

Comparison Of Acupressure Therapy With Message Effleurage To Reduce The Pain Intensity Of Dysmenorrhea In Adolescent Women At SMP Negeri 2 Air Joman Village, Asahan District Year 2021

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ARTICLE INFO

Keywords:
*Acupressure Therapy ,
Message Effleurage,
Intensity Of Dysmenorrhea*

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ABSTRACT

Based on the initial survey that the researchers conducted on May 18, 2021 at SMPN 2, out of 10 students who experienced menstrual pain, 7 students (70%) and 3 students (30%) did not experience menstrual pain. Therefore, the researcher decided to conduct research in class. This is because primary dysmenorrhea usually occurs during adolescence, which is about 2-3 years after the first menstruation. Researchers conducted interviews with 7 female students who experienced dysmenorrhea, that 2 said mild pain, 3 moderate pain, 2 severe pain and there were still many female students who did not know about acupressure and effleurage massage as a pain reliever during menstruation that is safe, cheap, without cost. Respondents only treated menstrual pain using eucalyptus oil, rested in bed, and some did nothing. To find out the comparison of Acupressure therapy with Message Effleurage on reducing the intensity of dysmenorrhea pain in young women at SMP Negeri 2 Air Joman Village, Asahan Regency in 2021. The type of research used in this research is Quasi-Experimental (Pseudo-Experimental) with a two-group comparison pretest-posttest design. Desain penelitian ini yaitu pretest dan posttest control group design. The population in this study were all young women who experienced dysmenorrhea in class X totaling 20 people with the provision that 10 people were in the acupressure therapy group and 10 people in the massage effleurage group. The dysmenorrhea pain intensity scale before acupressure therapy was carried out was $M = 5.60$. $SD = 1.603$, minimum value = 3 and maximum value = 10. And after acupressure therapy is done, $M = 0.90$. $SD = 0.788$, minimum value = 0 and maximum value = 2. The dysmenorrhea pain intensity scale before effleurage massage is performed is $M = 5.40$. $SD = 1.603$, minimum value = 3 and maximum value = 8 and after massage effleurage is $M = 0.90$. $SD = 0.671$, minimum value = 0 and maximum value = 2. The t value for acupressure therapy is 16.672 and the p value = 0.000 while the t value for massage effleurage is 14.261 and the p value = 0.000. The calculated t value of each intervention > t table = 1.761, as well as the p value < $\alpha = 0.05$, acupressure therapy is more effective in reducing dysmenorrhea pain intensity than effleurage massage.

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1. INTRODUCTION

Dysmenorrhea is menstruation accompanied by pain and is a gynecological problem that is often complained of by 40-80% of young women (Hegner, 2003; Benson & Pernoll, 2009). Intermittent pain that accompanies menstrual bleeding pain during menstruation that is felt in the lower abdomen and appears before, during or after menstruation [1].

Dysmenorrhea occurs because the endometrium in the secretory phase produces excessive prostaglandins, prostaglandins (PGF-2a) which cause hypertonicity and vasoconstriction in the myometrium resulting in ischemia, endometrial disintegration, bleeding, and pain. Based on the cause, menstrual pain is divided into two, namely primary and secondary menstrual pain. Primary dysmenorrhea, namely menstruation accompanied by pain that is experienced within three years since

the start of menstruation and there is no specific disease that is the cause, while secondary dysmenorrhea is pain caused by symptoms of gynecological diseases such as endometriosis or fibroids [2].

