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The Effect of Warm Compress on Lowering Dysmenorrhea Pain

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ABSTRACT

Introduction: dysmenorrhea occurs during the menstrual period which can be a gynecological problem characterized by lower abdominal pain, if the pain is not overcome and unbearable it can cause obstruction of normal activities to a sign of a reproductive disorder. Warm compress relaxation therapy is a nursing intervention that can reduce the pain scale in patients with dysmenorrhea.

Objective: his study was conducted with the aim of proving the effectiveness of warm compresses on reducing the pain scale of dysmenorrhea and preventing activity barriers in STIKes Muhammadiyah Ciamis female students who are menstruating.

Method: his study uses 2 time scale pain measurements, namely pre-test and post-test with a pre experimental design. The population in this study were 112 people with a total of 30 respondents using the accidental sampling technique along with inclusion and exclusion criteria. Statistical data analysis used the Wilxocon-non-parametric test with the SPSS version 20 application.

Result: The pre-test measurement the majority of the pain scale suffered by respondents, namely scale 3 as many as 13 respondents (43.30%) and on the results of the post-test pain scale measurement or after being given a compress intervention warm majority decreased on a scale of 1 as many as 19 respondents (63.30). The results of the non-parametric Wilcoxon test showed a significant number of value < value or 0.000 < 0.05 which stated that there was a significant relationship between giving warm compress therapy to reducing the pain scale of dysmenorrhea.

Conclussion: his significance value can be used as a reference for doing warm compress therapy to reduce the pain scale of dysmenorrhea with economical and low side effects.

INTRODUCTION

Menstruation is a natural process that occurs in women as a sign of the functioning of the reproductive system by the release of endometrial lining and unfertilized eggs out of the body through regular bleeding (Isnania, Rosyidah, & Ruliati,

2018). Adolescent girls generally experience their first menstruation at the age of 10 to 16 years. Menstruation itself occurs due to the influence of reproductive hormones including estrogen and progesterone, the influence of these hormones causes several physiological problems, one of which is dysmenorrheal (Pundati, Sistiarani, & Hariyadi, 2016).

Dysmenorrhea is a condition of pain that occurs in the abdomen caused by uterine cramps during the menstrual cycle (Rita & Sari, 2019). Dysmenorrhea itself is a major gynecological problem that often occurs among women so that it can cause obstruction of normal activities (Ismail, Kundre, & Lolong, 2015). Dysmenorrhea is described with feelings of pain in the lower abdomen, aches, nausea, vomiting, weakness, dizziness and fainting. (Rustam, 2014). The pain occurs briefly before the onset or during menstruation (Rejeki, Khayati, & Yunitsari, 2019).

The World Health Organization (WHO) states that as many as 1,769,425 people (90%) women experience dysmenorrhea and 10-15% of them experience severe dysmenorrhea. In Indonesia alone, as many as 90% of women experience dysmenorrhea, but more do not report or visit a doctor. In research Arnis (2012) said that the incidence of dysmenorrhea in West Java is quite high with a prevalence of 54.9% women (Rahayu, Pertiwi, & Patimah, 2017).

Treatment of dysmenorrhea can be done in two ways, namely pharmacological and non-pharmacological (Shoaee et al., 2020). Pharmacological therapy commonly used to treat dysmenorrhea is the administration of non-steroidal anti-inflammatory drugs (NSAIDs) which can inhibit cyclooxygenase, thereby reducing the production of prostaglandins (Jahnavi, Reddy, Vasudha, & Narender, 2019).

However, pharmacological therapy has side effects on the digestive tract such as irritation of the gastric mucosa (Collnot, Ali, & Lehr, 2012) . Non-pharmacological therapies commonly used to treat dysmenorrhea include warm compresses, deep breath relaxation, warm baths, and consuming warm drinks that are high in calcium (Indumathi, 2012). Non-pharmacological therapy that is often used to treat dysmenorrhea is warm compresses (Yunianingrum, Widyastuti, & Margono, 2018).

A warm compress is a method of giving a warm effect using a bladder filled with warm water and stored on the painful body part followed by massage (Lismayanti, et al., 2021). Warm compresses can reduce pain due to muscle stiffness, can increase muscle relaxation and can provide a warm feeling in the painful part so that pain is reduced and does not interfere with daily activities (Firmansyah, et al., 2021) (Ischak, et al., 2021).

