



**INTERNASIONAL CONFERENCE ON
MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE**

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

**Effectiveness of Warm Compresses Against Dysmenorrhea in
Adolescents in the Sumowono Community Health Center
Working Area**

Ayu Nurmulia¹

¹*Program Magister Terapan Kebidanan, Poltekkes Kemenkes Semarang*

Corresponding author: email : ayunurmulia2000@gmail.com

Article history

Posted : 2024-11-11

Reviewed : 2024-10-04

Received : 2024-09-05

ABSTRACT

Dysmenorrhea is abdominal pain that originates from uterine cramps and occurs during menstruation. During menstruation, women sometimes experience pain. The nature and level of pain varies, from mild to severe. This condition is called dysmenorrhea, which is a condition of severe pain and can interfere with daily activities. The purpose of this study was to determine the effectiveness of using warm compresses to reduce the intensity of dysmenorrhea pain in adolescent girls. The type of research used is a quasi-experimental research model because this research attempts to reveal cause and effect relationships. Design the research design with *one group pre-test and post-test design*. This research design uses one group of subjects who have been determined by taking measurements before and after the intervention. The analysis results t-test dependent (Paired sample t-test) shows the p-value significance 0.003. This shows that if the p value is ≤ 0.05 , it can be concluded that H_a is accepted, meaning that warm compresses are effective in reducing dysmenorrhea pain in Piyanggang Village, the Sumowono Health Center working area. In conclusion, non-pharmacological therapy with warm compresses is effective in reducing the intensity of dysmenorrhea pain in adolescents.

Keywords: dysmenorrhea, menstruation, teenagers.



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

Introduction

Teenagers have a very important role in the sustainability of the future of a nation. Teenagers are potential individuals of productive age who in time will become actors in development so they must be prepared to become quality human resources. The process of adolescent development is very vulnerable and full of risks, so good personal health is needed (Wirenviona & Riris, 2020).

The current condition of teenagers cannot be separated from many challenges in achieving prosperous reproductive health. Several problems actually threaten teenagers, especially those related to reproductive health, which will impact their quality as development actors and their readiness to build a family. Puberty or early sexual maturity (internal aspect) and accessibility to various media (external aspect) as well as the negative influence of peers make teenagers vulnerable to risky sexual behavior (Wirenviona & Riris, 2020).

Menstruation is a natural process that occurs in every woman. Menstruation is regular bleeding from the uterus as a sign that the uterine organs are functioning properly. In general, teenagers will experience menarche at the age of 12 to 16 years. This period will change behavior from several aspects, for example psychology and so on. Women usually experience menstruation (menarche) for the first time at the age of 12-16 years. The normal menstrual cycle occurs every 22-35 days, with a menstrual period of 2-7 days (Nainar et al., 2024)

Menstruation or menstruation is periodic and cyclic bleeding from the uterus, accompanied by shedding (desquamation) of the endometrium. The process of menstruation occurs through four stages, namely the menstrual phase, proliferation

phase, luteal/secretory phase, and ischemic phase (Proverawati & Misaroh, 2009).

Various problems that arise during menstruation are gynecological problems that are often complained of by teenagers, such as menstrual irregularities, menorrhagia, dysmenorrhoea, and other related symptoms (Syamsuryanita et al., 2024).

The problem of menstrual pain (Dysmenorrhea) is a problem that is often complained of when women come to the doctor or health worker regarding menstruation. This condition can get worse if accompanied by an unstable psychological condition, such as stress, depression, excessive anxiety, and excessive sadness or joy (Anurogo & Wulandari, 2011).

Dysmenorrhea is abdominal pain that originates from uterine cramps and occurs during menstruation. During menstruation, women sometimes experience pain. The nature and level of pain varies, from mild to severe. This condition is called dysmenorrhea, which is a condition of severe pain and can interfere with daily activities. Dysmenorrhea is a symptomatic phenomenon including abdominal pain, cramps and back pain. Gastrointestinal symptoms such as nausea and diarrhea may occur as symptoms of menstruation (Taviyanda et al., 2022).

According to data from the World Health Organization (WHO), the prevalence of dysmenorrhea in several studies shows a fairly high frequency, it was found that the incidence of dysmenorrhoea was 1,769,425 people (90%) of women who experienced dysmenorrhoea with 10-15% experiencing severe dysmenorrhoea. In America the percentage figure is around 60% and in Sweden around 72%. Meanwhile, the incidence of dysmenorrhoea in Indonesia is no less high than in other countries in the world (Arlina et al., 2022).



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

The percentage of incidence of dysmenorrhea in Indonesia is 64.25%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea and the incidence of dysmenorrhea ranges from 45-95% among women of productive age. Dysmenorrhea occurs in adolescents with a prevalence ranging from 43% to 93%, where around 80% of adolescents experience mild dysmenorrhoea (Maufiroh et al., 2023).

