



The Effect Of Giving Warm Compresses On Menstrual Pain (Dysmenorrhoe) In Adolescent Girls Aged 12 -15 Years Mts At-Taufiq Bogem

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ABSTRACT

This research aims to determine the effect of giving warm compresses on menstrual pain (dysmenorrhea) in young women aged 12 -15 years at MTs At-Taufiq Bogem. Quantitative research method with a pre-experimental design using one group pretest-posttest. The research sample of young women aged 12 -15 years MTs At-Taufiq Bogem experienced dysmenorrhea was 40 people using a collection technique using purposive sampling. The instrument uses a questionnaire along with an observation sheet with a numerical rating scale of 0-10 using Paired Sample T Test data analysis. The results via SPSS were obtained by Asymp. sig. (2-tailed) $0.00 < \alpha = 0.05$, the result is that H_a is accepted, namely that there is a difference in the scale of menstrual pain in young women before and after the warm compress. It was concluded that giving warm compresses for menstrual pain (dysmenorrhea) in young women aged 12 - 15 years at MTs At-Taufiq Bogem, means that there are differences in the degree of dysmenorrhea, so there is an effect of giving warm compresses to reduce the degree of dysmenorrhea.

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1. INTRODUCTION

According to WHO, reproductive health means complete psychological, social and physical security, namely the avoidance of disease and disorders in all aspects of the reproductive system, its functions and processes, as well as the function and role of women in aspects of the reproductive system. Knowledge about reproductive health is best obtained from adolescence, because people are able to detect abnormalities in their reproductive health, no matter how small, especially those related to menstruation (Noviana, 2018).

Menstruation is a periodic physiological change in women that is influenced by reproductive hormones. This phase is important for reproduction and naturally occurs every month between the phases of menopause and puberty. Menstruation is a complex cycle related to psychology, including the five senses, cerebral cortex, hypothalamic-pituitary-ovary axis, as well as endrogens (uterine endometrium and secondary genitals) (Isnaeni in Yudita et al., 2017).

The frequency of dysmenorrhea in the world is quite high. It is believed that around 50% of women in each country suffer from dysmenorrhea. Some women suffer from extreme pain during menstruation, which can affect up to 50% of daily life in women of childbearing age and 85% of

adolescent girls. According to the World Health Organization (WHO) (2015), the number of cases of dysmenorrhea is relatively high in every country, with around more than 50% of sufferers. In Sweden, it is said to be 72%, while in America it is estimated that 90% of women suffer from dysmenorrhea, and 10%-15% find it difficult to carry out activities due to dysmenorrhea. Proverawati (2018) said that the number of people suffering from dysmenorrhea in Indonesia is around 55% of women of childbearing age who suffer from pain during menstruation. The incidence (prevalence) of pain in women of childbearing age ranges from 45 to 95%. In Yogyakarta, the incidence of dysmenorrhea in women of childbearing age is 52%. And 30% of young women treat dysmenorrhea by taking painkillers, but they don't know how to relieve pain without painkillers. According to previous research, menstrual pain can disrupt a woman's daily life and cause her to miss work or daily activities for hours or days. A total of 13-51% of girls miss school once due to menstrual pain, and around 5-14% miss school on several occasions (Proverawati, 2018).

WHO is of the opinion that teenagers are people aged 10 to 19 years, and according to Decree of the Minister of Health of the Republic of Indonesia No.25. 2014, teenagers are people aged 10 to 18 years and according to WHO according to the BKKBN (Ministry of Population and Family Planning), teenagers are people with an age range of 10-24 years and who are not married (Noviana, 2018).

Some women have menstrual disorders ranging from mild/low to moderate and even severe during menstruation. For example, some people experience stomach pain, weakness, headaches, and even excruciating pain due to contractions of the smooth muscles of the uterus. Excessive pain in the lower abdomen also occurs frequently during menstruation and is dysmenorrhea. Dysmenorrhea is pain during menstruation and is caused by high levels of prostaglandin F_{2a} in the menstrual area so that uterine hyperactivity and uterine muscle spasms are stimulated (Nurwana et al., 2017).

Menstrual pain is a health condition during menstruation, can interfere with activities, and requires treatment, the signs of which are pain or tenderness in the pelvic or abdominal area. Menstrual pain usually occurs 2-3 years after menarche (Nurwana et al., 2017).

