

The Effect of Yoga Therapy on Premenstrual Syndrome in Adolescent Girls at SMP Swasta Muhammadiyah 1 Medan

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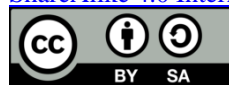
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ABSTRACT

A teenage daughter often suffers from painful menstrual moments (premenstruation syndrome). The prevalence of premenstruation syndrome in Central Java is 56%. Although painful, it is not dangerous; however, it can bother activity daily. Possible non-pharmacological therapy used to overcome premenstrual syndrome is yoga practice. A study introduction found that 24 out of 30 female students suffer painful periods. Research purposes This is to know the influence of yoga practice on the level of painful menstruation in students of Muhammadiyah 1 Medan Private Middle School. Types of research This is a quantitative study with a pseudo-design experiment. Consecutive sampling was used to collect data from 20 respondents with the use of a painful numeric scale. As for the analysis using the Wilcoxon test, the scoring scale for painful numeric before and after yoga practice shows a scale of 5.15 and 3.00. A bivariate test shows the p-value is 0.000. There is an influence of yoga practice on the level of painful menstruation in students of Muhammadiyah 1 Medan Private Middle School.

Keywords: yoga, premenstrual syndrome, therapy

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1. INTRODUCTION

Adolescence is the period of maturation of the reproductive organs in humans and is often called the phase transition. According to the 2010 census of the Indonesian population, the total group aged 10–19 years had reached 43.5 million souls, or about 18% of the total population. For Indonesia itself, it is estimated that there are 1.2 million teenagers, or 18% of the world's total population. Teenagers have a period of maturation of reproductive organs in humans, and some of this is called puberty. One of the frequent problems faced by teenager daughters is painful, frequent menstruation, called premenstruation syndrome. Premenstruation syndrome is painful menstruation caused by cramps in the womb. Impacts of premenstruation syndrome in adolescents include disturbance of comfort, decline of activity, distraction pattern sleep, disturbance of lust, eating even without lust, disturbed interpersonal relationships, and difficulty concentrating in work and study. This study also reports that premenstruation syndrome causes 14% of teenagers to miss school. In Indonesia, the number of incidents of premenstrual syndromes amounts to 64.25%, consisting of 54.89% of premenstrual primary syndrome and 9.36% of premenstrual secondary syndrome. The incidence rate in Medan reached 56%, though in a way, general premenstruation syndrome No dangerous However, it can bother activity whatever. Degree pain experienced by adolescent daughter vary depends response individual to painful.

According to the WHO, adolescents are people who are in a transition period between childhood and adulthood. According to WHO, limits age teenager is 12 to 24 years old. Puberty, also called puberty, is the period between childhood and adulthood. Puberty is a stage key in the development of sexuality in the cycle of life (28). A teenager is an individual who, from childhood until maturity, experiences characteristic features of secondary sex, psychology, and pattern identification.

Adolescence is a transition period from adolescence into adulthood, or the process of growth leading to maturity, which includes mental, emotional, social, and physical maturity. Puberty is a stage-marked development with mature tool gender and attainment of fertility, and one characteristic of puberty in women is the commencement of first menstruation.

Every woman experiences enhancement in current prostaglandin levels during menstruation, which is related to substances, among other things, stimulation pain in the body. Muscle spasms womb moment menstruation also causes pain, especially on cramps in the stomach, bottom, and back.). Menstruation is the release layer accompanied by the uterus (endometrium). bleeding and occurs every month. Cramp moment menstruation often gives rise to anxiety in women because worries will impact cramps, menstruation, fertility, and health in general.

Menstruation Regular is a process that occurs when there is a hormonal imbalance in the system of reproduction in women, and the hormones estrogen and progesterone must be in the right balance. Normal menstruation occurs every 21 to 35 days.

