http://ijnms.net/index.php/ijnms
ORIGINAL RESEARCH

e- ISSN: 2686-2123
p- ISSN: 2686-0538

THE GIVING OF STRETCHING EXERCISE TO CHANGES IN LEVELS OF DYMENORRHES IN ADOLESCENT FEMALE

Puji Astutik
STIKes Satria Bhakti Nganjuk
Email : puji73sbn@gmail.com

ABSTRACT

Dysmenorrhea is a menstrual disorder that is often experienced by young women, if left untreated it will interfere with learning concentration. Stretching exercise is an alternative to overcome dysmenorrhea. The purpose of this study was to determine the effect of giving stretching exercise on changes in the level of dysmenorrhea in class VII young women at SMPN 1 Prambon, Nganjuk Regency. The research design used a pre-experimental design (one group pre-test-post test design) which was carried out November 5 – 18, 2022. The population consisted of 40 young women, using a purposive sampling technique to obtain a sample of 30 respondents. The independent variable of the research is the giving of stretching exercise, while the dependent variable of the research is the change in the level of dysmenorrhea. Collecting independent variable data with SOP and dependent variable with Numeric Rating Scale. Statistical test using Wilcoxon Signed Ranks with a significance level of $\alpha = 0.05$. The results of the study before doing stretching exercises almost half experienced moderate pain as many as 12 (43%) of 30 respondents, and after doing stretching exercises almost half experienced mild pain, namely 14 (47%) of 30 respondents. The results of the Wilcoxon Signed Ranks statistical test showed ρ value = 0.014 < α = 0.05 so Ha was accepted, which means that there is an effect of giving stretching exercise on changes in the level of dysmenorrhea in class VII young women at SMPN 1 Prambon Nganjuk. Based on the results of the study, stretching exercise affects changes in the level of dysmenorrhea in female adolescents. This is because when doing stretching exercises the body will produce endorphins. Endorphins are produced in the brain and spinal cord. This hormone can function as a natural sedative that is produced by the brain, causing a feeling of comfort that can relieve pain.

Keywords

Stretching Exercise, Dysmenorrhea, Young Women

INTRODUCTION

Adolescence (adolescence) is a period of transition or transition from childhood to adulthood which is marked by physical, psychological and psychosocial changes. The earliest change to appear is biological development (Dieny, 2014). One sign of biological youth in young women is the start of menstruation. The age of young women at the time they first got menstruation (menarche) varied widely, namely between 10-16 years, but the average was 12.5 years (Prawirohardjo, 2005). For some young women, menstruation is sometimes like a scourge when unbearable pain occurs when menstruation arrives (Misaroh, 2009). This pain usually occurs after 12 months or more, starting from the first menstruation (Laila, 2011). This condition is known as menstrual pain or dysmenorrhea.

According to WHO in research, the incidence of dysmenorrhea is quite high

throughout the world. The average incidence of dysmenorrhea in young women is between 16.8-81%. On average in European countries, dysmenorrhea occurs in 45-97% of women. With the lowest prevalence in Bulgaria (8.8%) and the highest reaching 94% in Finland. In the United States, dysmenorrhea is recognized as the most common cause of absence from school for young girls. The incidence of dysmenorrhea in Indonesia is 54.89% for primary dysmenorrhea and 9.36% for secondary dysmenorrhea, which causes them to be unable to carry out any activities and this will reduce the quality of life for each individual (Eniwarti, 2014). The incidence of dysmenorrhea in East Java is 64.25%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea.

In general, the treatment of dysmenorrhea is divided into two categories, namely pharmacological and non-pharmacological approaches. Pharmacologically, dysmenorrhea can be treated with analgesic therapy which is the most commonly used method for pain relief, but this therapy can have an addictive effect and will have side effects of drugs that are harmful to patients (Eniwarti, 2014). Nonpharmacologically, dysmenorrhea can be treated with relaxation therapy, one of the relaxation therapies is doing light physical exercises, namely doing stretching exercises. This is because when doing stretching exercises the body will produce endorphins. Endorphins are produced in the brain and spinal cord. This hormone can function as a natural sedative that is produced by the brain, causing a feeling of comfort (Suparto, 2011). Regular stretching exercises can make the blood circulation in the uterine muscles smooth so that it can reduce dysmenorrhea. The release of natural endorphins can be increased by doing stretching exercises which will suppress the release of prostaglandins, in addition to being able to strengthen levels of beta endorphins, which are brain chemicals that function to relieve pain (Misaroh, 2009).

