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Reduce the level of dysmenorrhea menstrual pain with the Cupping Method

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Abstract

Background: *Dysmenorrhea is one of the most common menstrual disorders/problems and 90 % of women in the world experience dysmenorrhea complaints. The Special Region of Yogyakarta (DIY) itself has an incidence of dysmenorrhea experienced by students of productive age as much as 52%. The effects of dysmenorrhea on students include disruption of daily activities, difficulty concentrating and even being unable to attend classes. Management of dysmenorrhea can be done pharmacologically and non-pharmacologically. One of the non-pharmacological treatment efforts that can be done to overcome menstrual pain (dysmenorrhea) is dry cupping therapy.*
Methods: *The research design used in this study was pre-experimental with one group pretest and posttest design and did not have a comparison group (control). The research was carried out at the Global Solar Stikes Yogyakarta. The population of this study were all nursing students at STIKes Surya Global Yogyakarta (Class 2018-2021) with a total population of 421 students. The number of samples is 15 respondents with incidental sampling technique / Accidental Sampling. The researchinstrument used the Numeric Rating Scale (NRS). Method of data analysis using Wilcoxon test.*
Results: *Based on the Wilcoxon , there was a significant decrease in the pain scale before and afterthe dry cupping therapy with a p-value of 0.001 (p-value <0.05), the average pre-test was 4, 80 andthe post-test was 2.73.*
Conclusion*: There is an effect of dry cupping as a nursing intervention to reduce menstrual pain (dysmenorrhea).*

Keywords*: cupping, dysmenorrhea, pain*

1. Introduction

Adolescence is a transitional period marked by physical, emotional and psychological changes. One of the signs that a teenage girl has entered puberty is menstruation or menstruation, in which an unfertilized ovum accompanied by blood is released due to exfoliation of the uterine endometrium (Rambi & Bajak, 2019). One of the complaints that often occurs during menstruation is dysmenorrhea. Dysmenorrhea is pain that is felt in the lower abdomen and occurs before, during or after menstruation (Hikmah et al., 2018).

From the data obtained from the world health organization, namely the World Health Organization (WHO) in 2012, an incidence of 1,769,425 people or 90% of women in the world experience complaints of dysmenorrhea with 10% to 15% experiencing severe dysmenorrhea. In Indonesia, the incidence of dysmenorrhea is recorded at 64.25% of the total number of women in Indonesia, experiencing dysmenorrhea with variations of 54.89% experiencing primary dysmenorrhea and 9.36% experiencing secondary dysmenorrhea.

Dysmenorrhea (menstrual pain) can occur due to an increase in prostaglandins which then causes increased myometrial contractions resulting in reduced menstrual blood flow and the uterine wall muscles experience ischemia and endometrial disintegration (Andi & Setyawan, 2022). As a result, the impact of dysmenorrhea on young women/students includes taste disturbed comfort, decreased activity, disturbed sleep patterns, disturbed appetite, disturbed interpersonal relationships, difficulty concentrating on work and study. Pain also affects the emotional status of the feelings of adolescents who experience dysmenorrhea during menstruation, limiting their daily activities, especially learning activities at school (Puspita & Anjarwati, 2019)

From the explanation above, there is a need for both pharmacological and non-pharmacological treatment efforts to reduce the symptoms and effects caused by dysmenorrhea which can interfere with health and daily activities. Treatment of non-pharmacological therapy for reducing pain in primary dysmenorrhea, namely using warm compresses/warm baths, consuming analgesic drugs, regular exercise, acupuncture or acupressure, cupping and consuming herbal products, drinking more water, using aromatherapy, relaxing, drinking hot tea and much more (Maksum et al., 2019).

Cupping is a treatment prescribed by Allah SWT through Rasulullah SAW. One of the hadiths that mentions the virtues of cupping is in the hadith narrated by Ahmad which means "Rasulullah SAW, he said: 'Indeed among your best medicines is cupping". (HR. Ahmad). Wet cupping and dry cupping are commonly used cupping. Wet cupping is a cupping technique in which the patient's skin is sucked and then scarified in the form of stabbing/slashing and then repeated suctioning to optimize bleeding/CPS (Causative Pathological Substance). Dry cupping therapy itself is a cupping technique in which the patient's skin is sucked with a vacuum (headpiece) in a certain area, without any stabbing or bleeding procedures (Aris Setyawan et al., 2020)(A Setyawan et al., 2021).

