

ABDOMINAL STRETCHING EXERCISES TO REDUCE DYSMENORHEA IN ADLOSCENT

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ABSTRAK LATIHAN ABDOMINAL STRETCHING TERHADAP PENURUNAN NYERI HAID REMAJA

Latar Belakang: Masa remaja merupakan periode terjadinya pertumbuhan dan perkembangan yang pesat baik secara fisik, psikologis, maupun intelektual. Saat menstruasi sangat dibutuhkan perilaku menjaga kebersihan dan mencegah terjadinya nyeri pada saat menstruasi.

Tujuan: Untuk mengetahui Pengaruh Latihan Abdominal Stretching Terhadap Penurunan Nyeri Haid Remaja di Lingkungan Dusun III, Desa Helvetia, Sunggal, Medan Tahun 2020.

Metode: Desain penelitian ini adalah *Quasy Eksperimen* dengan menggunakan *Design Pretest dan Post Test*. Populasi dari penelitian adalah remaja perempuan berumur 11-16 tahun di Lingkungan Dusun III, Desa Helvetia, Sunggal, Medan Tahun 2020. Sampel dari penelitian ini sebanyak 10 responden yang diambil menggunakan tehnik *Total Populasi*. Pengumpulan data menggunakan lembaran observasi.

Hasil: Berdasarkan hasil uji statistik Independen T-test diperoleh nilai sig 2-tailed sebesar 0,00 <0,005 maka dapat di simpulkan bahwa terdapat pengaruh latihan abdominal stretching terhadap penurunan nyeri haid remaja sebelum di lakukan latihan dengan sesudah di lakukan latihan abdominal.

Kesimpulan: ada pengaruh pengaruh latihan abdominal stretching terhadap penurunan nyeri haid remaja sebelum di lakukan latihan dengan sesudah di lakukan latihan abdominal.

Saran diharapkan remaja puteri meningkatkan pengetahuan dan kesadaran untuk melakukan pencegahan nyeri haid serta diharapkan remaja putri lebih meningkatkan lagi perilaku kebersihannya dengan lebih memperbanyak membaca buku dan mengikuti seminar-seminar yang diadakan.

Kata Kunci : *Latihan Abdominal Stretching* , *Nyeri Haid Remaja*, *Remaja*

ABSTRACT

Background: Adolescence is a period of rapid growth and development both physically, psychologically, and intellectually. It is necessary to maintain cleanliness and prevent pain during menstruation.

Purpose: This study aims to determine the effect of abdominal stretching exercises on reducing menstrual pain (dysmenorhea) in adolescents at Dusun III, Helvetia Village, Sunggal, Medan in 2020. Methods: The design of this study was a Quasy Experiment using Pretest and Post Test Designs. The study population was female adolescents aged 11-16 years old from Dusun III, Helvetia Village, Sunggal, Medan 2020. The sample was 10 respondents taken using the Total Population technique, while the data collection used observation sheets.

Results: Based on the Independent T-test statistical test a 2-tailed sig value of 0.00 <0.005 was obtained. Therefore there was an effect of abdominal stretching exercises on reducing adolescent menstrual pain after doing abdominal exercises.

Conclusion: Abdominal stretching exercises could help reduce menstrual pain in adolescent.

Suggestion: Young women will increase their knowledge and awareness of preventing menstrual pain and are expected to improve their hygiene by reading more books and attending seminars.

Keywords: Abdominal, Adolescent Menstrual Pain Stretching Exercise, Teenager

INTRODUCTION

Humans grow and develop in stages, and one of them is adolescence. The difference in the physical development of males and females lies in

their reproductive systems and appearances, including body shapes due to the primary and secondary sex characteristics (Sarwono 2016). In adolescent females, primary and secondary changes

occur, which are the characteristics of sex changes. Primary changes happen to their reproductive system that starts growing during puberty and menstruation. Menstruation itself can cause problems, such as dysmenorrhea (Nikmah 2019).

Adolescence is a transition from early childhood to adulthood, ages 10 to 12 years old (Wiknjosastro 2019). Adolescence begins with rapid physical changes, weight and height gain dramatic changes, changes in body shape and sexual characteristics (Koes Irianto 2016).

