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THE EFFECT OF EFFLEURAGE MASSAGE ON LOWBACK PAIN IN TRIMESTER III PREGNANT WOMEN AT MANDALA PUSKESMAS, LEBAK REGENCY IN 2021

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A R T I C L E I N F O

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ABSTRACT

The biopsychosocial needs of pregnant women have not been explored. We need an intervention that is able to restore the balance of the body. The purpose of this study was to prove the effect of effleurage massage on back pain in the third trimester pregnant women. A quasi-experimental study with randomized control group pre-test post-test design. The division of the intervention group was 18 people with effleurage massage and the control group was 16 people with pregnant exercise. Observations using the ODI scale for 3 weeks at the end of week 4 were evaluated. Before and after treatment, each group did not have a difference in the average pain score (intervention group p=0. 2 and control group p=0.830). The difference between the FHR differences between groups was not significant, the p value = 0.31. The intervention with effleurage massage was proven to reduce back pain discomfort in third trimester pregnant women compared to the exercise group, using the ODI scale. There is a need for continuous care in health services for mothers such as complementary services for effleurage massage as an alternative to care for pregnant women at health centers.

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1. Introduction

Health development is still seen from the degree of public health, which can be measured by the health of mothers and children. The direction of health development in 2005 – 2024 is preventive and promotive. Currently, the health services provided by midwives are still focused on curative patterns, or therapy and still focus on basic, emergency services. The biopsychosocial needs of the mother have not been explored because at the time of antenatal care services still focus on basic services such as physical examination, palpation, measuring the height of the uterine fundus and vital signs (Lestari & Apriyani, 2019). Meanwhile, psychological problems, such as maternal discomfort during pregnancy and biopsychosocial adaptation of the mother received less attention. Based on the existing evidence base, how the problem of discomfort in pregnant women can be handled (Kemenkes, 2010).

Midwifery care is based on the fact that pregnancy is a normal life event. Holistic midwifery care in pregnancy includes monitoring the physical, psychological, spiritual and social well-being of the mother/family through the reproductive cycle, providing education and counseling on antenatal care (prenatal care) to individual mothers, continuous assistance during childbirth, follow-up support during pregnancy. The postpartum period, reducing technological measures, identifying and referring mothers who need obstetric or other specialist care.

Antenatal care includes monitoring of pregnancy to obtain information about the mother's general health, early diagnosis of diseases that accompany pregnancy, early enforcement of pregnancy complications and determining the risk of pregnancy (high risk, doubtful risk, or low risk). Antenatal care is also to prepare labor for the birth of a good baby (well born baby) and good maternal health (well health mother) prepares for baby care and lactation, facilitating the recovery of optimal maternal health at the end of the puerperium (Varney, Kriebs, & Gegor, 2007). Failure to

lactate can increase the occurrence of hypogalactia. This condition requires deeper intervention in the use of technology using electrical acupoints and massage to increase milk volume, prolactin levels and reduce stress in postpartum mothers (Maula, Widyawati, & Suryono, 2019), (Maula & Widyawati, (2017)), (Sheyla, Melyana, & Suryono, 2018).

Pregnancy is a physiological process. For this reason, it is necessary to carry out an examination to determine the signs and symptoms of pregnancy. Pregnancy is said to be physiological if during pregnancy it does not cause death or illness to the mother and the fetus it contains. International developments are very much aimed at health development to improve the quality of human resources as well as morbidity and mortality rates in pregnant and maternity women must be started early (Statistik, 2018). Based on data from the Lebak district health strategic plan for 2019-2024, the quality of health services can be seen in the visits of pregnant women to health care facilities and further analysis and intervention are needed. The first visit or KI in 2017 in Lebak Regency was 27,547 and K4 was 23,413, and as an example one of the health centre that will be researched is the Mandala Health Centre in 2017, K1 is 807 and K4 is 670. Based on these data, it proves that there are still gaps in visit coverage pregnant women in the third trimester or towards the end of pregnancy. It is necessary to conduct research that has an impact on K4 coverage. One of the efforts to reduce maternal mortality is to improve the health status of pregnant women until delivery and postpartum.