Warm compresses are a non-pharmacological method that is considered very effective in reducing pain or muscle spasms. Heat can be transferred through conduction, convection and conversion. Giving warm compresses uses the principle of delivering heat through conduction, namely by attaching the bladder with the desired temperature to the stomach so that there will be a transfer of heat from the hot bladder into the stomach and will reduce menstrual pain (because women with menstrual pain experience uterine contractions and smooth muscle contraction) (Astari & Audina, 2020).

Warm compresses can be used to treat pain and relax tense muscles. Warm compresses are done with a bottle filled with warm water with a temperature of 37-40°C by conduction where heat is transferred from the bottle to the stomach so that the compressed stomach becomes warm. This causes widening of the blood vessels in the area experiencing pain and increased blood flow in the area. The feeling of warmth in the stomach can increase psychological relaxation and a sense of comfort, so that the feeling of comfort can reduce the response to pain that was previously felt (Astari & Audina, 2020)

Research Method

This research was carried out in Piyanggang Village, Sumowono Community Health Center working area, 8 July – 22 July 2024. Sampling is the process of selecting a portion of the population that can represent the existing population. The samples taken by researchers were 5 teenagers in Piyanggang Village who experienced dysmenorrhea. This research is a quasi-experimental research model because this research attempts to reveal cause and effect relationships. Design the research design with *one group pre-test and post-test design*. This research design uses one group of subjects who have been determined by taking measurements before and after the intervention. This research was conducted to determine the effectiveness of using warm compresses on dysmenorrhea in young women by being given an initial test (pre-test) then given warm compress treatment for 2 days and given a final test (post-test). Data processing is carried out through the stages of editing, coding, entry, cleaning and checking again to ensure the data is free from errors, then the data is analyzed.

Results and Discussions

The results of this research can be presented with the characteristics of respondents, the distribution of research variables, and the results of bivariate analysis. The distribution of respondent characteristics can be seen in the following table:

1. Characteristics of Respondents Based on Age and Length of Menstruation

Table 1 Distribution of Characteristics of Research Respondents in Piyanggang Village, Sumowono Health Center Working Area in 2024



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

Variable	Frequency (f)	Percentage (%)
Age		
16 years	1	20
17 years	2	40
18 years	2	40
Total	5	100
Length of Menstruation		
> 7 Days	3	60
< 7 Days	2	40
Total	5	100

Table 4.1 provides information on the characteristics of research subjects with the largest proportion being teenagers who experienced dysmenorrhea aged 17 years and 18 years (40%), and those who experienced menstruation lasting more than 7 days (60%).

Based on the research results, it shows that the majority of respondents who experienced dysmenorrhea were around 17 years old (40%) and 18 years old (40%), Due to the stage of growth and physical development, dysmenorrhea affects between 60-80% of teenagers. This is in accordance with Setiawati's (2019) research according to age group, it appears that the 15-17 year age group has the largest percentage of respondents who report experiencing dysmenorrhea (83%). Due to the development of the reproductive system and major hormonal changes that occur during adolescence[10].

The results of previous research based on collected data, the average age of respondents was 15.87 years, ranging from 15 to 17 years. Pretest measurements show that the majority of respondents experience menstrual pain on a scale of 2 which is considered mild

discomfort, while posttest measurements show that the majority of respondents experience menstrual pain on a scale of 1 which is considered not painful [11].

Based on the research results, it shows that based on the length of menstruation, the majority of respondents experienced menstruation lasting more than 7 days, namely (60%). Women who experience dysmenorrhea have higher intrauterine pressure and have twice as many prostaglandin levels in the blood during the menstrual period, therefore, in women who experience primary dysmenorrhea, irregular and uncoordinated uterine contractions that occur in the uterus will also occur more frequently. If abnormal uterine activity continues, reduced blood flow will occur, resulting in uterine ischemia or hypoxia which causes pain.(Ammar, 2016)

2. Dysminorrhea Pain Before Applying Warm Compresses to Adolescents

Table 2 Frequency Distribution of Disminorrhea before giving Warm Compress to teenagers in Piyanggang Village, Sumowono Health Center Working Area, 2024

Decrease	Frequency (f)	Percentage (%)
No pain	0	0
Mild pain	0	0

Nurmulia : Effectiveness of Warm Compresses Against Dysmenorrhea in Adolescents in the Sumowono Community Health Center Working Area



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

Moderate pain	2	40
Severe pain	3	60
Pain is very severe	0	0
Total	5	100

Based on table 4.2 above, it shows that of the 5 respondents who experienced moderate dysmenorrhea there were 2 respondents (40%), and 3 respondents (60%) had severe dysmenorrhea.

