# THE EFFECT OF WARM COMPRESSES ON DYSMENORRHEA IN FEMALE STUDENTS AT SMK DARUL FIKRI SUMANDA TANGGAMUS REGENCY

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## ABSTRACT

According to the World Health Organization, the average incidence of dysmenorrhea in young women is between 16.8-81%, in European countries, dysmenorrhea occurs in 45-97% of women. The prevalence of dysmenorrhea in Indonesia is 107,673 people (64.25%), consisting of 59,671 people (54.89%) experiencing primary dysmenorrhea and 9,496 people (9.36%) experiencing secondary dysmenorrhea. The impact of dysmenorrhea is pain that causes physical discomfort for a woman which can interfere with their activities. A warm compress is one method to reduce dysmenorrhea by using a bottle at a temperature of 40-46oC. The purpose of this study was to determine the effect of warm compresses on dysmenorrhea in female students at SMK Darul Fikri Sumanda, Tanggamus Regency in 2022.

This type of research is a quantitative, quasi-experimental research design using a one-group pretest and posttest approach. The research has been carried out at SMK Darul Fikri Sumanda Tanggamus on November 10, 2021 - January 31, 2022. A sample of 42 female students with dysmenorrhea took the sample using total sampling. Compress is carried out with a comparison of 250CC cold water with 200CC hot water, a temperature of 40-46 °C is carried out for 20 minutes with an interval of 10 minutes changing hot water to maintain the temperature. Pain was assessed using a numerical rating scale with Wilcoxon test data analysis.

The results of the analysis showed that there was an effect of giving warm compresses to dysmenorrhea pain in the intervention group and the p-valiiue was 0.000 (<0.05). It is hoped that the results of this study can provide information and knowledge about efforts to treat dysmenorrhea with the warm compress method, then it can be applied when experiencing pain so as to reduce pain without using drugs.

Keywords: Dysmenorrhea, Warm Compress, Pain
Reference : 15 (2011 – 2021)

## I. INTRODUCTION

Adolescence in adolescent girls is characterized by the start of the menstrual cycle. Menstruation is known by another name menstruation or coming month where there are physiological changes in the human body that occur periodically influenced by reproductive hormones either FSH-Estrogen or LH-Progesterone. Generally, the blood released due to menstruation is around 10 ml to 80 ml with an average usually around 35 ml per day (Harry, 2016).

According to the World Health Organization (WHO) in Silviani's research (2019) the incidence of dysmenorrhea is quite high throughout the world. The average incidence of dysmenorrhea in young women is between 16.8 -81%. On average in European countries dysmenorrhea occurs in 45-97% of women. With the lowest prevalence in Bulgaria (8.8%) and the highest reaching 94% in Finland. The highest prevalence of dysmenorrhea is often found in adolescent women, which is estimated to be between 20-90%. About 15% of adolescents reported severe dysmenorrhea. In the United States, dysmenorrhea is recognized as the most frequent cause of school absence among adolescent girls. In addition, a survey was also conducted in 113 US women and stated that the prevalence was 29-44%, mostly at the age of 18-45 years (Silviani, et al. 2019).

The prevalence of dysmenorrhea in Indonesia was 107,673 people (64.25%), consisting of 59,671 people (54.89%) experiencing primary dysmenorrhea and 9,496 people (9.36%) experiencing secondary dysmenorrhea. The incidence of dysmenorrhea among women of productive age ranges from 45%-95% (Sadiman, 2017). Primary dysmenorrhea is experienced by 60%-75% of adolescents. It is reported that 30% - 60% of adolescent girls who experience dysmenorrhea, 7% - 15% do not go to school (Oktorika, et al. 2020).

Data from the National Health and Nutrition Examination Survey (NHANES), the average age of menarche (first menstruation) in adolescents in

Indonesia is 12.5 years with a range of 9-14 years. Dysmenorrhea occurs in adolescents with a prevalence ranging from 43% to 93%, where about 74-80% of adolescents experience mild dysmenorrhea, while the incidence of endometriosis in adolescents with pelvic pain is estimated at 25-38%, while in adolescents who do not respond positively to treatment for menstrual pain, endometriosis is found in 67% of cases at laparoscopy (Hestiantoro et al., 2012).