Pregnant women experience a lot of discomfort during pregnancy due to the increase in the hormone progesterone, stretching the ligament muscles, especially the pubic area, causing pain in the waist and back, this discomfort has an impact on health status during pregnancy. Back pain during pregnancy is a relatively common problem. As the gestational age increases, the position of the fetus in the uterus can put pressure on the nerves and cause low back pain (Bailit et al., 2015). Currently, the general therapy in society that is used non-pharmacologically for pregnant women is massage 61%, acupuncture 45%, relaxation 43%, yoga 41%, chiropractic therapy 37%, so massage therapy is widely chosen as an alternative therapy (Widiyanti, 2018).

Based on a preliminary study at the Mandala Health Centre conducted on 15 pregnant women with an age range of 18 to 35 years, it was found that of 15 pregnant women 12 complained of back pain, with a gestational age of 7-9 months and complaints felt since 5 months of pregnancy. The other three pregnant women denied any pain. Physiologically at the end of the third trimester pregnant women often experience changes, one of which is complaints of back pain during the end of labour, so that some pregnant women prefer to rest at home when it is time to check their pregnancy at the puskesmas in the third trimester of pregnancy. Effleurage massage as an alternative intervention to overcome discomfort in pregnant women. Researchers are interested in conducting research on how the effect of effleurage massage on reducing back pain in third trimester pregnant women.

2. Method

This study used a quasi-experimental design with a randomized design with control group pre-test post-test design. This study was conducted on two groups of pregnant women; one group (as the control group) was treated with pregnancy exercise, and the other group (as the intervention group) was treated with effleurage massage; then seen the reduction in back pain experienced by pregnant women in the third trimester in each group, and also seen the number of maternal fetal heart rates before and after treatment (Dahlan, 2014).

The population of this study were all third trimester pregnant women who were recorded in the cohort register of pregnant women at the Mandala Health Center, Lebak Regency in 2021 and these pregnant women experienced back pain; total 40 people. This study took all third trimester pregnant women who were recorded in the cohort register of pregnant women at the Mandala Health Center, Lebak Regency in 2021. Thus, this study used the total population; which was divided into control and intervention groups. The determination of the control and intervention groups was done randomly.

The population of pregnant women in the working area of the Mandala Health Center is 95, which meets the inclusion criteria of 40 samples. The process of determining the sample into the treatment and control groups by randomizing the respondent's serial number. After randomizing the serial numbers, 20 (odd) samples were grouped into the treatment group and 20 (even) samples were grouped into the control group. Before giving treatment to both groups, informed consent was

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given. The instrument in this study used a questionnaire, namely the ODI (Oswestry Disability Index) questionnaire, Fetal Heart Rate using Doppler.

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3. Results and Discussion

The results of the research carried out the presentation of data based on data analysis. The analysis carried out is univariate and bivariate. In table 1, table 2 and table 3 are the results of univariate analysis.

TABLE 1
UNIVARIATE ANALYSIS CHARACTERISTICS OF PREGNANT WOMEN AND AVERAGE PAIN BASED ON GESTATIONAL AGE

VARIABLE	INTERVENTION GROUP n=18	CONTROL GROUP n=16
Mother's Age		
Average	28.61 year	26.06 year
Interval	17 – 44 year	18 – 39 year
Parity		
Primi	7 (38.9%)	6 (37.5%)
Multi	11(61.1%)	10 (62.5%)
Gestational Age		
29 – 32 weeks	5 (27.8%)	12 (75.0%)
33 – 36 weeks	9 (50.0%)	2 (12.5%)
37 – 40 weeks	4 (22.2%)	2 (12.5%)
Average pain by gestational age		
29 – 32 weeks	2.7000	2.1333
33 – 36 weeks	2.6778	2.0000
37 – 40 weeks	2.5833	1.9500

Table 1 shows that the mean age of pregnant women in the intervention group was higher (28.61 years), compared to the control group which was 26.06 years: as well as the wider age range in the intervention group (17 years to 44 years). Based on parity between the intervention and control groups have almost the same number and proportions. Based on gestational age, the intervention group (50.0%) was 33-36 weeks gestation, while the control group (75.0%) was 29-32 weeks gestation. The highest mean pain score in the two groups (Intervention and Control) was at 29 – 32 weeks of gestation, with the highest mean pain score in the intervention group of 2.7 on the ODI scale.

