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THE EFFECT OF ABDOMINAL STRETCHING EXERCISE ON DECREASING THE PAIN INTENSITY OF DYSMENORRHEA IN NURSING DEPARTMENT STUDENTS IN STIKES MANDALA WALUYA KENDARI

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Abstract

Background: This study was conducted on an initial survey by interviewing ten female students who experienced dysmenorrhea. Five of them reported their pain, although they could still carry out daily activities. Fourof themsaid the pain was in the lower abdomen, radiated to the back, and needed medication to relieve pain. At least their daily activities were not disturbed.One of them said in crying because of pain and could not get up or experienced a decreased range of consciousness, so she could not carry out daily activities even though she was taking medication to reduce pain intensity. Therefore, this study aimed to determine the effect of abdominal stretching exercises on reducing the power of dysmenorrhea pain in nursing department students.
Methods: The type of research used is pre-experimental with one group Pre-test Post-test design, namely analysis that uses one group of subjects. The population in this study was 289 female students, with a sampling technique using purposive sampling with 31 respondents. The analysis method uses a non-parametric statistical test, namely the Wilcoxon sign rank test, using a significant level of 0.1.
Results: Based on the statistical results, the value of the Wilcoxon test for reducing the pain intensity of dysmenorrhea in female students showed 0.000. It means that the significance value is less than 0.1 so that the hypothesis in this study is accepted. This implies that abdominal stretching exercise could decrease the intensity of dysmenorrhea pain in nursing department students in Stikes Mandala Waluya Kendari.
Conclusion: It is hoped that female students who experience dysmenorrhea prioritize non-pharmacological interventions to relieve pain.
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Keywords*: Abdominal Stretching Exercise, Dysmenorrhea, Pain, Intensity*.

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INTRODUCTION

Dysmenorrhea is a complaint of pain felt by every woman before or during menstruation, pressing pain in the lower abdomen area of the pelvis. Dysmenorrhea can interfere with daily activities and require sufferers to rest and leave work for hours or even 1-2 days 1,2,3. Dysmenorrhea, according to data from the World Health Organization (WHO) in (2017), was found that 1,769,425 people (90%) experienced dysmenorrhea. Based on these data, 10-15% experienced dysmenorrhea on a severe scale. More than 50% of women experience dysmenorrhea in every country4,5.

The incidence of dysmenorrhea globally is quite significant, on average more than 50%. In 2015 the percentage of dysmenorrhea in America was 60%, in Sweden 72%, in Canada 60% of women experienced primary dysmenorrhea with 51% reporting limitations in daily activities, 17% reporting absence from work, and 36% reporting moderate or severe dysmenorrhea pain6. The incidence of dysmenorrhea in Indonesia in 2016 was 64.25% consisting of 54.89% primary dysmenorrheal and 9.36% secondary dysmenorrheal. The prevalence of dysmenorrheal in adolescents ranges from 43% to 93%6.

The results of previous research conducted by Aminah in Southeast Sulawesi stated no definite figures for the prevalence of dysmenorrheal. Meanwhile, the Southeast Sulawesi Provincial Health Office (2012)7 estimates that around 45% - 95% prevalence in productive age who experience dysmenorrheal reaches 77,052-162,665 people.

The impact in patients with dysmenorrheal is divided into two, namely macro and micro effects. The macro implications for patients with primary dysmenorrheal did not find any gynecological abnormalities (womb, vagina, and ovaries). While in patients with secondary dysmenorrheal found congenital abnormalities or in the pelvis that occurred in adolescence. The pain arises from abnormalities in the pelvis, such as uterine myomas (benign tumors of the uterus) and uterine malposition8.

Micro effects on dysmenorrhea sufferers, mostly found, include experiencing decreased physical activity and sleep quality, changes in appetite, disturbed sense of comfort, mood disorders, irritability, and stress. Adolescents who experience dysmenorrhea during menstruation limit their daily activities, primarily decreased concentration while studying, and these symptoms are a very prominent physical disorder in menstruating women 5,8,9.

There are two ways to reduce pain intensity in dysmenorrhea during menstruation: pharmacological and non-pharmacological therapy. Pharmacological therapy is usedby administering drugs that generally cause side effects for the body. The more often you take analgesic drugs to relieve pain, the body will need more drugs to reduce the intensity of dysmenorrhea pain. However, someone who is already dependent on drugs with inappropriate doses will cause side effects on the body, such as the kidneys, namely salt, fluid retention, and hypertension5.