Acupressure is a Chinese medicine that has been known for thousands of years and by applying pressure or massaging and stimulating certain points in the body. Basically acupressure therapy is the development of acupuncture techniques, but the media used are not needles, but fingers or blunt objects. The aim is to stimulate the natural ability to heal oneself by restoring the body's positive energy balance [3]

Acupressure therapy can be done with an emphasis on one point (single) or a combination or combination that has been proven to be used to treat dysmenorrhea. research related to single point emphasis, namely research that has been carried out by Hasanah (2010) using the Taichong point (LR3), from the results of this study it was found that there was a decrease in pain intensity by 1.03 points after being given acupressure therapy [4]. In addition, several points that can be used to treat dysmenorrhea include SP6 point, Hoku/He-qu point (LI4), joint point between Taichong (LR3) and Neiguan (PC6) related to research conducted by which at both points can significantly reduce average pain intensity of 1.76 points.

This is supported by research by Siti Nurkhasana (2019) who conducted research on the effect of massage effleurage on reducing the intensity of dysmenorrhea in class IX MTsN 1 Bukittinggi, that the average decrease in the intensity of the pre-test pain scale was 4.50 and the average decrease in post pain scale 2.06 where $P = 0.000$ ($\alpha = 0.05$), which means P is smaller than $\alpha \leq 0.05$ means H_a is accepted. So it can be concluded that there is an effect of massage effleurage on reducing the intensity of dysmenorrhea pain in MTsN 1 Bukittinggi students in 2019 [5].

Based on the initial survey that the researchers conducted on May 18, 2021 at SMPN 2 out of 10 students who experienced menstrual pain, 7 students (70%) and 3 students (30%) did not experience menstrual pain. Therefore, the researcher decided to conduct research in class. This is because primary dysmenorrhea usually occurs during adolescence, which is about 2-3 years after the first menstruation. Researchers conducted interviews with 7 female students who experienced dysmenorrhea, that 2 said mild pain, 3 moderate pain, 2 severe pain and there were still many female students who did not know about acupressure and effleurage massage as a pain reliever during menstruation that is safe, cheap, without cost. Respondents only treated menstrual pain using eucalyptus oil, rested in bed, and some did nothing.

2. METHOD

The type of research used in this research is Quasi-Experimental (Pseudo-Experimental) with a two-group comparison pretest-posttest design. The design of this research is pretest and posttest control group design. The population in this study were all young women who experienced dysmenorrhea in class X totaling 20 people with the provisions of 10 people in the acupressure therapy group and 10 people in the effleurage massage group. The sampling technique used in this study used purposive sampling, namely the research sample according to the desired inclusion criteria. researcher. Data analysis in this study is univariate analysis and bivariate analysis

3. RESULTS AND DISCUSSION

Dysmenorrhea Pain Intensity Before and After Given Acupressure Therapy

The distribution of respondents based on pain intensity in acupressure therapy before and after the intervention can be seen in the following table:

Table 1 Pain Intensity Distribution in the Acupressure Therapy Group Before and After Given the Intervention

Pain Intensity dysmenorrhea	Pre Intervensi		Post Intervensi	
	F	%	F	%
No Pain	0	0.0	3	30.0
Light	1	10.0	5	50.0
Currently	7	70.0	2	20.0
Heavy	2	20.0	0	0.0
Amount	10	100	10	100

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Based on table 1, it shows that of the 10 respondents in the acupressure therapy group, before the intervention the majority experienced moderate pain, namely 7 people (70.0%). After being given the intervention, the majority of respondents experienced a decrease in pain levels, namely mild pain by 5 people (50.0%).

Dysmenorrhea Pain Intensity Before And After Giving Massage Effleurage

The distribution of respondents based on pain intensity in Effleurage Massage therapy before and after the intervention can be seen in the following table:

Table 2 Distribution of Pain Intensity in Effleurage Massage Therapy Group Before And After Given Intervention

Pain Intensity dysmenorrhea	Pre Intervensi		Post Intervensi	
	F	%	F	%
No Pain	0	0.0	3	30.0
Light	1	10.0	6	60.0
Currently	6	60.0	1	10.0
Heavy	3	30.0	0	0.0
Amount	10	100	10	100

Based on table 2 it shows that of the 10 respondents in the Effleurage Massage therapy group, before the intervention the majority experienced moderate pain, namely 6 people (60.0%). After being given the intervention, the majority of respondents experienced a decrease in pain levels, namely mild pain, as many as 6 people (60.0%).