MATERIALS AND METHOD

The research design used a pre-experimental design with a one group pre-test post-test design approach. This research was conducted on November 5 – 18 2022 at Prambon Nganjuk 1 Public Middle School. The population in this study was all class VII students who experienced dysmenorrhea as many as 40 people. The sampling technique used is purposive sampling. The sample used was 30 respondents. In collecting data using research ethics with anonymity. Statistical test using the Wilcoxon sign rank test with a significant $\alpha = 0.05$. The independent variable in this study is stretching exercise, and the dependent variable in this study is changes in dysmenorrhea. Measuring tool in this study the independent variable using SOP and the dependent variable using the Numeric Rating Scale (NRS). NRS has a validity of r=0.90 and a reliability of more than 0.95, so it is valid and has high reliability.

This study ethics uses informe consent, autonomy, confidelity, beneficient, non-maleficient, justice and fidelity

RESULTS

Characteristics of respondents included age, age menarche, menstrual cycle and long menstruation. Based on table 1 it was found that the majority of 17 respondents (56.7%) were 13 years old, the majority were 20 respondents (66.6%) menarche age 12 years, the majority were 20 respondents (66.7%) regular menstrual cycles and Most of them, namely 19 respondents (63.3%), had a menstrual period of 3-5 days.

Table 1. Characteristics of respondents (n=30)

Variable	n	%
Age		
12 Years	4	13,3
13 Years	17	56,7
14 Years	8	26,7
15 Years	1	3,3
Age Menarche		
10 Years	0	0
11 Years	5	16,7

12 Years	20	66,6
13 Years	5	16,7
Menstrual Cycle		
Regular	20	66,7
Iregular	10	33,3
Long Menstruation		
3-5 Days	19	63,3
6-7 Days	11	36,7
>7 Days	0	0

Table 2. The Level Dysmenorrhea Pre and Post *stretching exercise* (n=30)

Level Dysmenorrhea	Pre		Post		
	Σ	%	Σ	%	P Value
No Pain	0	0	3	10	0,014
Mild pain	8	27	14	47	
Moderate pain	12	43	11	37	
Severe pain	10	33	2	6	
unbearable pain	0	0	0	0	

Based on table 2, The statistical test result shows that there is the pain before and after. The result of Wilcoxon sign rank p-value 0,014.

DISCUSSION

Menarche is the first menstruation experienced by women which is a sign of the beginning of a new life as a teenager in puberty which usually occurs in the age range of 10-16 years, the age when a girl begins to menstruate varies greatly. There is a tendency that currently children get their first menstruation at a younger age. There are those who are 12 years old who have had their first menstruation, there are also those who are 16 years old who have just experienced it. Menarche at an earlier age causes the reproductive organs not to function optimally and are not ready to experience changes resulting in pain during menstruation (Misaroh, 2009). In the early days of menstruation, menstrual cycles are usually irregular. This is because the body needs to adapt. Generally after 2-3 years, menstrual cycles will become regular.

Dysmenorrhea causes pain in the lower abdomen, which can radiate to the lower back and legs. The pain is felt as intermittent cramps or as a persistent dull ache. Usually the pain begins to occur just before or during menstruation. And, the pain reaches its peak within 24 hours, but after 2 days it will disappear. Almost all women experience discomfort in the lower abdomen before and during menstruation, forcing sufferers to rest and leave activities for several hours or several days (Sudarti, 2012).

Adolescent who experience menstruation longer than normal will experience pain during menstruation. The longer menstruation occurs, the more frequently the uterus contracts, as a result, more prostaglandins are released. As a result of excessive production of prostaglandins, pain arises (Novia & Nunik, 2008).

Physical exercise has been supported as a non-medical intervention to relieve dysmenorrhea. Billig was the first to advocate physical exercise for dysmenorrhea in 1943. He had the idea that women with dysmenorrhea contracted the muscles in the abdominal area and devised a series of stretching exercises which he stated had high scores for alleviating the symptoms of dysmenorrhea (Brown & Brown, 2010).

