant mother's mobility, especially in the third trimester of pregnancy, the less the degree of edema the mother will experience. The study shows that the average level of edema in pregnant women during their third trimester after treatment is 1.26, with a standard deviation of 0.449. It seems that giving foot massages has an effect on reducing swelling in pregnant women during their third trimester, as shown by the p value. Edema during pregnancy is when there is too much fluid buildup in the body's tissues. Edema happens in the extra cellular fluid compartment, which can include both intracellular and extracellular fluids. Edema occurs due to obstruction of fluid exchange in the body which then inhibits the rate of diffusion so that the blood supply to the cells in the tissue is reduced, resulting in venous blood blocking which causes edema to appear.

Foot massage is a method used to help reduce swelling, or edema, during pregnancy.It works by applying pressure to the areas that are swollen, which can help improve circulation and reduce fluid buildup. By giving foot massages to the lower parts of pregnant women's legs, it is hoped that fluids will move better in areas where there is swelling. Foot massage helps improve how blood moves through the body, carrying nutrients and oxygen to different parts.This process can help reduce swelling and make it

easier for fluids to flow properly in the body (Adiguna, 2016).

The results of this study show that giving foot massage for 20 minutes every day for 1 week in a row can significantly reduce or eliminate physiological edema. When carrying out foot massage on the research sample there were no obstacles or problems. This is possibly because the majority of the research sample is in the low risk age category (73.9%), the majority are primigravida parity (47.8%), and the majority have at least a high school education (56.5%), so the research sample can be invite them to work together in providing foot massage care and there are no obstacles or problems during the intervention.

This matches the findings from the research done by Junita et al.in 2018, titled "The Relationship between Foot Massage and the Degree of Edema in Pregnant Women in the Third Trimester in the Practice of Independent Midwives," written by Sriulina Ginting.The study showed that there is a significant connection between foot massage and the level of edema in women who are in their third trimester of pregnancy, with a p-value of 0.000.

In this study, foot massage was not only able to reduce the degree of edema, but was also able to provide a feeling of relaxation to pregnant women while giving foot massage. This is in line with the opinion of Senjaya, A., (2015) that massaging the muscles in the legs can facilitate air circulation and lymph channels and help prevent varicose veins. When massaging the leg muscles, pressing the massage will relax the tension, thereby helping improve blood flow to the heart. The massage on the feet ends with massage on the soles of the feet which will stimulate and refresh the feet so that the system recovers balance and helps relaxation.

Foot massage is one intervention non pharmacological to reduce xtremity edema by moving extravascular fluid without disturbing intravascular fluid. The feeling of relaxation that pregnant women feel during massage is caused by the pressure that is applied during massage to the edema area and is supported by comfortable environmental conditions. This is in line with the opinion according to Sanjaya, A, (2015) that the preparation steps for a massage consist of providing a comfortable place, balancing oneself with efflurage or light rubbing, and accompanied by giving a massage.

In this study, giving 23 people food massage for one week led to different levels of reduction in

their edema. The smallest reduction in edema was 2 mm, while the largest reduction in edema was 3 mm. This is because of the difference in what the mother does each day.

CONCLUSION

Based on the results of research regarding the effect of foot massage on the degree of edema in pregnant women in the third trimester at Kasih Ibu's Independent Field Practice in 2024, it can be concluded that

1. Degree of edema in third trimester pregnant women before giving foot massage at the Independent Midwife Practice Sriulina Ginting In 2022 the majority will be in degree 2 with 17 people (73.9%).
2. The degree of edema in third trimester pregnant women after giving Foot Massage at the Sriulina Ginting Independent Midwife Practice in 2022, the majority is grade 1, 17 people (73.9%).

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