

# EFFECT OF AEROBIC EXERCISE ON MENSTRUAL PAIN

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## ABSTRACT

**Introduction:** For women, menstruation is a separate ordeal that should be experienced by every month. According to the study, most women have experienced disruption in the menstrual process. This study aim to investigate the effect of aerobic exercise on menstrual pain. **Method:** This study was aquasy-experimental with one group pre-post test design with observation. The population in this study were all students of the first semester are experiencing dysmenorrhea. The sample in this study are some students who have Dysmenorrhea the first half of 20 respondents using sampling techniques "purposive sampling". The independent variables are aerobics and the dependent variable is the intensity of dysmenorrhea. The data processing is done with the editing, coding, data entry, cleaning the data. Data were analyzed using Wilcoxon test with a significance ( $\alpha$ ) = 0.05. This study carried out on the course for DIII of nursing at the University of Nahdlatul Ulama Surabaya. **Result:** Based on the research that 85% of respondents experiencing severe menstrual pain intensity (scale 7-9) before the given intervention. After a given intervention is by doing aerobic exercise 2-3 times each week in getting 90% decrease in their pain is of heavy into moderate (scale 4-6). Based on the analysis using the wilcoxon test, obtained the value  $p = 0,000$ , meaning there is significant relationship between aerobic exercise with a reduction in the intensity of menstrual pain. **Conclusion:** Patients with painful menstruation (Dysmenorrhea) must regularly perform aerobic exercises so painful menstruation (Dysmenorrhea) can be resolved.

**Keywords:** Painful, Dysmenorrhea, aerobic

## INTRODUCTION

Adolescence is a period marked by rapid growth and development of the physical, emotional, cognitive and social. Rapid changes of the physical, emotional, cognitive and social. Physical changes that occur in men as hair growth in the armpits and genitals, grew a mustache and Adam's apple, sounds swell, increased chest areas, wet dreams (first ejaculation), increase the size of the penis and testicles. While there is a change in women such as breast and hips enlarged, the body grow taller, growing hair in the armpits and genitals, as well as menstruation (Santrock, 2003).

One sign of puberty is the occurrence of menstruation. Menstruation is the periodic discharge from the vagina during the reproductive age. A normal menstrual consisting of blood, secretions and the lining of the uterus / womb removed (Ramaiah, 2006). For women, menstruation is a separate ordeal that should be experienced by every month. According to the study, more than 50 percent of women have experienced disruption in the

menstrual process. One of the disturbances in the menstrual process is painful menstruation (Dysmenorrhea). Bobak (2004) mentions that painful menstruation (Dysmenorrhea) is not a disease, but symptoms caused by abnormalities in the pelvic cavity and debilitating female and often requiring patients to rest and leave their work for hours due to painful menstruation (Dysmenorrhea).

The prevalence of menstrual pain (Dysmenorrhea) in several studies showed a high frequency. In a review systemik WHO, the average incidence of menstrual pain (Dysmenorrhea) in young women between 16.8 to 81%. Based on the research results Eka Devi in Ponorogo in 2013 in getting the results that out of 49 respondents who experienced painful menstruation (Dysmenorrhea) and cause the disruption of daily activities at 30.6%. Initial studies conducted by researchers at 82 semester student 1 Prodi DIII of Nursing Faculty of Nursing and Midwifery University of Nahdlatul Ulama Surabaya, show the data that gained 40 experience painful menstruation (Dysmenorrhea) and while it is not experience

menstrual pain (Dysmenorrhea) were 42 female students.

Painful menstruation (Dysmenorrhea) is the characteristic pain that occurs before or during menstruation, occurs on the first day up to several days during menstruation. This is one of many gynecological problems, affecting more than 50% of women and lead to the inability of the activity for 1-3 days each month on the day the woman. Painful menstruation (Dysmenorrhea) there are two forms of primary and secondary menstrual pain. Painful menstruation (Dysmenorrhea) primer usually arises in the first or second day of menstruation. The pain is colic or cramps and felt in the lower abdomen. Several factors are associated with painful menstruation (Dysmenorrhea) of primary uterine prostaglandins are high, and their emotional or psychological factors. Unclear how prostaglandins can cause painful menstruation (Dysmenorrhea) but it is known that women with menstrual pain (Dysmenorrhea) has a prostaglandin that is four times higher than women without menstrual pain (Dysmenorrhea) (Siswandi, 2007).