Doing stretching exercises during menstrual pain can be done for 5 minutes, with notes when stretching it is recommended not to overdo it, avoid sudden movements, pay attention to normal breathing while practicing, stretch as far as you still feel comfortable. In stretching exercises, we stretch muscles that are not normally used. In doing so, we stimulate these muscles and promote muscle growth. At the same time, the brain becomes active and encourages the secretion of Endorphin hormones. This hormone has an analgesic effect (Haruyama, 2014). When you stretch, Endorphin hormones will come out and be captured by the hypothalamus receptors and the limbic system (Marlinda, 2013). In addition, physical stretching exercises will increase blood flow and uterine muscle metabolism during exercise. In other words, increasing metabolism is a factor in reducing dysmenorrhea (Kaur, 2014).

Based on the results of the study, doing stretching exercises when experiencing dysmenorrhea affects changes in the level of dysmenorrhea so that abdominal muscle contractions are reduced. Although there are still respondents who do not experience changes in the level of dysmenorrhea, this can be caused by several factors, such as an excessive increase in the amount of the hormone prostaglandin in the blood so that contractions of the abdominal muscles occur continuously during menstrual bleeding, the presence of constitutional factors such as anemia or chronic diseases that can affect the occurrence of pain, and psychological factors such as unstable emotions and stress that make dysmenorrhea difficult to overcome. Whereas in young women who experience changes in the level of dysmenorrhea after doing stretching exercises, it can be caused when doing this stretching movement the brain produces endorphins hormones which have an analgesic effect resulting in reduced contractions and improving blood flow in the abdominal muscles, this condition can reduce menstrual pain or dysmenorrhea suffered by young women

CONCLUSIONS

There is an effect of giving stretching exercise to changes in the level of dysmenorrhea in class VII young women at SMPN 1 Prambon, Nganjuk Regency. This is based on the results of the Wilcoxon Signed Ranks Test statistic with $\alpha = 0.05$ and the results obtained are ρ value = 0.014.

REFERENCES

Brown, J., & Brown, S. (2010). *Exercise For Dysmenorrhoea (Review).* . Ghicago: The Cochrane Collaboration, Issue 3.

Dieny, F. (2014). *Permasalahan Gizi Pada Remaja Putri. Cetakan ke I* . Yogyakarta: Graha Ilmu.

Eniwarti. (2014). Pengaruh Terapi Musik Mozart Terhadap Penurunan Derajat Nyeri Menstruasi Pada Remaja Putri di MAN Padang Japang. *ejurnal.stikesprimanusantar*, 15-20.

Haruyama, S. (2014). *The Miracle Of Endorphin.* Bandung: Qanita.

Kaur, S. (2014). To Compare The Effect Of Stretching And Core Strengthtening Exercise On Primary Dysmenorrhoea in Young Females. *IOSR-JDMS, Vol. 13, Issue 6* , 22-32.

Laila, N. (2011). *Buku Pintar Menstruasi.* Yogyakarta: Buku Biru.

Marlinda, R. (2013). Pengaruh Senam Dismenore terhadap penurunan Dismenore Pada Remaja Putri Di Desa Sidoharjo Kecamatan Pati. *Jurnal Keperawatan Maternitas. Vol 1, No.2*, 118-123.

Misaroh, P. d. (2009). *Menarche Menstruasi Pertama Penuh Makna.* Jakarta: Nuha Medika.

Novia, & Nunik. (2008). Faktor Risiko yang Memengaruhi Kejadian Dismenore Primer. *The Indonesian Journal of Public Health, Vol. 4, No. 2*, 96-104.

Prawirohardjo, S. (2005). *Ilmu Kandungan* . Jakarta: Yayasan Bina Pustaka.

Sudarti, J. M. (2012). *Teori Pengukuran Nyeri & Nyeri Persalinan.* Yogyakarta: Nuha Medika.

Suparto. (2011). Efektifitas Senam Dismenore Dalam Mengurangi Dismenore Pada Remaja Putri. . *Phederal, Vol. 4 No.1*, 50-55.