Differences in Pain Intensity Before and After Acupressure Therapy

Comparison of the average change in pain intensity according to the stage of measurement in acupressure therapy can be seen in the following table:

Table 3 Differences in Pain Intensity Before and After Acupressure Therapy Intervention

	Mean	Selisih Mean	Standar Deviasi	t	df	p
Pre	5.60	4.70	1.261	16.671	19	0.000
Post	0.90					

The results of the analysis using the paired t-test showed that the pain intensity scale in the acupressure therapy relaxation group before and after the intervention obtained $t(df) = 16.672 (19)$, M difference = 4.70, SD difference = 1.261 and p value = 0.000. The p value <0.05, it can be concluded that H_0 is rejected and H_a is accepted, which means there is a significant difference between the dysmenorrhea pain intensity scale before and after acupressure therapy.

The Average Difference In Pain Intensity Before And After Massage Effleurage

Comparison of the average change in pain intensity according to the stage of measurement in Massage Effleurage therapy can be seen in the following table;

Table 4 Differences in Pain Intensity Before and After Effleurage Massage Therapy Intervention

	Mean	Selisih Mean	Standar Deviasi	t	df	p
Pre	5.40	4.25	1.333	14.261	19	0.000
Post	1.15					

The results of the analysis using the paired t-test showed that the pain intensity scale in the massage effleurage group before and after the intervention obtained $t(df) = 14.261 (19)$, M difference = 4.25, SD difference = 1.333 and p value = 0.000. The p value <0.05, it can be concluded that H_0 is rejected and H_a is accepted, which means that there is a significant difference between the scale of dysmenorrhea pain intensity before and after relaxing massage effleurage.

The Effectiveness of the Effect of Acupressure Therapy and Effleurage Massage on Reducing Dysmenorrhea Pain Intensity

Table 5 The Effect Effectiveness of Acupressure Therapy and Massage Effleurage Against Reducing Dysmenorrhea Pain Intensity

Intervensi	t hitung	T table	Nilai korelasi	df	p
Terapi Akupresur	16,672	1,761	0,633	19	0.000
Massage Effleurage	14,261	1,761	0,578	19	0.000

Based on the table above, the t value for acupressure therapy = 16.672 and a p value = 0.000, while the t value for massage effleurage = 14.261 and a p value = 0.000. The calculated t value of each intervention > t table = 1.761, as well as the p value $\alpha = 0.05$, which means that there is a significant difference between the intensity of dysmenorrhea pain before and after intervention in the two groups, namely acupressure therapy and effleurage massage. The t value of acupressure therapy is greater than the t value of massage effleurage and the acupressure correlation value = 0.633 is greater than the correlation value of massage effleurage = 0.578, which means that acupressure therapy is more effective in reducing the intensity of dysmenorrhea pain compared to effleurage massage.

Discussion

Dysmenorrhea Pain Intensity Before and After Given Acupressure Therapy Intervention
In this study, researchers used 20 research samples and then divided the sample into 2 groups (1. 10 respondents in the acupressure therapy group; 2. 10 respondents in the effleurage massage group). The dysmenorrhea pain intensity scale before being given acupressure therapy intervention at Air Joman 2 Public Middle School showed that out of 10 respondents, before the intervention the majority experienced moderate pain, namely 7 students (70.0%), 2 students (20.0%) experienced severe pain and 1 female student (10.0%) experienced mild pain. This scale shows that the pain felt by the respondents when experiencing dysmenorrhea was mild pain to severe pain.

