

## IMPLEMENTATION OF NURSING INTERVENTION USING ABDOMINAL STRETCHING EXERCISE IN MS. A TO REDUCE DYSMENORRHEA

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### ABSTRACT

**Background:** Adolescent girls often experience physical discomfort during the menstrual period, which is called dysmenorrhea. Dysmenorrhea can disrupt daily activities and school. One non-pharmacological technique is to do abdominal stretching exercises or the Abdominal Stretching Exercise (ASE). **Objective:** This research was conducted to determine the results of the implementation of Abdominal Stretching Exercise (ASE) on reducing the intensity of dysmenorrhea in Ms. A. **Methods:** This method uses a case study research design on Ms. A by implementing the Abdominal Stretching Exercise (ASE) to reduce the intensity of dysmenorrhea in Ms. A. Measurement using an observation sheet, namely the Numerical Rating Scale (NRS). Assessments were carried out before and after the 10-15 minute intervention on Ms. A, who is experiencing menstrual pain. **Results:** The results obtained after this showed a decrease in the menstrual pain scale on 6 consecutive menstrual days. The problem could be resolved by decreasing the menstrual pain scale from a scale of 7 (severe) to a scale of 1 (light). **Conclusion:** The results obtained after this showed a decreased menstrual pain scale on 6 consecutive menstrual days. The problem could be resolved by reducing the menstrual pain scale from 7 (severe) to 1 (light).

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### INTRODUCTION

Adolescence is a transitional phase from childhood to adulthood. Many changes occur during adolescence, including puberty, bone maturation, rapid growth, and sexual development. Adolescent girls experience reproductive maturation, called menstruation (Wulandari, W. T., & Wulandari, R. (2023).

Menstruation is the process of sexual maturation or the operation of shedding the endometrial wall, accompanied by bleeding every month except during pregnancy (Sholikhah and Widyastuti, 2021). Menstruation is a process that causes bleeding in the uterus, which begins 14 days after ovulation and occurs on average 5 days, 3 to 6 days, every month (Ummuyasaroh, 2023). When menstruation begins, almost all women experience physical pain that interferes with daily life, such as lower abdominal pain, back pain, and cramps. Discomfort or problems during menstruation are called dysmenorrhea (Satriawati, Nugrahendy & Kusmiyati, 2020).

Dysmenorrhea can occur before, during, or after menstruation. This pain can be intermittent or continuous and mild, moderate,

or severe. In most cases, young women experience complaints of discomfort during pregnancy, which is called dysmenorrhea. Dysmenorrhea is divided into two types, namely primary dysmenorrhea and secondary dysmenorrhea, based on the presence or absence of severe disease or other pathologies (Paseno et al., 2021).

Dysmenorrhea causes uterine contractions due to increased intrauterine pressure and increased prostaglandins in the blood. If uterine contractions continue, blood flow decreases, and the uterus becomes ischemic or hypoxic, thereby affecting women's fertility (Paseno et al. 2021).

According to data from the World Health Organization (WHO), it is found that 90% of women in the world experience dysmenorrhea. As many as 15% of women experienced severe dysmenorrhea, and 9.36% experienced mild dysmenorrhea. The problem of dysmenorrhea in Indonesia has a relatively high percentage of 64.25%, consisting of 54.8% with primary dysmenorrhea and 9.36% with secondary dysmenorrhea. Banjar Regency is included in the South Kalimantan region, where there are 181 young women, and 37 (21%) experience

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dysmenorrhea (Ministry of Health of the Republic of Indonesia, 2021).

Awang Bangkal West Village is included in the wetland area, one of the villages located on the river's edge in Karang Intan District, Banjar Regency. Wetlands can be interpreted as an area of pooling or storage of water, having water or aquatic characteristics (Khairiyati, 2022). Improving the quality of public health and public health, including maternity health, which focuses on people being free from experiencing pain, focuses on pregnant women, postpartum mothers, and teenagers (RIP ULM 2020-2024). The role of nurses is to provide care and education; the part that can be used in this case is providing health education to young women about alleviating dysmenorrhea.

Dysmenorrhea has a negative impact and affects teenagers' daily activities. Some of the effects that occur due to dysmenorrhea include weakness, loss of motivation, lethargy, poor concentration, which interferes with academic performance at school, and poor concentration, which interferes with the educational activities of the younger generation. In addition, dysmenorrhea causes uterine contractions due to increased intrauterine pressure and prostaglandin levels in the blood. If uterine contractions continue, blood flow decreases, and the uterus becomes ischemic or hypoxic, thereby affecting a woman's fertility and resulting in infertility (Pset et al., 2021).

