



## **Correlation of Sport Activities with Dismore Priminore to College Students of Sport Science Faculty Universitas Negeri Padang**

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### **Abstract**

Regular exercise and physical activity have been introduced as effective methods for preventing and treating dysmenorrhea. Exercise can increase the endorphin hormone which causes an increase in the recovery system and reduces the sympathetic system, resulting in a decrease in the effects of demeanor. The purpose of this study was to prove that there was correlation between sports and dysmenorrhea among students at the Faculty of Sport Science Universitas Negeri Padang. This research was an observational study. There were 38 female students of Universitas Negeri Padang who met the inclusion criteria during September to October 2019 filled out the questionnaire. The type of exercise data, frequency, duration and incidences of dysmenorrhea were obtained through interviews with questionnaires created specifically for this study. The Data was described in tabular form, Chi-square test and correlation data was analyzed using computer programs. The results showed that 27 samples, (10.26%) out of 38 study samples, did not have dysmenorrhea. In this study,  $p$  value  $> 0.05$  or disapproved on the frequency, duration, and type of sports variables for dysmenorrhea at Universitas Negeri Padang. From this data, it can be concluded that there were no correlation between dysmenorrhea and sport among sport science students Universitas Negeri Padang.

### **How to Cite**

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## INTRODUCTION

Physical fitness is one indicator in the development of superior human resources. Physical fitness can be achieved if the people have a good degree of health (Sepriadi, S., & Eldawaty, 2019). Physical fitness can be improved by exercise. Exercise can have an effect menstrual cycles, disorders such as not menstruation, bone thinning, menstruation irregular (Andriana, 2018). During menstruation women often experience abdominal pain or dysmenorrhea. Dysmenorrhea is a menstrual pain, cramps in the lower abdomen often accompanied by other symptoms, such as sweating, headaches, nausea, vomiting, diarrhea, and irritability, all of which occur before or during menstruation (Anisa Magista Vivi, 2015). There are 2 types of dysmenorrhea: primary dysmenorrhea refers to pain without pathological pelvic disease that is clear and almost always occurs in women 20 years old or younger after their ovulation cycle occurs. Second, dysmenorrhea is caused by an underlying or pathological pelvic condition and is more common in women more than 20 years old.

Until now, specific treatment methods for dysmenorrhea are still lack and various individual responses to different methods of treatment of dysmenorrhea such as drugs, acupuncture, skin electrical stimulation, surgery, and prescriptions of various vitamins and minerals. Another recommended method is physical activity, which is included as a non-medical method. Physical activity can help venous return through muscle contraction which leads to increased production of prostaglandins and other substances and ultimately prevent the buildup of these substances in the pelvis.

According to research in the last 20-30 years, regular exercise and physical activity have been introduced as effective methods for the prevention and treatment of dysmenorrhea (Vaziri, F., Hoseini, A., Kamali, F., Abdali, K., Hadianfard, M., & Sayadi, 2015). Exercise affects the levels of steroid hormones in women's blood circulation at reproductive age (Tremblay, M. S., Copeland, J. L., & Van Helder, 2005). In addition, an increase in the endorphin hormone causes an increase in the pain threshold. Because stress can increase the activity of the sympathetic system which causes an increase in uterine muscle contractions, thereby increasing the symptoms of premenstrual syndrome (PMS) (Friederich, 1983). Exercising can reduce the activity of the sympathetic system, resulting in decreased symptoms of dysmenorrhea. Therefore, researchers want to

prove there was correlation between sports with dysmenorrhea in students of the Faculty of Sport Science, Universitas Negeri Padang in 2019.

## METHODS

This research was an analytic description research and the approach used was observational. This research was conducted at the Faculty of Sport Science, Universitas Negeri Padang from September to October 2019.

The research sample was students of the Faculty of Sport Science, Universitas Negeri Padang who met the inclusion and exclusion criteria. The inclusion criteria of this study were female students from the Faculty of Sport Science, Universitas Negeri Padang, willing to fill out questionnaires, had exercised regularly 3-5 times a week for a minimum of 3 months, and aged between 17-24 years old. The exclusion sample was if the respondent is taking anti-pain medication and hormones, the respondent was taking dysmenorrhea treatment, and the respondent was experiencing severe stress. The selection of subjects was done by simple random sampling (Sugiyono, 2011). The research data was collected by conducting questionnaire interviews with female students of the Faculty of Sport Science, Universitas Negeri Padang. Data analysis uses Percentage analysis (Dahlan, 2011).

## RESULTS AND DISCUSSION

### Correlation between exercise frequency and dysmenorrhea.

There were 38 female students exercise with frequency <5 times a week with 27 (20.26%) female students not experiencing dysmenorrhea while 11 (4.18%) female students experience moderate degree of dysmenorrhea. Students who exercise with a frequency of > 5 times a week a total of 20 female students with 4 (20%) female students do not experience dysmenorrhea, while 10 (50%) female students experience moderate degree of dysmenorrhea.

