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The Effect of Abdominal Stretching Exercises On Reducing Menstrual Pain In Adolescent Girls At Mts Bina Insani Kecamatan Raya Kahean Kabupaten Simalungun 2021

Ferika Desi

Madina Husada Academy of Midwifery Panyabungan

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ABSTRACT

Adolescence is a period of change both physically, biologically, and productively. Adolescence begins when a person experiences changes both physically, biologically and reproductively. In adolescent girls, the most prominent thing when experiencing growth and development, one of which is menstruation (menstruation). Adolescent women who experience menstruation is something physiological and normal. Several risk factors related to the severity of dysmenorrhea symptoms are younger age at the time of menarche, longer menstrual periods, the amount of blood that comes out during menstruation, smoking, family history of dysmenorrhea, obesity and alcohol use are also associated with the occurrence of primary dysmenorrhea.. This research aims todetermine the effect of abdominal stretching exercises on the reduction of menstrual pain in adolescent girls in MTs. Bina Insani Kec. Raya Kahean Kab. Simalungun Year 2021. The type of research used is Pre-Experimental research with one group pre-post test design. The population in this study were all adolescent girls in grades 1,2,3 who experienced dysmenorrhea in MTs. Human Development. The sampling technique used Accidental Sampling with a sample size of 20 people. Data collection using the Numeric Paint Rating Scale (NRS) instrument. Data analysis used the Wilcoxon test with a significant level of $p<0.05$). The results of the analysis show that there is an effect of abdominal stretching on the intensity of dysmenorrhea pain in adolescent girls at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun with a value of P = 0.001 where P = <0.05. It is suggested that this research can be used as information for young women in MTs. Bina Insani Kec. Raya Kahean Kab. Simalungun as a non-pharmacological management to treat dysmenorrhea pain experienced by adolescent girls.

E-mail:
Email : Ferikadesi@gmail.com

1. Introduction

In normal adolescent girls every month will usually experience lower abdominal pain (dysmenorrhea) or discomfort in the stomach and back pain as well as emotional changes. Dysmenorrhea is pain (cramping) in the abdominal area that begins 24 hours before menstrual bleeding occurs and can last for 24-36 hours, although in general it only lasts for the first 24 hours when menstrual bleeding occurs (Arifiani et al, 2016).

According to Proverawati, 2009 the most common dysmenorrhea in Indonesia is primary dysmenorrhea, the percentage of dysmenorrhea in Indonesia is 64.25% which is divided into 54.89%

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primary dysmenorrhea and 9.36% secondary dysmenorrhea. In 2012, the results showed that 84.4% of adolescents in St. Thomas 1 Medan experienced dysmenorrhea with 46.7% mild pain intensity, 30.0% moderate pain, and 23.3% severe pain (Novia, 2012 in O. Sirait et al 2014).

To reduce the intensity of dysmenorrhea, common methods are used such as warm compresses, drinking ginger herbs and Mozart music. Apart from these methods, the management of dysmenorrhea can also be done by not consuming drugs or non-pharmacological without having to cause side effects, namely by abdominal stretching to increase abdominal muscles and reduce abdominal pain. Stretching is a term used to lengthen the shortened soft tissue structure, relax, reduce pain and reduce spasm (Wardina, et al, 2017).

The benefits of stretching according to (Alter, 2008 in Setyorini, 2015) are that it can improve fitness, optimize capture power, increase mental and physical relaxation, increase the development of body awareness, reduce muscle tension (cramps), reduce muscle pain and reduce pain during menstruation. dysmenorrhea). Physical exercise has a significant relationship with a decrease in the level of muscle fatigue. Adolescents with dysmenorrhea will experience muscle cramps, especially in the lower abdomen which are cyclic in nature due to strong and prolonged contractions of the uterine wall resulting in muscle fatigue and physical inactivity, so exercise is needed to eliminate these muscle cramps.

Based on the results of research on abdominal stretching, it can affect to reduce the intensity of menstrual pain, this has been proven by several studies, including research conducted by (Tarigan, 2013) which states that after abdominal stretching the intensity of menstrual pain in adolescent girls has decreased. half (50%) had mild pain.