Some menstrual disorders include premenstrual syndrome, amenorrhea, dysmenorrhea, hypermenorrhea and hypomenorrhea. However, the most common among these disorders is dysmenorrhea. Dysmenorrhea is a disorder or severe pain/abnormality. Dysmenorrhea is divided into two, namely primary dysmenorrhea (menstruation without real genital abnormalities, occurring in the first 6-12 months after the first menstruation), and secondary (menstrual pain that occurs due to reproductive organ disorders experienced by women aged 30-45 years (Haryono, 2016).

The impact of dysminorrhea at this time the teenager will experience a condition called menstruation. Many menstrual disorders usually cause physical discomfort for women that can interfere with their activities. Menstrual pain (dysmenorrhea) is a physical disorder that is very prominent in women who are experiencing menstruation in the form of pain / cramps in the abdomen. Menstrual pain (dysmenorrhea) has a considerable impact on adolescent girls because it causes disruption of daily activities. Adolescent girls who experience menstrual pain (dysmenorrhea) during menstruation will feel limited in carrying out activities, especially learning activities at school (Fitri and Aristhi, 2020).

The research is relevant to research conducted by Sandayanti et al (2019) on the relationship between stress levels and the incidence of dysminorrhea in medical students at Malahayati University, Bandar Lampung. In this study, it was found that there was a relationship between stress and the incidence of dysminorrhea p-value = 0.029 (<0.05) with r = 0.704. Several factors can aggravate the stress of a woman who is experiencing dysmenorrhea such as psychological factors, in adolescent women are still emotionally unstable, this is due to their lack of understanding of the menstrual process. In addition, when they are experiencing dysmenorrhea, they are very vulnerable to the tensions they experience at home and school, so this situation can worsen their stress levels (Sandayanti, 2019).

In addition to the above efforts, efforts to relieve dysmenorrhea can also be done by doing exercise, warm compresses, taking painkillers, drinking turmeric water, bending positions, and getting enough rest (Haryono, 2016). Manuaba (2010) states that handling dysmenorrhea by doing warm compresses done before and during menstruation can make blood flow in the muscles around the uterus smooth, so that pain can be resolved.

Warm compresses can be used in the treatment of pain and relax tense muscles, warm compresses are done with a bottle filled with warm water with a temperature of 37-40o C by conduction where heat transfer occurs from the bottle to the stomach so that the compressed stomach becomes warm. This causes dilation of blood vessels in the painful area and increased blood flow in the area. The feeling of warmth in the abdomen can increase psychological relaxation and a sense of comfort, so that with a sense of comfort can reduce the response to pain that was originally felt (Dahlan and Syahminan, 2017).

This theory is in line with the research of Colin, et al (2018) entitled the effect of giving warm water compresses on reducing the intensity of dysmenorrhea pain in adolescent girls at SMA Negeri 10 Bengkulu City, where the results showed that there was an effect of giving warm water compresses on reducing the intensity of dysminorrhea pain in adolescent girls at SMA Negeri 10 Bengkulu City obtained a value of Z = -4.801 with a p-value = 0.000.

The results of Natalia's research (2018) with the title the effect of warm compresses on the intensity of menstrual pain in class X students of SMK YPIB Majalengka Majalengka Regency showed that before warm compresses less than half (29.4%) of female students experienced severe pain intensity, while after warm compresses more than half (52.9%) of female students experienced moderate pain intensity. There is an effect of warm compresses on menstrual pain intensity in class X students of SMK YPIB Majalengka Majalengka Regency in 2018 ( -value = 0.0001) and the magnitude of the decrease in pain intensity before and after warm compresses is 22.95.

The results of a pre-survey conducted on August 6, 2021 on class X students at SMK Darul Fikri Sumanda, Tanggamus Regency found that out of 10 students who experienced dysmenorrhea, as many as 8 (80%) students did not know how to reduce dysmenorrhea pain, usually only taking analgesic drugs in pain that could not be tolerated so that it interfered with teaching and learning activities and rest and there were only 2 (20%) students who knew the treatment to reduce dysmenorrhea pain with warm compresses.