In general, dysmenorrhea treatment is generally divided into two categories: pharmacotherapy and non-pharmacological therapy. Pharmacologically, pain is treated using analgesic therapy or medication, drugs that are usually used to relieve pain. However, the use of painkillers has an effect on consumers because it causes impacts. Non-pharmacologically, lifestyle, diet, heat, hot compresses, chiropractic care, acupuncture, acupressure, hypnotherapy, homeopathy, use of aromatherapy flower essences, and other herbal treatments can be used. (Koniyo, M A. & Zees, R F., 2019). A warm compress containing hot air bubbles flows through the bladder towards the body by conduction, dilating blood vessels, so that blood circulation and muscle tone are more even. The pain gradually becomes more pronounced as the myometrium relaxes and decreases or even disappears (Maldartati. et al., 2018).

Using a conductive heat transfer method, applying a hot compress, a hot water bottle wrapped in a towel, to the painful area improves blood circulation, reduces muscle tension, and relieves primary dysmenorrhea caused by menstrual pain. And the uterus contracts and the smooth muscles relax. Heat dilates blood vessels and increases circulation in the blood. Physiologically, the body's response to heat results in dilated blood vessels, decreased muscle tension, increased metabolism in tissues, and increased capillary permeability. Thermal response is used therapeutically in a variety of diseases and conditions in the body (Rahmadhayanti, E. et al., 2017).

Based on preliminary investigations carried out at MTs At-Taufiq Bogem, the results of interviews with five students revealed that four students suffered from dysmenorrhea. Regarding treatment, three students were able to cope with bed rest, and two students took pain medication. However, menstrual pain cannot be treated with warm compresses. One in five students admitted to missing school because of menstrual problems.

According to the explanation above, researchers are interested in finding out the effect of warm compresses on dysmenorrhea for adolescent girls aged 12 to 15 years at MTs At-Taufiq Bogem.

2. RESEARCH METHOD

This type of quantitative research has a pre-experimental design using the single-group pre-test-post-test method, where the sample is first observed (pre-test) and then observed again after treatment (post-test). The research used a comparative study design to find out the comparison of pain before and after warm compresses. The research sample was 40 teenage girls aged 12 to 15 years from MTs At-Taufiq Bogem who suffered from dysmenorrhea using a target sampling technique. The instrument uses a questionnaire along with an observation form with a numerical rating scale (NRS) on a scale of 0 to 10 using Paired Sample T Test data analysis.

3. RESULTS AND DISCUSSIONS

Univariate Analysis

1. Frequency Distribution of Respondents Based on Menstrual Pain Scale (*Dysmenorrhea*) Before giving warm compresses to young women at MTs At-Taufiq Bogem.

Table 1. Frequency Distribution of Respondents Based on Menstrual Pain Scale (*Dysmenorrhoea*) Before Giving Warm Compresses to Young Women at MTs At-Taufiq Bogem.

Pain Scale	N	Percentage (%)
No Pain	8	20
Mild Pain	14	35
Moderate Pain	13	32.5
Severe Pain	5	12.5
Very Severe Pain	0	0
Total	40	100

Based on table 1. Above, the number of respondents before the warm compress was carried out in the painless category was 8 children with a percentage of 20%, 14 children with mild pain with a percentage of 35%, 13 children with moderate pain with a percentage of 32.5%, 5 children with severe pain with a percentage 12.5%, no very severe pain.

It was concluded that the pain scale value before the warm compress was mild and moderate pain. In line with the theory of Potter & Perry (2005) which states that the uterus contracts more during menstruation, a person may experience pain during contractions, and uterine muscle contractions occur when prostaglandins are produced. Some findings explained that women's menstrual pain is caused by excessive amounts of prostaglandins in menstrual blood which stimulates uterine hyperactivity (Price. & Wilson., 2016).

This research is in line with the findings of Nida and Sari in Wijayanti (2024), namely that in the moderate pain category there were 18 children (60%) and in the severe unbearable pain category there was 1 child (3.3%). On the other hand, in the mild pain category, up to 18 children suffered and 8 children (26.7%) experienced severe pain.