Impact painful menstruation (Dysmenorrhea) is one of the problems in the lives of young women, forcing them to use various methods to prevent menstrual pain (Dysmenorrhea). Handling painful menstruation (Dysmenorrhea) is divided into two categories: pharmacological and non pharmacological. Pharmacologically painful menstruation (Dysmenorrhea) can be done by providing relaxation techniques, giving a warm compress and carry out physical exercise or sport. The exercises are mild exercise is highly recommended to reduce menstrual pain (Dysmenorrhea) because during exercise the brain and spinal alignment will produce endorphin hormone that serves as a natural tranquilizer, causing a sense of comfort (Harry, 2005). Ramaiah (2006) mentioned that, one very effective way to prevent painful menstruation (Dysmenorrhea) is doing sports activities. Some exercises can improve blood supply to the reproductive organs so that the circulation of blood. Regular exercise such as walking, jogging, running, biking, swimming or aerobics can improve the reproductive health of the circulation of blood. Exercise at least done three to four times a week, especially during the second half of the menstrual cycle. Research from Ramaiah (2006) showed that women who exercise regularly can increase the secretion of

hormones and their utilization, especially estrogen. Exercise is important for young women who suffer from menstrual pain (Dysmenorrhea) for moderate and regular exercise increases the release of beta-endorphins (natural pain relievers) into the bloodstream so it can reduce menstrual pain (Dysmenorrhea).

Based on the phenomenon that researchers want to conduct research on "Effects of Aerobic Gymnastics Decline Against Menstrual Pain Intensity (Dysmenorrhea primer) on the Student Semester 1 Prodi DIII of Nursing Faculty of Nursing and Midwifery University of Nahdlatul Ulama Surabaya"

## **METHOD**

This study uses a Quasi Experiment, which aims to investigate the effect of exercise to decrease menstrual pain intensity in the first semester student Prodi DIII of Nursing Faculty of Nursing and Midwifery University of Nahdlatul Ulama Surabaya. This type of approach used in this study is the approach of pre-post test in one group (one-group pre-post test design).

The population in this study is a student of the first semester Prodi DIII of Nursing Faculty of Nursing and Midwifery University of Nahdlatul Ulama Surabaya who experience dysmenorrhea and numbered 40, Sampling using Non Probability Sampling technique with purposive sampling. Sample used 20 respondents with a consideration when a population of less than 100 should be in cuplik 50% of the population and when the population of several hundred were taken 25 to 30 (Saryono, 2011). with the sample criteria as follows:

- a. Student who experience menstrual pain
- b. Students who are willing to cooperative
- c. Students who are willing to study

The variables in this study include independent variables, aerobics and the dependent variable is the intensity of pain during menstruation (dysmenorrhea Primary), using an instrument observation sheet which is a guide in assessing the indicators of aspects observed systematically and it was arranged by category. Shape observation sheet (observation) in question is shaped checklist list with members sign "□" in the assessment categories. This assessment categories is indicative picture of the situation regarding the object being

observed (examined), for example: if the observed indicators appear or seem, then categorized as "no", if it does not appear or do not appear then categorized "no". The object or goal Prodi DIII Nursing student observed. Research variables observed is menstrual pain scale before and after doing gymnastics. Pain scale to assess pain using a pain scale of 0 - 10 scale 0 is no pain, 1-3 mild pain, 4-6 moderate pain, severe pain 7-9 and 10 include uncontrolled pain.

Data have been collected do coding or corrected through observation sheets, and then analyzed decreased levels of pain during menstruation (dysmenorrhea) before (pre) and after (post) doing aerobics, analysis of data using Wilcoxon test with a significance ( $\alpha$ ) = 0.05

## RESULTS AND DISCUSSION

Based on the results of the study showed that 50% of respondents aged 20 years. The peak incidence of pain during this Dysmenorrhea occurs in late adolescence and early 20s. The incidence of pain during this Dysmenorrhea declines with increasing age and increasing birth (Anuoro, 2008).

Based on the level karakteristik menstrual pain (primary Dysmenorrhea) almost entirely 85% experienced severe pain (scale 7-9). Actions performed when experiencing menstrual pain is based on the results, 50% of respondents reduce menstrual pain by taking medicine. By taking medicine pain arising expected to decline. The type of exercise that favored the respondents 50% of respondents prefer aerobic exercise when compared to other sports such as jogging, running and more.