Based on the description above, the authors are interested in researching the effect of warm

compresses on dysmenorrhea in female students at SMK Darul Fikri Sumanda, Tanggamus Regency.

## II. RESEARCH METHODOLOGY

This type of research is quantitative, research design quasi experiment design using a one group pretest and posttest approach. The research was carried out at SMK Darul Fikri Sumanda Tanggamus on November 10, 2021 - January 31, 2022. The sample was 46 female students with dysminorrhea sampling using total sampling. Compresses were carried out with a water ratio of 250 CC of cold water to 200 CC of hot water, a temperature of 40-46 ° C carried out for 20 minutes with an interval of 10 minutes changing hot water to maintain the temperature. Pain was assessed by numeric rating scale with wilcoxon test data analysis.

## III. RESULTS AND DISCUSSION RESEARCH RESULTS

**Univariate Analysis Results**

**a. Average dysminorrhea pain before**

| | N | Median | S.D | Min – Max |
|---|---|---|---|---|
| Average pain before | 46 | 5.00 | 0.784 | 4 - 6 |

The results of data processing in the table can be explained that menstrual pain (dysminorrhea) in female students before being given a warm compress with a median value of 5.00 with S.D 0.784 and a minimum value of 4 and a maximum of 6.

**b. Average dysminorrhea pain after**

| | N | Median | Std Deviation | Min – Max |
|---|---|---|---|---|
| Average pain after | 46 | 4.00 | 1.030 | 2 – 6 |

The results of data processing in table 4.2 can be explained that menstrual pain (dysminorrhea) in female students after being given a warm compress with a median value of 4.00 with S.D 1.030 and a minimum value of 2 and a maximum of 6.

**Bivariate Analysis Results**

**a. Effect of warm compress on dysminorrhea pain**

| Average pain | N | Median | Std. Deviation | CI 95% | P-Value |
|---|---|---|---|---|---|
| Before | 46 | 5.00 | 0.784 | 4 – 6 | 0.000 |
| After | 46 | 4.00 | 1.030 | 2 – 6 | |

Based on table 4.4 presents the results of the analysis to see the effect of giving warm compresses on dysminorrhea pain, obtained a p-value of 0.000 (<0.05) so it can be concluded that there is an effect of giving warm compresses on dysminorrhea pain.

## IV. DISCUSSION

**Univariate Analysis**

**a. Menstrual pain (dysminorrhea) before**

The results of data processing in table 4.1 can be explained that menstrual pain (dysminore) in female students before being given a warm compress has a median value of 5.00 with a Std deviation of 0.784 and a minimum value of 4 and a maximum of 6.

In line with the results of research by Dahlan and Syahminan (2017) with the title the effect of warm compress therapy on menstrual pain (dysmenorrhea) in female students of Simpang Haru Padang Banking Vocational School. The results showed that the average respondent's pain before being given a warm compress was 5.60.

In line with the theory according to Haryono (2016) in the obstetric and gynecological section of several disorders during menstruation or menstruation including: menstrual pain / dysminorrhea, late menstruation, irregular menstruation. Dysminorrhea is pain during menstruation, usually with cramping and centered in the lower abdomen. Pain complaints can vary from mild to severe.

The severity of dysminorrhea is directly related to the duration and amount of menstrual blood. In general, menstrual pain appears due to dysrhythmic contractions of the myometrium that display one or more symptoms, ranging from mild to severe pain in the lower abdomen, buttocks and spasmodic pain on the medial side of the thigh (Haryono, 2016).

Many ways can be done to overcome and cure menstrual pain. Efforts made to reduce pain during menstruation are exercise (gymnastics), warm water compresses, taking painkillers, drinking turmeric water, bent position, adequate rest (Haryono, 2016). Then preventive efforts that can be done by people with menstrual pain, without the need for drugs. That is the way is to pay attention to the pattern and menstrual cycle, then take anticipatory steps so as not to experience menstrual pain. this step is usually taken by those who experience menstrual pain but in a non-severe condition (Anurogo & Wulandari, 2011).