The research results showed that from of the 5 respondents who experienced dysmenorrhea before the warm compress was applied, 2 respondents (40%) experienced moderate dysmenorrhea and 3 respondents (60%) experienced severe dysmenorrhea. Dysmenorrhea is menstrual abdominal pain with cramping in the lower abdomen that occurs during menstruation. Pain may be accompanied by nausea, vomiting, headache. Complaints of

menstrual pain vary from mild, moderate and severe (Oktavianto, 2022). Adolescents who experience dysmenorrhoea will affect their academic activities and solutions. According to (Nikmah, 2018) . If dysmenorrhoea is not treated immediately, it will affect the quality of life such as decreased activity, discomfort, and fatigue anger, mood disorders, lack of concentration and changes in appetite.

3. Dysminorrhea Pain After Applying Warm Compresses to Teenagers

Table 3 Frequency Distribution of Disminorrhea after being given Warm Compress to teenagers in Piyanggang Village, Sumowono Community Health Center Working Area, 2024

Decrease	Frequency (f)	Percentage (%)
No pain	0	0
Mild pain	3	60
Moderate pain	2	40
Severe pain	0	0
Pain is very severe	0	0
Total	5	100

Based on table 4.3 above, it shows that of the 5 respondents who experienced mild dysmenorrhea, 3 respondents (60%), and 2 respondents (40%) experienced moderate dysmenorrhea.

The research results showed that from The 5 respondents who received warm compresses were 3 respondents (60%) who experienced mild dysmenorrhea, and 2 respondents (40%) who experienced moderate dysmenorrhea.

Warm compresses are very effective and relieve menstrual cramps (dysmenorrhea)

or muscle spasms. Increased temperature can cause blood vessels to dilate. In this case, channeling the increased temperature through a warm compress can help reduce pain. A warm sensation in the stomach can increase relaxation and psychological comfort, which is the initial response to pain after a hot compress is applied to relieve pain (Dahlan, 2017)



**INTERNASIONAL CONFERENCE ON
MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE**

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

4. Effectiveness of Warm Compresses Against Dysminorrhea Pain in Adolescents

Table 4 Effectiveness of Warm Compresses on Dysmenorrhea in Adolescents in Piyanggang Village, Sumowono Health Center Working Area, 2024

Paired Samples Test										
Paired Differences										
		M	Mean	Std. Deviation	Std. Error	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
						Lower	Upper			
Pair 1	Disminor Pre test - Disminor Post test	3.000	1.000	.447	1.758	4.242	6.708	4	.003	

Table 4.4 provides information from the results of SPSS 25 analysis using statistical methods T-Test. After applying warm compresses for 2 days with a duration of 15-20 minutes, significant results were obtained with a p-value of 0.003, so it can be concluded that warm compresses are effective in reducing dysmenorrhea pain in Piyanggang Village, the Sumowono Community Health Center working area.

Analysis results t-test dependent (Paired sample t-test) shows the p-valuevalue significance 0.003. This shows that if the p value is ≤ 0.05 , it can be concluded that H_a is accepted, meaning that warm compresses are effective in reducing dysmenorrhea pain in Piyanggang Village, the Sumowono Health Center working area.

According to previous research, treating dysmenorrhoea without medication is safe because it does not have side effects like medication. Non-drug practices include warm compresses, abdominal stretching exercises, massage, yoga, relaxation, crystal therapy oil

and music. When applying heat to an area of the body it sends signals down the spinal cord to the hypothalamus. When heat-sensitive receptors in the hypothalamus are stimulated, the effector system sends signals that stimulate sweating and peripheral vasodilation. Changes in the size of blood vessels improve oxygen flow, prevent muscle spasms, create a feeling of warmth, relax body muscles and relieve pain (Agustin, 2017).

Other research also says that warm compresses are said to be an alternative therapy to relieve menstrual pain. Always pay attention to doing it correctly so that its



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

effectiveness is optimal, with the effect of improving blood circulation, reducing pain and reducing muscle spasms. Pain caused by menstruation can be relieved with non-pharmacological therapy such as warm compresses. Helping sufferers feel comfortable by using water or tools to warm important parts of the body. Warm compresses help in relieving dysmenorrhea pain due to muscle relaxation and in reducing uterine ischemia to reduce or eliminate pain. From the results of

Conclusion

Non-pharmacological therapy with warm compresses is effective in reducing the intensity of dysmenorrhea pain in adolescents. However, the small sample size and the absence of control for confounding variables by researchers such as pharmacological treatment may bias the results of the analysis. Research with a larger sample and controlling for confounding variables in the future will increase confidence about the effectiveness of warm compresses in treating dysmenorrhea in adolescents.