Non-pharmacological management that can reduce the intensity of dysmenorrhea pain includes warm compresses, breath relaxation techniques, classical music, sports, dysmenorrhea gymnastics, yoga, aromatherapy abdominal massage, lavender therapy, hypnotherapy, and abdominal stretching exercises 1, 3, 8, 9, 10, 11, 12, 13, 14, 15,16. Abdominal stretching exercise is one of the independent nursing interventions to reduce the intensity of dysmenorrheal pain. This therapy can relax the muscles, especially in the abdomen and pelvis, and increase endorphins levels to reduce pain. In addition, stretching exercises are one of the flexibility exercises that are very beneficial for health. Movement keeps muscles flexible, increases muscle strength, endurance, muscle flexibility, and helps move from sedentary activities to more

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vigorous activities without causing tension and side effects to the body3,5,17.

Giving abdominal stretching exercise has been shown to decrease levels of the hormone prostaglandin and pain intensity in primary dysmenorrhea9. An abdominal stretching routine helps increase blood perfusion to the uterus. It relaxes the uterine muscles so that anaerobic metabolism (such as glycolysis and glycogenolysis) does not occur, which will produce lactic acid, where if there is a build-up of lactic acid, it will cause muscle cramps, pain, and fatigue. The oxidation process reduces the accumulation of lactic acid, so alternative therapies are needed to improve blood flow that carries oxygen to eliminate muscle fatigue18. So it is necessary to investigate whether there is an effect of Abdominal Stretching Exercise on reducing the intensity of dysmenorrhea pain in the nursing students department ofStikes Mandala WaluyaKendari.

METHODS

The type of research used is pre-experimental with one group Pre-test Post-test design, namely analysis that uses one group of subjects. The population in this study was 289 female students, with a sampling technique using purposive sampling with 31 respondents. The analysis method uses a non-parametric statistical test, namely the Wilcoxon sign rank test, using a significant level of 0.1.

This study has been conducted in June - July 2020, on samples that fulfill the inclusion criteria, that is female students who experience mild and moderate dysmenorrhea, willing to be respondents, willing to follow all abdominal stretching exercise therapy sessions, willing not to use pharmacological therapy or non-pharmacological therapy other than therapy set by researchers during research and regular menstruation for the last 2 months.
Pain scale measurements are done before and after treatment in the form of abdominal stretching exercise using Face Pain Scale-Resived (FPS-R). Abdominal stretching exercise is carried out for 3 consecutive days during menstruation every morning or evening with a frequency of 3 times a week for approximately 15 minutes.

RESULTS

The normality test of the data is carried out to determine the distribution of the data, whether the information is typically distributed or not, which will select the type of test that will be used in conducting the analysis. It can be presented in the normality test table below for more details.

Table 1. Normality Test Results of Pain Scale Pre-Test and Post-Test

Research variable	*P-value*	α	Conclusion
Pre-Test pain scale	.000	0,1	Not Normal
Post-Test pain scale	.000	0,1	Not Normal

Note: Shapiro-Wilk test

Based on the table above, it shows that the results of the data normality test using the Shapiro-Wilk test on the pre-test and post-test pain scale variables indicate that the P-value (0.000) < (0.1) so it can be concluded that the distribution of the data groups is abnormal. Because the data is not normally distributed, the test used is a non-parametric statistical test, namely the Wilcoxon test.

The distribution of the effect of abdominal stretching exercise on decreasing the intensity of dysmenorrhea pain in the

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nursing department ofStikes Mandala WaluyaKendari, namely:

Table 2. Analysis of the effect of abdominal stretching exercise on decreasing the intensity of dysmenorrhea pain in Nursing Students

Pain scale	Abdominal Stretching Exercise				*P-value*	α	Conclusion
	Pre-Test		Post-Test				
	N	%	N	%			
No pain	0	0	29	3,54%	0.000	0.1	H_0rejected
Low pain	8	25,80%	2	,45%			
Moderate pain	23	4,19%	0	0			
Total	**31**	**00%**	**31**	**00%**			

Note: Wilcoxon statistical test

The table above shows that from 31 respondents before being given abdominal stretching exercise, eight respondents (25.80%) experienced mild pain, and 23 respondents (74.19%) experienced moderate pain. Furthermore, after being given abdominal stretching exercise, 29 respondents (93.54%) did not experience pain, and two respondents (6.45%) experienced mild pain.

Based on the Wilcoxon statistical test results with a significant P-value <0.1 in decreasing pain intensity before and after abdominal stretching exercise, P-value = 0.000, from the data P-value <0.1, Ha accepted H0 rejected. It shows an effect of abdominal stretching exercise on decreasing the intensity of dysmenorrhea pain in nursing students of Stikes Mandala Waluya Kendari.