A number of women experience disturbances in their menstruation light until currently to very serious menstruation. For example, some women experience weakness, consequence cramps, pain, headaches, stomach, and pain outside of normal, consequence contraction of the uterine smooth muscle. Teenagers with Premenstruation Syndrome Possible will have difficulty focusing on the lesson and feel not motivated enough for study due to the pain he experienced.

Teenagers suffering from premenstruation syndrome must look for the best treatment, either pharmacological or nonpharmacological, to remove or reduce painful periods. According to data from the World Health Organization (WHO), incidents of premenstruation have a very high incidence worldwide, with more than 50% of women in labor in every country suffering from premenstruation syndrome. A number of reports by International Holder (2014) state that prevalence of premenstruation is very high; at least 45–90% of women suffer from premenstruation syndrome during the reproductive period. Holder also said that on average, more than 50% of women in every country experience painful.

In contrast, in America, the percentage is around 60%. Research data from Xu et al. (2014) shows that the prevalence of premenstrual syndrome in France has reached 20% to 90% (6). In Sweden, the prevalence of pain is 72% (20). In the United States, the figure is around 90%, with 10–15% experiencing premenstrual syndrome that is heavy or not capable of activity. In a longitudinal study in Sweden, 72% of women under the age of 19 and 67% of women over the age of 24 reported premenstruation syndrome. A survey in India found that awareness among women of the Premenstruation Very Low Syndrome is low; only around 34.34% of the 99 respondents used medical services to overcome the painful symptoms.

Prevalence Premenstruation Syndrome in Asia reports that 74.5% of children women who reach menarche experience Premenstruation Syndrome, and 51.7% of children women have the influence ability to For concentrating in class, 50.2% reported limited social activity, 21.5% resulted in absenteeism from school, and 12.0% suffered pain. Meanwhile, in Indonesia, it is estimated that 55% of women of fertile age experience painful periods of menstruation. This matter is generally not dangerous; however, it can become a disturbance for women. The incidence rate of Premenstruation Syndrome in Indonesia in 2014 was around 54.89%, while the rest suffer from Premenstruation Syndrome type 2 secondary.

The pain that started momentary menstruation manifested as cramps in the stomach, bottom, and back, and I don't think so comfortable in a general sense. Besides, this explains gathering possible symptoms, including: nausea, vomiting, pain, headache, fatigue, pain back, cramps back part bottom, bloating, pain breasts, changes in atmosphere, heart, and dizziness. Symptom This usually appears before 24 to 48 hours or the moment of menstruation. When conditions or pathology pathogenic, such as endometriosis, disease inflammation pelvis, cycle menstruation not regular, problem infertility, ovarian cysts, polyps, and cervical stenosis, affect cycle menstruation women, Premenstruation Syndrome secondary refers to cramps.

Premenstruation syndrome can impact activities or sports in teenagers, such as concentration, learning, and attrition inspiration study because of the suffering felt. Teenagers who experience premenstruation syndrome must find the right solution to turn off or reduce painful menstruation, both pharmacologically and non-pharmacologically.

Treatment or management carried out to reduce painful periods is with pharmacological and non-pharmacological therapy. There are many treatments available; however, drugs are compounds of dangerous chemicals for body. If consumed continuously by humans, that can give rise to effects. Because there are so many effects from pharmacological consumption of drugs, there is a method to minimize painful periods that is through non-pharmacological methods that can be done with stimulation physical, which includes stimulation skin, stimulation of electricity, acupuncture, and therapy behavior cognitive, which includes relaxation and hypnotism.

One of the treatment pharmacologies is to consume nonsteroidal anti-inflammatory drugs (ibuprofen, naproxen, and mefenamate corrosive). Frequent attempts made to overcome premenstruation syndrome involve consuming medicines sold for free, although using drugs often gives rise to side effects on the body. By non-pharmacological means, exercise aerobics like walking, cycling, swimming, getting enough sleep before and during menstruation, compressing hot or cold in the stomach if pain arises, and exercise relaxation to remove pain can be handled. Relaxation is part of non-pharmacological therapy and complementary and alternative therapy (CAT). CAT is an intervention to improve, maintain, and prevent disease and relieve symptoms experienced by individuals. Therapy and relaxation are lots used to overcome painful Because no give rise to effect aside, it's easy to apply, requires a little time, and is relatively cheap.

