

**THE APPLICATION OF FOOT MASSAGE AND WARM WATER SOAK WITH GALANGAL ON LEG EDEMA IN THIRD TRIMESTER PREGNANT MOTHER WITH HYPERVOLEMIA**

**Lismawati Pertiwi Waruwu<sup>1</sup>, Wahyu Ningsih Lase<sup>2</sup>, Merry Swastika Hulando Waya<sup>3</sup>**  
<sup>123</sup>Politeknik Kesehatan Kementerian Kesehatan Medab  
Email : <sup>1</sup>*lismawatipertiwi@gmail.com*

**ABSTRACT**

*Background: Edema is the accumulation of fluid in the extracellular space, occurring due to fluid shifting from inside to outside the cells. Edema is caused by water retention and increased venous pressure in the legs, as well as uterine compression that obstructs venous return, leading to physiological edema and ultimately resulting in hypervolemia. A safe complementary therapy to address hypervolemia in third-trimester pregnant women is the application of foot massage and warm water soak mixed with galangal, performed once for a duration of 20 minutes for five consecutive days. Objective: To determine the application of foot massage and warm water soak in overcoming hypervolemia in patients with leg edema at Technical implementation Unit South Gunungsitoli Public Health Center. Method: This scientific paper used a descriptive case study, with the subjects being 2 third-trimester pregnant women with hypervolemia characterized by leg edema at Technical implementation Unit South Gunungsitoli Public Health Center, Gunungsitoli City. Results: After five days of applying foot massage and warm water soak mixed with galangal to Ms. W and Ms. N, it was found that both patients no longer experienced hypervolemia, indicated by the edema being at grade 1 (normal). Conclusion and Suggestion: The application of foot massage and warm water soak mixed with galangal on Ms. W and Ms. N, performed once daily for 20 minutes for five days, proved effective as a non-pharmacological therapy for third-trimester pregnant women experiencing hypervolemia characterized by edema in both legs. It is suggested that families and health professionals can use the application of foot massage and warm water soak mixed with galangal as a safe intervention to address hypervolemia in both legs.*

**Keywords:** *third trimester; edema,; hypervolemia,; foot massage and soak*

## INTRODUCTION

Pregnancy is a natural physiological process; complications can lead to maternal death if not properly managed or diagnosed early. Pregnancy can occur in women with healthy reproductive systems, regular menstrual cycles, and sexual intercourse (Putri et al., 2022).

World Health Organization data indicates that approximately 75% of pregnant women worldwide experience leg edema, and this condition is the second most common complaint among pregnant women (WHO, 2020). Eighty percent of pregnant women in Indonesia experience leg swelling, with 35% of this being caused by physiological changes during pregnancy (Aulia et al., 2020). Data from the Indonesian Ministry of Health in 2020 indicated that approximately 82% of pregnant women in Indonesia experience leg edema (Setianingsih et al., 2022). The Indonesian Health Survey in Indonesia found that 35.9% of pregnant women experienced leg swelling (SKI, 2023).

According to 2020 data from North Sumatra Province, approximately 80% of pregnant women experience leg swelling, with a total of 332,810 cases. The majority of these cases are caused by pressure from the uterus, which obstructs venous return and fluid buildup in the legs, while the remaining 35% are due to physiological factors of pregnancy (WHO, 2020). The Indonesian Health Survey in North Sumatra found that 4.7% of pregnant women experienced leg swelling or excess fluid (SKI, 2023).

Swollen legs, or fluid accumulation, is a common problem experienced by pregnant women, especially in the last trimester. This change occurs due to the increased blood volume and body fluids needed to support fetal development. Pressure from the enlarging uterus on the large blood vessels in the pelvic area restricts blood flow from the legs to the heart, causing fluid to accumulate in the leg tissues and cause swelling (Nissen et al., 2023).

The impact of unmanaged hypervolemia can lead to complications such as heart failure, pulmonary edema, nephrotic syndrome, and kidney damage. Some non-pharmacological interventions that can be done to treat edema in the legs due to hypervolemia include performing foot massage and soaking the feet in warm water mixed with galangal, elevating the legs to support blood circulation by stimulating blood vessel dilation, avoiding wearing too tight clothing that can obstruct venous flow, changing positions regularly, minimizing prolonged standing, and resting on the left side (Putu et al., 2022).

