

Original Research

The Effect of Dysmenorrhea Exercise on Reducing Menstrual Pain Felt by Adolescent Girls



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Article Info	Abstract
Article history: Received: 23 August 2022 Accepted: 27 November 2022 Keywords: menstrual pain, dysmenorrhea, exercise therapy	<i>Introduction:</i> Dysmenorrhea can be overcome in one way, namely dysmenorrhea exercise. This exercise is useful for improving blood flow therefore it can increase the endorphins hormone through movements that make you feel comfortable and relaxed. The purpose of this study was to analyze the effect of dysmenorrhea exercise on reducing menstrual pain felt by adolescent girls. <i>Methods:</i> This study was pre-experimental research with one group pretest-posttest design. The sampling technique used was total sampling consisting of 35 adolescents girl with dysmenorrhea. Data was collected using an instrument in the form of a numerical rating scale (NRS). This research was conducted in January - March 2022 in the village of Jineng Dalem Buleleng. <i>Results:</i> The results of the Wilcoxon Signed Ranks statistical test in adolescents who were given the intervention of dysmenorrhea exercise therapy showed that there were no respondents who increased menstrual pain. This shows that after the intervention, 35 respondents experienced a decrease in menstrual pain. The statistical results obtained that the calculated Z value is 5.189 > from the z table value of 1.960 with a p value of 0.001 < 0.05. <i>Conclusion:</i> Therefore it can be concluded that there was an effect of dysmenorrhea exercise on reducing menstrual pain felt by adolescent girls in Jineng Dalem Village, Buleleng District. Based on the results of this study, it is hoped that adolescents who experience dysmenorrhea can use non-pharmacological therapies such as dysmenorrhea exercises to reduce menstrual pain.

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INTRODUCTION

Adolescence is a very important period of development in adolescents, beginning with the maturation of the physical (sexual) organs so that later they are able to reproduce. On During adolescence there are changes that occur such as hormonal, physical, psychological and social changes, where this condition is called puberty. One of the signs of puberty in adolescent girls is the occurrence of menstruation [1]. Menstruation occurs when the lining of the uterus sheds and comes out in a form known as menstrual blood. During menstruation, the problem experienced by most women is severe discomfort or pain. This is commonly referred to as menstrual pain (dysmenorrhea) [2].

Dysmenorrhea data in Indonesia is 109,657 people consisting of 62,573 people experiencing primary dysmenorrhea and 9,596 people experiencing secondary dysmenorrhea. The incidence of dysmenorrhea among women of reproductive age ranges from 45%-59%. Primary dysmenorrhea is experienced by 60%-75% of adolescents. It is reported that 30%-60% of adolescents experience dysmenorrhea, it is found that 7%-15% do not go to school [3]. Dysmenorrhea data in the province of Bali states that the incidence of dysmenorrhea is estimated at 25,445 people [4].

Dysmenorrhea or menstrual pain is one of the discomforts that women often complain about. The complaint usually felt is pain in the lower abdomen and radiates to the back and thighs which is called menstrual pain or dysmenorrhea. This occurs due to an imbalance of the hormone's progesterone,

prostaglandin and vasopressin. The increase in this hormone will cause the uterine muscles to contract so that it will cause pain that will last for several hours and in some cases it can last up to several days. Menstrual pain can cause a person to become dizzy, nauseous, vomiting, headache and even fainting. If this menstrual pain is allowed to continue it will become colic [5].

Management of dysmenorrhea can be done through pharmacological and non-pharmacological therapy. Pharmacological therapy with the administration of NSAID drugs can relieve pain by blocking prostaglandins that cause pain, while non-pharmacological methods include relaxation techniques, aromatherapy, yoga, acupressure, dysmenorrhea exercise, and warm or cold compresses on painful areas [6]. Exercise can increase the production of endorphins (the body's natural pain killers). In addition, prevention is safer by doing dysmenorrhea exercises [7].

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. Endorphins are produced in the brain and spinal cord. This hormone can function as a natural sedative produced by the brain, thereby increasing a sense of well-being. Dysmenorrhea exercise is carried out regularly by paying attention to its continuity, the frequency should be done 3-4 times a week or 5-7 days before menstruation, the duration is 30-45 minutes each time doing exercise. In addition to this, dysmenorrhea exercise is carried out at the right time, namely every morning because the lowest

concentration of endorphins is found in the afternoon and the highest at night [8].