DISCUSSION

There is a decrease in the pain scale from moderate to mild and mild to no pain caused by several factors, namely the provision of abdominal stretching exercises following the established standard operating procedure (SOP) and carried out three days in a row during menstruation every morning or evening with frequency three times a week for approximately 15 minutes. In addition, it can also cause the respondent to feel relaxed and comfortable so that the menstrual pain felt by the respondent can be reduced. Giving this Abdominal Stretching Exercise is an effort to relax; when someone is supported well by a calm environment, this will reduce pain intensity.

The result is *P-value*<0.1 in decreasing pain intensity before and after being given abdominal stretching exercise, *P-value= 0.000,* from the data *P-value*<0.1, then H_a *accepted* and H_0 *rejected* that there is an effect of abdominal stretching exercise on decreasing the intensity of dysmenorrhea pain in nursing students ofStikes Mandala WaluyaKendari. It shows that an abdominal stretching routine could reduce the intensity of dysmenorrhea pain in adolescent girls.

Abdominal stretching exercises can reduce pain intensity because all respondents are right in doing the movements according to the exercise guidelines and following the instructions from the researcher. In addition, abdominal stretching exercises are not too difficult and easy to do. Activities that go

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directly to the abdominal area have a decreasing effect on the intensity of pain in respondents. It can improve physical fitness and blood flow to the uterus muscles. As a result, it reduces pain.

It is in line with research that states that Abdominal Stretching Exercise can reduce pain intensity in patients with dysmenorrhea. Decreasing the category of pain dysmenorrhea sufferers can help them carry out their daily routines. So it is necessary to develop complementary therapies by giving Abdominal Stretching Exercises to achieve optimal body conditions[19].

The other result stated that 28 respondents experienced dysmenorrhea. It was before doing abdominal stretching exercises that experienced mild pain intensity were 14 respondents (50%), 14 respondents had moderate pain (50%), and none had no pain (0%). But, after being given abdominal stretching exercise from 28 respondents who had no pain were 12 respondents (45%), mild pain were 13 respondents (50%), moderate pain was three respondents (5%)[19].

The results of this study were also strengthened by data from 30 respondents who experienced dysmenorrhea. Of the 30 respondents before being given abdominal stretching exercise who participated, mild pain intensity as many as five respondents (17%), moderate pain as many as 17 respondents (56%), and severe pain as many as eight respondents (27%). After being given abdominal stretching exercise, there was a decrease in pain intensity. Namely, those who did not experience pain intensity were six respondents (20%), mild pain was 19 respondents (63%), and moderate pain was five respondents (17%)[20].

This study indicates that Abdominal Stretching Exercise affects reducing pain intensity. It causes when doing sports or gymnastics, the body will produce endorphins. Regular exercise can increase the number and size of blood vessels, which distribute blood throughout the body, including the reproductive organs, to flow more smoothly. It can reduce the symptoms of dysmenorrhea and increase the volume of blood flowing throughout the body, including the reproductive organs. It can facilitate the supply of oxygen to the blood vessels that experience vasoconstriction to reduce menstrual pain[21].

CONCLUSION

There is an effect of decreasing pain intensity of abdominal stretching exercise on respondents with dysmenorrhea. More specifically, the impact on reducing the power of dysmenorrhea pain in nursing students of Stikes Mandala Waluya Kendari. So it is expected that those female students who experience dysmenorrhea prioritizenon-pharmacological interventions to relieve dysmenorrhea pain.

REFERENCES

1. Siahaan Kartika, Ermiati, Maryati Ida. 2012. Decrease in Dysmenorrhea Rates in UNPAD Nursing Students Using Yoga. Bandung-Sumedang.
2. Anurogo Dito & Wulandari Ari. 2011. The Right Way to Overcome Menstrual Pain. Yogyakarta. Andi Offset.
3. Fidiarti, M. 2018. The Effect of Abdominal Stretching Exercises and Classical Music on the Intensity of Menstrual Pain in Adolescent Girls. Journal of Nursing and Midwifery. Vol. 9. No.2 (133-138).
4. Nurwana, Sabilu Yusuf, Fachlevy Andi Faizal. 2017. Analysis of Factors Associated With The incidence of dysmenorrhea in young women at SMA Negeri 8 Kendari. Jimkesmas. Vol. 2 no. 6: 250-731.
5. Nikmah AN 2018. The Effect of Abdominal Stretching on Changes in Primary Dysmenorrhea Pain In Young

e- ISSN: 2715-4718

Women. Journal of Midwifery. Vol. 4.No. 3.

