

Application of Warm Compresses on Reducing Dysmenorrhea Pain Levels

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ABSTRAK

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Kompres hangat, Dismenore,
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Dismenore merupakan nyeri kram perut bagian bawah saat menstruasi yang biasanya dialami selama 1-2 hari disetiap bulannya. Dismenore dapat ditangani secara non-farmakologi salah satunya dilakukan kompres hangat, dengan kompres hangat dapat meningkatkan relaksasi otot dan mengurangi nyeri akibat kekakuan serta memberikan rasa hangat. Tujuan penelitian ini adalah menganalisis pengaruh pemberian kompres hangat terhadap penurunan tingkat nyeri dismenore. Penelitian ini menggunakan pra-eksperimental (*one-grup pre-post test design*). Populasi dan sampelnya adalah seluruh remaja putri yang mengalami nyeri dismenore dengan teknik *total sampling* sebanyak 30 responden. Pengumpulan data menggunakan *Close Ended Questioner Numeric Rating Scale (NRS)*. Data dianalisis secara *univariate* dengan cara mengukur derajat nyeri dismenore sebelum dan sesudah kompres hangat dan *bivariate* untuk menentukan pengaruh kompres hangat terhadap nyeri dismenore dengan menggunakan metode uji statistik *Wilcoxon* $< 0,05$. Didapatkan sebelum diberikan kompres hangat sebagian besar responden mengalami nyeri berat sebanyak 16 (53%), sesudah diberikan kompres hangat sebagian besar mengalami nyeri ringan sebanyak 15 (50%) pada remaja putri. Hasil *uji statistic Wilcoxon* diperoleh nilai *Asymp. Sig.* $< 0,01$. Ada pengaruh pemberian kompres hangat pada remaja putri. Pengaruh ini perlu responden terapkan secara mandiri dalam mengatasi nyeri dismenore dengan melakukan kompres hangat. Petugas kesehatan memberikan edukasi tentang acuan pada penanganan nyeri dismenore secara komplementer (kompres hangat) yang memiliki efek samping minimal.

ABSTRACT

Keywords:

Warm compress, dysmenorrhea,
adolescent girls

Dysmenorrhea is lower abdominal cramping pain during menstruation which is usually experienced for 1-2 days every month. Dysmenorrhea can be treated non-pharmacologically, one of which is done warm compresses, with warm compresses can increase muscle relaxation and reduce pain due to stiffness and provide a sense of warmth. The purpose of this study was to analyze the effect of giving warm compresses on reducing dysmenorrhea pain levels. This study uses pre-experimental (one-group pre-post test design). The population and sample were all adolescent girls who experienced dysmenorrhea pain with a total sampling technique of 30 respondents. Data collection using Close Ended Questioner Numeric Rating Scale (NRS). Data were analyzed univariate by measuring the degree of dysmenorrhea pain before and after warm compresses and bivariate to determine the effect of warm compresses on dysmenorrhea pain using the Wilcoxon statistical test method < 0.05 . It was found that before being given a warm compress most respondents experienced severe pain as many

as 16 (53%), after being given a warm compress most experienced mild pain as many as 15 (50%) in adolescent girls. Wilcoxon statistical test results obtained Asymp. Sig. <0,01. There is an effect of giving warm compresses to adolescent girls. This effect needs to be applied independently by respondents in overcoming dysmenorrhea pain by doing warm compresses. Health workers provide education about references to complementary dysmenorrhea pain management (warm compresses) which have minimal side effects.

INTRODUCTION

Adolescence is a transitional period from childhood to adulthood, during which there is rapid growth including reproductive function so that it can affect developmental changes both physically, mentally, and social roles. One of the problems found in adolescents is dysmenorrhea or menstrual pain (Widyanti, Resiyanti, and Prihatiningsih, 2021). Dysmenorrhea is one of the most common gynecological complaints and problems experienced by women, both adolescents and adults (Putri et al. 2023). Women who experience primary dysmenorrhea cannot do sports activities or concentrate on studying because the pain they feel is so intense, this decrease in quality of life can also be felt by women who have worked because of severe menstrual pain, work activities are disrupted so they cannot perform their duties optimally. This problem is usually undiagnosed and not given treatment (Maharani, 2021).