One traditional medicine often used as a compress to treat swelling or inflammation is kencur (galangal) due to its anti-inflammatory activity (Zaenatushofi et al., 2019).

Foot massage and soaking in warm water mixed with kencur at 38°C for five consecutive days is more effective in reducing physiological leg edema and stimulating fluid loss in pregnant women in the third trimester than elevating the legs for 20-30 minutes (Asmawati et al., 2024). Foot massage and soaking in warm water with kencur were performed on a pregnant woman experiencing leg swelling due to hypervolemia. This therapy is a safe and efficient method, without side effects, making it suitable for pregnant women experiencing physiological leg swelling or excess fluid in the third trimester (Octavariny et al., 2020).

The results of previous research by Lisnawati et al (2023) showed that pregnant women in the third trimester experienced leg edema, when they did foot massage and soaked their feet in warm water mixed with kencur using a basin with a limit of ten to fifteen centimeters above the ankles. This was done for twenty minutes and continued for five days. Data from the treatment given to 5 respondents showed that the average before the intervention was 2.4 and after the treatment of soaking in warm water became 1.4. Zaenatushofi et al (2019) conducted additional research involving foot massage of pregnant women with edema, the results showed that of the five respondents, two experienced grade 3 edema and three experienced grade 2 edema, after applying the foot massage technique and soaking in warm water mixed with kencur to five participants for five consecutive days, the results showed that the five participants did not experience edema and hypervolemia, This is supported by research by Mutiara (2020), which revealed the effects of foot massage and soaking in warm water mixed with galangal. The results of a study conducted by Yanti et al. (2020) showed that foot massage and soaking in warm water mixed with galangal had a positive impact on reducing swelling in pregnant women in the third trimester. Research conducted by Handayani et al. (2022) showed that pregnant women in their third trimester experienced reduced leg edema or increased fluid volume after undergoing foot massage therapy and soaking their feet in warm water mixed with galangal. The results of a preliminary study conducted on January 13, 2025, at the Gunungsitoli Selatan Community Health Center showed that 12 pregnant women in their third trimester in December 2024 reported that 7 of the 12 experienced leg edema. 5 of them said they had night cramps, a feeling of heaviness in their legs that made it difficult to carry out activities, while 2 others said they felt weak and heavy in their legs that made it difficult to carry out activities. Pregnant women in their third trimester also said they had never done foot

massage and soaking in warm water mixed with galangal to treat edema. The results of the survey above, researchers are interested in conducting research on the application of foot massage and soaking in warm water mixed with galangal on leg edema in pregnant women in their third trimester to treat hypervolemia.

## **METHOD**

### **A. Case Study Design**

This scientific paper uses a descriptive case study, which is used in nursing research and aims to provide a detailed description of a patient's experience of a health condition or situation within the context of nursing practice (Polit, D. F., & Beck, C. T. 2017). The researchers conducted a case study on the application of foot massage and warm water soaks mixed with galangal on leg edema in third-trimester pregnant women with hypervolemia.

### **B. Case Study Subjects**

The case study subjects were two pregnant women in their third trimester who experienced leg edema with hypervolemia. The case study subjects were determined based on the inclusion and exclusion criteria established by the researcher:

**Inclusion Criteria:** The inclusion criteria consisted of:

1. Pregnant women in their third trimester who were willing to participate.
2. Pregnant women in their third trimester who did not experience edema as a result of a significant medical condition, such as preeclampsia.
3. Pregnant women in their third trimester who had no history of serious pregnancy complications, such as severe preeclampsia, uncontrolled gestational diabetes, or heart disease.
4. Pregnant women in their third trimester who did not have open wounds or skin infections.

**Exclusion Criteria:**

1. Pregnant women with a gestational age of less than 28 weeks or more than 40 weeks.
2. Pregnant women in their third trimester who were unwilling or refused to participate.
3. Pregnant women in their third trimester with a history of preterm labor, placenta previa, or other pregnancy complications that could be worsened by this intervention.

### **C. Case Study Focus**

The focus of this scientific paper is the application of foot massage and warm water soaks mixed with galangal to leg edema in third-trimester pregnant women to address hypervolemia.

