



## INFLUENCE OF DYSMENORRHEA GYMNASTIC ON MENSTRUAL PAIN TO 8<sup>TH</sup> GRADE STUDENTS OF SMPN 2 SOOKO DISTRICT MOJOKERTO

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### ABSTRACT

### Keywords

Light exercises (gymnastics) are highly recommended to reduce dysmenorrhea but during this adolescent only use medical therapy drugs to reduce the pain felt. The purpose of this study to determine the effect of dismal gymnastics on menstrual pain in adolescent girls 8<sup>th</sup> grade of SMPN 2 Sooko Mojokerto regency. The research design is Pre-Experimental Design with Static Group Comparison approach. The research variables are dysmenorrhea gymnastic as independent variable and dysmenorrhea pain as the dependent variable. The study population is all students of 8<sup>th</sup> grade who experienced menstrual pain in SMPN 2 Sooko as many as 54 people. A sample of 48 students taken with cluster sampling technique. Data were collected with pain scale observation sheets, and the results were tested with the Wilcoxon test. The results of Wilcoxon test showed that there was the influence of discharging gymnastics on menstrual pain in 8<sup>th</sup> grade of SMPN 2 Sooko Mojokerto. which is indicated by  $p = 0,000$  and  $\alpha = 0,05$  so that  $p < \alpha$  then  $H_0$  is rejected and  $H_1$  is accepted. Gymnastics dysmenorrhea with several movements that can provide a sense of comfort and calm so that it can affect the response of pain experienced by respondents. Students are expected to apply dysmenorrhea gymnastics to be able to relieve the pain of dysmenorrhea pain experienced so that the pain experienced can be reduced and respondents not only rely on pharmacological drugs in reducing the pain experienced.

*Dysmenorrhea  
Gymnastics,  
Dysmenorrhea  
Pain,  
Adolescent*

## INTRODUCTION

Young women have a risk of reproductive health problems are complex, one of the disturbances in young women is the occurrence of dysmenorrhea, mostly for handling dysmenorrhea, young women drink herbal medicine to eliminate menstrual pain that has the potential to disrupt the digestive system, especially liver (Winarto, 2014). Of the various disorders of the reproductive system, 70-90% of cases of menstrual pain or dysmenorrhea occur in young women aged 14-25 years (Proctor and Farquar, 2015). Dysmenorrhea or menstrual pain is the most common symptom of women of reproductive age. Pain or pain that is associated with menstruation is often felt like a cramp in the stomach and can be accompanied by pain that spreads to the back, with nausea and vomiting, headaches or diarrhoea. Therefore, the term dysmenorrhea is only used when the menstrual pain is so severe, forcing the patient to rest and leave his daily work or way of life for several hours or several days (Winknjosastro, 2007). From the results of interviews conducted by researchers to 20 8<sup>th</sup> grade of students in SMPN 2 Sooko Mojokerto District, including 18 students (90%) experienced dysmenorrhea during the last 3 months.

According to data from WHO, there was an incidence of 1,769,425 people (90%) of women with dysmenorrhea with 10-15% having severe dysmenorrhea. In one country, in America, the percentage is about 60% and in Sweden about 72%. While in Indonesia the figure is estimated 55% of productive age women who were tormented by pain during menstruation. The incidence rate (prevalence) of menstrual pain ranges from 45 to 95% among women of reproductive age. In East Java, the number of reproductive young women aged 10-24 years is 431,263 inhabitants. While those who experienced dysmenorrhea and came to the midwife section of 98,328 people (22.8%) (BPS East Java Province, 2016).

While the number of female adolescent population in Mojokerto Regency that still productive 44,687 people (BPS Kabupaten Mojokerto, 2016). From the results of interviews conducted by researchers on December 05, 2016 to 20 8<sup>th</sup> grade of students in SMPN 2 Sooko Mojokerto District, including 18 students (90%) had dysmenorrhea for the last three months and taking menstrual pain reliever medication. The impact of continuous use of anti-pain medication will slow down blood flow, can aggravate pain, and even the risk of kidney, heart and heart disease (Prawirohardjo, 2009).

One of the biological signs of youthfulness is that teens start having menstruation. Menstruation begins at puberty and a woman's ability to conceive a child or a reproductive period. Menstruation usually occurs between the ages of 10-16 years, depending on various factors, including women's health, nutritional status and body weight relative to height. However, in reality, many women experience menstrual problems, such as dysmenorrhea (Sumudarsono, 2010). Menstrual pain is an imbalance of progesterone hormone in the blood resulting in pain, psychological factors, some of which cause fainting, some feel nauseated, and there is also real vomiting also contributes to the occurrence of menstrual pain in some women. Women have experienced dysmenorrhea as much as 90% of these pains can last half a day to five days and often look like a prolonged pain. Dysmenorrhea experienced during menstruation is very tortured, sometimes women bend or crawl because unable to withstand pain even there is to roll on the bed. This is very disturbing the activities of everyday women (Kingstone, 2013). Prostaglandin activity generally causes dysmenorrhea. At the time of menstruation, the damaged uterine lining is removed and replaced by a new one, a molecular compound called prostaglandin is released. These compounds cause the uterine muscles