The results of the preliminary study that the researchers conducted on August 20, 2021 in Jineng Dalem Village, Buleleng District, found the total number of young women was 60 people. Of the 60 young women interviewed, there were 27 young women who experienced severe pain until it was difficult to get out of bed and there were 19 young women who experienced moderate pain and there were 14 young women who experienced mild menstrual pain.

METHODS

This study was pre-experimental research with one group pretest posttest design. This study began by submitting a letter of ethical clearance to the research ethics commission of the STIKES Bina Usada Bali. Ethical clearance license that had been obtained from the ethics commission with No: 001/EA/KEPK-BUB-2022. The sampling technique used was total sampling consisting of 35 adolescents girl with dysmenorrhea. This research was conducted in January - March 2022 in the village of Jineng Dalem Buleleng. The study began with a pre-test to identify the frequency of menstrual pain before the intervention was given. The pre-test was conducted using an observation sheet. Then the intervention group was given a dysmenorrhea exercise intervention. After that, the post-test was carried out again in the intervention group using the observation sheet. This study uses an instrument in the

form of a numerical rating scale (NRS). Data analysis in this study used Wilcoxon with p value 0.05.

RESULTS

The minimum age of the respondent is 17 years, the maximum is 22 years, and the average age of the respondent is 20 years. Menstrual cycle is known if the regular category is 25 people (71.4%) and the irregular category is 10 people (28.6%). Menstrual pain before being given dysmenorrhea exercise therapy in adolescent girls was as many as sixteen people or 40.0% experiencing moderate pain. After being given dysmenorrhea exercise in adolescent girls, seventeen people or 48.6% experienced no pain.

The results of the Wilcoxon Signed Ranks statistical test in adolescents who were given the intervention of dysmenorrhea exercise therapy showed that there were no respondents who increased menstrual pain. This shows that after the intervention, 35 respondents experienced a decrease in menstrual pain. The statistical results obtained that the calculated Z value is $5.189 >$ from the z table value of 1.960 which shows the alternative hypothesis (H_a) is accepted, with a p value of $0.001 < 0.05$, it can be concluded that H_a is accepted or there is an effect of dysmenorrhea exercise therapy on reducing menstrual pain in young women in Banjar Ketug-Ketug Office, Jineng Dalem Village, Buleleng District.

Table 1

Characteristics of Research Respondents based on Respondent Age

	N	Minimum	Maximum	Mean
Menarche	35	17	22	19.86
Valid N (listwise)	35			

Table 2

Characteristics of Research Respondents Based on the Menstrual Cycle

Menstrual Cycle	Frequency	Parcent
Regular	25	71.4
Irregular	10	28.6
Total	35	100.0

Table 3

The Decreased Rate of Menstrual Pain in Young Women Before and After Performing Dysmenorrhea Gymnastics Therapy

	Frequency (n)	Percent (%)
Before Doing Dysmenorrhea Gymnastics Therapy		
No pain	0	0
Mild pain	8	22,9
Moderate pain	14	40,0
Severe pain controlled	11	31,4
Great pain	2	5,7
After Doing Dysmenorrhea Gymnastics Therapy		
No pain	17	48,6
Mild pain	16	45,7
Moderate pain	2	5,7
Severe pain controlled	0	0
Severe pain	0	0
Total	35	100

DISCUSSION

The results of the Wilcoxon Signed Ranks statistical test on adolescents who were given the intervention of dysmenorrhea exercise therapy obtained data that showed no respondents had an increase in menstrual

pain. This shows that after the intervention, 35 respondents experienced a decrease in menstrual pain. Statistical results obtained that the calculated Z value is $5.189 >$ from the z table value of 1.960 which shows the alternative hypothesis (H_a) is accepted, with a

p value of $0.00 < 0.02$, it can be concluded that H_a is accepted or there is an effect of dysmenorrhea exercise therapy on reducing pain. menstruation in adolescent girls in Banjar Dinas Ketug-Ketug, Jineng Dalem Village, Buleleng District.