In this research, the frequency of exercise is most often done <5 times a week (Sepriadi, Jannah, & Eldawaty, 2020). This cannot be said to be regular exercise, 3-5 times a week because the schedule for students starts from Monday to Thursday. So that, in a week the students of FIK Padang State University have done at least 4 times exercise in a week. So a total of 38 female students do sports in a week for 4 consecutive days and then not exercise for 3 days and exercise

again for 4 consecutive days. Sports that are done with the right frequency will maintain stamina and endurance of someone's blood flow (Ramadani, n.d.).

Stamina will decrease again after 48 hours of not exercising. Before stamina and endurance decreased, try to do good physical exercise, so good physical exercise is done at intervals of 48 hours (Vaziri, F., Hoseini, A., Kamali, F., Abdali, K., Hadianfard, M., & Sayadi, 2015).

### **Correlation between exercise duration and dysmenorrhea**

In this study a total of 38 female students did sports with duration <3 hours in one sport with 10 (15.4%) female students not experiencing dysmenorrhea while 28 (43.6%) female students experienced moderate degree of dysmenorrhea. Students who did sports with a duration of > 3 hours in one sport were 13 female students with 2 (15.5%) female students not experiencing dysmenorrhea, while 5 (38.5%) female students experienced moderate degree of dysmenorrhea.

This is because a number of 38 (83.3%) students of FIK Padang State University only exercise during the lecture period, from Monday to Thursday with duration <3 hours in one exercise, the rest they do not do sports. The duration of exercise is said to be good if the total duration of exercise achieved 30-60 minutes. The duration of exercise is said to be not good if the total duration of exercise achieved is <30 -> 60 minutes. Because students of Faculty of Sport Science, Universitas Negeri Padang only exercise during the class and the rest do not do exercise, the incidence of dysmenorrhea will increase with a lack of exercise, so that when dysmenorrhea occurs, oxygen can't be channeled into blood vessels in the reproductive organs when it occurs vasoconstriction, and it caused pain (Abbaspour, Z., Ros-tami, M., & Najjar, 2006).

### **Relationship between types of sports with dysmenorrhea**

In this study, a total of 38 female students practiced aerobics such as swimming, running (jogging), gymnastics, volleyball and basketball. With 27 (10.26%) female students did not experience dysmenorrhea while 11 (4.18%) female students experienced dysmenorrhea with moderate degree. A total of 38 female students who did aerobic exercise 2 of them also did anaerobic exercise with 1 (50%) female students did not experience dysmenorrhea, while 1 (50%) female students experienced severe degree of dysmenorrhea. Sports that only function to increase blood

flow such as the stimulatory mechanism of ad-renoreceptors as a drug for dysmenorrhoea or increase blood volume, are not enough to cause a reduction in dysmenorrhoea but certain types of exercise are still needed that can reduce the factors causing primary dysmenorrhea (Ju, H., Jones, M., & Mishra, 2014). Choose sports that make the body's muscles contract and relax regularly. For example: jogging, biking, gymnastics, swimming (Agus, 2018). With the regular contraction and relaxation of muscles, the metabolism will run better and body fat will be easily burned. In addition, the heart will pump blood stably (Sepriadi, 2020); (Sepriadi et al., 2020); (Sepriadi, S., & Eldawaty, 2019). Playing soccer, taekwondo, basketball, volleyball, futsal, tennis are not included because it stops a lot and triggers the heart to pump blood heavier than usual. Every sport chosen should be done according to ability (Fajaryati, 2012). If not, this will certainly aggravate the body, especially the heart's performance.

### **Research Limitations**

This study used a cross sectional study to prove the relationship between sports and dysmenorrhoea. In this study, the independent variable and the dependent variable were observed at the same time, where each respondent was only observed once (post test only) for both the independent variable and the dependent variable. This makes this research can not accurately describe the correlation to predict a trend. Then the frequency, duration, and type of exercise, as well as the degree of dysmenorrhea was diagnosed based on a questionnaire, cannot measure the respondent's condition precisely. So that misunderstandings can potentially lead to bias in research results.

### **CONCLUSION**

Students who exercise <5 times a week experience dysmenorrhea in a number of 27 female students from 38 female students and a small proportion experience dysmenorrhoea with moderate pain. Students who exercise > 5 times a week experience dysmenorrhea as many as 16 female students from 20 female students and the majority experience moderate dysmenorrhoea.

Students who exercise <3 hours in one exercise experience dysmenorrhoea in a number of 55 female students from 65 female students and most of them experience moderate degree of dysmenorrhoea. Students who exercise > 3 hours in one exercise experience dysmenorrhoea

as many as 11 female students out of 13 female students and the majority experience moderate dysmenorrhoea. Students who do aerobic exercise experience dysmenorrhoea mostly experience moderate degree dysmenorrhoea. Students who exercise with anaerobic type experience severe dysmenorrhoea in the amount of 1 student from 2 female students.

From the results of the study concluded there was no correlation between the type, frequency, and duration of exercise with dysmenorrhoea in students.

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