According to Judha (2012) the symptoms experienced by respondents during menstruation are pain in the lower abdomen, waist and even back. Dysmenorrhea greatly interferes with activities and is often complained of before, during and after menstruation. The pain arises due to the presence of the hormone prostaglandin which makes the uterine muscles (womb) contract [6]. After being given the acupressure therapy intervention, there was a decrease in pain intensity from 10 students who experienced pain including decreased to mild pain 5 students (50.0%), 2 students (20.0%) moderate pain and 3 students (30.0%) others did not experiencing pain again.. The scale shows that the pain felt by the respondent after acupressure therapy is no pain, mild and moderate pain.

Respondents who experience dysmenorrhea are required when doing acupressure therapy to be in a relaxed state, a comfortable position, calm and not have a burden on their mind. At the time of the study the respondents followed the directions very well so that they could reduce the dysmenorrhea pain that was being experienced as well.

Dysmenorrhea Pain Intensity Before and After Given Intervention Massage Effleurage

In the effleurage massage group, after the intervention was given, there was a decrease in pain intensity from 10 female students (100.0%), 6 female students (60.0%) who experienced moderate pain, 3 female students (30.0%) who experienced severe pain decreased no pain. Again. Then 1 female student (10.0%) who experienced mild pain after being given the intervention decreased to 6 female students with mild pain, 1 female student (10.0%) moderate pain and 3 female students (30.0%) no longer felt pain.

Effleurage massage in this study was carried out 4 times, namely before, during and after menstruation. This is done based on the theory in Judha (2012) which states that dysmenorrhea pain is often complained of before, during and after menstruation. Then the researcher also uses the media according to the respondent's request (Baby oil, olive oil or lotion), this is done so that the respondent feels comfortable with the action or intervention provided by the researcher. In this study, measurements were taken once, namely during menstruation [8].

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After being given the effleurage massage intervention, there was a decrease in pain intensity from 6 respondents who experienced moderate pain, 5 of whom decreased to mild pain. Then from 1 respondent who experienced mild pain after being given an intervention no longer experienced pain and 3 respondents who experienced severe pain decreased to mild pain with Mean = 0.90, minimum value = 0 and maximum value = 2. This scale shows that the pain felt Respondents after acupressure therapy were no pain, mild pain and moderate pain.

Differences in Average Pain Intensity Before and After Therapy acupressure

The results of the analysis using the paired t-test showed that the dysmenorrhea pain intensity scale in the acupressure therapy group before and after being given the intervention obtained $t(df) = 16.672 (19)$, the difference in mean = 4.70, the difference in SD = 1.261 and the value of $p = 0.000$. The results of this study indicate that acupressure therapy can significantly reduce the intensity of dysmenorrhea pain so that it shows a significant difference between the pain intensity scales before and after acupressure therapy.

In a study conducted by Vetty Priscilla, et al (2012) with the research title Differences Influence of Acupressure Therapy Techniques and Warm Compresses in Reducing Dysmenorrhea in Adolescents at SMA Negeri 3 Padang with a total of 32 young female respondents who were divided into two intervention groups and duration of acupressure therapy for 20 minutes it was stated that there was no significant difference between acupressure therapy and warm compresses in reducing dysmenorrhea pain [9]

Other research that supports research on the effect of acupressure therapy on dysmenorrhea pain intensity is research conducted by Retno Wida Hapsari and Tri Anasari (2013). Where in this study researchers compared acupressure therapy with giving chocolate. The study was conducted on 15 respondents who experienced primary dysmenorrhea with the same acupressure therapy method as this study. The final results showed that respondents experienced a significant decrease in pain intensity with a significance value of $p=0.000$. The final results in the study stated that acupressure therapy was more effective in reducing the intensity of dysmenorrhea pain compared to the method of giving chocolate [10].

