

Abdominal Stretching Training Improves Knowledge Of Dysmenorrhea Prevention In Adolescents

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Abstract

Background: Menstruation is a physiological thing that happens to all young women. However, many women experience menstrual problems, including menstrual pain and dysmenorrhea. Most menstrual pain occurs during adolescence and is related to limited physical activity and absence from school or work. Therefore, attention should be paid to adolescent dysmenorrhea and appropriate nonpharmacological treatment. This program aims to educate young women about dysmenorrhea by providing appropriate nonpharmacological interventions, especially for abdominal distension. **Methods:** The location of this activity is ManI Sumenep. The number of participants in this activity was 36. This education and abdominal stretching exercise are done only once with the lecture and question and answer method for 90 minutes. The post-test was carried out at the end of the event after education and training were carried out using a questionnaire. The P value was obtained based on data analysis using the Wilcoxon signed rank test, namely: 0.001. **Results:** There was a significant difference in the proportion of pain intensity after intervention in the intervention group. Abdominal stretching exercise is one of the non-pharmacological management methods that are safe to do and has been widely used to reduce the symptoms of primary dysmenorrhea. **Conclusion:** It can be concluded that education and abdominal stretching exercises effectively increase knowledge of dysmenorrhea prevention in young women. It is hoped that young women will be able to manage their dysmenorrhea so that they remain active and carry out their daily activities at school or home.

Keywords: abdominal stretching, adolescents, dysmenorrhea, knowledge, prevention

1. INTRODUCTION

Dysmenorrhea often occurs in menstruating women, but many people still ignore menstrual pain without seeing a doctor and treating it. This condition can even be dangerous to your health if left untreated. Endometriosis or other secondary menorrhagia is one of the symptoms of dysmenorrhea (Utami & Prastika, 2018). For this reason, women with dysmenorrhea need to make reasonable and correct physical efforts, especially during adolescence, which is going through puberty, when puberty is a substantial period of development. Point Compared to adult women (menarche) (Santi & Rosa, 2022).

Menstruation is sometimes accompanied by other disorders or symptoms such as premenstrual tension, mastodynia, mittelschmerz, and dysmenorrhea (Elsera et al., 2022). Among these disorders, dysmenorrhea is the most common complaint reported by 60–90% of women. Dysmenorrhea is pain before or during menstruation that can be primary or secondary due to an increase in the hormone prostaglandin, which causes uterine contractions. Dysmenorrhea usually begins on the first and second days before menstruation or during menstruation. This menstrual pain is most severe during the first 24 hours of the first day and disappears on the second day (Juliana et al., 2019).

According to data from the World Health Organization (WHO), (2016) 1,769,425 people (90%) experienced dysmenorrhea or menstrual pain, and 10–16% experienced severe dysmenorrhea during menstruation (Herawati, 2017). The incidence of

dysmenorrhea in the world is considerable. On average, almost 50% of women experience it (Hayati & Agustin, 2020).

In addition, 2012 also explained that in the United States, around 45–90% of women experienced complaints of dysmenorrhea. The problem of dysmenorrhea in Indonesia is greater than 64.25%. 54.89% is initial or primary dysmenorrhea, and 9.36% is advanced or secondary dysmenorrhea. In East Java, the number of young women who experience menstrual pain is equal to 58% of women who experience menstruation every month (Fitriani, 2020).

Dysmenorrhea in women begins 2–3 years after menarche (Permatasari & Suprayitno, 2021b). Dysmenorrhea is divided into two types: primary dysmenorrhea if the underlying cause cannot be identified, which usually occurs before age 20, and secondary dysmenorrhea if the reason is gynecological or pathological, which generally occurs after the age of 20 (Permatasari and Suprayitno, 2021). Dysmenorrhea occurs because the endometrium contains large amounts of prostaglandins, which affect systemic responses and can affect various processes in the body, including increased activity of the large intestine, causing symptoms of nausea, diarrhea, headaches, emotional disturbances, changes, and a burning sensation that accompanies abdominal pain (Fitriani, 2020).

Abdominal stretching exercises are muscle stretching exercises used to maintain and develop abdominal flexibility in order to reduce the intensity of menstrual pain and increase muscle strength and endurance (Melta et al., 2022). This abdominal stretch is given and has been shown to reduce levels of prostaglandin hormones and pain intensity in primary dysmenorrhea (Andriani & Oviana, 2021). This abdominal stretching exercise can increase the number of endorphins, and increased endorphins can reduce menstrual pain in women, so they feel comfortable and happy and pump oxygen into the muscles (Umboro et al., 2022).

This is supported by Sormin's research, which shows that exercise can increase blood flow to the pelvis and stimulate endorphins in the body to reduce pain (Melta et al., 2022). Any nonpharmacological therapy can relieve pain and primary dysmenorrhea in women, so this therapy must be applied in managing primary dysmenorrhea in the community. The aim of this study is to determine the effect of abdominal stretching exercises on the prevention of dysmenorrhea in adolescents.