D. Operational Definition

No	Variable	Indicator	Measurement Tool	Criteria	Frequency and Duration
1	Massage your feet with warm water mixed with galangal	SOP for applying the procedure of foot massage and soaking in warm water mixed with galangal	SOP	The application of the foot massage procedure and soaking in warm water mixed with kencur is given by someone who has mastered the procedure of foot massage and soaking in warm water mixed with kencur which will be given to the patient.	Massage the feet and soak them in warm water mixed with galangal once a day for 20 minutes for 5 days.
2	Pregnant women in their third	Leg edema is grade 1	Pitting edema	Grade 1: Recovers immediately	-

	trimester with hypervolemia			Grade 2: Returns within a few seconds	
				Grade 3: Recovers within 5-6 seconds	
				Grade 4: Recovers within >7 seconds	

#### E. Case Study Instruments

The data collection instruments used in this case study consisted of:

1. Nursing care documentation format for a third-trimester pregnant woman with hypervolemia (Samita, 2018).
2. Standard operating procedures (SOPs) for foot massage and warm water soaks mixed with galangal (Shalsa Dila Mustika Rani, 2024).
3. Observation sheet for measuring pitting edema (Isti Nur Afifah, 2020).

#### F. Data Collection Methods

This case study was collected through several methods:

Nursing Process:

1. Assessment
2. Diagnosis
3. Intervention
4. Implementation
5. Evaluation

#### G. Research Location and Time

The research was conducted at the Gunungsitoli Selatan Community Health Center (UPTD) from January to June 2025

H. Data Presentation Analysis

The case study data is presented in narrative or text form and is supplemented by verbal statements from the subjects as supporting information

I. Case Study Ethics

1. Informed Consent
2. Patient Confidentiality and Privacy
3. Respecting the patient's right to refuse or discontinue participation
4. Prioritizing patient safety and comfort
5. Non-Maleficence and Beneficence
6. Transparency about risks and benefits
7. Communication and Feedback

**RESULTS AND DISCUSSION**

A. Nursing Assessment

1. Respondent 1

No	Core Data	Cause of	Problem
1	DS: - DO: - Grade 3 peripheral edema, - tense skin turgor, - CRT > 3 seconds, - mother appears weak - Weight: 68 kg - Height: 158 cm	Pregnancy Adaptations ↓ Enlarged uterus ↓ Weight gain ↓ Impaired venous return from the heart to the lower extremities ↓ Edema of the lower extremities ↓ Fluid accumulation in the legs ↓ Hypervolemia	Hypervolemia

2. Respondent 2

No	Core Data	Cause of	Problem
1	DS: - DO: - Peripheral edema grade 3, - skin turgor appears tense, - CRT > 3 seconds, - mother appears weak - BW: 66 kg - H: 160 cm	Pregnancy Adaptations ↓ Enlarged uterus ↓ Weight gain ↓ Impaired venous return from the heart to the lower extremities ↓ Edema of the lower extremities ↓ Fluid accumulation in the legs ↓ Hypervolemia	Hypervolemia

B. Nursing Diagnosis

Hypervolemia related to impaired venous return d.d grade 3 peripheral edema, tense skin turgor, CRT>3 seconds, appears weak, weight gain (D.0022)

C. Nursing Intervention

After 5 consecutive 20-minute interventions, hypervolemia decreased, with the following outcome criteria:

1. Decreased peripheral edema
2. Improved skin turgor
3. Decreased feelings of weakness

Intervention:

Teach how to limit fluids with foot massage therapy and soaking in warm water mixed with galangal.

D. Implementation

Perform a light foot massage on both feet for 10 minutes, then soak both feet in warm water mixed with galangal for 15–20 minutes. Observe for edema in both feet. Implementation was carried out on both respondents

E. Responden 1

S:

- The patient reported that she no longer felt heavy in her legs.
- The patient stated that this therapy was very helpful during her pregnancy leading up to delivery and expressed a desire to continue the soaks and massages independently at home.

O:

- The patient appeared more cheerful.
- The edema remained at grade 1 with no complaints.

A: The problem was partially resolved.

P: The patient continued the intervention independently at home.

Respondent 2

S:

- The patient reported no longer feeling heavy in her legs.
- She stated that this therapy was very helpful during her pregnancy leading up to delivery, and she expressed that she would continue to use it independently at home.

O:

- The patient appeared more cheerful and happy, and her edema was at grade 1 (normal) with no complaints.
- BP 110/80 mmHg
- P: 80 beats/minute
- R: 22 beats/minute
- T: 37°C

A: The problem was partially resolved.

