



## THE EFFECT OF BACK MASSAGE THERAPY ON THE INTENSITY OF DISMENOREA PAIN IN KARTIKA 1 - 5 PADANG HIGH SCHOOL STUDENTS IN 2019

Ratna Indah Sari Dewi<sup>1</sup>, Vino Rika Novia<sup>2</sup>

<sup>1,2</sup>Department of Nursing, SyedzaSaintika's Health Science Institute

\* Corresponding author: ratnadewiindahsari@gmail.com

### ABSTRACT

Dysmenorrhoea a pain in the pelvic region that occur before menstruation or during menstruation caused by hormonal imbalance. Menstrual pain can be overcome, namely non-pharmacological therapy back massage (back massage). In Indonesia the incidence of dysmenorrhoea by 64.25% consisted of 54.89% had primary dysmenorrhoea and 9.36% had secondary dismenorea. The purpose of this research to know the influence of therapeutic back massage (back massage) against dysmenorrhea pain intensity at high school Kartika 1-5 Padang. This type of research is pre-experimental design one-group pretest-posttest design. This research was conducted in SMA Kartika 1-5 Padang and was executed on, April 25, 2019, the number of population in this study with a sample of 149 people 16 students were taken by purposive sampling. The collection of data by using a pain scale of measurement observation sheet. Data is processed in a computerized test bivariate analysis that the t test with significance level-dependent p value  $\leq 0005$ . The results showed the average intensity of menstrual pain before being given a back massage therapy (back massage) 4:00 and after 1.63. There are significant therapeutic back massage (back massage) to (p value = 0.000)  $< 0.005$ . It was concluded that there was influence therapeutic back massage (back massage) to the intensity of dysmenorrhea pain. It is expected that the patient always used back massage therapy (back massage) is useful for reducing the pain of dysmenorrhea.

**Keyword : Keywords: *Massage Therapy Spine (Back Massage), Pain Dismnorea***

### INTRODUCTION

Adolescence is a transitional period from puberty to adulthood or a process of growth towards maturity which includes mental, emotional, social, and physical maturity. Puberty is one of the stages of development marked by the maturity of the sexual organs, the ability to produce is achieved, where one of the characteristics of a woman's puberty is the first menstruation or menarche (Janiwarty and Pieter, 2013).

Menstruation is uterine bleeding that occurs cyclically and is experienced by most women of reproductive age (Errol et al, 2008).

Pain during menstruation or menstruation is often complained by a woman as an uncomfortable sensation, even because the onset of pain can interfere with her routine activities for several hours or several days. This is known as dysmenorrhoea (Sheerwood, 2012).

Dysmenorrhoea is pain in the pelvic area that occurs before menstruation or during menstrual periods. The cause is due to excessive prostaglandin production which causes uterine hyperactivity. Excessive uterine muscle contraction is what causes pain (Proverawati & Misaroh, 2009).



Dysmenorrhoea is the medical term for menstrual cramps, which are pain in the abdomen and pelvic area experienced by

women as a result of their menstrual periods (Sukarni and Wahyu, 2013).

Dysmenorrhoea or painful menstruation puts teenagers in an unpleasant condition. Seeing the impact of dysmenorrhoea, it can be said that dysmenorrhoea is a problem for a woman. To overcome menstrual pain, pharmacological and non-pharmacological methods can be used (Potter & Perry, 2015).

According to the World Health Organization (WHO) 2016, there was an incidence of 1,769,425 people (90%) of women with dysmenorrhoea with 10-15% experiencing severe dysmenorrhoea. The incidence of menstrual pain in the world is very large, on average more than 50% of women in every country experience menstrual pain. In America the percentage is around 72%, further in the field of longitudinal studies conducted in Sweden reported dysmenorrhoea occurs 90% in women aged 24 years. Meanwhile in Indonesia it is estimated that around 55% of women of reproductive age are tormented by pain during menstruation. The incidence (prevalence) of menstrual pain ranges from 45 - 95% among women of reproductive age, although generally not dangerous, but often disturbing for women who experience it. The degree of pain and the level of disturbance are certainly not the same for every woman, some are still able to learn even though they occasionally grimace and some can do activities even though the pain is very strong (Proverawati & Misaroh, 2009).

In Indonesia, the incidence of dysmenorrhoea is 107,673 (64.25%), consisting of 59,671 people (54.89%) experiencing primary dysmenorrhea and

9,496 people (9.36%) experiencing secondary dysmenorrhoea (Info Sehat, 2010). In East Java, the number of productive young women aged 10-24 years is 56,565 people (1.07% to 1.31%) (BPS East Java Province, 2010).

Dysmenorrhoea occurs due to the endometrium containing large amounts of prostaglandins, so too many prostaglandins result in strong myometrial contractions that can constrict blood vessels causing ischemia, endometrial disintegration, bleeding and pain (Geri Morgan et al., 2009). This pain can last 1-2 days but rarely exceeds 72 hours. Accompanying systemic symptoms include nausea, diarrhea, headaches and emotional changes (Price, 2005).