Windastiwi, et al. (2017) said that the intensity of dysmenorrhea pain before abdominal stretching 75% experienced moderate dysmenorrhea and there were 8 respondents with severe dysmenorrhea. The intensity of dysmenorrhea pain after abdominal stretching showed that out of 48 respondents there were no respondents with severe dysmenorrhea pain and 85% had moderate dysmenorrhea, which means that there was an effect of abdominal stretching on dysmenorrhea pain.

Based on the results of a preliminary study conducted by researchers by conducting interviews with 20 young women who had a history of menstrual pain, it was found that the treatment that had been carried out to reduce or eliminate menstrual pain was by using analgesic drugs as many as 5 people, leaving 13 people alone, sleeping 2 people, while for physical exercise, especially abdominal stretching exercises were never done.

Based on the description above, researchers are interested in examining the Effect of Exercise *Abdominal Stretching* on the Reduction of Menstrual Pain in Young Women at MTS Bina Insani Kec. Raya Kahean Kab. Simalungun in 2021".

2. Methods

This research was conducted with a pre-experimental research design with a one-group pre-post test design. This research was carried out at MTs Bina Insani kec. Raya Kahean Kab. Simalungun for the whole class VII. The population in this study were all seventh grade adolescent girls who had experienced dysmenorrhea at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun. Research sample.Based on the method used overall sample needed 20 respondents Data analysis using Chi Square test

3. Results and Discussion

3.1 Univariate Analysis

Univariate analysis in this study is the frequency distribution based on the number of respondents, date of filling, gender, age of respondents, education, and work experience. In this study, the method used to identify the effect of Abdominal Stretching on the dysmenorrhea pain scale in adolescent girls in MTs. Bina Insani Kec. Raya Kahean, Simalungun Regency.

Table 1.Characteristics of Respondents in MTs. Human Development in 2021

No	Characteristics of Respondents	N	%

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1	**Age**		
	13 years old	10	50.0
	14 years	7	35.0
	15 years	3	15.0
2	**Class**		
	1	10	50.0
	2	7	35.0
	3	**3**	**15.0**

Based on Table 1 above, it can be seen that the most respondents were 13 years old, as many as 10 people (50.0%), and the highest class in class 1 was 10 people (50.0%).

3.2 Bivariate Analysis

Bivariate analysis in this study used the Wilcoxon Sign Rank Test because the data were not normally distributed (Polit and Beck, 2012).

Table 2. Pain Scale Table *Dysmenorrhea* on Respondents Prior to Abdominal Stretching Intervention at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun Year 2021

No		Pain Scale	N	%
1	0	= no pain	-	-
2	1-3	= Mild pain	3	15.0
3	4- 6	= Moderate pain	15	75.0
4	7- 10	= Severe pain	2	10.0
		Amount	**20**	**100**

Table 3. Table of Dysmenorrhea Pain Scale in Respondents After Abdominal Stretching Interventions at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun Year 2021

No		Pain Scale	N	%
1	0	= no pain	3	15.0
2	1-3	= Mild pain	15	75.0
3	4- 6	= Moderate pain	2	10.0
4	7- 10	= Severe pain	-	-
		Amount	**20**	**100**

Table 4. The Effect of Abdominal Stretching on the Pain Intensity of Dysmenorrhea I Adolescent Girls at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun Year 2021

No	Pain Scale	N	mean	Min-Max	P-Value	Z
1	Pain scale before intervention	20	4.95	2 - 8	0.001	-3.963
2	Pain scale after intervention	20	1.55	0 -3		

The results of this study indicate that from 20 respondents the mean before the intervention was 4.95 (the lowest pain scale was 2 and the highest was 8). Meanwhile, the mean after the intervention was 1.55 (the lowest pain scale was 0 and the highest was 3). Thus, there is an effect of the dysmenorrhea pain scale on the respondents before and after the intervention. The results of the Wilcoxon Sign Rank Test statistical test obtained p value = 0.001 (<0.05), which means that giving abdominal stretching affects the dysmenorrhea pain scale in adolescent girls at MTs Bina Insani. There are several ways to treat dysmenorrhea, such as by administering analgesic and non-pharmacological drugs (abdominal stretching), aromatherapy, hot compresses, and hypnosis.

