

The Effect Of Back Massage With Lavender Essential Oil Aromatherapy On Reducing Back Pain Intensity In Pregnant Women In The Thirty-Third Trimester

Cindy Putri Febrianti¹, Dwi Reza Wahyuni², Wafiq Syakila³

Tiara Bunda Polytechnic

e-mail: cindyputri.ac@gmail.com

ABSTRACT

Back pain is one of the discomforts often felt by pregnant women entering the third trimester. Treatment to reduce pain can use complementary care, one of which is by providing Back Massage. The aim is to determine the effect of Back Massage with lavender essential oil aromatherapy on the scale of back pain in pregnant women. The research method used a quasi-experimental one group pretest-posttest design. The population of this study was all 30 pregnant women, with a total sample of 15 pregnant women in the third trimester who experienced back pain. The results of the study obtained an average pretest of 0.00 and posttest 6.50, this indicates a difference in the pain scale with the results of p-Value = 0.001 < 0.05, which means there is an effect of Back Massage with lavender essential oil aromatherapy on reducing back pain in pregnant women in the third trimester. It is hoped that pregnant women who experience back pain can know the treatment using Back Massage therapy with lavender essential oil aromatherapy.

Keywords: Back Massage, Aromatherapy, Essential Oil, Lavender, Back Pain, Pregnant Women

INTRODUCTION

Pregnancy is a normal physiological process. Normal pregnancy significantly alters physiological systems, which can impact the health status of both mother and fetus. The most frequently reported stressors by women during pregnancy relate to physical symptoms, body image, fetal well-being, lifestyle changes, emotional distress, and concerns about problems during pregnancy, labor, and birth (Almanika Dita et al., 2022). Pregnancy brings about numerous changes, including changes in the musculoskeletal system, which can lead to pain, numbness, and weakness in the upper extremities as the body undergoes gradual postural changes. These changes result in abdominal distension and increased weight, leading to back discomfort, especially in older women. Back pain is categorized as a physiological change that occurs during pregnancy, with an incidence of approximately 50% in the UK and Scandinavia, and even approaching 70% in Australia (Almanika Dita et al., 2022).

Pregnant women will experience back pain when entering the second and third trimesters. Back pain is not a fatal thing because it is likely that everyone will experience back pain, especially pregnant women. Pregnant women who experience back pain will usually tire easily, have difficulty sleeping and complain of shortness of breath, because the increase in fundal height due to the growing fetus causes the body weight to move forward, in an effort to adjust to the excessive load so that the spine pushes backward, forming a lordosis posture. Therefore, most pregnant women experience back pain when entering the third trimester (Sumarni et al., 2023).

One way to manage pain in the third trimester of pregnancy is to provide massage therapy around the upper and lower back to provide comfort and reduce pain intensity. Massage is a form of maternal care that increases feelings of security and improves quality of life, especially for pregnant women (Rahayu, 2020). Massage can be performed with varying amounts of pressure and stimulation on various myofascial trigger points throughout the body. Massage can stimulate the body to release endorphins, which act as pain relievers and can create a feeling of well-being (Almanika Dita et al., 2022).

Back massage can be performed using lavender essential oil. When applied topically, lavender essential oil is absorbed through the skin, relieving pain and edema, improving circulation in the limbs, relaxing, and creating a pleasant feeling (Oktiningrum & Mariyana, 2023).

Research conducted by Mildiana & Permatasari (2021) shows that lavender aromatherapy massage is an effective and efficient alternative treatment for addressing or reducing back pain in pregnant women in their third trimester. Research conducted by Pratiwi & Sugiharti (2024) indicates that back massage has an effect on reducing back pain in pregnant women in their third trimester.

A preliminary study conducted by the author at the Midwife R Clinic, there were 30 pregnant women in the period of July-August 2024 with a total of 20 pregnant women in the third trimester and pregnant women who experienced back pain as many as 8 pregnant women. The back pain experienced by the mothers was moderate pain with a total of 5 pregnant women and mild pain with a total of 3 pregnant women. After conducting the preliminary study, the author obtained information that the average pregnant woman had never undergone therapy to reduce the back pain she experienced. So the author was interested in conducting research related to the Effect of Back Massage with Aromatherapy Essential oils on Reducing Back Pain Intensity in Pregnant Women in the Third Trimester at the Midwife R Clinic.