The causative factors of dysmenorrhoea are primary dysmenorrhoea and secondary dysmenorrhoea. Primary dysmenorrhea, such as endocrine factors, organic factors, psychiatric factors or psychological disorders, constitutional factors (resistance to pain), and allergic factors (Bobak, 2004). Meanwhile, secondary dysmenorrhea is caused by pathologic conditions identified in the uterus, tubes, ovaries, or pelvic peritoneum. This pain is felt when the pathologic process changes the pressure in or around the pelvis, changes or restricts blood flow or causes irritation in the pelvic peritoneum (Smith, 2003).

Menstrual pain (dysmenorrhoea) can be treated in 2 ways, namely pharmacologically and non-pharmacologically. Pharmacological treatment is in the form of providing analgesics which are the most commonly used method of pain relievers and non-steroidal anti-inflammatory drugs (NSAIDs), however the use of these analgesics will cause addictive effects and will have side effects that can endanger the patient's health. While non-pharmacological treatments include deep breathing techniques, warm water compresses,



and herbal medicine. Other pharmacological therapies that can be used to treat dysmenorrhoea pain are back massage therapy.

Back massage is a gentle rubbing technique on the skin / body surface, which then produces a relaxing effect and a comfortable feeling for the patient (Aliabadi

et al, 2017). This gentle rubbing technique also helps normalize heart rate and blood pressure. This gentle stroking technique includes light massage which can make the fine hairs on the skin surface stand up. A number of studies have shown that this technique increases the release of endorphin and oxytocin hormones which function to reduce pain (Aprilia, 2010).

Pathophysiologically, through stimulation of back massage to the skin, there is greater and faster activation of the transmission of A - Beta sensory nerve fibers. This process decreases the transmission of pain through the small diameter C and delta-A fibers so that the synaptic gates close the transmission of pain impulses. The stimulation of back massage on the body in general is often focused on the back and shoulders (Smeltzer, 2010). The stimulation of back massage will stimulate the peripheral fibers to send impulses through the dorsahorn in the spinal cord, when the impulses carried by the A-Beta fibers dominate, the gate mechanism closes so that the pain impulses are not delivered to the brain (Mander, 2008).

In addition, the stimulation of back massage on the skin also causes a relaxing effect which causes an increase in the

## RESULT

Based on the results of research that has been conducted on the effect of back massage therapy on the intensity of dysmenorrhoea pain in SMA Kartika 1-5

happiness hormone endorphine. Apart from functioning as a natural analgesia for pain, endorphines are also able to reduce stress and tension responses which have an antihistamine effect on the body so that the

body becomes better and fresher (Mander, 2008).

When experiencing dysmenorrhoea, students cannot move normally and can only lie in bed and cannot do strenuous activities. Researchers chose a class XI population because usually the symptoms of primary dysmenorrhoea occur in women of productive age 3-5 years after experiencing their first menstruation and women who have never been pregnant (Proverawati, 2012). To take pain relievers, you should first consult a doctor. Must be monitored, because long-term use can provide a risk of dependence and a number of other dangerous side effects. Effects that can be caused such as damage to the liver, bleeding, gastric problems can even increase the risk of developing Alzheimer's disease.

## MATERIAL AND METHODS

This type of research is a pre-experiment with a One Group Pretest-Posttest design. The population of this study were all students of class XI who experienced dysmenorrhoea pain with a purposive sampling technique totaling 16 people. The data were processed computationally using the dependent t-test. The research was carried out in Kartika 1-5 Padang starting from the preparation of proposals in October 2018 to collecting research data on April 25, 2019.

Padang students with a total of 16 students, the following results were obtained:

1. Dysmenorrhoea scale before giving Back Massage Therapy: the average value of the dysmenorrhoea pain scale before being given back massage



therapy is 4.00 with a standard deviation of 1.414. The highest score of dysmenorrhoea pain studied was 6 and the lowest was 2 in SMA Kartika 1-5 Padang.

2. Dysmenorrhoea Pain Scale After Back Massage Therapy: the average dysmenorrhoea pain scale after back massage therapy was given, namely 1.63 with a standard deviation of 1.258.

The highest score of dysmenorrhoea pain studied was 4 and the lowest was 0 for SMA Kartika 1-5 Padang students.

## DISCUSSION

Based on the results of the study, it was found that the average value of dysmenorrhoea pain level before being given back massage therapy was 4.00 with a standard deviation of 1.414. The highest score on the student's pain scale studied was 6 and the lowest score was 2 for SMA Kartika 1-5 Padang students.

During menstruation, women sometimes experience pain. The nature and level of pain varies, from mild to severe. This condition is called dysmenorrhoea, which is a state of intense pain and can interfere with daily activities. Dysmenorrhoea is a symptomatic phenomenon including abdominal pain, cramps and back pain. Gastrointestinal symptoms such as nausea and diarrhea can occur as a symptom of menstruation (Kusmiran, 2011).

Dysmenorrhoea pain is pain in the pelvic area that occurs before menstruation or during menstrual periods. The cause is due to excessive production of prostaglandins, which causes excessive uterine muscle contraction. This uterine hyperactivity causes pain (Proverawati & Misaroh, 2009).

