

Yoga Exercise on Reduction of Menstrual Pain among Adolescent Girls

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ABSTRACT

According to World Health Organization, the incidence of menstrual pain in the world is very large, on average more than 50% of women in every country had their periods. The prevalence of primary dysmenorrhea in Indonesia is quite high (60-70%) and 15% of them experience severe pain, generally occurring in adolescents and adults. Yoga is a relaxation technique, breathing and body positioning to increase strength, balance and reduce pain. This is because when doing exercise the body will produce endorphins. This yoga exercise training is carried out in order to reduce menstrual pain in adolescent girls. This research aimed to determine the effectiveness before and after yoga training on menstrual pain in adolescent girls at Husada Winaya Pratama Vocational High School (SMK) Pandeglang. The type of research is quasy experiment with pretest-posttest without control group design. The sampling technique used is purposive sampling with sample of number of 24 respondents. The instruments are based on the scale of numerical ratings scale and yoga booklets. The statistical test used is paired t-test. The results show that the average pain score before yoga was 2.92 while after yoga the average pain score decreased to 1.67. The conclusions and suggestions is yoga exercise composed of physical movement and respiration tehniques affect the lower pain in adolescent girls. The practice of yoga exercise can be applied as an alternative method to reducing menstrual pain and also as a refrence to adolescent girls about the non-pharacological treatment of dysminore.

Keywords: adolescent girls; primary dysmenorrhea; yoga exercise

INTRODUCTION

Menstruation is one of the natural processes of a woman, namely the process of shedding the inner wall of the uterus (endometrium) which comes out through the vagina (Prawirohardjo, 2014). Menstruation is a period of bleeding that occurs in women regularly every month during their fertile period unless pregnancy occurs. Many menstrual disorders are usually faced by a woman. Menstrual disorders usually cause physical discomfort for a woman that can interfere with activities. One of the menstrual disorders that cause physical discomfort is menstrual pain or dysmenorrhea (Laila, 2011).

According to the World Health Organization (WHO), the incidence of menstrual pain in the world is very large. On average, more than 50% of women in every country experience menstruation. In the United States, the prevalence of dysmenorrhea was estimated at 45-90%. Dysmenorrhea also results in absenteeism from work and school (Anurogo & Wulandari, 2011). The prevalence of dysmenorrhea in Asia was 74.5% of adolescents who have reached menarche have dysmenorrhea, 51.7% of these adolescents reported that it affects their concentration in class, 50.2% which limits their social activities, 21.5% which causes them missing school and 12.0% due to poor school performance (Wong & Khoo, 2010).

In Indonesia, it is estimated that 55% of women of reproductive age experience pain during menstruation. The incidence (prevalence) of menstrual pain ranges from 45-95% among women of reproductive age (Marlinda et al., 2013). The prevalence of primary dysmenorrhea in Indonesia was quite high (60-70%) and 15% of them experience severe pain, generally occurring in adolescents and adults. Pain occurs before menstruation, or the beginning of menstruation. Last a few hours, but sometimes several days. It is localized in the lower abdomen and may radiate to the thighs and lower back. The nature and degree of this pain varies, ranging from mild to severe. Not infrequently this pain is accompanied by nausea, body aches, and some even faint. Factors that play an important role as a cause of dysmenorrhea are psychological factors, constitutional factors, cervical canal obstruction factors, endocrine factors,

organic factors, allergic factors (Umayroh, 2018). Other factors that can worsen dysmenorrhea are the uterus facing backwards (retroversion), lack of exercise, psychological stress or social stress (Judha et al., 2012).

Yoga during menstruation is an exercise that consists of physical movements, deep breathing, and meditation to relieve problems that arise during menstruation. Yoga position that done while menstruating consists of positions that relax the body with breathing methods that can make mental condition much better. Yoga positions for menstruation can provide strength and stimulate the brain, chest, lungs, and heart and can maintain hormonal balance in the body (Rahayu, 2018).