The Ministry of Health of the Republic of Indonesia (Kemenkes RI) defined reproductive health as a state of complete physical, mental and social well-being in all matters relating to reproductive systems and functions and processes and not only conditions that are free from disease and disability but how a person can have a safe sex life (Darmawan 2019).

Puberty is the transition period from childhood to adulthood and ends when the ovaries begin to function. This period starts when secondary sex characteristics of women aged 8-14 years and lasts 4 days begin to appear (Wardiah Aryanti & Rilyani 2016).

Menstruation is bleeding due to the shedding of the inner wall of the uterus (endometrium) (Irianto 2015). The endometrial lining is prepared to receive embryo implementation. Without the embryo, this layer will be shed (Koes Irianto 2016). This bleeding occurs periodically; the interval between menstruation is one menstrual cycle (Sastrawinata, Martaadisoebrata, and Wirakusumah 2017). Women's menstrual cycles are different but generally normal in 21-35 days, with an average of 28 days (Purwoastuti and Elisabeth 2015).

The main problem for adolescents related to menstruation is the lack of knowledge (Emilia and Prabandari, 2019). United Nations Children's Fund (UNICEF) in Indonesia 2015 found that 1 in 6 girls had to skip school for one day or more during menstruation (Kemenkes RI 2017).

Linda Puspita & Tuti Anjarwati (2019) found an effect of abdominal stretching exercise on the intensity of menstrual pain in adolescent girls at SMK Pelita Gedongtaaan 2019 (Setiawati 2015). Abdominal stretching aims to increase muscle strength, endurance, and flexibility, improve fitness, optimize grasping power, improve mental and physical relaxation, increase body awareness, reduce muscle tension (cramps), and reduce muscle pain and pain menstruation (Megawati 2016). Abdominal stretching exercises can reduce the intensity of dysmenorrhea pain (Puspita and Anjarwati, 2019).

Exercise is a safe non-pharmacological management because it uses a physiological process (Lestari 2021). Physical exercise has been shown to increase endorphin levels four to five times in the blood, so the more often someone exercises, the higher their endorphins will be (Jama and Aziz 2020). Abdominal stretching exercises can be done for 10 to 15 minutes three times when the pain begins. These exercises can relax the uterine muscles and increase blood perfusion to the uterus (Harmina 2018).

Based on an initial survey conducted by interviewing 12 adolescent female participants at Dusun III, Helvetia Village, Sunggal, Medan in 2020, 9 out of 12 said they often experienced dysmenorrhea during menstruation 3 participants did not feel any menstrual cramps. Menstrual pain makes some young women unable to move too actively and interferes with their activities. When the researchers asked, "How does menstrual pain interfere with their activities, and do they know about abdominal stretching exercises?". They confirmed experiencing cramps and had no idea about abdominal stretching exercises. Sometimes, they had to skip school because of the unbearable pain. Therefore, the researchers were interested in studying the effect of abdominal stretching exercises on reducing menstrual pain in adolescents at Dusun III, Helvetia Village, Sunggal, Medan.

RESEARCH METHODOLOGY

In this study, the researchers used experimental quantitative methods. This research design is Quasi-Experimental Design by using Design Pretest and Post Test (Hidayat 2017). In this design, the intervention group that received the treatment measured pain intensity before and after the intervention (Muhammad 2015). The study population was adolescent females who experienced menstrual pain. The sample used purposive sampling with 10 respondents with the inclusion criteria of young women who did not have pelvic and reproductive diseases and was willing to be respondents. The univariate analysis described the data carried out on each variable from the research results (I Ketut Swarjana 2012). Bivariate analysis connects two variables, while the statistical test used the t-test. (Dahlan 2014).