Menstrual pain can be influenced by various factors, including psychological, biological, social, lifestyle. Biological factors include early first menstruation, heavy menstrual flow, and family history; psychological factors include anxiety, stress, depression; while social factors include lack of social support (Hu et al., 2020). The researchers noted that menstrual pain not only causes discomfort, but interferes with daily life, some respondents were unable to attend school events because of menstrual pain. Considering its impact, menstrual pain is one of the problems in teenagers, and various measures must be taken to prevent dysmenorrhea (Al Shifa & Mahmud, 2021).

2. Frequency Distribution of Respondents Based on Menstrual Pain Scale (*Dysmenorrhea*) After giving warm compresses to young women at MTs At-Taufiq Bogem.

Table 2. Frequency Distribution of Respondents Based on Menstrual Pain Scale (*Dysmenorrhoea*) After Giving Warm Compresses to Young Women at MTs At-Taufiq Bogem.

Pain Scale	N	Percentage (%)
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No Pain	7	17.5
Mild Pain	28	70
Moderate Pain	5	12.5
Severe Pain	0	0
Very Severe Pain	0	0
Total	40	100

Based on table 2. Above, there were many respondents after carrying out the warm compress action out of 40 respondents there was a decrease in menstrual pain (dysmenorrhea), namely the action of warm compresses in the painless category, there were 7 children with a percentage of 17.5%, there were mild pain in 28 children with a percentage of 70%, there were moderate pain in 5 children with a percentage of 12.5%, the pain was severe and very no weight.

It was concluded that the use of warm compresses reduced pain in the majority of respondents. This can be seen from the fact that none of the respondents had severe pain, fewer had moderate pain, and most had mild pain.

The reduction in pain levels occurred due to the application of a warm compress for 5 minutes on the respondent's lower abdomen with a temperature of between 40°C-45°C using a hot bladder. This process causes the transfer of heat from the bladder to the body, which triggers the dilation of blood vessels. As a result, blood circulation was smoother and muscle tension was reduced, resulting in decreased pain experienced by the respondents.

This reduction in pain levels was caused by applying a warm compress to the respondent's lower abdomen using a warm bladder at a temperature of 40°C to 45°C for 5 minutes. Heat moves from the bladder to the respondent's body, causing the blood vessels to dilate (vasodilation). This reduces the respondent's perception of pain by improving blood circulation and reducing muscle tension.

This is in line with the findings of Anugraheni and Wahyuningsih, most respondents, namely 63.3%, experienced mild pain intensity after warm compresses. Reduced pain due to conductive heat transfer from the hot bladder to the stomach, thereby increasing blood circulation and reducing muscle tension. Warm compresses are a method of using local heat to cause pain physiological impact. Warm compresses can be used to relieve pain and relax tense muscles (Delfina et al., 2020).

Price's theory is supported, namely that hot compresses are an effective non-pharmacological method for reducing pain and muscle spasms. Heat is transferred by convection, conduction, conversion which helps eliminate inflammatory products including histamine, bradykinin, along with prostaglandins that cause local pain (Price & Wilson (2016)).

Warm compresses aim to increase blood flow, minimize pain, facilitate fluid excretion, stimulate bowel movements, and provide a sense of calm and comfort for women with menstrual pain (Novitaningsih et al., 2024).

Warm Compress The aim is to increase blood circulation. According to researchers, hot compresses relieve pain, facilitate fluid drainage, stimulate intestinal peristalsis, and provide well-being to women who suffer from excessive menstrual pain. The heat produced by a bladder filled with warm water at a temperature of 40 to 45 degrees Celsius dilates blood vessels, improves blood circulation and relaxes the muscles in the painful area, thus relieving the painful sensation.

Bivariate Analysis

Table 3. Normality Test of the Effect of Giving Warm Compresses on Menstrual Pain (Dysmenorrhoea) in Adolescent Girls Aged 12 -15 Years MTs At-Taufiq Bogem.

N	Kolmogorov-Smirnov	Asymp. Sig. (2-tailed)
40	1,335	,057

Based on table 3. above, it can be concluded that the value of Asymp. sig. (2-tailed) $0.00 > \alpha = 0.05$ so the data is normally distributed.

Table 4 . Frequency Distribution of Respondents Based on the Effect of Giving Warm Compresses on Menstrual Pain (Dysmenorrhea) in Adolescent Girls Aged 12 -15 Years MTs At-Taufiq Bogem.