According to Ningrum (2017) in research results it is proven that yoga is more effective than dysmenorrhea exercise in reducing menstrual pain (dysmenorrhea) (Ningrum, 2017). The results of Dewi's research (2015), In Al-Fattah Junior High School students Semarang showed that the average pain scale before yoga was 5.10, after yoga the pain scale decreased to 2.55 (Dewi et al., 2015). Manurung's research (2016) also showed that the average pain intensity before yoga was given was 5.20 in the experimental group and 5.13 in the control group. Meanwhile, after being given yoga on average there was a decrease in the intensity of dysmenorrhea pain, namely 4.20 in the experimental group and 5.20 in the control group (Manurung et al., 2016).

The results of a preliminary study conducted through interviews with 11 students at SMK Husada Winaya Pratama Pandeglang, of whom experienced primary dysmenorrhea every month. These students often experience menstrual disorders ranging from mild pain to severe pain. They complain of pain in the area around the lower abdomen of varying duration and intensity of pain. Some of these adolescent girls during menstruation there are taking painkillers such as mefenamic acid and others just let it go. In addition, this place has never done yoga exercises to reduce pain during menstruation.

Based on the description above, we are interested to determine the effectiveness before and after yoga training on menstrual pain in adolescent girls at Husada Winaya Pratama Vocational High School (SMK) Pandeglang.

METHOD

The methodology is quasy experiment with pretest-posttest without control group design. The population is adolescent girls between 15-18 years at Husada Winaya Pratama Vocational High School (SMK) Pandeglang. The sampling technique used is purposive sampling with sample of number of 24 respondents. The research is carried out at SMK Husada Winaya Pratama Pandeglang. The schedule of activities begins with the preparation of proposals, preparation for implementation which includes preparation of training materials, completeness and support for other activities. The tools used in the implementation of this activity are laptops and their devices, leaflets, cameras, ballpoints, numeric rating scale observation sheets (to assess the level of dysmenorrhea pain) and standard operating procedures for yoga exercises. In this study, researchers will give yoga exercises to respondents 2 times (morning and evening) a day for 3 days with a duration of 15 minutes for each yoga exercise. The statistical test used is paired t-test which previously tested data normality with skewness and kurtosis are less than ± 3 .



Figure 1. Counseling Activites on Dysmenorrhea



Figure 2. Yoga Exercise

RESULT

Characteristics of Respondents Based on Period Length

Table 1. Characteristics of Respondents Based on the Length of Period among Adolescent Girls

Length of period	f	%
<4 day	2	8.3
4-7 day	21	87.5
>7 day	1	4.2
Total	24	100

Based on table 1 shows that almost all of the respondents experienced menstruation for 4-7 days which was 21 respondents (87.5%). Menstruation causes uterine contractions, lasts longer causing the uterus to contract more often, and more prostaglandins are secreted. Excessive production of prostaglandins causes pain, while continuous uterine contractions cause uterine blood supply to stop and dysmenorrhea occurs (Hermawan, 2012).

Characteristics of Respondents Based on the Time of Menstrual Pain

Table 2. Characteristics of Respondents Based on the Time of Period among Adolescent Girls

Time of Pain released	(f)	(%)
Before period	5	20.8
Day 1 and 2	16	66.7
Day 1 until the end of period	3	12.5
Total	24	100

Based on table 2 shows that most of the respondents experienced the onset of menstrual pain on the 1st and 2nd day which was 16 respondents (66.7%). Menstrual pain can be characterized by symptoms such as cramps in the lower abdomen and back pain. Pain begins to appear shortly after or during menstruation, reaches its peak within 24 hours and after 2 days will disappear. Dysmenorrhea is also often accompanied by headaches, nausea, constipation or diarrhea, irritability, frequent urination and sometimes vomiting (Manuaba, 2010).

Normality Test

Normality test aims to determine the data are normally distributed. After testing the normality of the data using the skewness and kurtosis test, the skewness result was -0.014 and the kurtosis was 0.321 result from the data shows that the results do not exceed ± 3 , it can be concluded that the data were normally distributed. So that the analysis test used is a parametric test, namely the Paired T-test.

Bivariate Analysis

Table 3. Yoga Exercises on Reducing Menstrual Pain among adolescent girls

Variable	Pretest		Posttest		t	p
	Mean	SD	Mean	SD		
Menstrual pain	2.92	0.58	1.67	0.56	13.84	0.000

Based on the table above, it can be concluded that there was a difference in the average menstrual pain before and after being given yoga exercises among adolescent girls at SMK Husada Winaya Pratama Pandeglang ($p < 0.05$). The average pain score before yoga was 2.92 while after yoga the average pain score decreased to 1.67.