Giving a warm compress to the painful area uses the principle of conduction heat transfer, so it will not cause injury to the skin because the heat in the bladder, the hot water will not enter the tissue. However, if a warm compress is given for 1 hour or more continuously, it will cause the skin to turn red. Therefore, giving warm compresses must be done periodically (Susanti, Rusminah, & Putri, 2016).

The high incidence of dysmenorrhea in female students is the reason for conducting this study to find the effect of warm compresses on reducing dysmenorrhea pain at STIKes Muhammadiyah Ciamis. Researchers feel this research needs to be done as an effort to overcome the problem of the incidence of

dysmenorrhea, especially to prevent obstacles in daily activities during menstruation.

METHOD

This type of research is a quantitative analysis using a pre-experimental design with a one-group pre-test and post-test approach. The population in this study were all students of the D-III Nursing Study Program at STIKes Muhammadiyah Ciamis as many as 112 people.

Samples were obtained as many as 30 people using accidental sampling technique. The inclusion criteria in this study included women aged 17-25 years, had menstruated, able to write and read and were willing to fill out informed consent. As for the exclusion criteria, namely having a chronic disease, being in the process of being hospitalized, married, and using hormone therapy.

The instrument used in the form of pretest and post-test sheets containing the Mc pain scale. Gain Pain Questionnaire which is a pain intensity measurement scale using numerical signs 0 to 5 with the criteria 0 = no pain, 1 = mild pain, 2 = uncomfortable, 3 = suffering, 4 = very suffering, 5 = excruciating. Nursing intervention in the form of giving a warm compress on the lower abdomen with a temperature of 40 - 45ºC which had previously been measured using a water thermometer.

The intervention was given when menstrual pain was felt on the first day with a duration of 20 minutes and 10 minutes of changing water to maintain temperature. The type of data used is primary data or direct data from the pre-test and post-test results. This research was conducted on October 11, 2021 at the D-III Nursing Study Program of STIKes Muhammadiyah Ciamis. The data obtained were then analyzed univariately and bivariately using the statistical analysis application, namely SPSS version 20 for the window with the Wilcoxon-non-parametric test (Setiawan et al., 2021).

RESULT

Table 1. Sociodemographic Data

Age Variable	F	%	Mean	Standard Deviation
>18 Years	30	100	2.00	.000
Profession				
Student	30	100	2.00	.000
Income				
<=Rp. 500.000.00,-	30	100	2.00	.000
Education				
Senior High School	30	100	3.00	.000
Study Program				
Nursing Diploma	30	100	1.00	.000

Table 2. First Menstruation of Dysmenorrhea

First Period	F	%	Mean
9–10 years old	1	10.0	2.00
11–13 years old	22	76.7	2.00
14-17 years old	17	13.3	2.00

Table 3. Comparison of the pre and post-test dysmenorrhea pain scale

Interven-tion	Dysmenorrhea Pain Scale										Total	
	1	%	2	%	3	%	4	%	5	%	Total	%
Pre-test	2	6.67	4	13.30	13	43.33	7	23.30	3	10.00	30	100
Post-test	19	63.33	6	20.00	5	16.67	0	0.00	0	0.00	30	100
									Wilcoxon Test			0.000

DISCUSSION

Table 1 shows the statistical results of the sociodemographic analysis of respondents, the data states that all respondents are over 18 years old with an income of less than Rp. 5000.00, - and the last education is high school. This research was also conducted on D3 Nursing students of STIKes Muhammadiyah Ciamis who were in the dormitory. While the second table shows that 22 respondents (76.7%) experienced their first menstruation at the age of 11-13 years, 17 (13.3%) respondents experienced their first menstruation at the age of 14-17 years and 1 respondent (10.0%).

The decrease in the pre and post-test pain scales is shown in table 3. The pre-test dysmenorrhea pain scale, namely pain scale 1 as many as 2 people (6.67%), scale 2 as many as 4 people (13.30%), respondents with dysmenorrhea with a scale of 3 being the most, namely 13 people (43.3%), scale 4 as many as 7 people (23.30%) and scale 5 as many as 3 people (10.00%) of the total respondents 30 people (100.00%). Meanwhile, after the warm compress intervention, the pain scale of dysmenorrhea 1 was 19 people (63.30%), then on a scale of 2 as many as 6 people (20.00%), on a scale of 3 as many as 5 people (16.6%), while on a scale of 4 and 5 there was no 1 respondent experienced it. After the warm compress intervention, the scale decreased to scale 1,

dominating 19 people or 63.30% of the total respondents, 30 people (100.00%).