P: The intervention was continued by the patient independently at home

The discussion of the research results shows that Mrs. "W" and Mrs. "N" were both at grade 3 and experienced significant changes from day 3 (three) to day 5 (five). This is in line with research conducted by Putra & Siregar (2019) measurements of the degree of edema showed changes between before the foot massage and soaking in warm water mixed with kencur, namely degree 3 and after the action was carried out at degree 1 where changes occurred on the third day, namely to degree 2 until the fifth day to degree 1. Mrs. W and Mrs. N experienced swelling in both legs, namely swelling with degree 3 before the application of foot massage and soaking in warm water mixed with kencur. After massage and soaking in warm water mixed with kencur on Mrs. "W" and Mrs. "N" for 5 consecutive days, there was a decrease in edema in both legs of pregnant women in the third trimester to degree 1 (normal).

This research is in line with that conducted by Nurhalimah (2023) foot massage and soaking in warm water mixed with kencur is one of the complementary therapies that is safe, easy to administer and has a more effective effect in reducing excess fluid volume or hypervolemia because massage will stimulate fluid release through the blood vessels and combined with warm water soak therapy will help increase blood flow by widening blood vessels so that more oxygen is supplied to the edematous tissue and is also supported by research according to research by Zaenatulshofi and Eti Sulastri (2019), foot massage techniques and soaking in warm water mixed with kencur have been proven effective. In addition, the ingredients used are easily available and safe for pregnant women. This foot massage consists of a gentle massage on both feet for ten minutes. Then, continue by soaking both feet in warm water mixed with kencur for ten minutes. For five consecutive days, the kencur mixture is used as a natural remedy to treat swelling or inflammation.

## CONCLUSION

The conclusion of the case study research conducted by the two patients, Respondent 1 Mrs. "NN" and Respondent 2 Mrs. "N", for 20 minutes per patient is

1. A comprehensive nursing assessment was conducted, identifying the primary complaint as heaviness in the legs, difficulty performing activities, and objective data including weakness, grade 3 peripheral edema, tense skin turgor, CRT > 3 seconds, and weight gain.

Subjective and objective data were collected through interviews, observation sheets, and standard procedures.

2. The primary nursing diagnosis formulated was the relationship between hypervolemia and impaired venous return, indicated by grade 3 peripheral edema, weight gain, weakness, tense skin turgor, and CRT > 3 seconds. This diagnosis was based on data obtained during the assessment process.
3. The formulated nursing interventions focused on managing hypervolemia using a non-pharmacological approach, including routine foot massage and warm water soaks mixed with galangal.
4. The foot massage and warm water soaking procedure mixed with galangal was implemented once daily for 20 minutes for five days. This involved gently massaging both feet for 10 minutes, followed by soaking the feet in warm water mixed with galangal for another 10 minutes. The results showed a decrease in hypervolemia in the feet on the third to fifth days.
5. Nursing evaluations were conducted daily before and after the five-day application. Nursing evaluations were conducted on two patients over five days using an observation sheet to assess the degree of edema. The evaluation results showed a gradual decrease in the edema pitting observation sheet in both patients, from grade 3 to grade 1. Both patients experienced a decrease in hypervolemia, indicated by grade 1 edema, elastic skin turgor, decreased feelings of weakness, CRT <3 seconds, and neither patient felt a feeling of heaviness in the legs, thus not making them difficult to carry out activities or feeling weak quickly

#### **ACKNOWLEDGEMENT**

In this this occasion, the author would like to express his gratitude to various parties who have provided assistance with the research conducted:

1. Ms. Tengku Sri Wahyuni S.SIT., M.Keb,
2. Ms. Dr. Amira Permata Sari Tarigan, S.Kep., Ners., M.Kes
3. Ms. Cipta Citra Karyani Gulo, S.Kep., Ns., M.Kep
4. The lecturers and academics of the Gunungsitoli Nursing Department of the Ministry of Health Polytechnic of Medan

5. The Head of the Gunungsitoli City Regional Development Planning Agency
6. The Head of the Gunungsitoli City Health Office
7. The Head of the Gunungsitoli Selatan District Community Health Center