According to the researcher's assumption, most respondents with pain in the moderate category (pain score 4-6). At this time they can still carry out activities but feel uncomfortable and the pain experienced is felt to interfere, especially learning activities. The efforts made by most respondents were to rest alone as well as others, namely by drinking turmeric acid. All students with moderate category pain, namely the range of pain scores 4-6, with grimacing facial expressions, faces look unhappy and look sad because they are in pain.

**b. Menstrual pain (dysminorrhea) after**

The results of data processing in table 4.2 can be explained that menstrual pain (dysminorrhea) in female students after being given a warm compress with a median value of 4.00 with a Std deviation of 1.030 and a minimum value of 2 and a maximum of 6.

In line with the results of Natalia's research (2018) with the title of the effect of warm compresses on the intensity of menstrual pain in class X students of SMK YPIB Majalengka, Majalengka Regency. The results showed that before warm compresses less than half (29.4%) of female students experienced severe pain intensity, while after warm compresses more than half (52.9%) of female students experienced moderate pain intensity.

Non-pharmacologically Warm compresses are very useful in reducing dysmenorrhea pain where muscle relaxation occurs and reduces uterine ischemia so that pain can be reduced or lost Warm compresses are very effective in reducing dysmenorrhea pain because they do not require a lot of money, long time, and heavy physical labor but must remain careful because too hot water can cause irritation to the skin (Dahlan and Syahminan, 2017).

Warm compresses can be used in the treatment of pain and relax tense muscles, warm compresses are done with a bottle filled with warm water with a temperature of 37o - 400 C by conduction where heat transfers from the bottle to the stomach so that the compressed stomach becomes warm. This causes dilation of blood vessels in the painful area and increased blood flow in the area. The feeling of warmth in the abdomen can increase psychological relaxation and a sense of comfort, so that with a sense of comfort can reduce the response to pain that was originally felt (Dahlan and Syahminan, 2017).

According to the assumptions of researchers, respondents with dysminorrhea and experienced a decrease in pain from moderate to mild pain, this is because the provision of warm compresses causes the muscles in the compressed area to become less stiff and relaxed so that they neutralize the pain that is being felt by the respondent which results in a decrease in pain. The average respondent is with moderate pain because at this time they can still carry out activities but feel uncomfortable, the pain that occurs is felt to be disturbing, especially in learning activities, efforts that can be made for mild and moderate dysminorrhea are pharmacological therapies such as drug consumption and non-pharmacology, one of which is with warm compresses.

**Bivariate Analysis**

Based on the results of data processing, there is an effect of giving warm compresses on dysminorrhea pain, obtained a p-value of 0.000 (<0.05) so it can be concluded that there is an effect of giving warm compresses on dysminorrhea pain.

In line with the results of research by Colin, et al (2018) with the title the effect of giving warm compresses on reducing the intensity of dysmenorrhea pain in adolescent girls at SMA Negeri 10 Bengkulu City. The results of this study showed that there was an effect of giving warm water compresses on reducing the intensity of dysmenorrhea pain in adolescent girls at SMA Negeri 10 Bengkulu City, obtained a value of Z = -4.801 with a p-value = 0.000.

In line with the results of Natalia's research (2018) with the title of the effect of warm compresses on the intensity of menstrual pain in class X students of SMK YPIB Majalengka, Majalengka Regency. There is an effect of warm compresses on the intensity of menstrual pain in class X students of SMK YPIB Majalengka Majalengka Regency in 2018 ( value = 0.0001) and the magnitude of the decrease in pain intensity before and after warm compresses is 22.95.

The warm compress technique is carried out by giving a bottle filled with water with a temperature of 40-46 ° C previously measured using a water thermometer that is stored in the area on the lower abdomen which is carried out on adolescents who are menstruating pain for 20 minutes with an interval of 10 minutes changing hot water to maintain the temperature. The conversion between hot and cold water is 250cc of cold water with 200cc of hot water so that a temperature of 40-46oC can be created. Warm compresses are given in the position of the respondent sitting leaning, the compress is done in the lower abdomen repeatedly (Maidartati, et al. 2018).