Although wet cupping is known as a type of cupping that is sunnah and agreed upon by scholars and health experts because of its many benefits, besides that dry cupping also has several benefits, especially in dealing with pain, based on the results of research by (Agarini & Satria, 2022) Lestari and Sastrawan (2019) entitled "The Effects of Cupping Therapy Dry Against

Complaints of Lower Back Pain in Wanci Craftsmen in Bresela Village, Payangan District" explained that there was an effect dry cupping therapy in overcoming lower back pain in wanci craftsmen in Bresela Village, Payangan District.

According to the Gate Control Theory, this theory can explain that cupping therapy can reduce pain due to the strong suction of the cupping device which plays a role in busying the nerve pathways and transmitting pain signals to the brain. When another stimulus reaches the brain, the pain is blocked from reaching the brain, so the patient no longer feels pain (Aris Setyawan, 2022).

The results of a preliminary study conducted by interviewing 10 students of the Surya Global Yogyakarta STIKes association, obtained the result that, 10 students said they experienced dysmenorrhea (menstrual pain) during menstruation, the average location of pain felt was in the lower abdomen, back, and waist. Pain that is felt ranges from a scale of 4 to 8, which is included in the category of moderate pain to severe pain. Out of 10 students, 8 of them said that due to the pain they felt it could interfere with daily activities and the learning process. In dealing with pain, 2 students said they managed pain with analgesic drugs, and 8 others managed pain with warm compresses and rest. Based on the background above, the researcher is interested in conducting research with the title "Reduce the level of dysmenorrhea menstrual pain with the Cupping Method."

METHODS

Study Design

The research design used in this research was pre-experimental with one group pretest and posttest design

Sample/Participants

The sample in this study were 15 nursing students at STIKes Surya Global Yogyakarta. The sampling technique used in this study was non-probability sampling with accidental sampling.

Instrument

In this study, researchers used two types of data, namely primary data and secondary data. Primary data was obtained by measuring pain using the NRS pain measurement scale (Numeric Rating Scale) during the pre-test and post-test, and secondary data was obtained from theses, journals and literature studies.

Data Analysis

In this study, the first data analysis was carried out, namely the normality test. According to

the normality test results using the Shapiro Wilk test, the data were not normally distributed so that the data analysis technique used the Wilcoxon test.

Ethical consideration

Approval to conduct this research was given by Ethics Review Board Committee for Research Involving Human Research Subjects, with the code No 4.21/KEPK/SSG/III/2022

RESULTS

Tabel 1. Characteristics of respondents at STIKes Surya Global Yogyakarta (N= 15)

No	Characteristics of Respondents	n	%
1	**Usia *menarche* :**		
	a. < 12 years	3	20,0
	b. 12 – 16 years	12	80,0
	c. > 16 years	0	0
2	**Family history :**		
	a. Yes	7	46,7
	b. No	8	53,3
3	**IMT:**		
	a. Underweight	1	6,7
	b. Normal weight	13	86,6
	c. Obesity	1	6,7
4	**The impact of dysmenorrhea in activities:**		
	a. Bother	15	100,0
	b. Not bother	0	0

Table 2. Dysmenorrhea pain before and after dry cupping therapy intervention at STIKes Surya Global Yogyakarta (N= 15)

Pre-test			***Post test***		
Pain	**n**	**%**	**Pain**	**n**	**%**
1	0	0	1	2	13.3
2	0	0	2	5	33.3
3	2	13.3	3	5	33.3
4	6	40.0	4	1	6.7
5	4	26.7	5	2	13.3
6	0	0	6	0	0
7	2	13.3	7	0	0
8	1	6.7	8	0	0
9	0	0	9	0	0
10	0	0	10	0	0

Tabel 3. The results of the analysis of the Wilcoxon test on the decrease in menstrual pain scale (dysmenorrhea) before and after the intervention of dry cupping therapy at STIKes Surya Global Yogyakarta

Variabel	N	*Wilcoxon Mean*	Z	*Sig. (2-tailed)*
Pre test dan post test	15	8.00	-3.477	.001

DISCUSSION

A. Menstrual Pain Scale (Dysmenorrhea) Before Giving Dry Cupping Therapy in Intervention Group Nursing Student at STIKes Surya Global Yogyakarta.