The results of this study are supported by research conducted by Sarlis & Wilda (2020) regarding dysmenorrhea in AKBID Sempena Negeri Pekanbaru showing that there is a significant difference between the degree of dysmenorrhea before and after gymnastics [9]. Research by Nuraeni (2015) on young women at SMK 1 Tapango, Polewali Mandar Regency also showed similar results that there was an effect given and not given dysmenorrhea exercises on reducing pain [10]. Likewise with research by Baby Vania Hunga Dake (2018) can be concluded that there is an effect of menstrual exercise on menstrual pain in adolescent girls in grades VIII and IX at SMP Pancasila Cangu [11].

Menstrual pain often occurs in adolescents, because they have not reached biological maturity, especially the reproductive organs, namely the growth of the endometrium is still not perfect and psychological disorders. Primary dysmenorrhea usually begins when the cycle has become ovulatory in years reproductive age and regular cycles. The peak age for women with dysmenorrhea is 20 to 24 years [12].

This difference in pain is influenced by factors such as age, gender, culture, family/social support, and coping. The condition of a person's body that will not be caused by each other by differences in endorphin levels. Endorphins regulates

various physiological functions transmission of pain, emotions, control of appetite and hormone secretion. Differences in endorphin levels high will feel a little pain and levels and a little endorphin will feel the pain excess [13].

Gymnastics is carried out in the third week after the last menstruation based on the respondents taken are teenagers who do not have regular menstrual cycles. For 1 year after menarche, menstrual irregularities are still common. The irregular occurrence of menstruation is a common occurrence experienced by young women, however this can cause anxiety in the adolescents themselves. About 2 years after menarche ovulation will occur. This ovulation doesn't have to happen every month but it can happen every 2 or 3 months and gradually the cycle will become more regular. Primary dysmenorrhea can occur at the time of ovulation. Dysmenorrhea will decrease and disappear by itself with increasing age [14].

An increase in prostaglandin levels occurs at the end of the luteal phase or during the menstrual phase, namely on day 28 to day 2 or 3 in the menstrual cycle. The clinical features of primary dysmenorrhea include onset immediately after the first menstruation and usually lasts about 48-72 hours, often starting a few hours before or sometime after menstruation [15]. An increase in prostaglandin levels that is matched by exercise that produces endorphins is expected to reduce pain. Exercise is done every evening because the lowest concentration of endorphins is found at night and the highest is in the morning [16].

The results of this study are in line with the theory that dysmenorrhea exercise is a highly recommended form of relaxation. The purpose of doing dysmenorrhea exercises is to reduce dysmenorrhea experienced by several women each month [14]. Dysmenorrhea exercise is carried out regularly by paying attention to its continuity, the frequency should be done 3-4 times a week or 5-7 days before menstruation, the duration is 30-45 minutes each time doing exercise. In addition to this, dysmenorrhea exercise is carried out at the right time, namely every morning because the lowest concentration of endorphins is found in the afternoon and the highest at night [8].

This therapy is done by inviting young women to do dysmenorrhea gymnastics. The purpose of dysmenorrhea exercise therapy is to help adolescents who experience dysmenorrhea to reduce menstrual pain and prevent dysmenorrhea, alternative therapy in overcoming dysmenorrhea, interventions that can be applied to provide nursing care services for dysmenorrhea problems that are often experienced by adolescents [17].

CONCLUSION

Based on the results of the univariate description of the respondents characteristics, the minimum age of the respondent is 17 years, the maximum is 22 years and the average age of the respondent is 20 years. Menstrual cycle of adolescent girls is known if the regular category is 25 people (71.4%) and the irregular category is 10 people (28.6%). The level of menstrual pain before being given dysmenorrhea exercise

therapy experienced moderate menstrual pain as many as 14 people (40.0%). The level of menstrual pain after being given dysmenorrhea exercise showed that most of the respondents said it was no longer painful, namely 17 people (48.6%). The results of data analysis using the Wilcoxon Signed Test statistical test which obtained a P value of $0.001 < 0.05$, it can be concluded that H_a is accepted or there is an effect of dysmenorrhea exercise therapy on reducing menstrual pain in adolescent girls in Banjar Dinas Ketug-Ketug, Jineng Dalem Village, Buleleng District.

Researchers also proposed suggestions for adolescents who experience dysmenorrhea, which can not do activities daily. Dysmenorrhea exercise therapy is one of effective nonpharmacology method on reducing pain how to get rid of dysmenorrhea pain.

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