DISCUSSION

There was a difference in the average menstrual pain before and after being given yoga exercises among adolescent girls at SMK Husada Winaya Pratama Pandeglang ($p < 0.05$). The average pain score before yoga was 2.92 while after yoga the average pain score decreased to 1.67.

A similar study conducted by Purnaningsih (2016) regarding the Effect of Yoga Exercise on Dysmenorrhea Pain Levels showed that out of the 20 respondents, the greatest pain was on a scale of 4-6 before practice yoga. Meanwhile, after practice yoga, the pain was mild with a scale of 1-3. It can be concluded that there was an effect of yoga exercise on pain levels among adolescents at SMKN 1 Karanganyar ($p < 0.05$). This was because physical activity such as exercise affects the menstrual pain. This means that sports such as gymnastics are able to produce natural ingredients that can block pain (Purnaningsih, 2016).

A similar study was also conducted by Oktariani et al (2017) regarding the effect of yoga therapy on the rate of dysmenorrhea, shows that out of 32 respondents, the majority of respondents experienced a level of dysmenorrhea which consisted of 19 (59.4%) before practice yoga. After practice yoga therapy, the majority of respondents experienced mild dysmenorrhea which consisted of 26 (81.2%). The results showed that there was an effect of yoga therapy on the level of dysmenorrhea among midwife educators at Aisyiyah University Yogyakarta ($p < 0.05$)(Oktariani et al., 2017).

In a relaxed state, the body also produces adrenaline and all the hormones needed during pain. Because the sex hormones estrogen and progesterone and the stress hormone adrenaline are produced from the same chemical building blocks, when you reduce stress you reduce the production of both sex hormones. From here, we can see the importance of relaxation to provide an opportunity for the body to produce hormones that are important for getting menstruation without pain (Oktariani et al., 2017).

Yoga exercise during menstruation is an exercise consisting of physical movements, deep breathing, and meditation to overcome problems that arise during menstruation (Rahayu, 2018). Yoga is also a relaxation technique to increase strength, balance and reduce pain. This is because when people do sports or yoga their body will produce endorphins. This hormone can work as a natural sedative produced by the brain and spinal cord, causing a sense of comfort, and also serves to relieve pain, and help reduce prostaglandins that cause muscle contractions during menstruation. Sports such as gymnastics also aim to increase blood circulation so that cramps or pain do not occur because slow circulation can cause cramps or pain (Braysow, 2010).

Yoga is a relaxation technique that is recommended to eliminate menstrual pain. Directed and continuous training is believed to be able to cure menstrual pain and nourish the body as a whole (Anurogo & Wulandari, 2011). According to Sindhu (2010) a posture that bends forward is useful for giving a sense of peace, and bringing the body and mind to fuse and reunite with the earth. In addition, the bones do not direct and always move from the front to the hips, not from the waist. The hip flexing posture is excellent for releasing hip muscles, flexing the hamstring muscles and knee joints, increasing blood circulation and keeping them healthy. When someone does exercise, the endorphins will come out and be captured by receptors in the hypothalamus and the limbic system will regulate emotions. The increase in endorphins is proven to be closely related to reducing pain, improving memory, increasing appetite, blood pressure, and breathing, so that exercise can be effective in reducing pain problems, especially menstrual pain (Sindhu, 2010).

According to the researcher's assumption, yoga exercise is the most appropriate therapeutic tool to treat pain during menstruation because the movements performed during yoga during menstruation are positions that can relax the internal organs of the abdomen, including the reproductive organs. From the results of the study, it is clear that there is an effect of yoga exercise on decreasing menstrual pain. Yoga can be practice by adolescents in daily activities, so that

during menstruation and when pain occurs, adolescents do not need to take analgesic drugs to reduce the pain. This helps adolescent girls to avoid using analgesic drugs during menstruation.

CONCLUSION

The conclusions and suggestions is yoga exercise composed of physical movement and respiration techniques affect the lower pain in adolescent girls. The practice of yoga exercise can be applied as an alternative method to reducing menstrual pain and also as a reference to adolescent girls about the non-pharmacological treatment of dysmenore.

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