Based on the research, it was found that the level of pain before the dry cupping therapy intervention was carried out, namely respondents who experienced pain scale 3 there were 2 respondents (13.3%), who experienced pain scale 4 as many as 6 respondents (40.0%), who experienced pain scale 5 as many as 4 respondents (26.7%), who experienced a pain scale of 7 as many as 2 respondents (13.3%), which experienced a pain scale of 8 as many as 1 respondent (6.7%). The level of pain at the time before the dry cupping therapy intervention was carried out obtained a minimum pain score of 3.00 and a maximum value of 8.00, with a mean value of 4.80 and a standard deviation value of 1.474. Dysmenorrhea (menstrual pain) can occur due to an increase in prostaglandins which then causes increased myometrial contractions resulting in reduced menstrual blood flow and the uterine wall muscles experience ischemia and endometrial disintegration (Andi & Setyawan, 2022)

Dysmenorrhea is caused by an increase in the release of the hormone prostaglandin F2 and muscle hormones secreted by the uterine emdometrium. The performance of prostaglandin F2 is to stimulate uterine contractions. Excretion of non-sterotic anti-inflammatory drugs (NSAIDs). Another hormone, vasopressin which is synthesized in the hypothalamus but secreted from the posterior pituitary, increases uterine contractility, slows blood flow to the uterus and causes ischemic uterine pain. In healthy women, secretion of the hormone vasopressin varies between menstrual cycles with an increase at the start of menstruation. In women with dysmenorrhea, vasopressin levels are seven times higher than women who do not experience dysmenorrhea (Fitri, 2020). Dysmenorrhea pain needs to be addressed because a young woman who is experiencing menstrual pain (dysmenorrhea) while participating in learning activities, can cause learning activities become distracted, not enthusiastic, concentration decreases and it is even difficult to concentrate so that the material presented during learning cannot be well received even to the point that some do not go to school (Putri et al., 2017).

Therefore, there is a need for treatment in order to reduce the pain scale of dysmenorrhea

which can be done pharmacologically or non-pharmacologically. However, pharmacological therapy with the use of drugs will lead to dependence on pain relief effects and cause other side effects, so non-pharmacological treatment is considered better (Purwaningrum, 2019). There are many non-pharmacological treatments to reduce pain in primary dysmenorrhea, one of which is cupping therapy (Maksum et al., 2019).

B. Menstrual Pain Scale (Dysmenorrhea) After Being Given Dry Cupping Therapy in the Intervention Group of Nursing Student at STIKes Surya Global Yogyakarta.

Based on the research, it was found that the level of pain after the dry cupping therapy intervention was carried out, namely that there were 2 respondents who experienced pain scale 1 (13.3%), who experienced pain scale 2 as many as 5 respondents (33.3%), who experienced a pain scale of 3 as many as 5 respondents (33.3%), which experienced a pain scale of 4 by 1 respondent (6.7%), and those who experienced a pain scale of 5 were 2 respondents (13.3%). The level of pain after being given the dry cupping therapy intervention obtained a minimum pain value of 1.00 and a value maximum 5.00 with an average mean value of 2.73 and has a standard deviation value of 1.223.

Dysmenorrhea felt by students causes activities to be disrupted, not only daily activities but can also interfere with learning concentration. Based on these problems, it is necessary to have an effective treatment for dysmenorrhea sufferers, namely the right treatment, fast, and without causing side effects. Non-pharmacological therapy is considered better because it does not cause side effects.

According to Laila (2011) one of the non-pharmacological therapies for dysmenorrhea is dry cupping therapy. Dry cupping therapy itself is a cupping technique in which the patient's skin is sucked with a vacuum (headpiece) in a certain area, without any stabbing or bleeding procedures. According to the Pain Gate Theory, this theory can explain that cupping therapy can reduce pain due to the strong suction of the cupping device which plays a role in busying the nerve pathways that transmit pain signals to the brain. When another stimulus reaches the brain, the pain is blocked from reaching the brain, so you don't feel pain anymore (Maksum et al., 2019).

Dry cupping is used as a complementary therapy in nursing practice to assist in pain relief. Cupping plays a role in reducing prostaglandin substances that are formed due to cell inflammation. In addition, cupping therapy can stimulate the release of endorphins and enkephalins. This substance functions to inhibit the transmission of pain signals to the brain. Through the cupping process, this substance is removed so that the pain felt by someone who has dysmenorrhea is reduced due to the strong suction of the cupping device (Sharaf & Murtadlo, 2012).