METHODOLOGY

This study is a quasi-experimental study with a One Group Pretest Posttest design. In this design, the sample is given a pretest and posttest before the treatment is given. The population in this study consists of 30 pregnant women. The sample obtained is 15 pregnant women with a purposive sampling

technique according to the inclusion and exclusion criteria. Data analysis used is the Wilcoxon test. (Book Antiqua, 12, Regular, space 1)

RESULTS AND DISCUSSION(Book Antiqua, 12, bold, single space)

A. Univariate Analysis

Table 1. Frequency Distribution of Respondent Characteristics Based on Age, Education, Occupation and Parity

No.	Category	N	Percentage
Age			
	At risk (<20/>35)	2	13.3
	No Risk (20-35)	13	86.7
Education			
	High School/Equivalent	9	53.3
	>High School	6	46.7
Work			
	Work	8	60.0
	Doesn't work	7	40.0
Parity			
	Primipara	4	26.7
	Multipara	11	73.3

Table 1 inThe above data shows that most of the respondents' ages are in the non-risk category (20-35 years) as many as 13 respondents (86.7%) and the respondents' ages are at risk (<20/>35 years) as many as 2 respondents (13.3%). Based on education, it shows that most of the respondents have a high school education/equivalent as many as 9 respondents (53.3%) and respondents who have a high school education > high school as many as 6 respondents (46.7%). Based on Occupation, it shows that most of the respondents work with a total of 8 respondents (60.0%) and respondents who do not work with a total of 7 respondents (40.0%). Based on parity, it shows that most of the respondents are multiparous with a total of 11 respondents (73.3%) and primiparous respondents with a total of 4 respondents (26.7%).

Table 2. Frequency Distribution of Back Pain Scale Before Back Massage with Aromatherapy Essential Oil

Pain Scale	Frequency	Percentage	Valid %	Cumulative %
Mild Pain	6	40.0	40.0	40.0

Moderate Pain	9	60.0	60.0	100.0
Total	15	100.0	100.0	

Based on table 2, the scale of back pain in pregnant women in the third trimester before being given Back Massage with lavender essential oil aromatherapy, most of them had a moderate pain scale of 9 respondents (60%) and had a mild pain scale of 6 respondents (40%).

Table 3. Frequency Distribution of Back Pain Scale After Back Massage with Aromatherapy Essential Oil

Pain Scale	Frequency	Percentage	Valid %	Cumulative %
No Pain	5	33.3	33.3	33.3
Mild Pain	10	66.7	66.7	66.7
Total	15	100.0	100.0	

Based on table 4.3, the scale of back pain in pregnant women in the third trimester after being given Back Massage with lavender essential aromatherapy, most of them experienced mild pain, as many as 10 respondents (66.7%) and respondents who did not experience pain were 5 respondents (33.3%).

B. Bivariate Analysis

Table 4. Effect of Back Massage with Aromatherapy Essential Oils on Back Pain in Pregnant Women in the Third Trimester

Pain Scale	N	Mean	P-Value	Z-test
Pre-Intervention	15	0.00	0.001	-3,276
<u>Post Intervention</u>	<u>15</u>	<u>6.50</u>		

Based on Table 4, the Wilcoxon test results show that the average post-intervention score was 6.50, with a p-value of 0.001 <0.05. If the p-value is <0.05, then there is an effect of back massage with essential oil aromatherapy on reducing back pain in pregnant women in the third trimester.

C. Discussion

1. Back Pain Intensity Before and After Intervention

Based on the results of the study, it shows that of the 15 respondents before Back Massage with Essential oil aromatherapy, they had different average levels of pain. The majority of respondents, namely (60%) experienced back pain with a pain scale of 4-6, indicating that the pain scale was in the moderate pain category. While a small portion of respondents, namely (40%) experienced back pain with a scale of 1-3, indicating that the pain scale was in the mild pain category. Meanwhile, the results of the study after being given Back Massage with Essential oil aromatherapy, obtained results of pregnant women in the third trimester

who experienced mild pain as many as (33.3%) respondents and pregnant women who did not experience pain as many as (66.7%) respondents.

Physiological back pain commonly occurs in pregnant women caused by an increase in the height of the uterine fundus accompanied by an enlarged abdomen, causing the body to shift more forward. In an effort to adjust to the excessive body weight, the spine is pushed backward, forming a lordosis posture. This causes the mother to experience back pain, varicose veins, and leg cramps. This can be done by undergoing prenatal massage therapy to reduce muscle spasms in the final trimester (Pratiwi & Sugiharti, 2024b).