6. Andini MS 2019. The Relationship Of Nutritional Status And Stress Levels With The Incidence Of Dysmenorrhea At The Medicine Faculty of Muhammadiyah University Surakarta. Thesis. Medical School. Surakarta
7. Desriani. 2016. The Effect of Classical Music Therapy on the Decrease in Menstrual Pain Scale (Dysmenorrhea) in Students of SMK Negeri 7 Konawe Selatan, Benua District. Thesis. Nursing Program Study. Kendari.
8. Elvira Mariza & Tulkhair Annisa. The Effect of Endorphin Massage on Pain Scale in Students Who Experienced Dysmenorrhea. Long Field. *Journal of Applied Science and Technology*.
9. Puspita L & Anjarwati T. 2019. The Effect of Abdominal Stretching Exercises on Menstruation Pain Intensity in Pelita Gedongtaan Pesawaran Vocational High School Students. *Wellness And Healthy Magazine*. Volume 1. Number 2.
10. Bachtiar F, et al. A Comparison Of Hot Pack And Stretching Exercise On Primary Dysmenorrheal In Adolescent Girls. *Indonesian Contemporary Nursing Journal*. 4(1), 38-43
11. Ismarozi Desti, Utami Sri, Novayelinda Riri. 2015. The Effectiveness of Dysmenorrhea Gymnastics on the Treatment of Primary Menstrual Pain in Adolescents. New Pecans. *JOM*. Volume 2.Number 1.
12. Antari Dewa Ayu Chintya, Winaya Made Niko, Wiryanthini Ida AyuDewi. 2017. The Effectiveness of Giving Aromatherapy Abdominal Massage Eflurage Technique Compared with Abdominal Stretching Exercise on Reducing Primary Dysmenorrheal Pain in Young Girls Junior High School in Denpasar. *Indonesian Physiotherapy Scientific Magazine*. Volume 5. Number 3.
13. Cahyana, NA. 2017. The Effectiveness of Dysmenorrhea Gymnastics on Reducing Menstrual Pain in Adolescents and Girls at SMAN 1 Watuputih, Watopute District, Muna Regency. Thesis. Nursing Program Study. Kendari
14. Pangesti Retno Hayu, Lestari Gangsar Indah, Riyanto Ryanto. 2017. Primary Dysmenorrhea Pain Reduction In Adolescent Girls With Warm Compress. Metro City. Metro Sai Health Journal Wawai. Volume 10.Number 2.
15. Ernawati, Seweng Arifin, bustan M. Najib. 2017. The Effect of Abdominal Stretching Exercises on Decrease in Menstrual Pain (Dysmenorrhea) Stikes Tanawali Persada Takalar Students. *JST* Health. Vol. 7 No. 4: 368-373
16. Nurlisa. 2018. The Effect of Lavender Therapy on Reduction of Menstrual Pain (Dysmenorrhea) in 1st Semester Nursing Student at Stikes Mandala Waluya Kendari. Thesis. Nursing Program Study. Kendari.
17. Silviani Yulita Elvira, Karaman Buyung, Septiana Puput. 2019. The Effect of Breathing Relaxation Techniques on Dysmenorrhea. *Hasanuddin Journal of Midwifery*. Volume 1. Issue 1.
18. Azma A, et al. 2018. The Effect of Giving Abdominal Stretching Exercises on the Decrease of Menstrual Pain Intensity (Dysmenorrhea) in Young Women at Stikes Madani Yogyakarta. *Journal of Health Madani Medika.*Vol. 9 no. 2.
19. Syaiful Yuanita & Naftallin Siti Varyal. 2018. Abdominal Stretching Exercise Reduces Pain Intensity of Dysmenorrhea in Young Women. *Journal of Health Sciences* Vol. 7 No. 1.
20. Agustina Dewi, Maryaningsih, Agustin Liza. 2019. Differences in the Effect of Abdominal Stretching Exercise With Warm Compresses on Reducing Menstrual Pain (Dysmenorrhea) For Physiotherapy Students Stikes Siti Hajar Medan in 2018. *Gentle Birth*. Volume 2 No.1.

e- ISSN: 2715-4718

21. Ningsih Dewi Andariya, Eliyawati, Setyawati Naimah Agus. 2018. Influence Abdominal Gymnastics Stretching on the Effectiveness of Reducing Primary Dysmenorrhea Pain in Young Women at MA Al-Amiriyyah Blokagung 2018. Scientific Journal: J-HESTECH. Vol. 1 No. 2.