

The Effect Of Yoga Exercises On Dysmenorrhea Pain In Female Adolescents Of Hasyim Asyari Junior High School, Ngawonggo Village, Tajinan District, Malang Regency

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ABSTRACT

Dysmenorrhea is a common issue among adolescent girls during menstruation. This study aimed to evaluate the effect of yoga practice on dysmenorrhea pain among female students at Hasyim Asyari Junior High School in Ngawonggo Village, Tajinan District, Malang Regency. To evaluate the effect of yoga practice on dysmenorrhea pain among female students. This study used a quasi-experimental design with a single pretest-posttest group. The sample included 34 adolescent girls experiencing menstrual pain who met the inclusion criteria. Results indicated significant changes in pain levels post-intervention. Initially, no participants reported pain; however, after the yoga practice, 8.8% experienced pain, with mild pain reported by 58.8% of the students. Moderate pain decreased from 35.3% to 14.7%, and severe pain significantly reduced from 55.9% to 2.9%. In conclusion, yoga practice effectively alleviated dysmenorrhea pain in this population, underscoring the need for health education on menstrual pain management and collaboration with school health workers.

Keywords: Adolescent girls, Desmonire, Yoga

INTRODUCTION

Adolescence is a time of development, marked by the maturation of physical (sexual) organs, leading to the ability to reproduce later. During adolescence, there are several changes, starting from hormonal, physical, psychological, and social changes, where this condition is called puberty. One sign of puberty is menstruationⁱ. Menstruation is the periodic discharge of blood and body cells from the vagina originating from the walls of the uterus in women. Menstruation can also be interpreted as a natural cycle that occurs regularly to prepare a woman's body every month. The average length of menstruation is 3-8 days with an average cycle of 28 days each month, and the maximum limit of the menstrual period is 15 days. As long as the blood that comes out has not exceeded this limit, the blood that comes out is menstrual bloodⁱⁱ.

Menstruation can sometimes pose a pathological risk when associated with disruptions to daily activities. Women often experience discomfort in the lower abdomen. Uterine contractions cause significant pain during the menstrual cycle because the tightening uterus inhibits blood flow to the uterine wall. The nature and severity of the pain vary from mild to severe. This condition can worsen if accompanied by psychological instability, requiring women to leave their jobs and seek rest or medical treatment. This condition is called dysmenorrhea, a symptomatic phenomenon that includes abdominal pain, cramps, backache, and gastrointestinal symptoms such as nausea and diarrhea, which can occur as symptoms of menstruationⁱⁱⁱ. Some menstrual pain can be mild and vague, while others can be severe, with some women even fainting due to the inability to endure it^{iv}.

Dysmenorrhea is experienced by most women worldwide, reaching 1,769,425 cases, with 10–15% experiencing menstrual disorders. More than 50% of women in every country experience dysmenorrhea. Based on 2019 Ministry of Health data, the number of female adolescents aged 10–19 years reached 21 million. In Indonesia, cases of dysmenorrhea are very common, with 54.98% being primary and 9.36% being secondary^v. The prevalence of primary dysmenorrhea in adolescents ranges from 43% to 93%^{vi}. Meanwhile, in 2021, the number of adolescent girls experiencing dysmenorrhea in East Java was 64.25%, consisting of 54.89% primary dysmenorrhea and 9.36% secondary dysmenorrhea³. According to the Central Statistics Agency of East Java Province, the 10-14 year age group consists of 3,034,919 people, and the 15-19 age group consists of 3,077,971 people. And Malang, the 10-14 year age group consists of 60,718 people, while the 15-19 year age group consists of 84,347 people^{vii}.

Based on interviews conducted by researchers on September 16, 2024, with 4 teenagers, they said that every time they menstruate, they definitely experience menstrual pain to the point of feeling weak and sometimes feeling like they want to faint. 2 teenagers often experience abdominal pain, cramps, nausea, and vomiting. Interviews with teenagers when they experience menstrual pain indicate that they have never done yoga to overcome dysmenorrhea. According to the village midwife's statement on September 17, 2025, between August and September 2025, 9 teenagers came complaining of abdominal pain during menstruation; in addition, some even fainted when taken to the PMB.

Dysmenorrhea should not be ignored because it can lead to serious problems, such as disruption of daily life activities, anxiety, and even depression. Dysmenorrhea can be reduced with pharmacological and non-pharmacological treatments. Pharmacological treatment can include taking mefenamic acid, aspirin, and acetaminophen. While non-pharmacological treatments include hypnotherapy, acupuncture, and relaxation. One effective method is yoga^{viii}. Yoga is a technique that teaches relaxation techniques, breathing, and body positions to increase strength, balance, and reduce pain. The frequency of yoga practice can be 10-15 minutes or twice in ten counts, while regulating deep breathing^{ix}. Based on the description of the problem background above, the researcher is interested in formulating a study entitled "The Effect of Yoga on Dysmenorrhea Pain in Adolescent Girls of Hasyim Asyari Junior High School, Ngawonggo Village, Tajinan District, Malang Regency."

METHODS

This study used a one-group pretest–posttest design to examine the effect of yoga on dysmenorrhea pain levels in adolescent girls. This design allows researchers to compare conditions before and after the intervention in the same group.

Population and Sample

The study population was 37 adolescent girls at Hasyim Asyari Junior High School who experienced dysmenorrhea. A sample of 34 respondents was selected through purposive sampling based on the following inclusion criteria: willingness to participate, experience of menstrual pain, and not taking analgesics. Respondents who did not experience pain or were unwilling to participate were excluded from the study.

