

THE EFFECT OF EFFLEURAGE AND ENDORPHIN MASSAGE WITH PEPPERMINT AROMATHERAPY ON BACK PAIN IN PREGNANT WOMEN IN THE THIRD TRIMESTER

**Nova Sumaini Prihatin^{1*}, Jasmianti², Rosyita³, Elizar⁴, Nurmila⁵, Hendrika
Wijaya Katrini Putri⁶**
^{1,2,3,4,5,6}Poltekkes Kemenkes Aceh

*** Corresponding email: novakia2015@gmail.com**

ABSTRACT

Discomfort is often experienced by pregnant women in the first, second and third trimesters. One of the third trimester discomfort experienced by pregnant women is back pain. This can be caused by daily activities such as walking, working, sleeping, mood. The impact of back pain complaints in third trimester pregnant women feels uncomfortable doing activities or activities are disrupted. Nonpharmacological therapy treatments that are safe to give to pregnant women are massage and aromatherapy. Massage and aromatherapy can increase endorphin hormone and increase the sense of comfort and relaxation in pregnant women. This study aims to determine the effect of giving endorphin and effleurage massage with peppermint aromatherapy on back pain in pregnant women. This type of research is quantitative analytic with a quasi experimental pretest and posttest two group desing design, which uses 2 intervention groups (endorphin group with peppermint aromatherapy and effleurage group with peppermint aromatherapy). The sample was 60 pregnant women at BPM Martini North Aceh. Data analysis using Paired T-Test test. The results showed that the mean pretest value in the endorphin massage group with peppermint aromatherapy was 5.20 and the posttest value was 1.97, in the effleurage group with peppermint aromatherapy the pretest value was 4.93 and the posttest was 2.17, the test results showed that the provision of endorphin massage and effleurage with peppermint aromatherapy on back pain obtained sig. 0.000, it can be concluded that giving endorphin massage and effleurage with peppermint aromatherapy can reduce back pain in third trimester pregnant women.

Keywords: Effleurage massage, Endorphin massage, Back Pain

INTRODUCTION

Every pregnant woman will experience various changes that occur in the first trimester, second trimester and third trimester, which include changes in the reproductive, urinary, cardiovascular, respiratory, digestive, endocrine, immunological and musculoskeletal systems (Purnamasari, 2019). These changes cause discomfort for pregnant women, especially if the pregnancy has entered old age or the third trimester). The prevalence of low back pain in pregnancy in the UK and Scandinavia is 50% and in Australia it is 70%. In Indonesia, the number of pregnant women in Indonesia who experience lower back pain during pregnancy reaches 60-80% (Gozali et al., 2020).

Back pain is a disorder experienced by many pregnant women which does not only occur in certain trimesters, but can be experienced throughout pregnancy and into the postnatal period (Fauziah et al., 2020). Women who have experienced back pain before pregnancy are at high risk of experiencing the same thing during pregnancy, therefore it is very important to be able to distinguish back pain that occurs from other causes (Sukeksi et al., 2018). Pregnancy-Related Low Back Pain and pelvic pain are very common musculoskeletal pains during pregnancy. This can be caused by daily activities such as walking, working, sleeping, mood, and so on, resulting in reduced quality of life, and there is some evidence of socio-economic harm, especially due to absence from work (Fitriani, 2018).

The impact of complaints of back pain in pregnant women in the third trimester: mothers feel uncomfortable with their activities or their activities are disrupted, experience changes in the shape of their body structure, experience long-term back pain, thereby increasing the tendency for post-partum back pain and are at risk of suffering from venous thrombosis (Zein & Dwiyani, 2022).

Pregnant women can prevent discomfort in the form of back pain with daily exercise, such as: walking, swimming and stretching. This is an effective way to prevent back pain. Back pain can be treated with pharmacological and non-pharmacological therapy. Non-pharmacological methods can be carried out through activities without drugs, including distraction techniques, relaxation, massage, hot compresses and others (Amalia et al., 2020).