According to the World Health Organization (WHO) in 2020 the incidence of dysmenorrhea in the world is very high at 1,769,425 people (90%) of women experience severe dysmenorrhea (Kasi, Agustin, and Fitri 2023). While in Indonesia the prevalence of dysmenorrhea was 107,673 people (64.25%), consisting of 59,671 people, (54.89%) primary dysmenorrhea, and 9,496 people (9.36%) secondary dysmenorrhea (Yuliyani 2020). Based on data from the Adolescent Reproductive Health Survey (SKRR) of East Java Province in 2021, it was found that around 4,653 adolescents experienced dysmenorrhea, the incidence of primary dysmenorrhea was 4,297 (90.25%) and the others experienced secondary dysmenorrhea as many as 365 people (9.75%) (Rosyidah, Arisandi, and Farid 2021). Based on preliminary data collection conducted in September 2023 in class VIII MTS Al-Ula 1 Sumber Batu Blumbungan Pamekasan there were 57 adolescent girls in total, from the results of the initial visit the researcher took several samples of 8 adolescent girls in class VIII MTs Al-Ula 1 Sumber Batu, using the direct interview method on the basis of the design of filling out a questionnaire as research material. It was found that 6 students experienced dysmenorrhea, 4 students overcame it by resting and 2 students took anti-pain medication in the form of mefenamad acid. 2 students said they had never experienced dysmenorrhea pain. As for the handling of dysmenorrhea pain by using warm compresses, it has never been done.

The cause of dysmenorrhea is not yet known with certainty, in primary dysmenorrhea pain arises due to high prostaglandins, while in secondary dysmenorrhea it is thought that the most common cause is endometriosis (Rosyidah et al. 2021). According to Hastuty et al. (2023), dysmenorrhea is caused by increased prostaglandin hormones, an increase in prostaglandin hormones is caused by a decrease in estrogen and progesterone hormones causing the endometrium to swell and die because it is not fertilized, an increase in

prostaglandin hormones causes the muscles of the womb to contract and produce pain. Dysmenorrhea will not be life-threatening but it can be painful for many adolescents who feel it (Anjani et al. 2022).

Dysmenorrhea can be overcome by performing 2 techniques, namely pharmacological techniques and non-pharmacological techniques. In pharmacological therapy, dysmenorrhea can be treated with drug therapy such as analgesics, but has side effects on organs if used in the long term, while non-pharmacological therapy can reduce dysmenorrhea pain by doing warm compresses, exercise, music therapy and consuming herbal drinks such as herbal medicine (Anggriani, Mulyani, and Pratiwi 2021). The first alternative method is the use of warm compresses to reduce pain intensity and cause a decrease in muscle tension so that the menstrual pain felt will decrease or disappear, giving warm compresses can increase muscle relaxation and reduce pain due to spasm or stiffness and provide a feeling of warmth (Nisa and Kamidah 2023). This warm compress uses a hot bulb which conductionly transfers heat from the bulb into the body so that it will cause dilation of blood vessels circulation becomes smooth and will become muscle tension, after the myometrium muscles relax, the pain felt gradually decreases and even disappears (Mouzila, Chaniago, and Insani 2023).

METHODS

This study uses a pre-experimental research design (one-group pre-post test design) this research is to reveal the cause and effect relationship, where this research is conducted on one group of subjects who are observed before treatment, then observed again after treatment. Comparing menstrual pain before being given a warm compress and after giving a warm compress (Nuraeni et al. 2017). The population of this study were all adolescent girls who experienced dysmenorrhea pain in class VIII MTs Al-Ula 1 Sumber Batu Blumbungan, and the sample amounted to 30 adolescent girls.

The research instruments used in this study used questionnaire data collection filled out by respondents. The questionnaire given is a type of Close Ended Questioner Numeric Rating Scale (NRS) given to respondents at the time of pre and post giving warm compresses to respondents and the statistical analysis method used is the Wilcoxon Test. The Wilcoxon test is a hypothesis test that is quite widely used in research data analysis and as an alternative test to the paired t-test (Nuraeni et al. 2017).

RESULT AND DISCUSSION

RESULT

Characteristics of Respondents (Age, Duration of menstruation, Pain level)

Table 1. Tabulation of Frequency Distribution of Respondents Based on Duration of Dysmenorrhea Adolescent Girls who Experience Dysmenorrhea Pain in Class VIII MTs Al-Ula 1 Sumber Batu Blumbungan Pamekasan

Age Category			
No	Age	Frequency	Percentage (%)
1	14 years	15	50%
2	15 years	10	33%
3	16 years	2	7%
4	17 years	3	10%
Total		30	100 %
Category Duration of dysmenorrhea			

No	Duration of dysmenorrhea	Frequency	Percentage (%)
1	1-2 Days	20	67%
2	> 2 Days	10	33%
Total		30	100%

Table 1 explains that the age category of half of the respondents as many as 15 (50%) were 14 years old, and a small proportion were 16 (7%). Explaining the dysmenorrhea duration category that most of the respondents were 20 (67%) whose dysmenorrhea duration was only 1-2 days and almost half as many as 10 (33%) whose dysmenorrhea duration was > 2 days.