to contract. When uterine muscle contractions occur, the blood supply to the endometrium narrows (vasoconstriction) of this process that causes pain during menstruation (F.J.Monks, 2013). In general, 50-60% of women require analgesic medicines and herbs to overcome dysmenorrhea (anathaa, 2012). The side effects of analgesic drugs with continuous consumption will slow down blood flow, can aggravate pain, and even long-term risks of various painkillers during menstruation will increase the risk of kidney, liver and heart disease (Prawirohardjo , 2010). While the side effects of herbal turmeric acid are consumed with long-term, it will experience stomach disorders, difficult to absorb the body, bleeding, and even if they usually consume herbal turmeric acid, this will potentially disrupt the digestive system, especially liver (Winarto, 2015). Light exercise exercises (gymnastics) are highly recommended to reduce dysmenorrhea. Gymnastics is one of the relaxation techniques that can reduce pain. This is because when doing body exercises to produce endorphins. Endorphins are produced in the brain of the spinal cord. This hormone acts as a natural sedative produced by the brain, giving rise to a sense of comfort (Harry, 2015).

Efforts are made to reduce the incidence of dysmenorrhea in young women as nurses need to conduct counselling in schools related to how to decrease pain intensity, one of them is gymnastic dysmenorrhea. As a researcher in the field of nursing provides direction and some education through health counselling on students, who have experienced menstruation about the importance of non-pharmacological treatment while reducing the intensity of menstrual pain so as not to rely on pain medication. To overcome the pain of menstruation (dysmenorrhea) can be done by giving therapy or treatment non-pharmacology for example with exercise or

gym dysmenorrhea this is believed to reduce pain (Anurogo, 2011).

## MATERIALS AND METHODS

This research uses (Pre Experimental Design) with research design of Static Group Comparison. In this design, there are two groups selected as the object of study. The first group received moderate treatment while the second group was not treated. This second group functions as a comparison/control group.

The population in this study were all students of class VIII who experienced menstrual pain in SMPN 2 Sooko as many as 54 people. The sample in this study were female students who experienced menstrual pain (dysmenorrhea) in SMPN 2 Sooko Mojokerto regency that met the criteria of research as many as 48 female students

The inclusion criteria in this study were:

1. VIII grade junior high school students who experienced disminore for the last three months
2. VIII grade Junior High School students who experience menstrual pain the first day and the second day
3. VIII grade Junior High School students who are willing to be respondents

Exclusion criteria in this research are:

1. Third-grade junior high school students are sick or permit
2. Third-grade junior high school students who do not experience menstruation or pain disminorea

In this study using sampling technique using cluster sampling. Independent variable in this research is dysmenorrhea gymnastic. The dependent variable in this research is a menstrual pain. Research instrument for gymnastic

dysmenorrhea using SOP measuring instrument and observation sheet of gymnastic activity dysmenorrhea. While the instrument used for menstrual pain using pain intensity observation sheet with a descriptive scale.

Data collection in this study by way of researchers to measure the level of menstrual pain before given intervention in the form of gymnastic dysmenorrhea. Then the respondents were given gymnastic dysmenorrhea. After the process of giving disinfect gymnastic therapy, the researcher again conducted the measurement of the patient's pain level after being granted intervention in the form of sterilizing gymnastics with descriptive scale. The process of data analysis using editing, coding, scoring and tabulating. Research ethics conducted by the researcher in this research is the researcher need to get a recommendation from Institution D III Midwifery Dian Husada Health Science Institute of Mojokerto and apply permission to institution or institute of research place. Then the observation is sent to the subject under study by emphasizing on ethical issues including inform concern, anonymity, confidentiality.

## RESULTS

### Characteristics of Respondents by Age

**Tabel 1** Characteristics of Respondents by Age at SMPN 2 Sooko Mojokerto April 2017

AGE	F	%
13 Years old	14	29,2
14 Years old	22	45,8
15 Years old	12	25
Total	48	100

Source: primary data, April 2017

From the research results obtained almost half of respondents aged 14 years as many as 22 respondents (45.8%).

### 1. Characteristics of Respondents Based on Old Menstruation

**Table 2** Respondent Characteristics Based on Old Menstruation at SMPN 2 Sooko Mojokerto

Menstrual period	F	%
3-4 days	28	58,3
5-7 days	20	41,7
> 7 days	0	0
Total	48	100

Source: primary data, April 2017

From the result of research got most of the menstrual period experienced by respondent during 3-5 days counted 28 respondents (58,3%).