Respondents in this study 70% of family and social support. When experiencing difficult times, it is in need of support from the people around, so it can subtracts stress caused due to menstrual pain (disenorhea). By automatically decreasing stress can also lower levels of prostaglandins and pain will decrease.

Based on the research after the aerobic exercise 2-3 times a week every decrease menstrual pain and based on the analysis using the Wilcoxon test showed  $p = 0.000$ , which means there is influence of exercise (aerobic) to decrease the intensity of pain dysmenorrhea primer.

Gymnastics is one of the most efficient ways to reduce pain during Dysmenorrhea. Dysmenorrhea defined by Stenchever (2002) in

Chudnoff (2005) as the sensation of pain like cramps in the lower abdomen often in conjunction with other symptoms such as sweating, tachycardia, headache, nausea, vomiting, diarrhea and tremors. Gymnastics is performed to reduce pain Dysmenorrhea is included into the general gymnastics which gerakannya accordance with the characteristics of general gymnastics and general characteristics of health exercises described by Griwijoyo (1995) and Sumaryanti (2006).

At respondents who do aerobic senan can increase the levels of  $\beta$  endorphin. When someone does gymnastics, then  $\beta$  endorphin going out and captured by receptors in the hypothalamus and the limbic system which serves to regulate emotions. Increased  $\beta$  endorphin shown to be associated closely with decreased pain, increased memory, improve appetite, sexual performance, blood pressure and respiration. So sports or exercise will be effective in reducing pain problems, especially dysmenorrheal (Harry in soeparto, 2011).

As for the physical exercise that can be done with aerobic one of them has the benefit yitu help cardiovascular health through blood pressure, lipids, and reactivity to stress (Surafino, 2008).

Furthermore, according to Syatria (2006) exercise is an aerobic activity which is beneficial to improve and maintain the health and durability of pulmonary, circulatory, muscle, muscular endurance, flexibility and cardiorespiratory endurance. Effect of exercise will provide physiological changes occur in almost every system of the body. Physical exercise will provide a good influence for the various systems that work in the body, one of which is the cardiovascular system, where the physical exercise properly and regularly will occur efficiency of the heart. Efficiency of the heart or the heart's ability to increase in accordance with the changes that occur. It may be an alteration in heart rate, stroke volume and cardiac output. With melakukn physical exercise experienced a widening of the blood vessels and relaxation. Over time, exercising can relaxes blood vessels. One factor is the factor Dysmenorrhea blockage in the cervix. As a result, when the menstrual blood will come out required a strong contraction of the uterus to remove the blood, causing pain during menstruation so that it can be concluded that the exercise fiik form of aerobic exercise can reduce

dysmenorrhea because one of them can help in contracting the blood vessels in the uterus becomes easier without contractions strong, in which the strong contraction can cause pain.

Based on the results of the research showed that respondents experiencing severe menstrual pain intensity before done or given intervention. After a given intervention is to melakukan aerobic exercise 2-3 times each week in getting their pain was reduced, namely from heavy to medium and some even reduced to mild. This is in accordance with the opinion of Laili (2012) teens who regularly exercise melukan decreased dysmenorrhea. The results are consistent with research Suprpto (2011) shows that gymnastics dysmenorrhea effective for reducing dysmenorrhea in adolescents. This study proves that teens who do senm aerobic decreased dysmenorrhea. This is because the body will be able to increase the levels of  $\beta$  endorphin four to five times in blood. so more and more to do gymnastics or sports, the higher the levels of  $\beta$  endorphin. Increased  $\beta$  endorphin shown to be associated closely with decreased pain, increased memory, improve appetite, sexual performance, blood pressure and respiration. so sports or exercise will be effective in reducing the problem of pain, especially dysmenorrhea.

## CONCLUSION

First, the intensity of menstrual pain (primary Dysmenorrhea) in the first semester student Prodi DIII Nursing Faculty of Nursing and Midwifery University of Nahdlatul Ulama Surabaya before doing aerobics mostly mengalami severe pain.

Second, the intensity of menstrual pain (primary Dysmenorrhea) in the first semester student Prodi DIII Nursing Faculty of Nursing and Midwifery University of Nahdlatul Ulama Surabaya after doing aerobics mostly experienced moderate pain.

Thirdly, There is the influence of aerobic exercise with a reduction in menstrual pain intensity (primary Dysmenorrhea) in the first semester Prodi DIII student nursing and midwifery nursing faculty University of Nahdlatul Ulama Surabaya.

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