



**EFFLEURAGE MASSAGE AND DEEP BACK MASSAGE'S DIFFERENT EFFECTS ON MENSTRUAL PAIN**

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**ABSTRACT**

Menstrual pain is one of the illnesses that arise throughout the menstrual cycle and can interfere with daily activities. Lower abdominal pain brought on by menstruation is known as menstrual pain. Menstrual pain can be treated with both pharmaceutical and non-pharmacological methods. Massage is a non-pharmacological treatment. determine the difference in the effect between effleurage massage and deep back massage on reducing menstrual pain. This study's design was pre-experimental, with no control group and two pre-test-post-test intervention groups. There were 22 teens in the population, ages 20 to 24. The Numerical Rating Scale is used to measure pain (NRS). For two months, the study used dosages twice a month. According to research, 30% of participants in the deep back massage intervention group and 100% of participants in the effleurage massage intervention group reported having severe discomfort. Following the intervention, the deep back massage group experienced a 10% reduction in discomfort, whereas the effleurage massage group experienced a 70% drop. This means that deep back massage and effleurage massage are thought to be beneficial in lowering menstruation pain, as shown by a p value of  $0.000 < 0.005$ . P value for the Mann Whitney test is 0.067. There is no difference between effleurage massage and deep back massage in reducing pain levels in women with menstrual pain. Effleurage massage and deep back massage work similarly in terms of lowering pain thresholds in women who are having menstruation pain.

Keywords: deep back massage; effleurage massage; menstrual pain

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**INTRODUCTION**

Menstrual problems are a common monthly issue for women. Women who menstruate indicate that they have reached puberty. Along with the development of reproductive organs, which is indicated by the onset of the menstrual cycle (menarche), this age is characterized by changes in both physical and psychological characteristics. (Lacroix AE, Gondal H, Shumway KR, 2024) Because it includes a state of physical, mental, and social well-being that is actually free from illness and incapacity in all areas related to the reproductive system, its processes, and its activities, reproductive health is significant. (WHO, 2008) (Lacroix AE, Gondal H, Shumway KR, 2024) Infections in the reproductive system can result from poor behavior regarding reproductive hygiene. (Umami et al., 2021) Infections containing bacteria and fungi can affect reproductive organs. Menstrual pain is one of the reproductive illnesses associated with menstruation. (Nagy H; Carlson K; Khan MAB, 2023)

Dysmenorrhea, one of the most common causes of pelvic pain and menstrual disorders, is described as the presence of painful cramps of uterine origin that occur during menstruation. (McKenna & Fogleman, 2021) "An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" is how the International Association for the Study of Pain defines pain. Specifically, persistent pelvic discomfort is felt in the pelvic region and persists for at least

six months. (Kumar & Elavarasi, 2016). Regardless of age, nationality, or socioeconomic level, dysmenorrhea is the primary cause of gynecological morbidity in women of reproductive age, carrying a heavier burden than any other gynecological complaint. Beyond the lives of individual women, the impacts affect society as a whole, leading to a significant annual loss in production. According to the World Health Organization, dysmenorrhea is the primary cause of persistent pelvic pain. (Bernardi et al., 2017)

Both pharmaceutical and non-pharmacological methods can be used to treat menstrual pain. In pharmacological treatment, hormonal and non-hormonal treatments are used. Combination oral contraceptive (COC) and progestin regimens make up hormonal treatment. Pharmacological treatments, both hormonal and non-hormonal, can have a range of negative effects. (Burnett & Lemyre, 2017) None of these therapies is particularly effective. Rather, a few of them could lead to addiction or affect brain function. Given their ease of use and lack of adverse health effects, non-pharmacological treatments deserves to receive greater attention. Many nonpharmacological alternatives to medication can be used to treat menstrual pain. These include self-care techniques like exercise, rest, food changes, and cold and heat therapy, which can reduce menstruation pain. In addition to assessing the effectiveness of non-pharmacological management in treating menstrual pain. (Armour et al., 2019; Cici Susanti & Mulyani, 2023).