This study aligns with (Pratiwi & Sugiharti, 2024) findings that back massage has an effect on back pain in pregnant women in the third trimester. The pain scale of respondents before receiving back massage therapy was mostly at a pain scale of 4, meaning moderate pain, with 14 respondents (46%). The pain scale of respondents after receiving back massage therapy was mostly at a pain scale of 2, meaning mild pain, with 10 respondents (23%).

The results of the study conducted (Silvana & Megasari, 2022) showed that the back pain felt by mothers had decreased from normal, namely from a value of 8 on the Numeric Pain Intensity Scale (1-10) during the pre-test to a value of 1 after receiving midwifery care in the form of back massage therapy for 4 days, the care provided was effective in reducing back pain in pregnant women in the third trimester.

According to researchers, upper and lower back pain are common complaints among pregnant women. One cause of back pain is gestational age. As gestational age increases, the uterine fundus rises, accompanied by abdominal enlargement, causing the body to lean forward and forming a lordosis posture.

2. The Effect of Back Massage with Aromatherapy Essential Oils on Back Pain in Pregnant Women in the Third Trimester

Based on table 4.5, the Wilcoxon test results show a p-value of <0.001 ($p<0.05$), so it can be concluded that there is an effect of Back Massage with Essential oil aromatherapy on reducing the intensity of back pain.

Back Massage is a method that provides comfortable pressure by hand on soft tissue, usually on muscles, tendons and ligaments, without causing shifts or changes in joint position to reduce pain, produce relaxation, and improve circulation, this method is one of the non-pharmacological methods that can increase patient satisfaction because the mother can control her feelings and strength. Based on the facts, theories and studies above, it shows that Back Massage has a relationship in reducing the intensity of pain in pregnant women in the third trimester. (Silvana & Megasari, 2022).

Back Massage Back massage can reduce discomfort and pain in the back during pregnancy, as it can reduce fatigue and increase energy by

removing metabolic waste from the lymphatic system and the circulatory system. Pregnancy discomforts such as cramps, muscle tension, and stiffness can be reduced after massage because improved circulation makes it easier for the heart and blood pressure to work, making pregnant women feel more refreshed. In addition, the endorphins produced during massage can help mothers relax.(Fithriyah et al., 2020).

The reduction in pain intensity is associated with the gate-control theory, which states that cutaneous stimulation such as massage activates the transmission of sensory nerve fibers A, so that after back massage there is a decrease in pain intensity. In addition, massage is effective in providing physical and mental relaxation, reducing pain, and increasing the effectiveness of pain treatment by releasing endorphins, thereby inhibiting the transmission of pain stimuli. However, endorphin levels in each individual vary, so the same stimulus is perceived differently by different people. This causes some respondents to experience no reduction in pain after back massage.(Amin, 2023).

According to(Pratiwi & Sugiharti, 2024b)A massage technique that applies pressure by hand to soft tissue, usually muscles, tendons, or ligaments, without causing displacement or change in joint position to reduce pain, promote relaxation, and improve well-being. Back massage interventions performed twice weekly for five weeks can reduce stress hormones and increase serotonin levels, which can improve the comfort of pregnant women in dealing with back pain.

According to researchers, back massage is a technique performed on the back by gently rubbing or massaging the body, resulting in a relaxing and calming effect. Back massage with aromatherapy essential oils can improve blood circulation, thereby relieving discomfort, aches, and pains in the back, especially during pregnancy.

3. Research Limitations

Every research project inevitably faces obstacles. This research also faces limitations, including:

- a. Some respondents refused to be given intervention so that researchers only got a small sample.
- b. Limited time to meet with respondents, because to meet with pregnant women they have to wait for the prenatal exercise class time held by the researcher.

CONCLUSION

Third trimester pregnant women with back pain after being given Back Massage with lavender essential oil aromatherapy were found to have no pain (33.3%) of pregnant women and mild back pain (66.7%) of pregnant women. After comparing the pain scale before and after the intervention, the results of the P-value were $0.0001 < 0.05$, which means that there is an effect of Back Massage with Essential oil aromatherapy on the incidence of back pain in third trimester pregnant women. It is hoped that the results of this study can be useful

for researchers in treating back pain in pregnant women using the Back Massage technique with lavender essential oil aromatherapy.