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3.3 Dysmenorrhea Pain Intensity Before Abdominal Stretching Intervention Is Given

Dysmenorrhea pain scale in adolescent girls before abdominal stretching intervention at MTs Bina Insani Kec. Raya Kahean kab. Simalungun In 2021, the majority of respondents, namely 15 people (75.0%) experienced moderate pain. This occurs due to an increase in the production of the hormone prostaglandin before menstruation, which results in an increase in stronger uterine muscles, and pain tends to begin to decrease the next day after menstruation. Supported by the theory of Willkins, (2012) it is said that pain can be caused by increased prostaglandin secretion in menstrual blood which increases normal uterine contractions.

This research is supported by the results of Salbiah's research (2017) on "Reducing Pain Levels During Menstruation Through Exercise" *Abdominal Stretching* the results of the pain scale before being given treatment were the most on a scale of 4-6 or were on a moderate pain scale with a frequency of 37 (66.1%) female students, and the least experienced severe pain on a scale of 10 with 3 (5.4%) female students. . Several risk factors related to the severity of dysmenorrhea symptoms are younger age at the time of menarche, longer menstrual periods, the amount of blood that comes out during menstruation, smoking, family history of dysmenorrhea, obesity and alcohol use are also associated with the occurrence of primary dysmenorrhea. , 2011 in Wardiana, 2017).

Primary dysmenorrhea is painful menstruation, without any identifiable pelvic pathology. It can occur at menarche or immediately after. Dysmenorrhea is characterized by cramping pain that begins before or immediately after the onset of menstrual flow and continues for 48 to 72 hours. Pelvic examination revealed normal findings. Dysmenorrhea is thought to be the result of excessive prostaglandin formation, which causes anteriolar vasospasm. Psychological factors such as anxiety and tension can also support dysmenorrhea (Smeltzer, 2002)

Abdominal stretching is a form of relaxation from relaxation techniques that can reduce pain by relaxing muscles that experience spasm caused by an increase in prostaglandins resulting in vasodilation of blood vessels and will increase blood flow to areas experiencing spasm and ischemia (Windastiwi, 2017).

Stretching exercises have been found to reduce menstrual discomfort through increasing speed, and decreasing ischemia; release of endogenous opiates, specifically beta endorphins and suppression of prostaglandins and block blood flow from the viscera resulting in pelvic congestion. This reduces pain. So stretching exercises help to soften back pain, relieve pain, increase flexibility, restore mobility, increase circulation in bone and joint tissues, soothe tense uterine muscles and maintain a good tone of the abdomen. Stretch-based exercises have been found to decrease the involuntary pool of motoneurons (Renuka. K, 2015).

Based on the results of the study, it was found that many respondents experienced dysmenorrhea pain and did not know the technique of stretching the abdominal muscles. Of the 20 respondents who experienced moderate pain there were 14 people and 2 people who experienced severe pain. This is because the lack of information about abdominal stretching therapy makes respondents less knowledgeable in dealing with the pain they feel. Therefore, it is hoped that this abdominal muscle stretching technique can affect the scale of pain felt by the respondent, so that a change in the respondent's pain scale is obtained after being given an abdominal stretching intervention.

3.4 Dysmenorrhea Pain Intensity After Abdominal Stretching Intervention

From the results of the study, it was obtained data that the majority of the dysmenorrhea pain scale felt by respondents who were on a mild pain scale were 13 people (65.0%), no pain 7 people (35.0%). This research is supported by Wahit's theory, (2015) which says that one of the non-pharmacological treatments to reduce pain is progressive relaxation, relaxation is mental and physical freedom from tension and stress. Relaxation techniques give individuals self-control when there is discomfort or pain, physical stress, and emotions in pain.

