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The influence of william's flexion exercis on the Intensity of mental pain (Dismenore) On junior high school students

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Abstract

Dysmenorrhea is pain in the lower abdomen that occurs when a woman experiences her menstrual cycle. Continuous pain makes the sufferer unable to move, especially in young women so that it can affect learning activities and often even causes her to be absent from school. Handling dysmenorrhea is very important to do. One type of non-pharmacological therapy to treat menstrual pain is to use William's Flexion Exercise which is an exercise program aimed at stretching the posterior muscles and also increasing the strength of the lower abdominal and lumbar muscles so that menstrual pain can be reduced.To determine the effect of William's Flexion Exercises on reducing menstrual pain (Dysmenorrhea) in State Middle School 45 students Palembang in 2023. This research is a quantitative study using a pre-experimental design with a one group pretest-posttest design approach. Sampling in this study used a purposive sampling technique with the slovin formula of 70 respondents. The measuring instrument uses the Numeric Rating Scale (NRS) which has a sensitivityyvalue of 93%. Theeresults showed that the median value of menstrual pain before the intervention was 4.00 (1-6), while the median value after the intervention was 1.50 (0-5). Statistical tests using the Wilcoxon test obtained a significance value of ρ Value = 0.000 (ρ ≤ 0.05) which indicated that there was a significant effect of menstrual pain before and after the intervention of William's Flexion Exercise. There is a significantteffect of William's Flexion Exercises on the intensity of menstrual painn(dysmenorrhea) in students at SMP Negeri 45 Palembang. It is hoped that William's Flexion Exercise can be an alternativeeto reducing menstrual pain in students.

Keyword : William's Flexion Exercise, Menstrual Pain (Dysmenorrhe)

INTRODUCTION

Adolescence is a transitional period marked by changes both physically, emotionally and psychologically. At this time, the period of human reproductive maturation is often referred to as puberty. Menstruation as a sign in young women who have entered puberty. The first menstruation or menarche usually occurs in the age range of 10-16 years or in early adolescence before entering the reproductive period (Febrina, 2021).

Menstruation is often synonymous with dysmenorrhea, most women often experience dysmenorrhea or physical discomfort for several days before and during their menstrual period (Sari & Hayati, 2020).

Adolescents who experience dysmenorrhea during menstruation have more days off and perform less well at school than adolescents who do not experience dysmenorrhea, this is because adolescents who experience dysmenorrhea cannot participate in learning activities to the fullest, and it often results in their absence from school (Sumiaty et al. ., 2022).

One type of non-pharmacological therapy to treat menstrual pain is by using William's Flexion Exercise which is an exercise program aimed at stretching the posterior muscles and also increasing the strength of the abdominal and lower back muscles thereby increasing the volume of blood flowing throughout the body. including the reproductive organs so that menstrual pain can be reduced (Anggreini et al., 2022).

Based on research by Silvia, et al (2022) entitled The Effect of William's Flexion Exercises on the Intensity of Menstrual Pain (Dysmenorrhea) in Class VIII Students of SMP N 37 Pekanbaru. The research results showed that William's Flexion Training method was able to reduce the intensity of dysmenorrhea. This research aims to determine the effect of William's Flexion Exercises on reducing menstrual pain (Dysmenorrhea) in students at SMP Negeri 45 Palembang in 2023

RESEARCH METHODS

The research design used was pre-experimental One Group Pre-Test Post-Test by comparing the values before being given treatment and after being given treatment without a control group. The research was conducted at SMP Negeri 45 Palembang from April to May 2023 The sample in this study were 70 female students who experienced menstrual pain. Sampling was carried out by purposive sampling with inclusion criteria and exclusion criteria determined. The instruments used were the Respondent Characteristics Questionnaire Sheet, the NRS Pain Scale Observation Sheet and William's Flexion Exercise SOP. The statistical test in this study used the Wilcoxon test.

RESULTS AND DISCUSSION

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Characteristics of Respondents

The characteristics in this study consisted of age, class, menstrual pain days, seen in table 1.

Table 1
Characteristics of Respondents who experience menstrual pain at SMP Negeri 45 Palembang in 2023

No	Variable	N	%
1	**Age**		
	12 years old	12	18.8
	13 years old	39	55.7
	14 years	16	22.9
	15 years	2	2.9
	Total	70	100
2	**Class**		
	Seven	37	52.9
	Eight	33	47.2
	Total	70	100
3	**Menstrual Pain Day-**		
	One	41	58.8
	Two	29	41.4
	Total	70	100

Based on table 1 it can be seen that the characteristics of the majority of respondents aged 13 years were 39 students (55.7%), the majority of respondents were in seventh grade, namely 37 respondents (52.9%), and the majority of respondents were experiencing menstrual pain on day 1, namely 41 respondents (58.8%).