Non-pharmacological management can be done through compressing, taking a warm bath, massage, exercising physically, sleeping enough, and distractions like listening to music, as well as relaxation like yoga and breathing in, which can reduce premenstruation syndrome. Yoga is one of them techniques that focuses on technique relaxation. The technique of relaxation is one of the methods for minimizing pain and is easy to do in life daily.

Yoga practice is one of them therapy alternatives and has become a one-choice researcher because yoga only involves muscles and systems breathing. Apart from that, apart it's very easy to practice yoga because there's no need for a special tool, so that can be done. When just Yoga is one of them alternative exercise physical possessions. Lots of benefits make the public more interested in doing it. One of benefit main and real of yoga is enhancement flexibility.

Asana is one of the related elements of yoga, with posture or possible movements flexing muscles and binding nearby network bones or joints. This process releases sour normal lactate, causing inflexibility, tension, pain, and fatigue. Therefore, regularly practicing yoga can prevent various complaints in this area.

Yoga can do it to reduce the painful period with a speedy stimulation system and defense body, as well as shift pattern tolerance from painful to more relaxed phases. Yoga is one of them movements physically able to produce the hormone endoprins at the time of exercise. Hormone: This can work as a drug sedative by naturally producing the brain, which produces a feeling of comfort to reduce pain and moment contractions. Apart from that, yoga also has properties of relaxation, where relaxation can increase response nerve parasympathetic causes vasodilation vessels in the blood womb so that genre blood womb increase and contract womb decrease. Apart from that, stimulation mechanoreceptors in the skin and stomach give relaxation of the muscles and distraction so that cramps experienced in the stomach can be reduced.

Based on the results of the study introduction towards students totaling 341 students, after an interview against 30 students in class IV taken in a way randomly, data was obtained from 6 female students. Classes A.12 to A.14 do not experience premenstruation syndrome moment menstruation, while 24 female students experience premenstruation syndrome; 4 out of 24 female students (0.96%) experienced painful mild, 14 out of 24 female students (3.36%) experienced painful moderate, and 6 female students (3.36%) experienced painful currently. of 24 students (1.44%) experienced great pain. For overcoming pain, four mercy schoolgirls more choose sleeping, six female students more choose compressing warm food in the stomach, two female students consume drugs to reduce pain, and two female students withhold painful foods and drink water to minimize premenstruation syndrome. Of the 30 female students interviewed, there were 2 female students who knew how to overcome painful periods with yoga; however, they have not yet done yoga to minimize painful premenstruation syndrome.

2. RESEARCH METHODS

Study This is quasi-experimental research with a pre-test and post-test without control. Study This aim is to influence yoga practice against painful menstruation in students of Muhammadiyah 1 Medan Private Middle School. Study This was done with a sample population of 20 samples. The consecutive sampling technique was used as the technique for collecting samples. Bivariate test in research using the Wilcoxon test.

3. RESEARCH RESULTS & DISCUSSION

Table 1. Characteristics Respondent Based on Age (n=20)

Mehen	Standard of Deviation	Score (Min-Max)
20.00	0.813	13-15

Based on Table 1 it can be median age is known Muhammadiyah Private Middle School 1 Medan students is 20.00 with range Minimum age 13 years and range maximum 15 years as well as standard deviation 0.813.

Table 2. Characteristics Respondent Based on Class Female student

Class	Frequency(f)	Percentage (%)
Class 1	7	35.0
Grade 2	6	30.0
Grade 3	7	35.0
Total	20	100

Based on Table 2 it can be known respondents the most originate from Classes 1 and 3 consist of 14 students. Temporary student class 2 is there around 6 respondents or around 30% of the total respondents.