Research Variables

The independent variable was yoga, while the dependent variable was the level of dysmenorrhea pain.

Research Instruments

The instruments included: 1)demographic data questionnaire; 2)Numeric Rating Scale (0–10) assessment sheet to measure pain intensity; 3)SOP for yoga intervention based on the Acuyoga book.

Research Time and Location

The research was conducted from February 10 to March 17, 2025, in Pandanajeng Village, Tumpang District, Malang Regency.

Data Collection Procedure

The procedure began with obtaining research permits and ethical approval. Respondents were given an explanation of the study and obtained informed consent. Pretest measurements were administered while the respondents were experiencing dysmenorrhea, followed by three 45-minute yoga interventions. After the intervention, posttest measurements were administered. All questionnaires were checked for completeness before analysis.

Data Analysis

Data were analyzed through editing, coding, entry, and tabulation. Univariate analysis was used to describe respondent characteristics and data distribution. Bivariate analysis used a paired t-test, with data normality based on the Shapiro-Wilk test ($\alpha = 0.05$). If the distribution was not normal, the Mann-Whitney test was used. Significance was set at $p < 0.05$.

RESULTS AND DISCUSSION

Respondent characteristic data

Based on the research results, the following respondent characteristics were obtained:

Table 1. Frequency distribution of research respondents based on general data on young women at HASYIM ASYARI JUNIOR HIGH SCHOOL, NGAWONGGO VILLAGE, Tajinan DISTRICT, Malang Regency

Respondent Characteristics	Category	Frequency	Percentage (%)
Age	12 years old	11	32,4%
	13 years old	12	35,3%
	14 years old	7	20,6%
	15 years old	4	11,8%
	Number	34	100%
Menarch	<11 years old	13	38.2
	11-13 years old	19	55.9%
	>13 years old	2	5.9%
	Number	34	100%
Length of Menstruation	1-5 days	23	67.6%
	6-10 Days	11	32.4%
	Number	34	100%
Menstruation day	Day-1	27	79,4%
	Day-2	7	20,6%
	Number	34	100%

The distribution of characteristics shows that most respondents were 13 years old (35.3%), with the majority experiencing menarche between ages 11–13 (55.9%). Most participants had a menstrual duration of 1–5 days (67.6%). In addition, the majority reported experiencing pain on the first day of menstruation (79.4%).

Table 2. Frequency distribution of research respondents based on data specifically for female adolescents at Hasyim Asyari Middle School, Ngawonggo Village, Tajinan District, Malang Regency.

Category	Pre Test		Post Test	
	Frequency	Percentage (%)	Frequency	Percentage (%)
No Pain	0	0%	3	8.8%
Mild Pain	0	0%	20	58.8%
Moderate Pain	12	35.3%	10	29.4%
Severe Pain	19	55.9%	1	2.9%
Extreme Pain	3	8.8%	0	0%
Number	34	100%	34	100%

The pre-test data indicate that most respondents experienced moderate (35.3%) to severe pain (55.9%) before the yoga intervention. Post-test results show a substantial shift, with the majority reporting mild pain (58.8%) and only 2.9% remaining in the severe category. Overall, the intervention reduced the proportions of moderate, severe, and very severe pain, while increasing the categories of no pain and mild pain.

A normality test was conducted to ensure the appropriateness of the subsequent hypothesis testing, as such tests require normally distributed data. Normality was assessed using the Shapiro–Wilk test with a 5% significance level, where a p-value ≥ 0.05 indicates normal distribution. The results showed p-values of 0.000 for both the pre-test and post-test data, indicating that the dataset was not normally distributed.

Table 3. Analysis of the Effect of Yoga on Dysmenorrhea Pain in Female Adolescents of Hasyim Asyari Middle School, Ngawonggo Village, Tajinan District, Malang Regency

Test Statistics ^a	Pain
<i>Mann-Whitney U</i>	81.500
<i>Wilcoxon W</i>	676.500
Z	-6.365
<i>Asymp. Sig. (2-tailed)</i>	.000

a. Grouping Variable: group (Pre test-Post Test)

Analysis using the Mann–Whitney test in IBM SPSS 24.0 produced a p-value of 0.000 ($p \leq 0.05$), leading to the rejection of H₀ and acceptance of H₁. These results indicate a significant effect of yoga on reducing dysmenorrhea pain intensity among the adolescent girls studied.

The Mann–Whitney test using SPSS 24.0 produced a p-value of 0.000 ($p \leq 0.05$), indicating a significant effect of yoga on reducing dysmenorrhea pain among the participants. Post-intervention findings showed a substantial shift from moderate–very severe pain to predominantly mild or no pain, reflecting the subjective nature of pain perception and the physiological benefits of yoga in reducing prostaglandin-induced uterine ischemia. These results align with previous studies, supporting yoga as an effective non-pharmacological strategy to relieve menstrual pain through muscle relaxation, improved pelvic blood flow, and increased endorphin release^x.

CONCLUSION

The study concludes that before the yoga intervention, adolescent girls at SMP Hasyim Asyari experienced dysmenorrhea ranging from mild to very severe pain. After the yoga intervention, pain intensity decreased, with many participants reporting mild or no pain.

Overall, the findings indicate that yoga has a significant effect in reducing dysmenorrhea among these adolescents.

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