BIBLIOGRAPHY

- Almanika Dita, Ludiana, & Dewi Tri Kesuma. (2022). Penerapan Massage Effleurage Terhadap Nyeri Punggung Ibu Hamil Trimester III Di Wilayah Kerja Puskesmas Yosomulyo Kota Metro. *Jurnal Cendikia Muda*, 2(1), 50–58.
- Amin, D. R. (2023). Analisis Faktor-Faktor Yang Mempengaruhi Nyeri Punggung Pada Ibu Hamil Di Desa Karang Raharja. <https://Stikes-Nhm.E-Journal.Id/Obj/Index>
- Amperaningsih, Y., Nawati, N., Sriningsih, N., & Manurung, I. (2022). Pengaruh Back Rub Terhadap Nyeri Punggung Dan Kualitas Tidur Ibu Hamil Trimester III. *Malahayati Nursing Journal*, 4(6), 1520–1532. <https://doi.org/10.33024/Mnj.V4i6.6791>
- Arummega, N. M., Rahmawati, A., & Meiranny, A. (2022). Faktor-Faktor Yang Mempengaruhi Nyeri Punggung Ibu Hamil Trimester III: Literatur Review Factors Affecting Back Pain In Pregnant Trimester III : A Literature Review. In *Jurnal Ilmiah Kebidanan* (Vol. 9, Issue 1).
- Ernawati, S. (2021). Pengaruh Aromaterapi Lavender Terhadap Nyeri Persalinan: Literatur Review.
- Faniza, I., Dewi, N. R., & Nurhayati, S. (2021). Penerapan Pendidikan Kesehatan Tentang Perawatan Edema Kaki Pada Ibu Hamil Trimester Ketiga. *Jurnal Cendikia Muda*, 1(1).
- Fithriyah, Haninggar, R. D., & Dewi, R. S. (2020). Pengaruh Prenatal Massage Terhadap Penurunan Nyeri Punggung Pada Ibu Hamil Trimester III (Vol. 10).
- Fitriana, L. B., & Vidayanti, V. (2019). Pengaruh Massage Effleurage Dan Relaksasi Nafas Dalamterhadap Nyeri Punggung Ibu Hamil Trimester III.
- Fitriani, A., Ngestiningrum, A. H., Rofi'ah, S., Amanda, F., Mauyah, N., Supriyanti, E., & Chairiyah, R. (2022). *Buku Ajar Asuhan Kehamilan Diii Kebidanan Jilid Ii*. Wwww.Mahakarya.Academy
- Fitriani, I. S. (2020). *Refocusing Problem Ibu Hamil*. Unmuh Ponorogo Press.
- Handayani, R., Batubara, S., Dewi, R., Purwandari, E. S., Diah, H. T., Sakti, R. D., Resmi, D. C., Jolyarni, N., Rini, I. A., & Nugraheni, N. (2021). *Terapi Komplementer Dalam Kehamilan Mind And Body Theraphy* (R. Y. Astutik, Ed.).
- Ishak, S., Choirunnisa, R., Agustiawan, Yati, P., Achmad, V. S., Mua, E. L., Heryyanoor, Syamil, A., Ludji, I. D. R., Sekeon, R. A., Wrdhana, A., Dafroyati Yuliana, Fahmi, A., Alvelina, Y., Nurbaety, Anggreyni, M., & Lubis, H. (2020). *Metodologi Penelitian Kesehatan* (S. Bahri, Ed.).
- Kadir Arisna, & Hasnita. (2023). *Pengantar Asuhan Kehamilan, Persalinan, Nifas Dan Neonatus*.
- Manyozo, S. D., Nesto, T., Bonongwe, P., & Muula, A. S. (2019). Low Back Pain During Pregnancy: Prevalence, Risk Factors And Association With Daily Activities Among Pregnant Women In Urban Blantyre, Malawi. *Malawi Medical Journal*, 31(1), 71–76. <https://doi.org/10.4314/Mmj.V31i1.12>