## REFERENCES

- Agustiningrum, R., & Azizah, N. (2024). Studi Kasus Edema Fisiologis pada Ibu Hamil di Puskesmas Gempol. *Hospital Majapahit (Jurnal Ilmiah Kesehatan Politeknik Kesehatan Majapahit Mojokerto)*, 16(2), 127-135
- Aida Fitriani, S. S. T., Keb, M., Ngestiningrum, A. H., ST, S., Keb, M., Siti, R. A., & Keb, M. (2022). *Buku Ajar Asuhan Kehamilan DIII Kebidanan Jilid II*. Mahakarya Citra Utama Group
- Andika, R. A. M., Tambunan, L. Y., Mustari, P., & Simaremare, S. J. (2023). *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. Jurnal EduHealth*, 14(01), 658-663
- Andriyono, R. I. (2019). Kaempferia Galanga L. sebagai Anti-inflamasi dan Analgetik. *Jurnal Kesehatan*, 10(3), 495-502
- Anggraini, R., Asmawati, A., Dahrizal, D., & Husni, H. (2024). Pijat Kaki dan Rendam Air Hangat Efektif menurunkan Edema Kaki Fisiologis Ibu Hamil. *Jurnal Vokasi Keperawatan (JVK)*, 7(1), 162-170
- Anisah, A. (2021). Penatalaksanaan Edema Kaki pada Ibu Hamil Trimester III di Polindes Nur Jannatul Ainy, S. St Blumbungan Pamekasan *Doctoral dissertation*, Stikes Ngudia Husada Madura
- Ariendha, D. S. R., Setyawati, I., Hardaniyati, H., & Devitasari, A. N. I. (2023). Efektivitas Jahe untuk Mengatasi Emesis Gravidarum pada Ibu Hamil. *Journal of Fundus*, 3(2), 46-55
- Aulia, N. N., Saadah, S., & Rismawati, S. (2020). *Influence of Foot Massage and Soak*
- Bitara, I. N. W., Rohmini, S., Pratiwi, W., & Pranoto, H. H. (2023). Prenatal Yoga untuk Mengurangi Nyeri Punggung pada Ibu Hamil Trimester III. In *Prosiding Seminar Nasional dan CFP Kebidanan Universitas Ngudi Waluyo* (Vol. 2, No. 1, pp. 217-224)

Cholifah, S., Rinata, E., Mojopahit, J., & Sidoarjo, B. (2018). *Buku Ajar Kuliah Asuhan Kebidanan Kehamilan*

Dauphin, L. A., & Wilson, M. E. (2020). *Meningitis and Encephalitis: Overview and Approach to Diagnosis*

Dinarti & Mulyanti, Y. (2017). *Dokumentasi Keperawatan*. Jakarta: Indo Kemkes BPPSD. Rencana Asuhan Keperawatan: Pedoman

Febriani, A., Bayhakki, & Nauli, F. A. (2021). Analisis Self-Management dan Aspek Psikososial Pasien Penyakit Ginjal Kronik yang Menjalani Hemodialisis:Literature Review. *JOM FKp*, 7(2), 10–19

Handayani, E., & Novikasari, L. (2022). Efektifitas Terapi Pijat Kaki dan Rendam Air Hangat Campur Kencur untuk Edema Kaki pada Ibu Hamil Trimester III di Desa Margorejo Jati Agung Kabupaten Lampung Selatan. *Jurnal Kreativitas Pengabdian Kepada Masyarakat (PKM)*, 5(7), 2301-2307

Handayani, P. D., Yunifitri, A., & Sulistyawati, T. R. (2023). Asuhan Kebidanan pada Ibu Hamil dengan Penerapan Rendam Kaki dengan Air Hangat Campur Kencur untuk Mengurangi Edema Kaki. *Zona Kebidanan: Program Studi Kebidanan Universitas Batam*, 14(1)

Harahap, M. L. (2024). Pengetahuan Ibu Hamil tentang Pijat Kaki dan Rendam Air Hangat Campuran Kencur untuk Mengurangi Derajat Edema Kaki. *Jurnal Kebidanan Darmais (Jkd)*, 2(1), 63-67

Hidayat, A. A. (2021). *Proses Keperawatan; Pendekatan NANDA, NIC, NOC dan SDKI*. Health Books Publishing

Junita & Hervialni, dkk,2018,“Hubungan *Foot Massage* dengan Derajat Edema pada Ibu Hamil Trimester tiga di Puskesmas Rawat Inap Sidomulyo Kota Pekanbaru”, *Jurnal Ibu Dan Anak*,Vol.6, no.1