One non-pharmacological technique that is thought to be useful in reducing pain is massage. (Mayasari Putri Ardela & Nara Lintan Mega Puspita, 2023; Sholihah & Azizah, 2020) A massage method called effleurage applies soft, rhythmic pressure downward or in a distal direction. The purpose of effleurage is to warm the abdominal muscles, apply pressure, improve blood circulation, and encourage both mental and physical relaxation. Effleurage is a low-cost, low-risk, easy-to-use massage method that may be performed alone or with assistance. It also has no negative side effects. Massage using éffleurage can also be used to the back. Relaxation is the primary objective.

A back massage is often effective in treating pain because it increases the blood flow to the affected area. Blood carries oxygen and nutrients that are essential for helping muscles recovery. Those with poor circulation may experience muscle cramps and even digestive issues. The pressure applied by an experienced massage therapist can help to move blood through areas of congestion. This enables new, oxygen-rich blood to flow unobstructed through the body especially reproductive system. (Gasibat & Suwehli, 2017a). Based on the description, the aim of this study was to determine the difference in the effect of effleurage massage and deep back massage on reducing menstrual pain

## **METHOD**

This study used a two-group pretest-posttest intervention design and was classified as quasi-experimental research. The sample size for this study consisted of 22 female students, who made up the population. The study strategy made use of insidental sampling, a nonprobability sampling methodology. The collection of the data taken place in November 2023-January 2024. In this investigation, a demographic data questionnaire was utilized as the primary means of gathering data. About two minutes were needed to fill the instrument. The questionnaire was not tested for validity and reliability because it only contained respondent characteristics. The Numerical Rating Scale (NRS) pain scale was employed by the researcher as a measuring instrument to record pain levels both before and after the intervention. There were multiple steps involved in the data collection process for this study. After the researcher was granted a research permit, data collecting was completed. For two

months, the 10-minute intervention is administered twice a month on days 1-2 of the menstrual cycle.

**RESULT**

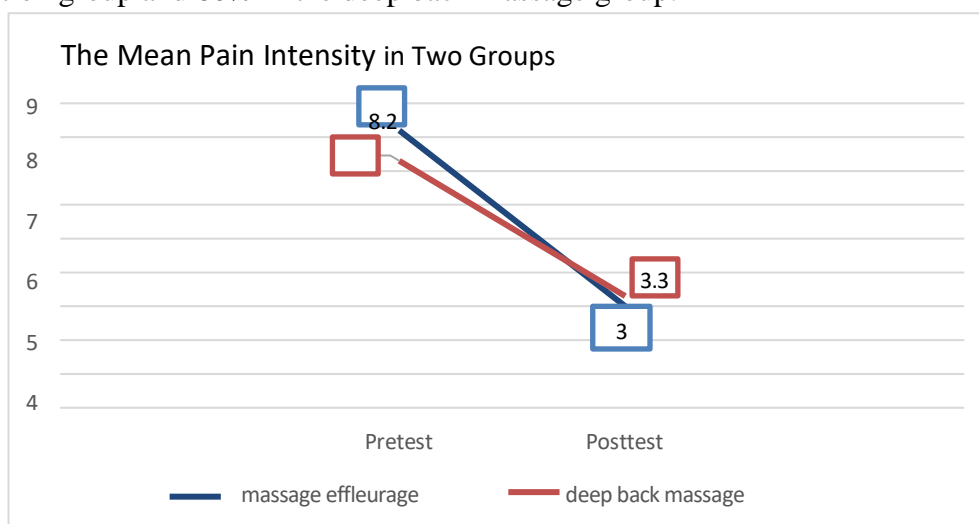
Table 1.  
Demographic Respondent

Variabel	Intervensi	
	<i>Massage Effleurage</i> f (%)	<i>Deep Back Massage</i> f (%)
Age (Years Old)	20 7 (70)	2 (20)
	21 3 (30)	4 (40)
	22 0 (0)	2 (20)
	23 0 (0)	1 (10)
	24 0 (0)	1 (10)
Age of Menarche	11 1 (10)	0 (0)
	12 1 (10)	3 (30)
	13 4 (40)	5 (50)
	14 1 (10)	1 (10)
	15 2 (20)	1 (10)
	16 1 (10)	0 (0)