- Mardinasari, A. L., Dewi, N. R., & Ayubbana, S. (2022). Penerapan Pemberian Kinesio Tapping Terhadap Nyeri Punggung Bawah Ibu Hamil Trimester III Di Wilayah Kerja Puskesmas Metro Tahun 2021 I. *Jurnal Cendikia Muda*, 2(3).
- Mildiana, Y. E., & Permatasari, R. D. (2021). Pijat Aromaterapi Lavender Untuk Mengurangi Nyeri Punggung Pada Ibu Hamil Trimester III. In *Jurnal Abdi Medika* (Vol. 1, Issue 1).
- Oktiningrum, M., & Mariyana, W. (2023). Penerapan Back Massage Dengan Lavender Essential Oil Terhadap Pengaruh Kualitas Tidur Ibu Hamil Trimester III. *Jurnal Kesehatan Tambusai*, 4, 939–945.
- Pinzon, R. T. (2020). *Pengkajian Nyeri*.
- Pratiwi, V., & Sugiharti, R. K. (2024a). Back Massage Menurunkan Nyeri Punggung Pada Ibu Hamil Trimester III. <https://Stikes-Nhm.E-Journal.Id/Obj/Index>
- Pratiwi, V., & Sugiharti, R. K. (2024b). Back Massage Menurunkan Nyeri Punggung Pada Ibu Hamil Trimester III. <https://Stikes-Nhm.E-Journal.Id/Obj/Index>
- Profil Kesehatan Indonesia. (2023).
- Rahayu, D. E. (2020). Pelaksanaan Massage Punggung Dengan Minyak Kenanga Pada Ibu Hamil Trimester III. *Journal Of Community Engagement In Health*, 3(2), 349–352. <https://doi.org/10.30994/Jceh.V3i2.96>
- Rufaida, Z., Lestari, W. P., Susanti, I. Y., Program,), D3, S., Sekolah, K., Kesehatan, T. I., & Mojokerto, M. (2020). Pregnancy Massage Dengan Pola Tidur Ibu Hamil Trimester III Di Desa Gebangmalang Kecamatan Mojoanyar Kabupaten Mojokerto. In *Hospital Majapahit* (Vol. 12, Issue 1).
- Sanggu, F. A., & Suyani. (2023). Pengaruh Back Massage Terhadap Nyeri Punggung Ibu Hamil Trimester III. *Prosiding Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat Lppm Universitas 'Aisyiyah Yogyakarta*, 1, 125–131.
- Sari, A. F., Nurjanah, S., & P, R. (2021). Pengaruh Pregnancy Back Massage Dengan Penggunaan Minyak Atsiri Terhadap Nyeri Punggung Ibu Hamil Trimester III Di Pkd Kwarasan Grogol Sukoharjo.
- Setiawati, I. (2019). Efektifitas Teknik Massage Effleurage Dan Teknik Relaksasi Terhadap Nyeri Punggung Pada Ibu Hamil Trimester III.
- Setyawan, D. A. (2022). *Buku Ajar Statistika Kesehatan Analisis Bivariat Pada Hipotesis Penelitian*.
- Silvana, & Megasari, K. (2022). Terapi Pijat Mengurangi Nyeri Punggung Ibu Hamil Trimester III. *Jurnal Kebidanan Terkini (Current Midwifery Journal)*, 2(1.573), 61–58. <https://doi.org/10.25311/Jkt/Vol2.Iss1.573>
- Sitinjak, K. (2018). Hubungan Back Massage Dengan Nyeri Punggung Pada Ibu Hamil Trimester III Di Klinik Asni Kecamatan Namorambe Deli Serdang Tahun 2018.
- Sugiyono. (2013). *Metode Penelitian Kuantitatif Kualitatif Dan R&D* (19th Ed.). Penerbit Alfabeta Bandung.
- Sumarni, Bohari Nurul Hidayah, & Haerani. (2023). Manajemen Asuhan Kebidanan Komprehensif Pada Ny "S" Dengan Nyeri Punggung Di Wilayah Kerja Puskesmas Lasepang Kabupaten Bantaeng. *Jurnal Midwifery*, 5, 21–26.

- Susanti, S., Yunita, P., & Jannah, M. (2024). Asuhan Kebidanan Komplementer Penanganan Nyeri Pinggang Pada Ibu Hamil Trimester III. *Jurnal Riset Rumpun Ilmu Kedokteran (Jurrike)*, 3(1).
<https://doi.org/10.55606/Jurrike.V3i1.2738>
- Zakiyah, Z., Palifiana, D. A., & Ratnaningsih, E. (2020). *Buku Ajar Fisiologi Kehamilan, Persalinan, Nifas Dan Bayi Baru Lahir* (Z. Zakiyah, Ed.; 1st Ed.).