The majority of teenagers who experienced dysmenorrhea experienced a reduction in pain after using a warm compress in Piyanggang village, Sumowono Health Center working area.

Acknowledgement

Thank you to Sumowono Community Health Center Working Area and all participant

Conflic of Interest

The authors have no conflicts of interest

Reference

- Agustin. (2017). Hubungan Usia Menarche Dengan Kejadian Disminorea Pada Remaja Putri Di SMP N 17 Surakarta. *Jurnal Ilmiah Maternal*.
- Ammar. (2016). Faktor Risiko Disminore Primer Pada Wanita Usia Subur Di Kelurahan Ploso Kecamatan Tambaksari Surabaya. *Jurnal Berkala Epidemiologi*, 4(1).

research before using the warm compress method, many people experienced moderate pain and after using this method the number of cases actually decreased, on the mild pain scale. Compresses Warm water is effective in reducing menstrual pain and does not require a lot of money, time and energy, but you have to be careful because warm water can irritate the skin (Hanifah AN, 2020)

- Anurogo, D., & Wulandari, A. (2011). *Cara Jitu Mengatasi Nyeri Haid*. Andi.
- Arlina, A., Farahdiba, I., & Puspita, W. D. (2022). Hubungan Pengetahuan Tentang Disminorea Dengan Perilaku Penanganan Disminorea Pada Remaja Putri Di Pondokpesantren Mizanul 'Ulum Sanrobone Kab. Takalar Tahun 2022. *Garuda Pelamonia Jurnal Keperawatan*, 4(2).
- Astari, R. Y., & Audina, C. (2020). Effect of Warm Compress, Ginger Drink and Turmeric Drink on The Decrease in The Degree of Menstrual Pain. *JURNAL KEBIDANAN*, 10, 67–73. <http://ejournal.poltekkes-smg.ac.id/ojs/index.php/jurkeb/index>
- Dahlan, A. (2017). *Pengaruh Terapi Kompres Hangat Terhadap Nyeri Haid Disminoreaa pada Siswi SMK Perbangkan Simpang Haru Padan*.
- Hanifah AN, K. S. (2020). *Efektifitas Kompres Hangat Terhadap Penurunan Nyeri Disminoreaa Dengan Skala Bourbanis Pada Remaja Putri Di Smpn 1 Kartoharjo Magetan*.
- Maufiroh, M., Handoko, G., & Suhartin. (2023). Efektifitas Jalan Kaki Terhadap Tingkat Nyeri Menstruasi (Disminore) Pada Remaja Putri. *Jurnal Penelitian Perawat Profesional*, 5(1), 203–208. <http://jurnal.globalhealthsciencegroup.com/index.php/JPPP%0AEfektifitas>
- Nainar, A. A. A., Amalia, N. D., & Komariyah, L. (2024). The Relationship between Knowledge about Menstruation and Readiness for Menarche in Primary School Students in



INTERNASIONAL CONFERENCE ON MULTIDISCIPLINARY APPROACHES IN HEALTH SCIENCE

VOLUME 1 , ISSN 3032-4408 (Online)

<https://ejournal.poltekkes-denpasar.ac.id/index.php/icmahs>

- South Tangerang City. *Jurnal Ilmiah Keperawatan Indonesia*, 7(1). <https://jurnal.umt.ac.id/index.php/jik/index>
- Nikmah, A. N. (2018). Pengaruh Abdominal Sretching Terhadap Perubahan Nyeri Disminoreaa Primer Pada Remaja Putri. *Jurnal Kebidanan*, 4(3), 119–123.
- Oktavianto, E. (2022). *Penanganan Nyeri Disminoreaa pada remaja Putri dengan mengaplikasikan inovasi magic-cool Aromatherapy Lavender*.
- Proverawati, A., & Misaroh. (2009). *Menstruasi Pertama Penuh Makna*. Nuha medika.
- Syamsuryanita, Syarif, S., & Ikawati, N. (2024). Pengaruh Air Kelapa Hijau Terhadap Penurunan Nyeri Haid (Disemnore) Pada Remaja Putri di SMPN 20 Kendari Tahun 2024. *JURNAL LIFE BIRTH*, 5, 112–125. <https://doi.org/https://doi.org/10.37362/jlb.v8i1.1379>
- Taviyanda, D., Richard, S. D., & Rimawati. (2022). Pengaruh Pendidikan Kesehatan terhadap Tingkat Pengetahuan Remaja Putri tentang Penanganan Dismenore dengan Kompres Hangat di SMA Katolik Santo Augustinus Kediri. *Jurnal Kesehatan*, 11(2), 107–114.
- Wirenviona, R., & Riris, Dalem Chyntia. (2020). *Edukasi Kesehatan Reproduksi Remaja*. Pusat Penerbitan dan Percetakan UNAIR.