Table 2.  
Differences in Pain Intensity

Pain Intensity	<i>Massage Effleurage</i>		<i>Deep Back Massage</i>	
	Pre-Test n (%)	Post-Test n (%)	Pre-Test n (%)	Post-Test n (%)
Mild (1-3)	0	0	0	1 (10)
Moderate (4-6)	0	7 (70)	3 (30)	8 (80)
Severe (7-10)	10 (100)	3 (30)	7 (70)	1 (10)

Table 3 shows that there was a 70% reduction in severe pain in the effleurage massage intervention group and 60% in the deep back massage group.



Graph 1. Mean Pain Intensity in Two Groups

The degree of discomfort experienced by the deep back massage and effleurage massage intervention groups decreased, as seen in Graph 1. The hypothesis test results showed a significant ( $p < 0.05$ ) impact of deep back massage and effleurage massage on lowering menstruation discomfort.

The data is normally distributed because the Shapiro-Wilk normality test findings showed a p-value greater than 0.05. Thus, the paired sample t test will be used to test the hypothesis regarding the effect of providing effleurage massage and deep back massage, while the independent sample t test will be used to evaluate the difference in the effect of effleurage massage and deep back massage.

Table 4.  
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Group	Pre-Test	Post-Test	P Value
Massage Effleurage	8.20	3.00	0.000*
Deep Back Massage	7.30	3.30	0.000*

\*: Significant 95%

Given that the p-values in Table 4 for both the deep back massage group and the effleurage massage group are less than the significance level (p-value <0.05), it can be concluded that the effleurage and deep back massage interventions have an impact on reducing menstrual pain.

Table 5.  
Hypothesis Test of Different Effects

Variable	P Value
Massage Effleurage-Deep Back Massage	0.637

There is not a significant difference in the reduction of menstrual pain between the deep back massage group and the effleurage massage group, according the Independent Sample T Test with a p-value of  $0.637 > 0.05$ .

## DISCUSSION

Based on the results of the study, which involved 20 respondents in total, 10 of who received effleurage massage and 10 of whom received deep back massage. The purpose of the study was to compare the effectiveness of deep back massage and effleurage massage in relieving menstruation pain. Women begin to menstruate, which is an indication that they have reached puberty. Menarche, the beginning of the menstrual cycle, and physical and psychological changes are indicative of this age. It is also the time when reproductive organs mature. A risk factor for dysmenorrhea is being young while beginning menstruation. Menarche occurs too early—before the age of twelve. (Nagy H; Carlson K; Khan MAB, 2023)Gonadotropin hormones are produced earlier when menarche occurs at an early age, which can lead to alterations and cervical stenosis. (Wu et al., 2021)Ten percent of the respondents in this study reported starting their menstrual cycle early. The endometrium's arrhythmic contractions are the source of menstrual pain. Muscle tension is brought on by extremely frequent contractions; it affects not only the abdominal region but also the lower back, waist, hips, thighs, and calves, among other supporting muscles. Menstrual cramps can cause nausea, vomiting, diarrhea, migraines, and even fainting in certain women.(Itani et al., 2022; Nagy H; Carlson K; Khan MAB, 2023).

