

THE APPLICATION OF ABDOMINAL STRETCHING EXERCISES ON REDUCING MENSTRUAL PAIN INTENSITY IN ADOLESCENTS

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ABSTRACT

Dysmenorrhea is one of the reproductive health problems that some young women always experience during menstruation. One non-pharmacological therapy that is safe to reduce dysmenorrhea pain is abdominal stretching exercises. This research aims to describe the application of abdominal stretching exercise therapy to reduce the intensity of menstrual pain in young women at the IM Banda Aceh Kesdam Nursing Academy. The design of this research is descriptive research using a case study approach method. This data collection technique was through interviews with five teenagers with dysmenorrhea with the criteria of teenagers with menstrual pain, mild and moderate pain, and no fractures. The results of the study showed that menstrual pain before the intervention was carried out on a scale of 5 on subject I, on subject II on a scale of 6, on subject III on a scale of 3, on subject IV on a scale of 5, and on subject V on a scale of 4. Menstrual pain after the intervention on subject I scale 3, in subject II scale 4, in subject III scale 1, in subject IV scale 3, and in subject V. This research proves that the application of abdominal stretching exercises to young women who experience dysmenorrhea can reduce the intensity of menstrual pain. It is hoped that abdominal stretching therapy can be applied as an alternative action to reduce the intensity of menstrual pain in teenagers.

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INTRODUCTION

Menstruation is a normal physiological reaction that occurs monthly during a woman's reproductive years. Menstruation occurs due to the absence of fertilization, resulting in the shedding of the endometrium lining of the uterus. Women who experience menstruation commonly report disturbing complaints, one of which is dysmenorrhea (Kristianingsih, 2016). Dysmenorrhea, or menstrual pain, is pain that occurs before or during menstruation, which is often very distressing and undesirable for women (Windastiwi et al., 2017). The pain presents with varying signs and symptoms,

ranging from pelvic discomfort, cramps in the suprapubic area, nausea and vomiting, decreased appetite, to even loss of consciousness (Hidayah, 2017).

According to the World Health Organization (WHO, 2018), the prevalence of dysmenorrhea is very high worldwide, affecting more than 50% of women in most countries. In Indonesia, the incidence of dysmenorrhea in 2018 was recorded at 107,673 cases, with 54.89% being primary dysmenorrhea and 9.36% secondary dysmenorrhea (Puspita, 2018). In Aceh Province, based on data from the Central Bureau of Statistics (2017), around 8.74 thousand women aged 16–25 years (pre-reproductive age) reported experiencing menstrual pain (Oktorika, 2020).

The impact of dysmenorrhea on adolescent girls includes discomfort, decreased activity, disturbed sleep and eating patterns, impaired interpersonal relationships, and difficulty concentrating on work and study. Pain also affects emotional status and mood. Adolescents with dysmenorrhea often restrict their daily activities, particularly school-related activities, which negatively impacts their learning process (Windastiwi et al., 2017).

Management of dysmenorrhea can be achieved through both pharmacological and non-pharmacological approaches. Pharmacologically, analgesics are the most common method used to relieve pain. Non-pharmacological therapies include warm compresses, cold compresses, gentle abdominal massage, music distraction, and exercise such as abdominal stretching (Wulandari, 2018).

Abdominal stretching exercise is a stretching routine performed during dysmenorrhea to improve flexibility, strength, and muscle endurance for about 10 minutes in the abdominal area, aiming to minimize the severity of menstrual discomfort (Azma et al., 2018). This exercise is performed for 10–15 minutes in the morning or evening, three times a week. Adolescents with regular menstrual cycles (28–30 days) may perform the stretches three days before menstruation, while those with irregular cycles are advised to perform them 4–5 times a week during the third week after the last menstruation (Azma et al., 2018).

A study by Syaiful & Naftalin (2018) reported that before abdominal stretching exercises, 50% of respondents experienced mild to moderate dysmenorrhea. After the intervention, most respondents reported no pain or only mild pain. Statistical testing showed $p = 0.000$ ($p < 0.05$), indicating a significant effect of abdominal stretching on reducing dysmenorrhea intensity. Similarly, a study conducted by Syafna et al. (2018) found a significant difference in the mean dysmenorrhea intensity before and after

abdominal stretching in the experimental group ($p = 0.000$), further demonstrating its effectiveness.

This study was conducted at Akimba. Preliminary surveys indicated that out of 569 female students, 10 were interviewed, and 5 reported experiencing menstrual pain. However, these 5 subjects were not aware of abdominal stretching as a therapy to reduce menstrual pain.

RESEARCH METHODS

This study employed a descriptive research design with a case study approach. The research was conducted on five subjects who experienced dysmenorrhea. The study took place from July 2 to July 21, 2023, and the intervention was carried out in the morning with a duration of 15–30 minutes. The instruments used in this study included an assessment sheet, Standard Operating Procedure (SOP), Numerical Rating Scale (NRS) sheet, gym ball, and exercise mat.