2. LITERATURE

Dysmenorrhea is one of the most common complaints among adolescents and adult women. It usually comes with various physical symptoms, such as headaches, dizziness, fatigue, diarrhea, cramps, and sweating. Dysmenorrhea is the cause of one to three percent of cases of absence from school.

In general, there are two treatment options for dysmenorrhea: pharmacological treatment and nonpharmacological treatment. Nonpharmacological options are considered better because they do not have harmful side effects. One of the nonpharmacological ways to reduce dysmenorrhea pain is to stretch the muscles (testing).

Stretching is beneficial in reducing pain levels by doing abdominal exercises, which can be done for 10–15 minutes. Abdominal training is done by stretching the lower abdominal muscles to increase strength, endurance, and muscle flexibility to reduce pain.

3. METHODS

This activity was carried out on 36 students from MAN 1 Sumenep in November 2022. The research method used in this community service activity was descriptive. The pretest was carried out before the counseling activities were carried out using question sheets distributed to the extension respondents with as many as 22 questions. The questions include understanding dysmenorrhea, the causes of dysmenorrhoea, the signs and symptoms of dysmenorrhoea, and how to deal with dysmenorrhoea properly.

The researchers used leaflet media containing mastery of diarrhea management to conduct counseling and training. Counseling and practice were carried out in a total of 90 minutes, with the executors of counseling being lecturers and students using lecture and question-and-answer methods. Students accompanied the respondent's practice. The post-test was carried out after the extension activities. The data analysis used is the Wilcoxon test.

4. RESULTS

Based on table 1, the knowledge score before the given abdominal stretching exercise was $16,48 \pm 2,76$, and the knowledge score after the given abdominal stretching exercise was $18,07 \pm 2,40$. The results of the Wilcoxon signed rank test quality of life score, $p = 0,001$, mean that there is a significant difference in the knowledge scores before and after abdominal stretching exercise education.

Table 1. Differences in the mean knowledge score before and after Abdominal Stretching

Variable	Score	Mean	SD	P-value
Knowledge	Pre	16,48	2,76	0,001
	Post	18,07	2,40	



Figure 1. Documentation of educational implementation

5. DISCUSSION

The results of this study are in accordance with Puspita (2019), who uses a movement technique similar to the paint stretch exercise. There was a significant difference in the proportion of pain intensity after intervention in the intervention group. Abdominal stretching exercise is one of the non-pharmacological management methods that are safe to do and has been widely used to reduce the symptoms of primary dysmenorrhea (Puspita & Anjarwati, 2019).

Dysmenorrhea is an imbalance of the hormone progesterone in the blood that causes abdominal pain. Adolescents with dysmenorrhea will experience muscle cramps, especially in the lower abdomen, which are cyclic due to solid and long contractions in the uterine wall, resulting in muscle fatigue. Adolescent girls will often complain of dysmenorrhea, which results in limited daily activities, including studying, decreased concentration, and a reduced desire to learn, so that teaching and learning activities cannot be well received (Erindra Budi Cahyanto et al., 2021).

It is necessary to exercise to get rid of these muscle cramps in this form. Stretching or stretching exercises have been found to reduce menstrual discomfort through increasing vasodilation and reducing ischemia. The release of endogenous opiates, especially beta-endorphins, suppression of prostaglandins, and occlusion of blood flow from the viscera result in less resistance to the pelvic region (Fernández-Lázaro et al., 2020). This exercise reduces pain using stretching exercises that have an impact on relieving pain, increasing flexibility, restoring mobility, increasing circulation in spinal tissues and joints, relaxing uterine muscles that are experiencing tension, and maintaining a good rhythm of abdominal muscle contractions (Paolucci et al., 2019).

Exercise is one of the ways to reduce the intensity of menstrual pain. Abdominal stretching is an exercise to stretch the muscles, especially in the stomach, for 10 minutes. This exercise is designed to increase muscle strength, endurance, and flexibility, so it is expected to reduce menstrual pain (Thermacare, 2010). Several things can be done to overcome dysmenorrhea, namely taking a warm shower, placing a warm bottle on the stomach, exercising, and avoiding smoking (Nathan, 2005) (Ningsih, 2011).

Furthermore, according to French (2005), lifestyle modifications to overcome dysmenorrhea include a low-fat diet, exercise, and stopping smoking, and can also provide supplements (Gazerani, 2021). Based on the opinions above, it can be concluded that movement can overcome dysmenorrhea. In addition, exercise is safer because it uses a physiological process.

6. CONCLUSION & SUGGESTION

It can be concluded that the provision of education and training about dysmenorrhea and abdominal stretching exercises is effective in increasing the knowledge of young schoolgirls about preventing and treating pain during menstruation. From these results, it is hoped that female students can independently handle dysmenorrhea at home and school so that it does not interfere with their learning activities as students.

7. ACKNOWLEDGEMENT

Thank you to the research and community service institute at Wiraraja University for funding this service activity. Thanks also go to the principal of MAN 1 Sumenep school, who has permitted this activity, and to the female students who are willing to participate.

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