### Specific Data

#### 1. Characteristics of Respondents Based on Menstrual Pain Before Disease Giving Dysmenorrhea

**Tabel 3** Characteristics of Respondents Based on Painful Menstruation Before Disease Giving Dysmenorrhea at SMPN 2 Sooko Mojokerto April 2017

Pain level	Experiment group		Control group	
	F	%	F	%
No pain	0	0	0	0
Mild	5	20,8	5	20,8
Moderate	19	79,2	19	79,2
Severe	0	0	0	0
Very severe	0	0	0	0
Total	24	100	24	100

Source: primary data, April 2017

From the result of the research, it was found that most of the experimental group respondents had moderate pain as many as 19 respondents (79.2%) and most of the control group had moderate pain as many as 19 respondents (100%).

## 2. Characteristics of Respondents Based on Menstrual Pain After Disease Giving Dysmenorrhea

**Tabel 4** Characteristics of Respondents Based on Menstrual Pain After Disarming Gymnastics at SMPN 2 Sooko Mojokerto April 2017

Pain level	Experiment group		Control group	
	F	%	F	%
No pain	2	8,3	2	8,3
Mild	22	91,7	18	75
Moderate	0	0	4	16,7
Severe	0	0	0	0
Very severe	0	0	0	0
Total	24	100	24	100

Source: primary data, April 2017

From the result of the research, it is found that almost all respondents of experiment group had mild pain as much 22 respondents (91,7%). Whereas in the control group most experienced moderate pain as much as 18 respondents (75%).

## 3. Influence of Disease Dysmenorrhea Against Menstrual Pain on Grade VIII SMPN 2 Sooko Mojokerto.

**Tabel 5** Tabulation of Influence of Disease of Dysmenorrhea on Menstrual Pain at Grade VIII SMPN 2 Sooko Mojokerto

	Sample group	N	Mean	Sig. (2-tailed)
Pain Pre-Test	Experiment	24	3,21	0,000
	control	24	3,21	0,000
Pain Post-Test	Experiment	24	4,08	0,000
	control	24	3,92	0,000
Result test Wilcoxon				0.000

The results showed that there was an average of pain during pretest and posttest, whereas at the time of pretest the average of pain was 3.21 in both groups while at post-test the experimental group had an average of 4.08 and the group the control has a value of 3.92.

The result of Wilcoxon test shows that  $p = 0,000$  and  $\alpha = 0,05$  so that  $p < \alpha$  then  $H_0$  is rejected and  $H_1$  is accepted so that there is Influence of Gymnastics Dysmenorrhea Against Menstrual Pain on Grade VIII SMPN 2 Sooko Mojokerto.

## DISCUSSION

### 1. Characteristics of Menstrual Pain Before Giving Disamorhea Gymnastics

The result of the research done on 24 respondents in 8<sup>th</sup> grade students of SMPN 2 Sooko Mojokerto got the data of all respondents both in the experimental group and control group experienced moderate pain as much as 12 respondents (100%).

Dysmenorrhea arises due to dysrhythmic contraction of the myometrial layer showing one or more symptoms ranging from mild to severe pain in the lower abdomen, buttocks and medial side of the thigh (Badziad, 2008). The nature and level of pain vary, ranging from mild to severe. The condition is called dysmenorrhea, which is a state of high pain and can interfere with daily activities. Dysmenorrhea is asymptomatic

phenomenon including abdominal pain, cramps and back pain. Gastrointestinal symptoms such as nausea and diarrhoea may occur as symptoms of menstruation.

Excessive myometrial muscle contraction causes dysmenorrhea then myometrial contraction caused by prostaglandin will reduce blood flow, resulting in oxygen deprivation in myometrial cells resulting in spasmodic pain, this pain causes the stomach to feel heartburn or pain during menstruation, it does not occur in all women who have menstruation. Several factors influence or trigger the occurrence of dysmenorrhea among psychological factors, history of dysmenorrhea in the first menstruation, constitutional factors, hormonal factors, and allergic factors (Kusmiran, 2011).

According to research respondents mostly experienced moderate pain, this happens because the respondents rarely or even never done therapy treatment of dysmenorrhea pain using dysmenorrhea gymnastics, they only rely on medical drugs, so there are times when respondents do not consume the therapeutic medicines because they feel bored and lazy to continue taking the drug. The nature of moderate pain causes a person to feel uncomfortable. One's pain is individualistic; the most individual characteristic of pain is the severity or intensity of pain. Menstrual disorders require careful evaluation because if not handled can affect the quality of life and daily activities Some ways that can be done to reduce or even eliminate pain in dysmenorrhea either pharmacologically for example with analgesic drugs and nonpharmacological groups such as gym dysmenorrhea.