Table 2. Frequency Distribution of Respondents Based on Dysmenorrhea Pain Level After Giving Warm Compresses to Adolescent Girls in Class VIII MTs Al-Ula 1 Sumber Batu Blumbungan Pamekasan

Pain Level	Pre-Test		Post-Test		P-Value
	F	%	F	%	
Light	0	0%	15	50%	0,01
Moderate	10	33%	11	37%	
Heavy	16	53%	4	13%	
Very heavy	4	13%	0	0%	
Total	30	100 %	30	100 %	

Based on Table 2, the frequency distribution of dysmenorrhea pain levels in adolescent girls in class VIII MTs Al-Ula 1 before giving warm compresses, most of the respondents experienced severe pain as many as 16 (53%), and a small proportion of very severe pain as many as 4 (13%). frequency distribution of dysmenorrhea pain levels in adolescent girls in class VIII MTs Al-Ula 1 after giving warm compresses, most of the respondents experienced mild pain as many as 15 (50%), and a small proportion of severe pain as many as 4 (13%).

Wilcoxon statistical test results showing pre test and post test, obtained Asymp. Sig. (2-tailed) of 0.01. The value of $\alpha < 0.05$ which can be interpreted that H1 is accepted and H0 is rejected, which means that there is an effect of giving warm compresses to adolescent girls in class VIII MTs Al-Ula 1 Sumber Batu Blumbungan.

DISCUSSION

This study is in line with research conducted by (Apriani et al. 2021), obtained a significance value of 0.001 ($\alpha < 0.05$), it can be concluded that there is an effect of warm compresses on reducing the level of dysmenorrhea pain at the State Junior High School 17 Enggano District. According to (Daniel et al. 2022), giving a warm compress on the lower abdomen during menstrual pain can reduce pain intensity, the heat produced will cause dilation of blood vessels (vasodilation) so that it can increase blood circulation, relieve ischemia in myometrial cells, reduce myometrial smooth muscle contractions, increase muscle relaxation and reduce pain due to spasm or stiffness. The results of the study of dysmenorrhea pain can be reduced by non-pharmacological therapy in the form of warm compresses, namely providing a sense of security to respondents by using liquids or tools that cause warmth in the parts of the body that need it, this warm compress is very effective in reducing dysmenorrhea pain.



Research from Asmarani (2020) on 15-minute measurements found that before warm compresses the average intensity of dysmenorrhea was 4.76 and decreased to 3.20 after intervention. The average decrease in dysmenorrhea intensity in 15-minute measurements was 1.56. while the average decrease in dysmenorrhea intensity in 20-minute measurements was 1.88 so it can be concluded that 20-minute measurements have a greater average decrease which means that 15-minute measurements have an effect on reducing pain intensity but are less effective than 20-minute measurements. Delfina's research (2020) each respondent who has been given a warm compress intervention, found that there is a difference in pain reduction. The effect of warm compresses is effective in reducing the intensity of dysmenorrhea because it can improve blood circulation and reduce muscle tension caused by conduction heat transfer from warm water into the stomach (Yulandasari & Husen, 2022).

This study is in line with research conducted by (Maharani, 2021), about giving warm compresses to reduce dysmenorrhea pain in adolescent girls at Padangsidempuan City Junior High School that most respondents experienced mild pain as many as 10 respondents (50%). According to Arie et al. (2019), the physiological effects of warm compresses are softening fibrous tissue, making body muscles more relaxed, reducing or eliminating pain, and improving blood flow. Giving warm compresses is one of the independent actions, which can cause vasodilation in blood vessels which will increase blood flow to the tissues. Many young women say that warm compresses help reduce dysmenorrhea pain, the warmth of the compress can help relax stiff uterine muscles, reduce cramps and pain.

CONCLUSION

Before warm compresses were applied to adolescent girls who experienced dysmenorrhea pain, most of the respondents experienced severe pain and after warm compresses were applied to adolescent girls who experienced dysmenorrhea pain, most of the respondents experienced mild pain, the results of statistical tests showed that there was an effect of the effect of giving warm compresses to reduce the intensity of dysmenorrhea pain in adolescent girls who experienced dysmenorrhea pain in class VIII MTs Al-Ula 1 Sumber Batu Blumbungan.

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