Normality Test

Data normality test using the Kolmogorov-Smirnov test (>50 respondents). Data before and after intervention can be seen in table 2.

Table 2
Data Normality Test Before and After Given the William's Flexion Exercise Intervention

Data Type	**Statistic**	**Df**	***P-Value***
Before	**0.177**	**70**	**0.000**
After	0.174	70	0.000

normality test results obtained data not normally distributed ρ<0.000 for data before the intervention and ρ<0.000 for data after the intervention

The level of menstrual pain (dysmenorrhea) in this study before and after the intervention can be seen in table 3.

Table 3
Univariate Analysis of Menstrual Pain Before and After the William's Flexion Exercise Intervention

Pain Level	Median	Min	Max
Before	4.00	1	6
After	1.50	0	5

Based on Table. 2 that before the William's Flexion Exercise intervention the lowest score was 1 and the highest score was 6. Whereas after the William's Flexion Exercise intervention the lowest score was 0 and the highest score was 5.

Based on these data, it was found that after being given the William's Flexion Exercise treatment, the respondents experience decrease in menstrual pain with a median value difference of 2.50.

Bivariate analysis

In this study we can see in table 4 the differences before and after the William's Flexion Exercise intervention on the intensity of menstrual pain.

Table 4
Bivariate Analysis of Menstrual Pain Beforee and After the William's Flexion Exercise Intervention

Pain Level	N	Median (Min-Max)	p-value
Before Intervention	70	4.00 (1-6)	0.000
After Intervention	70	1.50 (0-5)	

**Wilcoxon Signed Ranks Test*

Based on the data analysis above, the research conducted on 70 respondents showed that the level of menstrual pain before doing William's Flexion Exercise with a median score of 4.00 with the lowest score being 1 and the highest score being 6.

The results of the study conducted on 70 respondents showed that the level of menstrual pain after being given the intervention of William's Flexion Exercise (post test) 2 times the treatment with the median value (median) is at score 1.50, while the lowest score is at score 0 and the highest value is at score 5.

The results of the bivariate analysis test using the Wilcoxon test statistical test obtained a significance value of ρ-value = 0.000 (ρ≤0.05) meaning that there is a significant effect between menstrual pain before and after the intervention of William's Flexion Exercise, so it can be concluded that there is an effect of William's Flexion Exercise on Reduction Intensity of Menstrual Pain (Disminore) in Students of SMP Negeri 45 Palembang in 2023

Discussion

1. Characteristics of Respondents

Based on the results of the analysis of the age characteristics of the 70 respondents, it was found that the majority of students aged 13 were 39 students (55.7%).

According to research by Cicillia, et al (2016) who obtained the average result of women who have menstruated experiencing menstrual pain is at the age of 12-15 years. This is in accordance with the theory put forward by Sukarni & Margareth (2016) that psychological factors in adolescents who are motionally unstable, especially if they do not get good information about the menstrual process, menstrual pain will easily arise.

Based on table 1 regarding the characteristics of the respondents concerned with class level. In this study, the researcher only included grade 7 and 8 students because the time of the study coincided with the Grade 9 Student Semester Exam schedule.

The characteristics of the respondents are described in table 1. It was found that menstrual pain that was felt by many respondents was on the first day of menstruation, namely 41 respondents (58.8%).

The highest increase in prostaglandin levels during menstruation occurs in the first 48 hours. This is in line with the initial appearance and the magnitude of the intensity of menstrual pain complaints that are felt. Pain occurs before menstruation and increases on the first or second day and reaches its peak within 24 hours (first day) and disappears after 48 hours (2 days) (Indriasari, 2010 in Utami, 2019).

2. Intensity of Menstrual Pain Before Given the William's Flexion Exercise Intervention

Based on the results of the study of pain intensity before being given the William's Flexion Exercise treatment using the NRS (Numeric Rating Scale) pain scale measurement in grade 7 and 8 students of SMP Negeri 45 Palembang in 2023, the level of menstrual pain (dysmenorrhea) before being given the William's Flexion Exercise intervention was the median pain scale of 4.00 with a minimum pain scale of 1 and a maximum pain scale of 6.

in line with the research of Rishel, et al (2018) which stated that women who experience dysmenorrhea have relatively high levels of prostaglandins in their menstrual cycle. According to the researchers, this is influenced by high prostaglandin activity which can result in increased uterine inflammatory response and makes pain worse.