Before the intervention, the majority of the pain scale suffered by respondents was on a scale of 3 or can be categorized as moderate pain as many as 13 people (43.30%). Pain that occurs during menstruation can occur due to several factors such as psychological, hormonal, activity and risk factors (Nida & Sari, 2016). Psychological factors occur due to things such as emotions, stress, or feelings of a person so that vasoconstriction occurs in blood vessels and causes muscle spasm in the uterus.

Hormonal factors themselves occur due to hormonal imbalances that occur during the menstrual cycle, the presence of the hormones progesterone and estrogen can increase the response and stimulus to the uterine muscles. While the activity factor itself occurs due to excessive body activity resulting in increased oxygen demand which can cause some organs to experience blood circulation that is not smooth and ischemic, the activity itself can also cause muscle fatigue so that muscle spasms occur (Nida & Sari, 2016).

After the warm compress intervention, there was a decrease in the pain scale in patients with dysmenorrhea. The intervention was carried out by giving a bladder filled with warm water with a temperature of 40° - 45°C then compressing it on the lower abdomen for a duration of 15-20 minutes. This intervention was car-

ried out in the STIKes Muhammadiyah Ciamis dormitory for students who experienced dysmenorrhea which could interfere with daily activities. Prior to the intervention, respondents were given a questionnaire containing sociodemographic data and a pain scale to assess the respondent's pain scale before being given warm compresses to reduce the pain scale. Then after the intervention the respondent was given a post-test questionnaire to assess changes in the pain scale.

The results of statistical tests using the Wilcoxon test in this study showed that there was a significant relationship between warm compresses and a decrease in pain scale in patients with dysmenorrhea as evidenced by the value of value <α value or equal to 0.00> 0.05. in accordance with the theory that warm compresses can relax uterine muscle spasms during menstruation so that the pain scale can decrease.

This research is supported by the results of research conducted by Hawa Mahua (2018) at SMK Angkasa Singosari Malang with a significance value of value < value which is 0.01 <0.05 so that there is a relationship between decreasing dysmenorrhea pain scale and warm compresses (Mahua, Mudayatiningsih, & Perwiraningtyas, 2018).

Not only that, Rima Maratun's research (2016) conducted at SMK Muhammadiyah Watuelir Sukoharjo also said that there was a significant relationship between giving warm compresses and decreasing the pain scale in dysmenorrhea with value < value 0.00 <0.05 (Nida & Sari, 2016).

The effectiveness of this therapy has also been proven again through research conducted by Maiartati (2018) that the warm compress intervention to reduce

the dysmenorrhea pain scale with a significance value of value < value or 0.000 <0.05 (Maidartati, Hayati, & Hasanah, 2018).

Warm compresses can increase relaxation thereby reducing the pain felt by the sufferer (Suhanda, et al., 2021). Sufficient heat can reduce muscle spasm and improve circulation so that it can reduce pain due to muscle spasm and stiffness by providing a local feeling of warmth (Priscilla, Christina, Ningrum, & Fajria, 2012). Other physiological impacts of warm compress therapy are softening fibrous tissue, relaxing body muscles, increasing local skin temperature, increasing pain threshold and stimulating blood vessels (Nida & Sari, 2016).

The principle used in relaxation therapy with warm compresses to reduce the pain scale is induced heat delivery by attaching a jar filled with hot water to the painful limb.

CONCLUSION

The results of this study indicate a significant relationship between the provision of warm compresses therapy to decrease the pain scale of dysmenorrhea as evidenced by the results of the Wilcoxon statistical test that value <α value or 0.000 <0.05. so it can be concluded that warm compress relaxation therapy is useful for reducing the pain scale in patients with dysmenorrhea.

It is hoped that this research can be a reference for the implementation of pain management, especially in patients with dysmenorrhea which often occurs in women during the menstrual cycle. In addition to reducing the pain scale, this therapy is also considered to be more economical and has low side effects.

The author hopes that this research can be carried out on more respondents with a longer duration of time so that the effect is maximized.

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