The results of this study are in line with this study where the dysmenorrhea pain intensity scale before acupressure therapy at Air Joman 2 Public Middle School obtained a dysmenorrhea pain intensity scale before the intervention $M = 5.60$, $SD = 1.603$. Then the dysmenorrhea pain intensity scale after acupressure therapy was carried out at Air Joman 2 Public Middle School, the scale obtained after being given the intervention $M = 0.90$, $SD = 0.788$. These results indicate that there is a significant difference in the average pain intensity before and after acupressure therapy is carried out or in other words it is significant that acupressure therapy can reduce the average pain intensity by 4.70 ($\alpha < 0.05$)

Respondents who experience dysmenorrhea are advised when doing acupressure therapy to be in a relaxed state in a comfortable, calm position and not have a burden on their mind. D'silva and Muninarayanappa (2014) state that acupressure therapy is an effective method for reducing pain in clients who experience chronic pain [11]. Complete relaxation can reduce muscle tension, boredom and anxiety so as to prevent the pain stimulus from increasing (Yusuf, et al, 2017)

Dysmenorrhea experienced by the respondent just before the acupressure therapy technique was carried out, the respondent's condition was not relaxed and the respondent's mind was only focused on pain without relaxing the pain felt. The acupressure therapy technique carried out by the respondent only focused on areas experiencing pain or muscle tension in the lower abdomen. lower abdomen and relax the lower abdomen experiencing pain or muscle tension until the respondent achieves full relaxation

Acupressure therapy activities create a sensation of releasing discomfort and stress. Gradually, the client can relax the muscles without having to tense the muscles first. When the client achieves full relaxation, the brain activates alpha waves in the brain and stimulates the hypothalamus to release endorphins, causing the perception of pain to decrease and anxiety about the experience of pain to a minimum [11].

Difference in Average Pain Intensity Before and After Massage Effleurage

The results of the analysis using the paired t-test showed that the dysmenorrhea pain intensity scale in the massage effleurage group before and after being given the intervention obtained $t(df) = 14.261(19)$, difference in mean = 4.25 difference in SD = 1.333 and p value = 0.000. The p value indicates a significant difference from before (pretest) the effleurage massage is performed and after the action is taken [11] The results of this study indicate that effleurage massage can significantly reduce the intensity of dysmenorrhea pain so that it shows a significant difference between the pain intensity scales before and after effleurage massage.

In this study the results showed that there was a decrease in pain levels after giving effleurage massage. One of the things that can reduce pain is by giving effleurage massage to the abdomen which stimulates tactile fibers in the skin so that pain signals can be inhibited. Stimulation of the skin with effleurage can produce messages sent through the A- α fibers, which result in the gate being closed so that the cerebral cortex does not receive pain signals and the intensity of pain changes because these fibers can transmit pain quickly, this is in accordance with what was stated by Hapsari & Anasari T [12]

Other research that supports research on the effect of acupressure therapy on dysmenorrhea pain intensity is research conducted by Agustina (2016). Where in this study the researchers provided an effleurage massage intervention with jasmine aromatherapy. The study was conducted on 20 respondents who experienced primary dysmenorrhea without a comparison group, in the pre-test post-test measurements were carried out 2 times, namely there was the first massage and the second massage. The final results showed that respondents experienced a significant decrease in pain intensity with a significance value of $p=0.000$. The final results in this study stated that there was an effect of massage effleurage on reducing the intensity of dysmenorrhea pain.

In a study conducted by Dian Wardina S Abunawas (2017) with the research title Differences in Effect of Stretching and Massage Effleurage on Reducing Menstrual Pain in Physiotherapy Students at UNISA Yogyakarta with a total of 22 female students divided into two intervention groups, it was stated that there was no significant difference in the administration of stretching and massage effleurage on reducing menstrual pain [9]

The mechanism of pain inhibition with massage effleurage is based on the concept of Gate Control Theory. Based on this theory, stimulation of skin tactile fibers can inhibit pain signals from the same or other areas of the body. Stimulation of skin tactile fibers can be done with several techniques, namely massage, rubbing, wiping, vibration and topical analgesic drugs [8].