RESULTS AND DISCUSSION

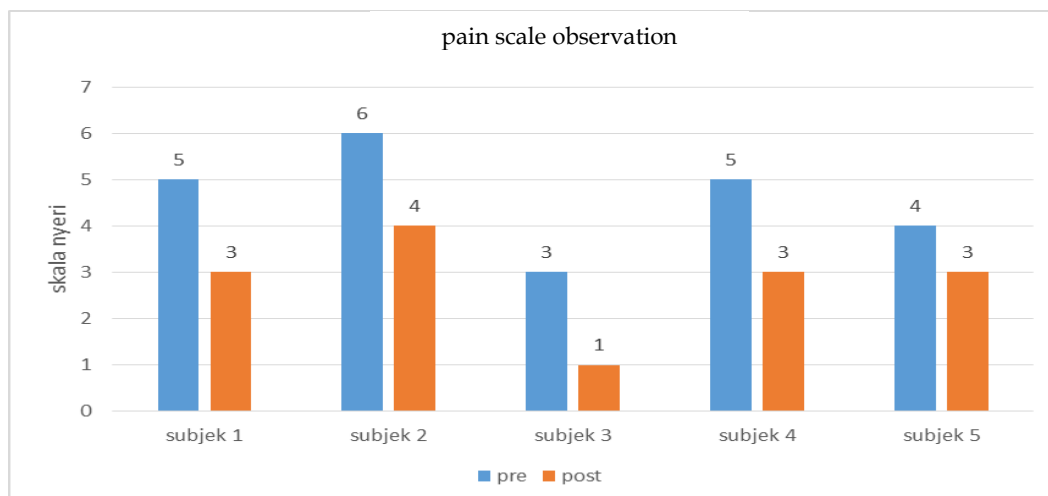


Figure 1. Observation results of pain intensity based on the pain scale in the five research subjects

The figure above shows a decrease in pain intensity among the five subjects after undergoing abdominal stretching exercises. Subject I experienced a reduction from a pain scale of 5 to 3, Subject II from 6 to 4, Subject III from 3 to 1, Subject IV from 5 to 3, and Subject V from 4 to 3.

DISCUSSION

The results of the study indicated a decrease in menstrual pain intensity among the subjects after undergoing abdominal stretching exercises. According to Ningsih (2011), abdominal stretching can improve muscle strength, endurance, and flexibility, reduce muscle pain and tension, thereby alleviating menstrual pain (dysmenorrhea). The purpose of abdominal stretching is to enhance oxygenation (the process of oxygen and carbohydrate exchange in the cells) and stimulate lymphatic drainage, which in turn increases muscle flexibility, maintains proper function, and improves muscle elasticity.

The researcher assumes that abdominal stretching facilitates blood circulation throughout the body, thereby reducing dysmenorrhea. This is in line with Laili (2012), who stated that regular exercise can increase the number and size of blood vessels, which distribute blood throughout the body, including the reproductive organs, ensuring smooth blood flow and thereby reducing dysmenorrhea symptoms. Increased blood volume flowing to the entire body, including reproductive organs, enhances oxygen supply to blood vessels undergoing vasoconstriction, which helps to reduce menstrual pain (Laili, 2012).

Abdominal stretching is also believed to improve muscle strength, particularly in the abdominal region. It is effective in reducing dysmenorrhea scores while increasing abdominal muscle strength, flexibility, and overall body endurance. This is because physical activity stimulates the production of endorphins, which are produced in the brain and spinal cord. Endorphins act as natural pain relievers and mood enhancers, creating a sense of comfort. Elevated endorphin levels help to reduce pain during uterine contractions.

Dysmenorrhea can also result from a lack of physical activity, as observed in the five subjects, who mostly stayed at home daily and engaged in minimal physical activity. Insufficient exercise can reduce oxygen delivery to the blood vessels in the reproductive organs, causing vasoconstriction and increasing the severity of menstrual pain. In women, this condition is often associated with a sedentary lifestyle and low physical activity levels during leisure time, both at home and at work. Women in Indonesia commonly exhibit a sedentary lifestyle or low-intensity physical activity, which contributes to the prevalence and severity of dysmenorrhea. Simpulan dan saran dapat ditulis secara terpisah sebagai dua sub judul atau ditulis dalam satu sub judul. Simpulan harus berupa narasi dalam bentuk paragraf dan bukan dalam bentuk angka/numerik.

The data obtained from Subjects IV and V showed that their dysmenorrhea was related to stress. According to the researcher's assumption, the stress experienced by the subjects was due to their engagement in final assignments and academic concerns. The causes of stressors vary for each individual. When a person faces a stressor, the body naturally responds by releasing cortisol and adrenaline hormones. This reaction is beneficial in helping individuals deal with dangerous or threatening situations, enabling them to overcome these challenges. Conditions that cause stress are referred to as stressors. Sometimes stress may result from a single stressor; however, in reality, students often experience stress from a combination of multiple stressors (Sukatin et al., 2021).

CONCLUSION

After the implementation of abdominal stretching exercises, it can be concluded that this therapy is effective in reducing menstrual pain intensity in adolescent girls. Before performing abdominal stretching, all five subjects experienced severe dysmenorrhea. Following the intervention, changes and reductions in dysmenorrhea scores were observed. Specifically, Subject I's pain score decreased from 5 to 3, Subject II from 6 to 4, Subject III from 3 to 1, Subject IV from 5 to 3, and Subject V from 4 to 3. However, the pain levels remained within a mild to moderate range and should be maintained through regular abdominal stretching exercises. It is recommended that the exercises be performed three days before menstruation to achieve optimal pain reduction.

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