The results of the research by Windastiwi et al., (2017) on "The Effect of Abdominal Stretching Exercise on the Pain Intensity of Dysmenorrhea" obtained the results of the intensity of dysmenorrhea pain after being given a stretching exercise intervention.

According to Kuntaraf, (2003) in the journal Tarigan, (2013) with the title "The Effect of Dysmenorrhea Gymnastics on Menstrual Pain Intensity in Adolescents at SMA Negeri 2 Surabaya"

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said that one of the benefits of exercise is to stimulate the production of endorphins in the brain. Endorphins are hormones produced by the pituitary gland that can provide a feeling of calm and resistance to feelings of pain. This means that doing exercise will reduce muscle fatigue, especially in the lower abdomen, so that the intensity of pain can decrease. According to Anwar's theory, (2011) dysmenorrhea is pain during menstruation, usually with a feeling of cramping and centered in the lower abdomen. Complaints of pain can occur ranging from mild to severe.

3.5 The Effect of Abdominal Stretching on the Pain Intensity of Dysmenorrhea in Adolescent Girls at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun Year 2021

Based on the results of statistical tests obtained p = 0.001 where p <0.05. These results indicate that there is an effect of abdominal stretching on the intensity of dysmenorrhea pain in adolescent girls at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun. This research is supported by the research of Windastiwi, et al. (2017) on "The Effect of Abdominal Stretching Exercise on the Pain Intensity of Dysmenorrhea" with the results of the intensity of dysmenorrhea pain after being given a stretching exercise intervention showing that of 48 respondents, there were no respondents with severe dysmenorrhea pain and 85% experienced dysmenorrhea. moderate, with p-value = 0.000. So there is an effect of abdominal stretching exercise technique on the intensity of dysmenorrhea pain in respondents.

According to Andrews, (2009) in the journal Salbiah, (2017) research shows that physical exercise triggers the body to produce endorphins, natural opiates that increase feelings of well-being in addition to reduce pain. Evidence suggests that moderate physical exercise can help reduce dysmenorrhea by distracting attention from pain, producing feelings of relaxation, and reducing stress. Physical exercise can also reduce symptoms of premenstrual syndrome (PMS) in a similar way.

According to Salbiah (2017), light sports exercises are highly recommended to reduce dysmenorrhea. Exercise is one of the relaxation techniques that can be used to reduce pain. This is because when doing sports / gymnastics the body will produce endorphins. This hormone can function as a natural sedative produced by the brain, causing a sense of comfort. According to research Thermacare, (2010) in Salbiah, (2017) said that this exercise is specifically designed to increase muscle strength, endurance, and flexibility, so it is expected to reduce menstrual pain. According to Wahit's theory, (2015) states that pain is an uncomfortable feeling that is very subjective and only people who experience it can explain and evaluate these feelings. Generally,

The results of research conducted by researchers after being given an abdominal stretching intervention, respondents who experienced mild pain became 13 people and those who experienced no pain became 7 people and those who did not experience pain became 5 people. The trigger factors that affect the pain scale did not change, namely respondents who did not do abdominal stretching independently without the direction of the researcher, an uncomfortable environment and seriousness in doing abdominal stretching so that there was a respondent's pain scale that did not change. Respondents are encouraged to better prepare, understand the material that will be made in the thesis in order to reduce their dysmenorrhea pain scale.

4. Conclusion

Based on the results of the study, it can be concluded that the intensity of dysmenorrhea pain in adolescent girls at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun before being given abdominal stretching 20 people with moderate pain scale as many as 15 people (75.0%) and severe pain as many as 2 people (10.0%). The intensity of dysmenorrhea pain in adolescent girls at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun after being given stretching abdominal pain as many as 13 people (65.0%) and no pain as many as 7 people (35.0%). There is an effect of abdominal stretching on the intensity of dysmenorrhea pain in adolescent girls at MTs Bina Insani Kec. Raya Kahean Kab. Simalungun with a value of P = 0.001 where P = <0.05.

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