## **2. Characteristics of menstrual pain after being given gymnastics dysmenorrhea**

The results of the study in table 4 showed that almost all respondents in the

experimental group experienced mild pain as much as 22 respondents (91.7%). While in the control group most experienced moderate pain as much as 18 respondents (75%).

Menstrual pain or dysmenorrhea in addition to the most problems are also the reasons for the decrease in women's activities during menstruation, for example not attending school. Handling this problem in a nonpharmacological way should be developed for example with yoga exercises. At the time of menstruation, various complaints or issues that are usually experienced by a woman but the most problems are discomforts or significant pain; this is commonly called with dysmenorrhea or painful menstruation. Dysmenorrhea is a menstrual disorder with the highest prevalence Menstrual disorders require careful evaluation because if not handled can affect the quality of life and daily activities. Several ways can be done to reduce or even eliminate pain in dysmenorrhea either pharmacologically for example with analgesic and non-pharmacologist class drugs such as gym dysmenorrhea. One alternative to dysmenorrhea exercises that can be done to reduce the pain of dysmenorrhea that can produce a sense of heat in the stomach, so that problems during menstruation will be resolved, so also in the blood circulation will be normal again. Acne will begin to disappear so that the face will shine (Bonde, 2013).

After being given dysmenorrhea gymnastics, there was a decrease in the pain response felt by the respondents. This decrease occurs because the effects of gymnastics dysmenorrhea can relax muscles, inhibit the occurrence of inflammation, giving feelings of comfort, The value of the reduction in pain intensity after the dysmenorrhea exercises varies because each can have different responses to one another. Dysmenorrheal pain caused by muscle problems decreases the intensity of pain greater than the pain caused by bone

problems because of the pain caused by muscle problems has more mechanisms of pain reduction, and psychological effects are also based on physiological effects. Gymnastics dysmenorrhea is one of the complementary therapies that can be developed by health personnel to be able to perform pain management without using medical therapy. This is done so that dysmenorrhea patients do not feel bored if you have to consume medical drugs and can use gymnastic dysmenorrhea to reduce the pain experienced both at home and at school.

### 3. Influence of Dysmenorrhea Gymnastic on Disease Pain Scale On Student

The results of Wilcoxon test showed that there was the influence of discharging gymnastics on menstrual pain in grade VIII SMPN 2 Sooko Mojokerto. which is indicated by  $p = 0,000$  and  $\alpha = 0,05$  so that  $p < \alpha$  then  $H_0$  is rejected and  $H_1$  is accepted. Also, there were differences in mean pain during pretest and post-test, where at the time of pretest the average pain was 3.21 in both groups while at post-test the experimental group had an average value of 4.08 and the control group had value 3.92.

Menstruation is a natural cycle for women of childbearing age. Although not classified as diseases, menstrual periods can also cause various discomforts. (Sindhu, 2008). Light exercise exercises (gymnastics) are highly recommended to reduce Dismore. Gymnastics is one of the relaxation techniques that can reduce pain. This is because when doing gymnastics the body produces hormones that function as a natural sedative produced by the brain that causes a sense of comfort (Harry, 2015). According to Sarwono (2009) one of the factors that cause dysmenorrhea pain that is women have emotionally unstable, so easy to experience primary dysmenorrhea. Psychological factors, along with

dysmenorrhea will cause sleep disorders (insomnia).

According to the opinion of the respondent, the control group only consume drugs to decrease the pain experienced by the respondent, and the experimental group of respondents are given gymnastic dysmenorrhea with some movements that can provide comfort and calm so that it can influence the pain response experienced by the respondent. Patients' change of pain above can be described that the decrease of pain in each responder is very varied, it is very closely related to factors influencing pain brought by responder both from self-responder and from outside environment. However, seen from changes that occur dysmenorrhea gymnastics therapy can show the results of changes that are quite effective. Non-pharmacologic pain management is one of them can be done by giving dysmenorrhea gym that focuses on muscle stretching, so when applied can work with maximal to decrease the intensity of pain and make sense of comfort with therapy and also lower the psychological stress experienced by the patient, so that can reduce the pain. From the tabulation data obtained data as much as five respondents who did not experience changes in pain, which is happening because although it has been given gym Dysmenorrhea if the threshold pain of small respondents so that they will still feel pain even though gymnastics are still given.

### CONCLUSIONS

All respondents in SMPN 2 Sooko Mojokerto in the experimental and control group had moderate pain respectively 19 respondents (100%) before giving dysmenorrhea gymnastic.

1. Almost all respondents in the experimental group in SMPN 2 Sooko Mojokerto experienced mild pain as much as 22 respondents (91.7%). While in the control group at SMPN 2 Sooko Mojokerto mostly experienced

moderate pain as much as 18 respondents (75%).

2. There is the influence of gymnastic dysmenorrhea Against Menstrual Pain on VIII Grade Students SMPN 2 Sooko Mojokerto.

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