The warm compress used serves to dilate blood vessels, stimulate blood circulation, and reduce stiffness. In addition, warm compresses also function to relieve pain sensations. To get the best results, warm compress therapy is carried out for 15 minutes and measurements of

pain intensity are taken immediately after the compress is applied (Yuspita et al., 2018).

Warm compresses are very effective in reducing dysmenorrhea pain because they do not require a lot of money, long time, and heavy physical labor but must remain careful because too hot water can cause irritation to the skin (Dahlan and Syahminan, 2017).

According to the assumptions of researchers, warm compresses are effectively used for female students who experience dysminorrhea. Warm compresses need to be applied and taught to female students so that they are widely known to the public, especially to adolescents so that many adolescents participate in carrying out warm compresses to overcome dysminorrhea and not depend on pharmacology (analgesic drugs). The results of the study found a decrease in pain intensity, but with a score that was not so significant. This can be due to the acceptance of each person's body is different so that the compress that is distributed does not reduce pain.

At the time of the research, the respondents conducted the research not always on the first day of the respondent's menstruation, besides that dysminorrhea experienced by each person is uncertain, some on the first, second, third or fourth day. At the time of the study there were respondents with reduced pain and some who were still experiencing pain, this could make the average pain scale in moderate pain. As for pain with a decrease of 1-2 scales, it can be caused by a pathophysiological response from each respondent's body, which can be due to experiencing dysminorrhea due to reproductive organ abnormalities such as signs of cysts. Thus compresses can be applied to reduce dysminorrhea.

This conclusion is supported by the theory that pain is a condition in which a person feels an uncomfortable or unpleasant feeling caused by damage to tissue that has been damaged or that has the potential to be damaged or physiological on the sensory that causes pain, one of which is dysminorrhea pain. When before being given a warm compress, the average respondent with moderate category pain, namely the range of pain scores 4-6, with a grimace facial expression, the face looks less happy and looks sad due to holding back pain. They can still do activities but feel uncomfortable, the pain that occurs is felt to interfere, especially in learning activities. The limitation in this study is that the time of giving compresses is not biased at one time or at the same time because the date the respondent experiences menstruation is not the same so the researcher has to go back and forth so it takes a long time until the research is completed / all respondents get a warm compress.

## V. CONCLUSIONS AND SUGGESTIONS

### CONCLUSIONS

1. Average dysminorrhea pain in female students before being given a warm compress at SMK Darul Fikri Sumanda, Tanggamus Regency menstrual pain (dysminorrhea) in female students before being given a warm compress with a median value of 5.00, Std deviation 0.784 and a minimum value of 4 and a maximum of 6.
2. Average dysminorrhea pain in female students after being given a warm compress at SMK Darul Fikri Sumanda, Tanggamus Regency menstrual pain (dysminorrhea) in female students after being given a warm compress with a median value of 4.00, with a Std deviation of 1.030 and a minimum value of 2 and a maximum of 6.
3. There is an effect of giving warm compresses on dysminorrhea pain in the intervention group, obtained a p-value of 0.000 (<0.05).

## VI. ADVICE

1. Respondents
   It is hoped that the results of this study can provide information and knowledge about efforts to treat dysminorrhea with the warm compress method, then can do warm compresses to reduce pain during menstruation which can be applied when experiencing pain so as to reduce pain without using drugs.
2. For SMK Darul Fikri
   It is hoped that the results of this study can be input in order to socialize to students about handling dysminorrhea with warm compresses if there is an incident of dysminorrhea at school which results in students not being able to study.
3. For Aisyah Pringsewu University
   It is hoped that the results of this study can provide library discourse regarding warm compresses to reduce pain during menstruation which can be applied when experiencing dysmenorrhea pain so that the results of the study can also be useful for female students who experience dysmenorrhea to treat with warm compresses.
4. For Further Researchers
   It is hoped that the results of this study can be used as a reference and reference material for conducting further research on the effect of warm compresses on dysminorrhea in students by adding other variables, for example the comparison of giving aroma therapy with warm compresses and with different research methodologies such as using two group comparisons or control groups.

## VII. LITERATURE


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