RESULT

Age Characteristics

Table 1
Frequency Distribution of Menstrual Pain in Adolescents with the Age Group of 11-16 Years Old at Dusun III, Helvetia Village, Sunggal, Medan in 2020

AGE	TOTAL	
	N	%
11	10	15.0
12	30	25.0
13	20	15.0
14	10	20.0
15	20	15.0
16	10	10.0
Total	100	100

Based on Table 1, from 10 (100%) respondents who experienced menstrual pain, 3 respondents were 12 years old (30%). Two

respondents aged 13 and 15 years old became the second-highest menstrual pain with 2 (20%) respondents each, and the others with the age group 11, 14, and 16 years old were 1 respondent (10%) only.

Univariate Analysis

Based on Table 2, after the 10 respondents who did abdominal pretest exercises, 2 respondents (20%) experienced mild pain, then 4 respondents (40%) experienced moderate pain, and 4 other respondents experienced severe pain (40%). Then, in exercises 1-3, there was a significant decrease in pain rates with mild pain in the 3rd exercise, which was 8 categories (80%). There was also a decrease in moderate pains among 3 respondents (30%) and severe pain in exercise 2 with 1 respondent (10%). Furthermore, among 10 respondents in the post-test exercise, there was an increase in the number of no pain scores by 8 respondents (80%) and a decrease in mild pain by 2 respondents (20%).

Table 2
Frequency Distribution of Menstrual Pain in Female Adolescents at Dusun III, Helvetia Sunggal Village, Medan, in 2020

Dysmenorrhea	Pretest		Exercise 1		Exercise 2		Exercise 3		Exercise 4	
	n	%	n	%	N	%	n	%	n	%
No Pain	0	0	0	0	0	0	2	20	8	80
Mild Pain	2	20	2	20	6	60	8	80	2	20
Moderate Pain	4	40	4	40	3	30	0	0	0	0
Severe Pain	4	40	4	40	1	10	0	0	0	0
Very Severe Pain	0	0	0	0	0	0	0	0	0	0
Total	10	100	10	100	10	100	10	100	10	100

Bivariate Analysis

Table 3
Independent T-test

Pre Post Exercise Results	F	Sig.	Df	Sig.	Mean	Std.Error	Lower	Upper
Equal variances assumed	17,319	,001	18	,000	7,60000	,88819	5,73397	9,46603
Equal variances not assumed			11,280	,000	7,60000	,88819	5,65101	9,54899

Based on Table 3, the sig value of Levene's Test for Equality Of Variances is $0.001 < 0.005$. Thus, the data variance between the pretest and post-test groups is homogeneous. The interpretation of the table in the Independent T-test output table is guided by the values contained in the equal variances assumed table.

Based on the Independent T-test output table in the equal variances assumed section, the 2-tailed sig value is $0.00 < 0.005$, so as the basis for making the T-test sample decision, H_a is accepted, and H_o is rejected. Thus, there is an effect of abdominal

stretching exercises on reducing adolescent menstrual pain before and after doing abdominal exercises.

DISCUSSION

The Effect of Abdominal Stretching Exercises on Reducing Menstrual Pain in Female Adolescents at Dusun III, Helvetia Village, Sunggal, Medan in 2020

Based on the univariate test of the frequency distribution of abdominal stretching exercises on reducing menstrual pain in pre and post, from 10

respondents (100%), respondents who experienced heavy menstrual pain before abdominal stretching exercise were 4 (40%) frequency, moderate pain 4 (40%), and there was a decrease in menstrual pain in the post-test with a total painless rate of 8 (80%) frequency. Then, based on the independent statistical output test, the t-test obtained Sig(2-tailed) the results of the t-test equality of means. The significant value is <0.005 with a value of 0.000, meaning that there is an effect of abdominal stretching exercise on reducing menstrual pain after doing abdominal exercises. There was a significant difference in the decrease in the intensity of dysmenorrhea between the experimental group and the control group. Hence, abdominal stretching exercises are effective in reducing the intensity of dysmenorrhea (Henniwati and Dewita, 2021). Abdominal stretching is a stretching exercise oriented to the abdominal muscles (Wulandari, Hadisaputro, and Runjati 2016).