One technique that can relieve the pain felt during menstruation without taking medication is drinking boiled water with turmeric (Mustikawati, 2020: Murbiah, M., & Amanda, D. S. (2022). Warm compresses can also be an alternative for reducing dysmenorrhea (Al Shifa, A. R., & Mahmud, N. U. 2021). Deep breathing relaxation techniques can also be used. It is also helpful in reducing dysmenorrhea (Handayani, Y., Putri, H., & Nurita, Y. S. 2022). You can also do gymnastics, which can help stretch the abdominal muscles and provide a feeling of pleasure and resistance to feelings of pain (Taqiyatun et al., 2021: Wulandari, W. T., & Wulandari, R. (2023). One of the safe, non-pharmacological methods, without side effects and An easy thing to do to reduce pain during menstruation, is to do abdominal stretching exercises or what is called the Abdominal Stretching Exercise (ASE) (Taqiyatun et al. 2021).

Abdominal Stretching Exercise (ASE) can help stretch the abdominal, waist, and pelvic muscles and provide gradual comfort. This exercise can also activate the pituitary gland to give feelings of pleasure and resistance to pain. Stretching the abdominal muscles is safe and does not cause side effects because it involves the body's natural processes (Sholikhah and Widyastuti, 2021).

Young women in Awang village, West Bangkal, usually reduce dysmenorrhea using warm compresses, water, and ginger. The results of the interviews showed that there were no young women who used the abdominal stretching exercise (ASE) technique. Based on this phenomenon, researchers are interested in applying the Abdominal Stretching Exercise (ASE) intervention to young women who experience dysmenorrhea in Awang village, West Bangkal.

## **METHODS**

This research uses a case study in providing nursing care, which aims to assess the differences before and after giving the Abdominal Stretching Exercise (ASE) intervention to reduce the intensity of dysmenorrhea in adolescent girls by using an observation sheet to measure the scale of menstrual pain with the Numerical Rating Scale (NRS). Data collection was carried out for 6 days by researchers with respondents at 10.00 WITA, knowing previously that respondents only attended school during the day, starting from 14.00 WITA – to 17.00 WITA.

Previously, teenagers were given health education using a booklet regarding abdominal stretching exercises to reduce menstrual pain, and after this health education, respondents could do it independently.

Assessments were carried out before and after intervention for 10-15 minutes on young women who were experiencing menstrual pain. The place to do the exercise can be anywhere as long as it is safe and comfortable, for example, on a bed. Repeat the movement 3x in the left and right positions. This exercise can be done before the end of menstruation. This exercise can also be done in conjunction with other non-pharmacological techniques.

**RESULTS AND DISCUSSION**

**Analysis of Menstrual Pain Intensity Levels (Dysmenorrhea) Before Abdominal Stretching Exercise Intervention**

Table 1.1 Diagnosis of Acute Pain Before Abdominal Stretching Exercise (ASE) Intervention

Before Abdominal Stretching Exercise Intervention						
Day of Menstruation	1st	2nd	3rd	4th	5th	6th
Pain Scale	7	7	6	5	3	2

Dysmenorrhea or menstrual pain is pain in the lower abdomen and spreads to the inner thighs or lower back due to uterine muscle contractions before or during pregnancy. Endometrial cells shed when the supply of prostaglandin hormone-like compounds made from essential fatty acids decreases. Prostaglandins stimulate the muscles of the uterus (womb) and affect the blood vessels, causing uterine ischemia (reduced blood supply to the uterus) through contraction of the myometrium (muscles of the uterine wall) and vasoconstriction (narrowing of the blood vessels) (Nisak. Y. 2021).

The dysmenorrhea felt by Ms. A before carrying out the Abdominal Stretching exercise intervention did not experience a decrease in pain intensity because Ms. A had not done any activities that could reduce the pain. Ms. Pain A is measured using the Numerical Rating Scale (NRS) pain scale, indicating the location of the pain in a range of numbers, where a scale of 0 means no pain, a scale of 1 to 3 is mild pain, a scale of 4 to 6 is moderate pain and a scale of 7 to 10 is in the severe pain category. NRS is used more as a word description tool because the higher the number, the more pain is felt. This scale is the most effective pain scale to use when assessing pain intensity before and after therapeutic intervention (Potter & Perri, 2005; Nisak. Y. 2021).

The pain that Ms. A on the first day was on a scale of 7 (severe). On the second day, it was still on a scale of 7 (robust); on the third day, it was 6 (moderate). On the fourth day, on a scale of 5 (middle). On the fifth day, on a scale of 3 (light), on the sixth, on a scale of 2 (morning). At Ms. A, menstrual pain does not decrease on

the first and second days even though Abdominal Stretching Exercise (ASE) intervention has been given for 15 minutes. This is related to increased levels of prostaglandin in menstrual fluid in women, and it does grow, especially in the first two days of menstruation (Anurogo. 2011; Nisak. Y., 2021).