Table 3. Mean Pain Scale Before Yoga Exercise Intervention

Menstruation Pain	Median	Standard of Deviation	Min	Max
<i>Pre-test</i>	5.00	1,531	3	9

Based on Table 3 it can be the median of the scale is known painful period respondents before given therapy yoga practice is 5.00.

Table 4. Mean Pain Scale After Yoga Exercise Intervention

Menstruation Pain	Mean	Standard of Deviation	Min	Max
<i>Post-test</i>	3.00	1,622	0	6

Based on Table 4 it can be known average scale painful period respondents after given therapy yoga practice of 3.00. Before researcher carry out influence tests yoga practice against degrees painful menstruation, acquired normality test results as following.

Table 5. Effect test yoga practice

Pain Scale	<i>p-value</i>
<i>Pre-test</i>	0.039
<i>Post-test</i>	0.297

Based on Table 5, a data normality test was carried out via the Shapiro Wilk test because amount respondents <50 and normality test results at pre = 0.039 (<0.05), and at post = 0.297 (>0.05) can be concluded Determined normal if both data have p value >0.05. Because one the data is not normal, then hypothesis testing is used is the Wilcoxon test.

Table 6. Impact of Yoga Practice on Degree of Pain During Menstruation

Menstruation Pain	Mean/Median Difference	of <i>P value</i>
	Mean	
<i>Pre test</i>	5.00	0,000
	2.00	
<i>Post test</i>	3.00	

Based on Table 6, the median degree of pain before a given yoga practice is 5.00, whereas after a given yoga practice it is 3.00. Statistical test results: with the Wilcoxon test, a p-value of 0.000 is obtained, which means Ho is rejected or Ha is accepted, so it can be concluded that yoga practice influences the degree of painful menstruation in students.

Based on Table 1 regarding characteristics, respondents based on age, the median age obtained by students of the Bachelor of Science Program in Nursing is 20.00 years, with a range of Minimum age: 18 years and beyond; maximum age: 21 years. Teenagers are categorized into two groups: teenagers (12–16 years) and teenagers adults (17–25 years). In this research, in part, big-group age respondents already entered the group as teenagers. Other factors that can influence a painful period are menstruation, obesity, stress, and alcohol consumption [10]. One of the possible factors that influence painful periods is age, generally. Premenstruation syndrome occurred in respondents of any age between 15 and 25 years. Because optimization functions of uterine nerves occur with age, enhancement resulting from prostaglandin secretion reduces painful periods. Emergence pain at times so -called menstruation with premenstruation syndrome.

Premenstruation syndrome has been experienced by 60–75 percent of teenage daughters. Three quarter woman experience cramps intensity light or moderate, 25% pain severe or not can controlled. This pain usually starts 2-3 years after menarche and later peaks at the age of 15–25 years. This happens because cycle menstruation in the month first after menarche is usually not painful. Frequency Premenstruation Syndrome can decrease with age and is usually lost after giving birth.

Study This shows that 20 female students experience painful scales currently before yoga practice. Based on the median scale results, painful premenstruation syndrome obtained a score of 5.00 with a standard deviation of 1.531. Pain scale 5 (moderate) is a scale possible pain show location pain, yes, follow order with Good. Study This shows the degree of pain varies among respondents. Gaps are painfully influenced by several factors like age, type,

gender, culture, social, and coping. Severe pain can be caused by increasing prostaglandin secretion, thus increasing contractions in the womb. One of the underlying factors is premenstruation. The primary syndrome is factor endocrine disease, caused by excessive uterine contractions. Endocrine factors This relates to tone and contractility in the intestinal muscles. Increasing the amount of prostaglandin released into the circulation of blood during phase secretion causes Premenstruation Syndrome. That other things are possible to happen is Sick headache, nausea, and vomiting. Study This is consistent with the study, where there were 40 female students who experienced the painful period scale currently before doing yoga practice. With scale average results, the obtained score was 5.10 with a standard deviation of 0.778.