TABLE 2
DESCRIPTION OF AVERAGE BACK PAIN BEFORE AND AFTER TREATMENT IN PREGNANT WOMEN (INTERVENTION GROUP AND CONTROL GROUP)

VALUE	INTERVENTION GROUP		CONTROL GROUP	
	Before Treatment	After Treatment	Before Treatment	After Treatment
Average Pain	2.5833	0.7444	2.0938	2.2438
Interval	1.40 – 3.20	0.00 – 1.50	1.20 – 3.20	1.20 – 3.10

In the intervention group there was a decrease in the average back pain from 2.5 (before treatment) to 0.7 (after treatment); with pain intervals before treatment between 1.4 to 3.2, and intervals after treatment from 0.0 to 1.5. Meanwhile in the control group there was an increase in the mean of pain from 2.09 (before treatment) to 2.24 (after treatment); with the interval of pain before

treatment between 1.2 to 3.2, and the interval after treatment 1.2 to 3.1

TABLE 3
BIVARIATE ANALYSIS WILCOXON TEST RESULTS IN THE INTERVENTION GROUP

Category Comparison	Amount n	Rank			Mean Rank	Mean		P Value
		+	-	0		Pain 1	Pain 2	
Pain Average 2 * Pain Average 1	18	0	18	0	9.50	2.58	0.74	0.000

The table above shows that all respondents (18 people) in the intervention group experienced a reduction in pain after massage; with a value of p = 0.000 (p <) which means that there is a significant decrease in pain after massage.

TABLE 4
DEPENDENT T TEST RESULTS IN THE CONTROL GROUP

Variable Category	Amount n	Mean Group	P Value
Pain 1	16	2.0938	0.130
Pain 2	16	2.2438	

The next table shows the average pain score after doing pregnancy exercise slightly increased, when compared to the average pain before doing pregnancy exercise; and the p value obtained is 0.130 (p >), which means that there is no difference in pain before and after doing pregnancy exercise.

TABLE 5
MANN-WHITNEY DELTA PAIN TEST RESULTS

Variable	Group	Amount n	Mean Rank	P Value
Delta Pain	Intervention	18	25.50	0.000
	Control	16	8.50	

Table 5 shows that the p value obtained is 0.000 (p <) which means that there is a difference in the average difference in back pain (before and after being treated) in the group of pregnant women who are massaged and the group of pregnant women who do pregnancy exercise.

3.1 Discussion

In the discussion of the description of the characteristics and back pain of pregnant women in the third trimester. This study shows that the characteristics of pregnant women and the average pain based on gestational age, the average age of pregnant women is 27.41 years with an age range of 17 to 44 years; with the majority of pregnant women (61.8%) being pregnant women with a second or more pregnancy. And the majority of pregnant women (82.4%) had a gestational age of 29 – 36 weeks; with the highest mean pain (2.55 ODI scale) found at 33-36 weeks of gestation. This study is in line with Setiawati 2019 that the characteristics of pregnant women based on age are in the reproductive age range of 60% and most pregnant women are multiparous (Setiawati, 2019). Lala 2018, pregnant women are in the reproductive age range of 81.3%, parity with multigravida 68.7% and gestational age (Fitriana & Vidayanti, 2019). In Hesli's 2019 study, the age range of 18-35 years, primi parity and multiparity, 37-42 weeks gestation was chosen as the inclusion criteria (Pachtman Shetty & Fogarty, 2021).

The characteristics of the 2020 Lastri study were 5% of the age < 20 years, 75% of 20-35 years and> 35 years of age, 20% greater gravida in the multiparous group by 60%. Gestational age of 37-40 weeks, the Lastri study group had a sample of 40 divided into 20 people each with characteristics based on age < 20, 20 - 35 and > 35 years, with gravida there were primiparas and multiparas (Winarni & Sari, 2021). Research conducted by Apriani 2017 in the third trimester of pregnancy (28-36 mg) for samples taken (Putri & Khotimah, 2017). So this study is in line with several previous studies which stated that the selected mothers were more multiparous, in the reproductive group, and the mother's gestational age was more towards the end of the third trimester. This result is in line with Cunningham's theory, that from advanced gestational age changes pregnancy hormones, changes in body posture become lordosis a lot in mothers with trimester 3. Likewise with parity

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according to Sarwono 2013 multiparas have a tendency to experience more physiological complaints such as discomfort.