A prevalent issue among women during their menstrual cycle is menstrual discomfort. Before or during the menstrual cycle, menstrual pain is common. This interferes with regular tasks and causes discomfort in women. Women who suffer from these issues find it hard to focus and feel erratic in their emotions. (Itani et al., 2022) While some women have indistinct menstruation discomfort, others have severe discomfort that keeps them from doing their daily duties. (Chen et al., 2018; Nagy H; Carlson K; Khan MAB, 2023) Table 3 indicates that seven individuals suffered severe pain following the deep back massage

intervention, while ten individuals experienced severe pain following the effleurage massage intervention. The difference between respondents' average pain levels before and after the intervention is shown in Graph 1. There was a 5.2 point reduction in pain in the effleurage massage group and 4 point decrease in pain in the deep back massage group. These findings suggest that both therapies are beneficial in lowering women's menstrual pain.

Another reason for painful periods is a lack of physical activity. Exercise on a regular basis can trigger the release of beta-endorphins, which are endogenous opioids that relieve pain and lessen irritation and tension in the mood. (Abadi Bavi et al., 2018). Menstrual pain may result from decreased blood and oxygen circulation to the uterus brought on by inactivity. (Jain et al., 2022) Arrhythmic contractions in the endometrium cause menstrual pain. Muscle tension is brought on by extremely frequent contractions, and it affects not only the abdominal region but also the supporting muscles in the lower back, waist, hips, thighs, and calves. Menstrual cramps can cause nausea, vomiting, diarrhea, migraines, and even fainting in certain women. (Nagy H; Carlson K; Khan MAB, 2023).

Effleurage massage technique can reduce menstrual pain. (Wanda Indriya Pramesti & Sudaryanto, 2024) Deep back massage can reduce menstrual pain. Massage is a touch done on parts of the body to provide a relaxing effect and improve blood circulation. (Gasibat & Suwehli, 2017b) Massage therapy also makes use of the gate control theory to reduce and inhibit pain, with the same reasoning of activating large diameter A- $\beta$  nerve fibers. This can be beneficial to many types of patients, and help with improving high blood pressure, sleep, relaxation, depression, stiffness, emotional well-being, recovery time, and many other conditions. Cardiac patients may benefit from massage to various painful body parts, which would help them minimize or eliminate the use of pharmaceuticals, and from experiencing possible side effects. (Adams et al., 2010)

Many mechanisms, such as the relaxation of tense muscles, tendons, and joints; the reduction of tension and anxiety; and the potential to "close the pain gate" by activating opposing nerve fibers and obstructing the transmission of pain signals to and from the brain, are some of the ways that therapeutic massage could reduce pain. (Goldberg & Tomlinson, 2017) There is a lot of study being done on therapeutic massage. Its impact on pain in the hands, knees, neck, and back, among other places, has been the subject of specific research. Effleurage massage is a movement using the entire surface of the hand to apply to the stomach while rubbing it gently and softly. The purpose of this technique is to increase blood circulation, provide pressure and warm the abdominal muscles, and increase physical and mental relaxation. (Imanurrohmah Lubis et al., 2023) Effleurage massage can stimulate skin fibers, creating a feeling of comfort when the uterus contracts, thereby improving blood circulation and blocking pain impulses until they disappear. (Leni Herlina & Handayani, 2023)(Afdila & Kartika Sari Harahap, 2023).

Applying pressure to the sacrum during a deep back massage may release tension. (Roberts, MA, CMT, 2011) Deep back massages offer a deep sensation that can relieve and relax the abdominal muscles. Relaxation will eliminate stress, especially during menstruation. Deep back massages can also ease and relax the abdominal muscles. The body may release endorphin chemicals, which are organic analgesics, in response to this massage. (Sprouse-Blum et al., 2010) After the massage is finished, the endorphin hormone—which naturally reduces pain—will be stimulated. Therefore, this massage therapy can help young women by providing a less painful option for menstrual cramps. (NHS, 2023).

## CONCLUSION

p value of  $0.000 < 0.005$  indicates that effleurage and deep back massage are considered helpful in reducing menstrual pain. A Mann Whitney test P value of 0.067 is obtained. In women experiencing menstrual discomfort, there is no discernible difference in pain relief between deep back massage and effleurage massage. When it comes to reducing women's pain thresholds during their menstrual period, effleurage massage and deep back massage function similarly.

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