It can be concluded that, the peak of menstrual pain occurs around 1-2 days during the menstrual cycle. Menstrual pain arises due to contractions of the uterine wall as a result of the high level of prostaglandin hormones, giving a sensation of pain and heartburn. The higher the levels of prostaglandins in the body, the stronger menstrual pain will be.

3. Intensity of Menstrual Pain After Given William's Flexion Exercise Intervention

After given the William's Flexion Exercise, the median pain scale was 1.50 with a minimum value of 0 and a maximum value of 5.

Dysmenorrhea can be treated through the administration of pharmacological and nonpharmacological therapy. Handling with pharmacological therapy can be done by administering non-steroidal anti-inflammatory drugs such as ibu profen and mefenamic acid. Whereas non-pharmacologically it can be done using acupressure techniques (Indrayani & Antiza, 2021).

One type of non-pharmacological therapy to treat menstrual pain is by using William's Flexion Exercise. This exercise was first introduced by Dr. Paul William in 1937 which consisted of 8 forms of movement designed to reduce back pain by strengthening the muscles flexing the lumbosacral spine, especially the abdominal muscles and gluteus maximus muscles and stretching the extensor muscle groups (Juliastuti and Nayumi, 2022)

This is in line with research by Silvia et al (2022) entitled The Effect of William's Flexion Exercises on the Level of Menstrual Pain (Dysmenorrhea) in Class VIII Students of SMP N 37 Pekanbaru. The results of the study showed that William's Flexion Exercises could reduce the intensity of dysmenorrhea, the majority of respondents aged 14 years were 14 respondents (87.5%),

and at the age of 15 years 2 respondents (12.5%), after doing William's flexion exercises there were 15 respondents. (93.8%) most of the female students experienced mild dysmenorrhea.

4. Effect of William's Flexion Exercises on Reducing the Intensity of Menstrual Pain (Dysmenorrhea)

The results of statistical tests using the Wilcoxon test after being given the William's Flexion Exercise showed a p value of 0.000 ≤ α 0.05. This means that there is an influence of William's Flexion Exercises on the intensity of menstrual pain (dysmenorrhea) in students at SMP Negeri 45 Palembang in 2023.

This is supported by research conducted by Oktaviani and Lestari (2017) entitled The Effectiveness of William's Flexion Exercises in Reducing Menstrual Pain (Dysmenorrhea) number 26, it was found that the intensity of menstrual pain was reduced after being given William's Flexion Exercise treatment, with a previous mean value of 1.38 to 0.81. The results of the Wilcoxon statistical test analysis show that the calculated iZ value is -3.638 (negative values are not taken into account because the absolute value) is greater than 1.96 and Asymp. signature. (2-tailed) = 0.000, which means that Williams Flexion exercise is effective in reducing menstrual pain (dysmenorrhea).

This happens because William's Flexion Exercise movements function to strengthen the lower abdominal muscles as a result of putting pressure on the large blood vessels in the stomach, thus increasing the volume of blood that flows throughout the body, including the reproductive organs, so that the body relaxes and menstrual pain can be reduced (Oktaviani and Lestari, 2017).

According to researchers, William Flexion Exercises are effective for reducing menstrual pain (dysmenorrhea). because it relaxes the body and can be done by anyone and anywhere without requiring any money, the tool used is just a mattress. This exercise can be accompanied by accompanying music to make the atmosphere feel calmer and more comfortable

CONCLUSION

Based on the research, it can be concluded that 70 students at SMP Negeri 45 before the Williams's Flexion intervention received a median score of 4.00 with a maximum score of 6 and a minimum score of 1 student who experienced menstrual pain (dysmenorrhea). After carrying out the Williams's Flexion intervention, a median value of 1.50 was obtained with a maximum value of 5 and a minimum value of 0 for female students who experienced menstrual pain (dysmenorrhea). After carrying out the Wilcoxon test, the results obtained were a p value of 0.000 ≤ α 0.05. showed that there was an effect of William's Flexion Exercises on reducing the intensity of menstrual pain (dysmenorrhea) in students at SMP Negeri 45 Palembang in 2023.

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