C. Effect of Dry Cupping Therapy on Menstrual Pain Scale (Dysmenorrhea) in Student of STIKes Surya Global Yogyakarta

Menstrual pain (dysmenorrhea) is a very prominent physical disorder in women who are menstruating in the form of pain/cramping in the abdomen. Dysmenorrhea occurs due to excessive production of prostaglandins during menstruation resulting in increased uterine contractions and vasoconstriction of blood vessels to decrease uterine flow, so that the uterus does not get adequate oxygen supply and causes pain (Purwaningrum, 2019).

Menstrual pain (primary dysmenorrhea) has a significant impact on students because it disrupts daily activities. Adolescent girls/students who experience menstrual pain (dysmenorrhea) during menstruation will feel limited in carrying out activities, especially learning activities at school/campus (Sharaf & Murtadlo, 2012)

Therefore, in order to reduce the pain scale of dysmenorrhea, combining pharmacological and non-pharmacological methods is a fairly effective way to control pain. However, use with method Pharmacology (drugs) sometimes cause long-term side effects and are considered unsafe, so researchers prefer to use non-pharmacological methods of pain management, namely dry cupping therapy.

According to Umar (Umar, 2012) the dry cupping method is a cupping method by means of subcutaneous suction/cupping with a certain negative pressure and not followed by the next action (scarification). The benefits and indications for dry cupping are for pain conditions and diseases that do not require excretory function Dry cupping is used as a complementary therapy in nursing practice to assist in pain relief. Cupping plays a role in reducing prostaglandin substances that are formed due to cell inflammation. In addition, cupping therapy can stimulate the release of endorphins and enkephalins. This substance functions to inhibit the transmission of pain signals to the brain. Through the cupping process, this substance is removed so that the pain felt by someone who has dysmenorrhea is reduced due to the strong suction of the cupping device (Sharaf & Murtadlo, 2012). This is in accordance with the Pain Gate Theory, this theory can explain that cupping therapy can reduce pain due to the strong suction of the cupping device which plays a role in busying the nerve pathways that transmit pain signals to the brain. When another stimulus reaches the brain, the pain is blocked from arriving so that you don't feel pain anymore (Purwaningrum, 2019).

Prior to the intervention, Respondents will be given a questionnaire and pretest to determine the scale of pain they feel. The provision of dry cupping therapy intervention starts from the pre-interaction stage, namely room preparation, preparation of tools and materials that have been sterilized, preparation of the therapist by wearing complete PPE, as well as preparation of respondents by being encouraged to wear masks and sign informed consent. Furthermore, the therapist carries out the interaction stage by explaining the procedure. Before starting, the therapist prays first and advises the respondent to take off his clothes and replace them with a special cupping suit (apron), then prepares the respondent in a comfortable position, either by sitting/on his stomach. Before cupping, the therapist first relaxes with sliding cupping. Next, the therapist allocates points to be cupped and disinfects the al-kahil and al-warik areas, then the therapist performs cupping/sucking to adjust the pull to the client's condition so that the cupping sucks the skin properly and cupping is done for 5 minutes.

In this study, in the intervention group there was a change in the value of the dysmenorrhea

pain scale after being given the intervention of dry cupping therapy in STIKes Surya Global Yogyakarta students. After being tested using the Wilcoxon test, the results obtained were a p-value of 0.001 (p <0.05), which means that there was an effect of giving dry cupping therapy on reducing the dysmenorrhea pain scale. In research conducted by Purwaningrum (Purwaningrum, 2019) with the title "Deep Cupping Therapy Reducing the Intensity of Dysmenorrhea and Vital Signs (Pulse and Blood Pressure)" the results obtained using the Mann Whitney U Test statistical test in the treatment and control groups were p = 0.000, so p <0.05 so it can be seen that there is a difference in the intensity of dysmenorrhea symptoms between the treatment group and the control group. So it can be concluded that dry cupping therapy can reduce the intensity of dimenorrhea and from this study it can also be concluded that there is a decrease in the pain scale of dysmenorrhea after being given dry cupping therapy.

CONCLUSION

Based on the results of the analysis and discussion above, it can be concluded that there was an effect of dry cupping therapy intervention on reducing menstrual pain scale (dysmenorrhea) in nursing students at STIKes Surya Global Yogyakarta. The results of data analysis using the Wilcoxon test obtained a p value of 0.001 (<0.05) which indicates the value is significant.

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