Effleurage massage aims to increase blood circulation, apply pressure, warm the abdominal muscles and promote physical and mental relaxation. Effleurage massage is a massage technique that is safe, easy, does not require a lot of tools, costs nothing, has no side effects and can be done alone or with the help of others. Tactile stimulation with massage effleurage produces messages that are otherwise sent via larger nerve fibers (A Delta fibers). The A Delta fibers will close the gate so that the Cortex Cerebri does not receive pain messages because it has been blocked by Counter stimulation with massage effleurage so that the perception of pain changes, because the fibers on the surface of the skin (Cutaneus) are mostly nerve fibers with a wide diameter. This massage also facilitates distraction and decreases the transmission of sensory stimulation from the abdominal wall thereby reducing discomfort in the painful area. As a relaxation technique, effleurage massage reduces muscle tension and increases circulation in the affected area and prevents hypoxia[8].

The Effect Effectiveness of Acupressure Therapy and Massage Effleurage Against Reducing Dysmenorrhea Pain Intensity

Based on table 5, it shows that all respondents experienced a decrease in pain intensity after being given interventions, both acupressure therapy and massage effleurage. In this study the researchers used the duration of the intervention for 15-20 minutes, at 15 minutes all respondents said they felt better and the pain was gone. The decrease in pain for each respondent was at a different duration and level of pain.

Based on table 5 above, the t value for acupressure therapy is 16.672 and $p = 0.000$, while the t value for massage effleurage is 14.261 and $p = 0.000$. The calculated t value of each intervention $> t$ table = 1.761, as well as the p value $< \alpha = 0.05$, which means that there is a significant difference between

the intensity of dysmenorrhea pain before and after intervention in the two groups, namely acupressure therapy and effleurage massage.

The t value of acupressure therapy is greater than the t value of massage effleurage and the correlation value of acupressure therapy = 0.633 is greater than the correlation value of massage effleurage = 0.578, which means that acupressure therapy is more effective in reducing the intensity of dysmenorrhea pain compared to effleurage massage.

The correlation value of acupressure therapy was 0.633 indicating that the correlation of acupressure therapy to reducing dysmenorrhea pain intensity was very strong. The acupressure therapy technique seeks to make the respondent focus on areas experiencing pain or muscle tension in the lower abdomen so that areas experiencing pain will decrease, while the correlation value of massage effleurage is 0.578 indicating that the correlation of massage effleurage to a decrease in moderate dysmenorrhea pain intensity.

The effects of the two treatments actually depended on the nature of the pain, the comfort and environment of the respondent when carrying out the two interventions to reduce pain. The pain experienced by respondents is very subjective, it cannot be felt by other people and only respondents can explain how the pain they are experiencing. This is in accordance with the opinion of Judha (2012) that the nature of pain is very subjective because the feeling of pain is different for everyone in terms of scale or level and only that person can explain or evaluate the pain experienced.

4. CONCLUSION

Based on the analysis of the results and discussion, it can be concluded that the decrease in dysmenorrhea pain intensity in young women at Air Joman 2 Public Middle School, namely the dysmenorrhea pain intensity scale before acupressure therapy was carried out was $M = 5.60$. $SD = 1.603$, minimum value = 3 and maximum value = 10. And after acupressure therapy is done, $M = 0.90$. $SD = 0.788$, minimum value = 0 and maximum value = 2. The dysmenorrhea pain intensity scale before effleurage massage is performed is $M = 5.40$. $SD = 1.603$, minimum value = 3 and maximum value = 8 and after massage effleurage is $M = 0.90$. $SD = 0.671$, minimum value = 0 and maximum value = 2. The t value for acupressure therapy is 16.672 and the p value = 0.000 while the t value for massage effleurage is 14.261 and the p value = 0.000. The calculated t value of each intervention > t table = 1.761, as well as the p value $< \alpha = 0.05$, acupressure therapy is more effective in reducing dysmenorrhea pain intensity than effleurage massage.

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