Karo, M. B., Isnaini, F., Fatmawati, I., Hidayati, N., Ummiyati, M., Dewi, P. D. P. K., & Hurin'in, N. M. (2022). Ketidaknyamanan dan Komplikasi yang sering terjadi selama Kehamilan. *Rena Cipta Mandiri*

Kementerian Kesehatan Republik Indonesia, Badan Kebijakan Pembangunan Kesehatan. *Survei Kesehatan Indonesia (SKI) 2023*

Kementerian Kesehatan. (2019). Laporan Nasional Riskesdas 2018. In Badan Penelitian dan Pengembangan Kesehatan (P. 674). Litbangkes

L. Widiastini, "Literature Review: *Foot Massage* dan Terapi Rendam Air Hangat terhadap Edema Ekstremitas Bawah pada Ibu Hamil," *J. Ilm. Kebidanan (The J. Midwifery)*, vol. 10, no. 2, pp. 204–211, 2021

Lestari, T. E. W., Widyawati, M. N., & Admini, A. (2018). Literatur Review: Penerapan Pijat Kaki dan Rendam Air Hangat Campuran Kencur terhadap Edema Kaki Ibu Hamil Trimester III di Wilayah Kerja Puskesmas I Wangon, Banyumas. *Jurnal Kebidanan*, 8(2), 99-111

Lisnawati *et al.*, (2023). Penatalaksanaan Rendam Air Hangat terhadap Penurunan Edema Tungkai pada Ibu Hamil Trimester III. *Jurnal BIMTAS: Jurnal Kebidanan Umtas*, 7(1), 37-43

Mardliyana, N. E. (2024). Pengaruh Rendam Air Hangat dengan Kencur terhadap Penurunan Edema Kaki pada Ibu Hamil Trimester Ketiga. *Sinar: Jurnal Kebidanan*, 6(2)

Murharyati, A., Kartikasari, M., Mardiyah, S., Sholihah, M. M. A., Agustin, W. R., & Ernawati, E. (2022). Pengaruh *Art Drawing Therapy* terhadap Tingkat Kecemasan pada Ibu Hamil Pre Eklamsi. *Jurnal Kesehatan Kusuma Husada*, 252-258

Mutia, D., & Maita, L. (2022). Oedema pada Kaki Ibu Hamil Trimester Tiga dengan Rendam Air Hangat Campur Kencur di Bpm Hj. Murtinawita, Sst Kota Pekanbaru Tahun 2021: *Oedema 3<sup>rd</sup> Trimester Pregnant Women In Instep With Warm Water Soak Mixed Kencur In BPM Hj. Murtinawita, SST Pekanbaru City In 2021. Jurnal Kebidanan Terkini (Current Midwifery Journal)*, 2(1), 75-80

Mutiara, D. Y., Purba, T. J., Ariescha, P. A. Y., Manalu, A. B., & Siagian, N. A. (2020). Pengaruh Penerapan Pijat dan Rendam Kaki dengan Air Hangat Campuran Kencur terhadap Edema Kaki pada Ibu Hamil. *Jurnal Kebidanan Kestra (Jkk)*, 2(2), 164-171

Natalia, L., & Handayani, I. (2022). Ketidaknyamanan Kehamilan Trimester III: Sebuah Laporan Kasus Asuhan Kehamilan. *Jurnal Kesehatan Siliwangi*, 3(2), 302-307

Nissen, M., Barrios Campo, N., Flaucher, M., Jaeger, K. M., Titzmann, A., Blunck, D., Fasching, P. A., Engelhardt, V., Eskofier, B. M., & Leutheuser, H. (2023). *Prevalence and course of pregnancy symptoms using self-reported pregnancy app symptom tracker data. Npj Digital Medicine, 6(1)*.