One of the non-pharmacological efforts to reduce back pain that can be done is through massage, namely endorphin massage and effleurage. Endorphin massage is a touch therapy or light massage given to pregnant women before birth until the time of delivery. This is because touch or massage can stimulate the body to release endorphins which are substances that relieve pain and create a feeling of comfort (Girsang et al., 2023).

Effleurage massage technique is a massage technique on the back or sacrum area using the base of the palms of the hands. Massage can increase muscle relaxation, soothe the edges and relieve pain (Richard, 2017). Aromatherapy massage is a massage using essential oils in an aromatherapy

solution penetrates the skin and is absorbed into the body, thereby providing a healing and beneficial influence on various tissues and internal organs (Lestari et al., 2022).

Based on the description above, it can be formulated that what is the effect of providing endorphin and effleurage massage with peppermint aromatherapy on back pain in pregnant women? The aim of this study was to determine the effect of giving endorphin and effleurage massage with peppermint aromatherapy on back pain in pregnant women.

METHODS

This study is a type of analytical quantitative research with a quasi-experimental design using a pretest and posttest two-group design, involving 2 intervention groups (the endorphin group with peppermint aromatherapy and the effleurage group with peppermint aromatherapy). The sample consists of 60 pregnant women in their third trimester experiencing back pain at BPM Martini, Lhoksukon District, North Aceh Regency, divided into 2 intervention groups.

The data collection instrument uses a questionnaire for assessing back pain and SOP (standard operating procedure) administration of endorphins with peppermint aromatherapy and effleurage with peppermint aromatherapy. Data collection was carried out before and after the intervention. The intervention was given for 7 days with a duration of 20 minutes. Data analysis using the Paired T-Test. This research has received ethical approval No.677/KEP-UNISM/VI/2023 from Sari Mulia University, Banjarmasin.

RESULTS AND DISCUSSION

Research Result

Table 1
Frequency Distribution of Characteristics of Pregnant Women in BPM Martini, Lhoksukon District, North Aceh Regency

Characteristics	f	%
Age		
20-35 Tahun	46	76.7
>35 Tahun	14	23.3
Education		
SMA	38	63.6
D3/S1	22	36.7
Occupation		
Employed	27	45
Not Employed	33	55

Based on the table above, it is known that, in terms of the age characteristics of pregnant women, the majority are 20-35 years old, 46 people (76.7%) and in terms of educational characteristics, the majority of pregnant women have high school education, 38 people (63.6%) and in terms of employment characteristics, the majority of pregnant women 33 people (55%) not employed

Table 2
Normality Test for Back Pain in Pregnant Women: Pretest and Posttest in the Endorphin Massage and Effleurage with Peppermint Aromatherapy Group

Variable		df	Significance	Description
Endorphin with Aromatherapy	Pretest	16	0,079	Normal
	Posttest	16	0,067	Normal
Effleurage with Aromatherapy	Pretest	16	0,180	Normal
	Posttest	16	0,061	Normal

Based on the table above, it is observed that in the endorphin massage with aromatherapy group, the data for back pain during both pretest and posttest follow a normal distribution, with a significance value greater than 0.05. Similarly, in the effleurage massage with aromatherapy group, the back pain data for both pretest and posttest also follow a normal distribution, with a significance value greater than 0.05.

Table 3
The Effect of Endorphin Massage with Peppermint Aromatherapy on Back Pain in Third-Trimester Pregnant Women

Endorphin with Aromatherapi Peppermint	Mean	Rerata	N	Sig.
Pretest	5.20	3.233	30	0,000
Posttest	1.97		30	

Based on the table above, the average back pain score before treatment (pretest) was 5.20. After the treatment (posttest), the average back pain score decreased to 1.97, with a mean score of 3.233 for pretest and posttest combined. The statistical analysis yielded an asymptotic significance (2-tailed) value of 0.000, indicating that endorphin massage with peppermint aromatherapy effectively reduces back pain in third-trimester pregnant women at BPM Martini.