Based on Table 3, the median scale of pain experienced by respondents is 5.00 (medium), which is degrees. Premenstruation Syndrome students before doing yoga therapy understand what's not under control experienced by 1 respondent, pain currently experienced by 9 respondents, and pain light experienced by 1 respondent. Activity daily someone who suffers painful will be disturbed. This condition is consistent and happens to students who experience it fully with symptom weight. This condition will bother activities they teach in study.

Premenstruation-generatiitsOstudy. research supports its study intensity, which is about measurement intensity painful. Premenstruation Generating syndrome mean 5.20 against decline intensity painful before done yoga practice. Whereas average decline intensity is painful after yoga practice of 4.20. Mann-Whitney test results for the comparison of intensity pain between group experiments after given treatment and group controls that don't receive treatment show a p-value of 0.000, which has a value $< \alpha$ (0.05), meaning effective yoga practice reduces intensity pain.

Based on Table 4 scale pain, a mean score of 3.00 was obtained after yoga practice was carried out. A pain scale of 3.00 (mild) is a pain scale that can be managed and still communicate well. Yoga is movements that include exercise physical and technical relaxation. After yoga is practiced for 15-20 minutes, the scale mean is obtained at 3.00, with a standard deviation of 1.622. Study This in line with research conducted by Purwanti (2013) obtained average score pain before doing yoga was 6.27 and the average score after doing yoga was 3.47. By the whole, respondents experience a decline in the scale of painful dysmenorrhea after doing yoga practice for 15-20 minutes. The scale of pain experienced between respondents varies and decreases towards zero. Pain is expected with do yoga movements at the moment of dysmenorrhea and is also expected, so the score of painful menstruation can decrease too. Practice yoga for 10 minutes can change pattern tolerance from painful to more pleasant with stimulating the release of endogenous opioids (functional compounds that hinder pain).

Research result This is consistent and shows a difference in decline after doing yoga therapy. The average result of degrees of dysmenorrhea after yoga therapy is 3.13, which shows that the degrees of pain have changed and become category-light. Degrees of dysmenorrhea after more yoga therapy Compared to average degrees of dysmenorrhea before experiencing yoga therapy, the decline from dysmenorrhea has become light. Condition This proves that yoga therapy is carried out by students in Nursing Semester VII STIKES Aisyiyah Yogyakarta is useful for reducing experienced dysmenorrhea. Practice yoga regularly and regularly can give benefits like increasing gland endocrine in the body, improving circulation of blood, flexing muscles, increasing capacity of the lungs to breathe, reducing body tension, and minimizing painful periods.

Other research supports its study. This with results analysis shows a p value of 0.001, which is $< \alpha$ (0.05), meaning there is effectiveness of deep yoga for lower-degree dysmenorrhea in teenagers at SMAN 1 Bergas Semarang Regency. Condition This happens with the consideration that pain is something subjective, and the pain felt can only be described by the individual who experienced it. Condition This will impact the decline score intensity of pain in each respondent. Got it that degrees experienced dysmenorrhea respondents after given yoga experience decline compared to with groups that don't given yoga.

Based on Table 5, statistical test results using the Wilcoxon test produce a p-value of 0.000, which means H_0 is rejected and H_a is accepted, so it can be concluded that yoga practice has an influence on the degree of pain in some menstruation students. Average scale painful menstruation in female students nursing before done yoga practice of 5.00 (pain medium) and average scale painful period after done yoga practice of 3.00 (pain light).

A teenage daughter will experience phase maturity of the reproductive organs, and one sign of the maturity of the reproductive organs in a woman is menstruation. Menstruation is the outflow of fluid from the vagina directly. Periodically, a lot of irritation occurs, and at times menstruation, like possible pain, just forms painful cramps felt in the area of the stomach until the waist. The reason it is painful is its height prostaglandin release. This matter gives possible circumstances that bother activities and need marked treatment with pain or soreness in the stomach and pelvis.