Nurhalimah, S. (2023). Asuhan Kebidanan Kehamilan dengan Penerapan Pijat dan Rendam Kaki dengan Air Hangat Campuran Kencur terhadap Edema Kaki pada Ibu Hamil. *Jurnal Maternitas Aisyah (JAMAN AISYAH), 4(3), 227-231*

Nurhayati, B., Simanjuntak, F., & Karo, M. B. (2019). Reduksi Ketidaknyamanan Kehamilan Trimester III Melalui Senam Yoga. *Binawan Student Journal, 1 (3), 167–171*

Palifiana, D. A., & Wulandari, S. (2018). Analisis Faktor Dominan yang Mempengaruhi Kualitas Tidur Ibu Hamil Trimester III di Klinik Pratama Asih Waluyo Jati. *Jurnal Kebidanan Indonesia, 9(2)*

Pomero, F., Re, R., Meschi, M., Montemurro, D., Spadafora, L., Boretta, V., Zampogna, M., Marchetti, A., Di Lillo, M., Tirotta, D., Bozzano, C., Ratu, M., & Gnerre, P. (2017). Judul artikel. *Jurnal Kedokteran Italia*

PPNI. (2017). *Standar Diagnosis Keperawatan Indonesia: Definisi dan Indikator Diagnostik, Edisi 1 Cetakan III (Revisi)*. Jakarta: PPNI

PPNI. (2018). *Standar Intervensi Keperawatan Indonesia: Definisi dan Tindakan Keperawatan, Edisi 1 Cetakan II*. Jakarta: PPNI

PPNI. (2019). *Standar Luaran Keperawatan Indonesia: Definisi dan Kriteria Hasil Keperawatan, Edisi 1 Cetakan II*. Jakarta: PPNI

Prastika, Y. (2020). Asuhan Keperawatan Kelebihan Volume Cairan pada Ibu Hamil dengan Preeklamsi Berat (Skripsi, Universitas Sultan Ageng Tirtayasa)

Puspan Sari, S., Lestari, I. and Aji Pamungkas, A. M. (2020) „Pengaruh Rendam Air Hangat terhadap Edema Tungkai pada Ibu Hamil di Klinik Nasywa“, *Jurnal Kebidanan, 12(02)*, pp. 275–283

Puspitaningrum, E. M., Fatimah, R. N., & Aghniya, R. (2023).  $\rightarrow$  Gambaran Sikap Ibu Hamil tentang Ketidaknyamanan pada Masa Kehamilan di Puskesmas Kebun Kopi Kota Jambi. *Jurnal Kesehatan Tambusai*, 4(4), 5325-5332

Putra, Y., & Siregar, E. S. (2019). Pengaruh terapi rendam air hangat terhadap edema tungkai bawah ibu hamil. *Jurnal Kesehatan*, 10(2), 117-120

Putri, D., & Agustin, M. (2024). Analisis Asuhan Keperawatan Ny. I dengan Intervensi Terapi *Foot Massage* dan Rendam Air Hangat Campur Kencur terhadap Edema Ibu Hamil Trimester III di Rw 008 Kelurahan Jaticempaka Kecamatan Pondok Gede. *Afiat*, 10(1), 79-94

Putri, dkk (2022). *Asuhan Kehamilan*, Malang : PT. Literasi Nusantara Abadi Grup

Putri, E. Cyinthia.(2020). Penerapan Terapi Reflek Pijat Kaki terhadap Tekanan Darah pada Pasien Hipertensi Ny. L di Kota Baru Jorong Tigo Surau Baso. *Stikes Perintis Padang*

Putu, N. I., & Ratnadi, W. (2022). Efektifitas Elevasi Kaki terhadap Heart Rate dan Tekanan Darah pada Pasien Pasca Spinal Anestesi. *Jurnal Kesehatan Malang*

Qamariyah, N. (2024). Faktor yang Berhubungan dengan Edema pada Ibu Hamil Trimester III di Rumah Sakit Primaya Makassar 2024. *Public Health And Medicine Journal*, 2(2)

Rohimah, Maryati, S., & Purwanti. (2023). Asuhan Kebidanan Komprehensif Pada Ny. “D” dengan Rendam Air Hangat untuk Mengatasi Bengkak Kaki pada Trimester III di Pmb “P” Cimahi Selatan. *Jurnal Osadhawedyah*, 1(3), 156–160

Saras, T. (2023). Jamu Galian Singset: Rahasia Kecantikan Herbal untuk Wanita Sejati. *Jurnal Tiram Media*

Sepriani, E. (2023). Hubungan Pengetahuan dengan Sikap Ibu tentang Manfaat Rendaman Air Hangat dan Garam dalam Menurunkan Edema Kaki Ibu Hamil Trimester III. *Jurnal Kesehatan Tambusai*, 4(2), 2591-2598