Based on the results of the study, it was found that the average value of the level of

3. The Effect of Back Massage Therapy on Dysmenorrhoea Pain Intensity: the mean difference in dysmenorrhoea pain scale before and after being given back

massage therapy is 2,375 with a standard deviation of 0.885

The results of the paired samplet-test statistical test showed that the value of  $p = 0.000$  means that at  $\alpha = 0.005$ , it is seen that there is an effect of back massage therapy on the intensity of dysmenorrhoea pain in SMA Kartika 1-5 Padang students.

menstrual pain (dysmenorrhea) after being given back massage therapy was 1.63 with a standard deviation of 1.258. The highest score of the student's pain scale studied was 4 and the lowest was 0 for SMA Kartika 1-5 Padang students.

Giving back mass therapy can reduce pain because it can stimulate peripheral fibers to send impulses through the dorsalthorn in the spinal cord, when the impulses carried by A-Beta fibers dominate, the gate mechanism closes so that pain impulses are not delivered to the brain (Mander, 2008). In addition to that on the skin there will be a relaxing effect which causes an increase in the happiness hormone endorphine which functions as a natural analgesia for pain, endorphine is also able to reduce stress and tension responses which give an antihistamine effect on the body so that the body becomes better and fresher (Mander, 2008).

The pain experienced by the respondent is due to the busy activity of the respondent in addition to participating in the teaching and learning process, the respondent also has to take part in extracurricular activities such as PMR, Scouting, Dance, Marcing Band, Silek coupled with daily tasks given to be done at home so that it makes rest from the respondent insufficient. Stress is one of the



triggers that can increase dysmenorrhoea pain because when stress hormones in our body are unstable so that the system in the body does not work properly which results in blood flow not being conveyed throughout the body, this is what causes pain to arise. In addition to stress, other factors that can increase dysmenorrhoea pain, namely nutrition, the food consumed by the respondents also has an effect on the increase in menopause pain.

Giving back massage therapy (back massage) to reduce dysmenorrhoea pain seems effective. This can be seen from the way of giving the right therapy, the right position and point of giving, besides being supported by cooperative respondents who are able to follow all the stages carried out together with the researcher. When lying down the respondent will feel comfortable, the gentle rubbing given to the back area will have a calming effect on the respondent so that the stress response is reduced which results in the respondent feeling better and feeling relaxed so that the pain they feel is reduced.

## CONCLUSION

1. There was an effect of back massage therapy (back massage) on the intensity of dysmenorrhoea pain in Kartika high school students with an average difference of 2,375 with a value of  $p = 0.000$  ( $p \leq 0.05$ ).
2. It is necessary if back massage therapy is applied in order to reduce dysmenorrhoea pain, this can be done and practiced directly by student.

## REFERENCES

Aprilia., 2010, Hypnosis: Relaxing, Comfortable, and Safe During Pregnancy and Childbirth, Gagas Media Publisher, Jakarta.

- Statistics Indonesia, East Java Province, 2010, Statistics Indonesia 2010, East Java, Statistics Indonesia.
- Bobak, et al., 2004, Textbook of Nursing Maternity, 4th Edition, Jakarta: EGC
- Dahlan, M. S., 2013, Statistics for Medicine and Health Edition 6, Salemba Medika, Jakarta.
- Errol, et al., 2008, Overcoming Menstrual Disorders, Yogyakarta.
- Kusmiran, E., 2011, Reproductive Health for Adolescents and Women, Jakarta: Salemba Medika.
- Natalia, D. O., et al. 2018, Cutaneous Stimulation Is More Effective in Reducing Dysmenorrhoea Pain in Adolescents Compared to Turmeric Acid, Journal of Nursing and Public Health, Vol. 7 No. 2. Main Scholar
- Nurhayati, S. 2019, Back Massage Against Menstrual Pain in Students at the Women's Dormitory of the Adventist University of Indonesia, West Bandung Regency, Journal of Nursing Scholastics. Volume 5, No. 1.
- Price., 2005, Textbook of Women's Reproductive Health, Jakarta: EGC.
- Proverawati & Misaroh., 2009, Menarche: First Full of Meaning, Bandung: Nuha Medika.
- Smith., 2003, Dysmenorrhea: Etiology, Diagnosis, and Therapy.
- Sukarni, I and Wahyu, P., 2013, Textbook of Nursing Maternity, Yogyakarta: Nuha Medika.
- Valiani, et al., 2010, The Effect of Massage Therapy on Dysmenorrhea Caused by Endometriosis, Iran J NursMidwiferyres 15 (4): 167-171.
- Proverawati., 2012, Clean and Healthy Living Behavior (PHBS), Yogyakarta: Nuha Medika.



Sheerwood., 2012, Human Physiology. Ed 6.  
Jakarta: EGC.

Smeltzer., 2010, Textbook of Medical  
Surgical Nursing, Jakarta: EGC.

Mander., 2008, Labor Pain, Jakarta: EGC.