Management of Premenstruation Syndrome Can done with use therapy pharmacology like drug pain relief and therapy alternatively, either capable alternative reducing dysmenorrhea is with exercise physique or yoga practice. Sport or exercise physique has proven capable of increasing β -endorphin levels in the blood as much as four to five times. Endorphin release can increase response, nerve parasympathetic, and cause vasodilation vessels and blood all over the body and uterus, as well as increase genital uterine blood, minimizing intensity and pain.

Management of pain further is very necessary to reduce the pain experienced. Yoga is selected For overcome dysmenorrhea Because considered as exercise physically able done by whom just, when course, with minimal costs

without use tool certain. Yoga is one of the techniques possible for relaxation that produces the hormone endorphins. Hormone: This can work as a drug sedative naturally produced by the brain, so that produces comfort and reduces pain during contractions. Study this in accordance with the research conducted. According Where results of his research, the scale mean is painful before yoga practice (5.10) and the scale mean is painful after yoga practice (2.55), so it can be concluded that effective yoga movements can overcome pain. lower-scale painful dysmenorrhea with a significance of 0.000 for Al-Fattah Middle School students in Semarang

Posture stretching in yoga practice with the body bent or inclined to the front can be beneficial in making the sensation comfortable and relaxed. One of the benefits of yoga are expedite circulation blood. Stretching consequence movement can launch circulation blood; even adding a small amount of blood to a vessel can launch circulation blood and intake blood to the network. Posture body with flex joints and hips are very good. To release tension in the joints hips, flex hamstring muscles and joints knee, smooth the circulation of blood to the pelvis, and reduce painful periods Through relaxation through yoga, you can stop the production of the hormones estrogen and progesterone sex, as well as the hormone adrenaline stress that can cause pain.

Research results show that after yoga exercises were carried out on students who experienced a painful period, it was proven to lower the scale of pain. Respondents state that the degrees of pain experienced were more reduced, and the back felt more comfortable. Research results show that yoga practice can improve relaxation and decrease pain.

Yoga practice can give impact relaxation as well as control yourself at the moment inconvenience form feeling pain, stress physical and emotional to painful. Practice yoga regularly regular will give very big benefits like increase function gland endocrine in body, shape posture body more sturdy, muscular more flexible and capable increase capacity lungs moment breathe, reduce tension body, mind, and mental as well reduce pain moment menstruation.

Yoga can relieve pain and level tension during excessive pre-menstruation. Training in yoga relaxation is a must, done more often as a complement or alternative therapy. For dysfunction and pain in menstruation. Condition This is in accordance with research conducted that states that yoga practice is effective against symptoms of premenstruation in Taiwan. Yoga has a positive effect; activity wave brain and waves alpha brain connect with circumstances of peace, relaxation, creativity, mood enhancement, and serotonin release, so enhancement rate wave alpha brain shows that participant feels more relaxed afterwards. Condition: This appears because pain is something subjective, and the pain felt can only be described by the individual who experienced it. Condition: This will impact the decline score and intensity of pain in each respondent.

Effect relaxation causes a repair response, nerve-capable parasympathetic responses give rise to the effect of vasodilation vessels in uterine blood, so genre uterine blood increases and uterine contractions decrease. Stimulation mechanoreceptors in the skin and stomach can give rise to relaxation, muscle relaxation, and distraction so that cramps experienced in the stomach reduce. Hence, it can be concluded that yoga practice can lower the intensity of painful dysmenorrhea and give relaxation and distraction.

4. CONCLUSION

Average age student Nursing Bachelor of Science Program Nursing is 20 years. The average scale of painful menstruation in female nursing students at Respati University Yogyakarta before a yoga practice is 5.15. The average scale of painful menstruation in female students nursing at Respati University Yogyakarta after a given yoga practice is 3.00. There is influence of yoga practice against painful menstruation from students of Muhammadiyah 1 Medan Private Middle School.

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