Effect of effleurage massage on reducing back pain in third trimester pregnant women. Based on the results of the bivariate test, in this study the average value of pain for the intervention group, before massage or massage was carried out was 2.58 in the range of 3 scale values on the ODI instrument after massage or massage the average value was 0.74 on the ODI scale, meaning the value < 1 These results descriptively show a significant effect on the intervention group; while in the control group who did pregnancy exercise the average value obtained before exercise was 2.09 on the ODI scale < 3 after the pregnancy exercise was carried out in the control group the average value obtained was 2.24. These results descriptively indicate that there is an increase in the average back pain. in the control group. This shows that pregnancy exercise does not cause a decrease in back pain for pregnant women in the third trimester.

These results are in line with the research conducted by Lastri in 2020 which conducted measurements with a sample of 40 consisting of 20 intervention groups and 20 control groups. breathing control technique when there is pain or illness in the first stage of labor in the first stage of meaning (P = 0.7) Areezo's research in 2019 with samples consisting of 37 massage groups, 38 breathing techniques, 42 controls. Effluurge massage in the abdomen, namely uterine massage stimulates the focal point of uterine contractions at the top of the uterus. This result increases the number of contractions and ultimately faster labor. Meanwhile, the breathing control group and the control group by learning breathing techniques during labor could not increase the strength of uterine contractions during labor. This statement is hypothetical and is conveyed with care. Comparison in these groups was significant (P = value < 0.001) (Winarni & Sari, 2021).

Aini's 2016 research that pregnant women with back pain there were 13 respondents who were given an efflurage massage intervention experienced a 5 point decrease in average pain while the comparison group with warm compresses experienced an average pain reduction of 2 - 3 points (Fitriana & Vidayanti, 2019). Badrus 2018 states that by doing massage to pregnant women in the lumbar vertebrae area, thoracic vertebrae to the scapula bone back down through the thoracic vertebrae with light - medium - light pressure will be able to stimulate the release of endorphine compounds in the mother naturally in the 12th and 10th thoracic so that pregnant women become comfortable (Rosyaria Badrus & Khairoh, 2018).

Suarniti 2019 in his research on massage or efflurage massage stated that stiffness or spasm in the muscles of pregnant women can be massaged so that it can cause a feeling of comfort in pregnant women and reduce muscle tension and massage movements can stimulate nerves and muscles to relax, stimulate the body naturally. automatically to increase the endorphins hormone produced naturally by the brain where the endorphine hormone functions to reduce pain. Arise from stretching and stiffness of muscles (Suarniti, Cahyaningrum, & Wiryanatha, 2019).

Widiyanti 2018, during the third trimester of pregnancy will experience stretching of the uterine muscles which are increasingly stretched with the weight of the fetus, which can cause back pain in the mother due to heavy loads and changes in body posture to lordosis. General therapy for pregnant women used non-pharmacologically is 61% massage or massage, 45% acupuncture, 43% relaxation, 41% yoga and 37% chiropractic (Widiyanti, 2018).

Nadia's research in 2020 after doing massage or efflurage massage with a duration of 10 minutes - 15 minutes for 3 weeks on respondents from moderate pain to mild pain, from a scale of 6 to 3. The occurrence of changes in the position of lordosis in pregnant women is compensation from the enlargement of the uterus to an anterior position so that it shifts the center of gravity behind towards the two limbs of the sacroiliac, sacrococcygeal and pubic joints will increase mobility, causing discomfort in the lower back which often occurs at the end of pregnancy (Faradilla & Ambarwati, 2021).

4. Conclusion

There was a decrease and difference in the average score of back pain in the intervention group after being treated with effleurage massage; and there is a significant difference in mean back pain before and after effleurage massage treatment. There was an increase in the average pain score in the control group after being treated with pregnancy exercise; and there is no difference in the average back pain before and after pregnancy exercise treatment.

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