**Analysis of Menstrual Pain Intensity Levels (Dysmenorrhea) After Abdominal Stretching Exercise Intervention**

Table 1.1 Diagnosis of Acute Pain After Abdominal Stretching Exercise (ASE) Intervention

Before Abdominal Stretching Exercise Intervention						
Day of Menstruation	1st	2nd	3rd	4th	5th	6th
Pain Scale	6	6	5	4	2	1

Stretching or movement can help relieve muscle tension, relax muscles, and reduce pain due to contractions. Adolescents suffering from dysmenorrhea have muscle tension, especially in the lower abdomen, which occurs periodically due to solid and prolonged abdominal wall contractions, causing muscle fatigue and lack of exercise, so it is essential to train these muscles. Deep abdominal stretching exercises that strengthen the abdominal muscles, especially in the lower body, are a non-pharmacological treatment that is safe and does not cause side effects, so it is safer because it uses the body's physiological processes (Nisak. Y. 2021).

After doing the abdominal stretching exercise (ASE), Ms. A's pain was 7 (weight). This is because increased levels of prostaglandins are found in menstrual fluid in women with severe dysmenorrhea. These levels increase, especially in the first two days of menstruation (Anurogo. 2011; Nisak, 2021). So, this is included in the physiological processes of a woman's body during menstruation. Then, on the third day, scale 6 (medium) becomes level 5 (medium), and on the fourth day, scale 5 (medium) becomes scale 4 (medium). On the fifth day, scale 3 (mild) becomes scale 2 (soft), and on the sixth day, scale 2 (calm) becomes scale 1 (mild).

Exercise is highly recommended before, during, and after menstruation because the body releases endorphins, which help reduce bloating,

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stress, headaches, and related pain during menstruation. Endorphins have a pain-relieving effect and can help reduce prostaglandins, compounds that cause muscle spasms during menopause. Apart from that, exercise also improves blood circulation in the body and keeps the body cool during pregnancy. Good practice during menstruation effectively reduces pain (Sinaga et al., 2017).

### **The Effect of Abdominal Stretching Exercises on Reducing the Level of Menstrual Pain (Dysmenorrhea)**

Abdominal Stretching Exercise (ASE) is a muscle stretching exercise, especially in the stomach, for 10-15 minutes and is better used on the first to third day of menstruation. This exercise is designed to increase muscle strength, endurance, and flexibility, so it is hoped to reduce menstrual pain (dysmenorrhea). Physical exercise is highly recommended to overcome dysmenorrhea. Exercise is safer and does not contain side effects because it uses the body's physiological processes. This exercise is safe and does not cause side effects because it uses the body's physiological processes (Sholikhah and Widyastuti, 2021; Paseno, 2021).

This exercise was conducted on Ms. A, and the pain intensity scale decreased from the second to the sixth day of the intervention. This is because the uterine wall lining will begin to shed on the second and subsequent days, and prostaglandin levels will decrease. Menstrual aches and pains will decrease as prostaglandin levels decrease (Sinaga E. et al., 2017). The average range of pain reduction in Ms. A falls by 1 scale after every Abdominal Stretching Exercise (ASE).

Stretching is a sports activity and can be chosen by young women who are experiencing menstrual symptoms so heavily that they cannot do other sports activities because of the pain they feel. Stretching can be done in a standing or lying position accompanied by regular breathing (Sinaga et al. 2017).

Abdominal Stretching Exercise (ASE) can be done while lying down for 10-15 minutes or at any time. The place to do the exercise can be anywhere as long as it is safe and comfortable, for example, on a bed. Repeat the movement 3x in the left and right positions. This exercise can be done before the end of menstruation. This exercise can also be done with other non-

pharmacological techniques because it does not cause side effects.

Regular exercise that uses the large muscles of the extremities increases oxygen consistently. This is related to prostaglandin activity, one of the dysmenorrhea pathophysiology. Prostaglandins are known to increase myometrial contractions and have a vasoconstrictor effect, causing endometrial ischemia and hemorrhage, as well as bleeding and pain. Increasing oxygen due to exercise can resolve uterine ischemia (Desi et al., 2023). Researchers realize that there are limitations to carrying out research. The limit of this research is that time is not possible because the young women have to lie down in a lying position. Meanwhile, in adolescence, many activities at school can likely be done from morning to evening.

### **CONCLUSION**

Nursing implementation for Ms. A consists of applying Abdominal Stretching Exercise (ASE), which is carried out for 6 days with a minimum exercise frequency of once a day when menstrual pain appears to reduce menstrual pain. The evaluation results during the intervention, from administering Abdominal Stretching Exercise (ASE) for 6 days, showed that respondents stated that the pain they felt was slowly decreasing every day with an average of 1 level on the pain scale.

It is hoped that future researchers can maximize this Abdominal Stretching Exercise (ASE) activity by comparing the activities undertaken by respondents because it can influence the effectiveness of this exercise, as well as the tools needed, such as sports mats and balls, that can maximize this activity.

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