Menstrual bleeding happens from within the collapsed uterine wall (endometrium). If embryo implementation does not occur, this layer will fall. Women's menstrual cycles are different, but normal generally occurs in 21-35 days, with an average of 28 days (Purwoastuti and Elisabeth 2015). There is an increase in dysmenorrhea in women who do not exercise enough, such as menstrual pain in women, because they cannot provide oxygen to the reproductive organs. (Megawati, Muhidin, and Mulyati 2018) Exercise is one of the following: non-drug management, safe to use physiological processes. (Wulandari et al. 2016). These exercises have been proven to increase endorphin levels 4-5 times more blood when exercising. There will be more high levels of endorphins (Pratama 2018).

This research aligns with (Syafna et al., 2018) entitled *The Effect of Abdominal Stretching Exercises on the Intensity of Dysmenorrhea at the Daarun Nahdhah Islamic Boarding School Bangkinang, Kampar Regency*, showing that giving abdominal stretching exercises to the experimental group could reduce the intensity of dysmenorrhea where the results of the independent t-test showed significance with p-value $(0.000) < (0.05)$. The type of research design used was the quasi-experiment with a non-equivalent control group research design (Puspita, Umar, and Kusuma 2020). There was a significant difference in decreasing the intensity of dysmenorrhea between the experimental group and the control group. Therefore, abdominal stretching exercises effectively could reduce dysmenorrhea's intensity (Salbiah 2015).

From the results of this study, the abdominal stretching exercise could reduce pain during

menstruation and had an important role in non-pharmacological physical exercise on the body (Na'mah, Sulistyaningsih, and Qomar, 2021).

Farida et al. (2019) described abdominal stretching exercises as an effective non-pharmacological therapy used in reducing menstrual pain because this movement is easy to do and safe. After all, it uses the body's physiological functions and does not require tools in its implementation (Puspita and Anjarwati 2019). The principle underlying the decrease in menstrual pain is that abdominal stretching exercise helps increase blood perfusion to the uterus and relax the uterine muscles so that anaerobic metabolism (such as glycolysis and glycogenolysis) does not produce lactic acid, where acid accumulation occurs. Therefore, alternative therapies are needed, for example, abdominal stretching exercises to increase blood flow to carry oxygen, resulting in the oxidation process reducing lactic acid levels, and relaxing the weak, tight stomach muscles to help reduce menstrual cramps (Astriyani and Nurrohmah 2021). Menstrual pain can be overcome non-pharmacologically if young women do not suffer from comorbidities such as cysts, pelvic infections, and other diseases related to reproductive health. (Marhaeni A 2016).

Abdominal stretching is useful for increasing physical relaxation, reducing muscle tension (cramping), and reducing pain during menstruation. With abdominal stretching exercise, it can reduce the intensity of dysmenorrhea pain. Based on the researchers' assumption that with abdominal exercises and stretching exercises, young women do not have to take drugs if dysmenorrhea comes. Teenagers can take advantage of this exercise in bed or at school so that it does not interfere with learning focus when menstrual pain comes. Also, they can do stretching exercises anywhere and anytime because they do not need any equipment.

CONCLUSION

From the analysis and discussion, some conclusions can be drawn.

Based on the Univariate test, from 10 (100%) respondents who experienced menstrual pain, more respondents were 12 years old with 3 respondents (30%), then there were 13 and 15-year-olds whom both had the same amount of pain with 2 respondents (20%), and others 11, 14 and 16 years old with 1 respondent (10%).

Based on the Bivariate test, the statistical output of the Independent t-test, the sig Levene's test for equality of variances was 0.000.

<0.005 . Thus, H_a was accepted, and H_o was rejected, meaning that there was an effect of

abdominal stretching exercises on reducing menstrual pain before exercising and after doing abdominal exercises.

SUGGESTION

Female adolescents are recommended to do abdominal stretching exercises before menstruation to prevent dysmenorrhea. Health workers at the Puskesmas Helvetia Village, Sunggal, should be able to handle and help the young women who are experiencing cramps by using non-pharmacological techniques, such as stretching exercises. References can also be provided in the library as study material to develop research on abdominal stretching exercises on menstrual pain (dysmenorrhea).

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