Pain Levels	No Pain		Light		Currently		Controlled Weight		Uncontrolled Weight		P. Value
	N	%	N	%	N	%	N	%	N	%	
Pre Test	8	20	14	35	13	32.5	5	12.5	0	0	0.00
Post Test	7	17.5	28	70	5	12.5	0	0	0	0	
Total	15	37.5	42	105	18	45	5	12.5	0	0	

Based on table 4 above , the *Paired Sample T Test* results are Asymp. sig. (2-tailed) $0.00 < \alpha = 0.05$ as a result, H_a is accepted or there is a difference in the scale of menstrual pain in young women before and after warm compresses. It can be concluded that giving warm compresses to menstrual pain (*dysmenorrhoea*) in young women aged 12 -15 years at MTs At-Taufiq Bogem has different degrees. dysmenorrhea then there is an effect of giving compresses warm.

This result is consistent with the results of Maidartati et al. conducting research, data collection was carried out before applying warm compresses with different compression times (10 minutes), and some degrees of dysmenorrhea pain were classified as moderate pain (23 people 48.9%). It can be concluded that the use of warm compresses reduces the severity of dysmenorrhea by one level, the majority of which are classified as mild pain, namely in 33 people (70.2%) (Maidartati & Hasanah, 2018) . Also supported by Mahua et al., (2018) , dysmenorrhea can be relieved through non-pharmacological treatment called hot compresses, which provide calm use fluids and heat-generating devices on the body as necessary. As a result, heat moves in the stomach, making the painful area warm, dilating the area's blood vessels , as well increased blood flow, resulting in reduced pain or even disappear . On a non-pharmacological basis , warm compresses are effective in relieving dysmenorrhea pain, relaxing muscles and reducing ischemia in the uterus, which ultimately reduces or eliminates pain (Apriani et al., 2021) . After carrying out the *Paired Sample T Test* the results were Asymp. sig. (2-tailed) $0.00 < \alpha = 0.05$. So H_a is accepted or there is the influence of warm compresses for menstrual pain (dysmenorrhea) (Dahlan & Syahminan, 2017) .

Dahlan and Syahminan said that warm compresses are effective in reducing dysmenorrhea pain because they are cheap, fast and do not require much effort. However, you need to be careful because water that is too hot can cause skin irritation. (Dahlan & Syahminan, 2017).

Lowdermilk et al's theory is also supported, namely that dysmenorrhea pain can be subsided through non-pharmacological therapy such as warm compresses. This method provides convenience through fluids or heating devices that are exposed to the affected body. The heat of the compress will warm the stomach, widen the blood vessels in the area , and increase blood flow, thereby reducing or eliminating dysmenorrhea pain. (Bobak et al., 2005) .

Research by researchers shows that before warm compresses, the majority of respondents experienced moderate pain. After compressing for 5 minutes at a temperature of 40°C-45°C, the majority experience mild pain. Reduced pain due to the transfer of heat from the bladder causes blood vessels to dilate, increasing circulation, and reducing muscle tension. As a result, pain is reduced. In mild dysmenorrhea pain it does not interfere with activities and respondents can carry out activities that were previously hampered.

Researchers assume that regarding the effect of warm compresses on menstrual pain (dysmenorrhea), there are influential factors including that warm compresses can cause vasodilation (widening of blood vessels) in the area where the compress is applied. This can increase blood flow to the area, help reduce muscle and tissue tension, and reduce pain. The heat from the compress can cause muscle relaxation in the pelvic area and lower abdomen. This relaxation can help relieve the cramps and tension that often accompany dysmenorrhea.

4. CONCLUSION

From the findings, the Paired Sample T Test Results were obtained via SPSS , namely Asymp. sig. (2-tailed) $0.00 < \alpha = 0.05$ as a result, H_a is accepted or there is a difference in the scale of menstrual pain

in young women before and after warm compresses. It was concluded that giving warm compresses for menstrual pain (dysmenorrhea) in young women aged 12 - 15 years at MTs At-Taufiq Bogem there were differences in the degree of dysmenorrhea, so there was an effect of giving warm compresses to reduce the degree of dysmenorrhea. It is hoped that young women can expand their knowledge about dysmenorrhea and practice warm compress therapy to reduce menstrual pain. It is hoped that education regarding dysmenorrhea can increase understanding of this condition and non-drug treatment methods, such as warm compresses, are effective in reducing the level of menstrual pain.

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