Table 4
The Effect of Effleurage Massage with Peppermint Aromatherapy on Back Pain in Third-Trimester Pregnant Women

Effleurage with Aromatherapi Peppermint	Mean	Rerata	N	Sig.
Pretest	4.93	2.767	30	0,000
Posttest	2.17		30	

Based on the table above, the average back pain score before treatment (pretest) was 4.93. After the treatment (posttest), the average back pain score decreased to 2.17, with a mean score of 2.767 for pretest and posttest combined. The statistical analysis yielded an asymptotic significance (2-tailed) value of 0.000, indicating that effleurage massage with peppermint aromatherapy effectively reduces back pain in third-trimester pregnant women at BPM Martini

DISCUSSION

The Effect of Endorphin Massage with Peppermint Aromatherapy on Back Pain in Pregnant Women

Endorphin massage is a light massage or touch that stimulates the secretion of endorphin hormones. This technique helps mothers feel more refreshed, relaxed, and comfortable because the touch stimulates the body to release endorphins, which are natural pain relievers. The benefits of endorphin massage include normalizing heart rate and blood pressure, reducing pain, controlling stress, and creating a sense of comfort and relaxation in the body (Girsang et al., 2023).

The study by Kurniyati and Bakara in 2021, titled "Endorphin Massage on Lower Back Pain and Anxiety in Third Trimester Pregnant Women," was conducted in Rejang Lebong Regency. The results of this study showed a significant effect of endorphin massage in reducing lower back pain and anxiety levels in third-trimester pregnant women. (Kurniyati & Bakara, 2021).

The study by Susilowati (2022) explored the effect of endorphin massage and lavender aromatherapy on back pain in pregnant women at the Karangawen I Public Health Center. The study involved 54 pregnant women, and the results indicated that both endorphin massage and lavender aromatherapy significantly reduced back pain in these women.

In this study, after administering endorphin massage combined with peppermint aromatherapy for 7 days, a reduction in back pain intensity was observed in third-trimester pregnant women. The light massage/touch, along with the inhalation of peppermint aromatherapy, helped the women feel more

comfortable and relaxed. This also boosted the production of endorphins in the body, which contributed to the reduction of the pain experienced by the pregnant women

The Effect of Effleurage Massage with Peppermint Aromatherapy on Back Pain in Pregnant Women

Effleurage massage is a technique that involves gentle, gliding strokes on the back or sacral region using the palm of the hand. This technique can enhance muscle relaxation, calm nerve endings, and alleviate pain (Salmah et al., 2010). According to Rahmawati (2016), effleurage massage has a distracting effect that increases the production of endorphins in the descending control system, leading to greater comfort due to muscle relaxation.

Research by Fajar et al (2021) The study examined the effect of effleurage massage on lower back pain intensity in third-trimester pregnant women. The research involved 20 pregnant women who received a 15-minute massage. The results showed an average pretest back pain score of 3.25, which decreased to 0.75 after the intervention. This indicates that effleurage massage can significantly reduce lower back pain in third-trimester pregnant women.

Research by Lestari et al (2022) The study, titled "Effleurage Massage with Lavender (*Lavandula Lamiaceae*) Essential Oil Aromatherapy Reduces Pregnant Women's Lower Back Pain," aimed to identify the effect of combining effleurage massage with lavender essential oil aromatherapy on lower back pain (LBP) in pregnant women. The results indicated that this combination led to a significant reduction in LBP among pregnant women, with a p-value of less than 0.001 (Lestari et al., 2022).

The administration of effleurage massage with peppermint aromatherapy over 7 days effectively reduced the intensity of back pain experienced by third-trimester pregnant women. This is because the massage increases the production of endorphins, which helps alleviate pain, while the inhalation of peppermint aromatherapy enhances comfort and relaxation for the mothers.

CONCLUSION

Based on the research results and discussion in this study, it can be concluded that the administration of endorphin massage and effleurage with peppermint aromatherapy can reduce lower back pain experienced by pregnant women in their third trimester at BPM Martini.

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