

EFFECTIVENESS OF YOGA CHILD POSE ON ALLEVIATING MENSTRUAL PAIN IN FEMALE ADOLESCENTS

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ABSTRACT

Background: Menstrual pain, or dysmenorrhea, arises from heightened prostaglandin production, leading to uterine cramps. This discomfort can interfere with daily activities. One recommended non-pharmacological approach to relieve this condition is practising the child's pose in yoga. This study aims to assess the effectiveness of this pose in reducing menstrual discomfort among students.

Methods: The research was conducted at SMPN 2 Pamulihan during the period of July through August. This study employed a pre-experimental design with a one-group pretest-posttest approach. The participants were 7th and 8th grade junior high school students experiencing primary dysmenorrhea who met the inclusion and exclusion criteria. Pain assessment was conducted using the Numeric Rating Scale (NRS), a validated and widely accepted instrument for evaluating pain levels. The yoga intervention was implemented based on established Standard Operating Procedures (SOP) to ensure consistency and adherence to protocol. Data were analysed using univariate and bivariate analyses, with the Wilcoxon test applied to assess the differences between pretest and posttest results.

Results: Prior to the intervention, 25 participants (69.4%) experienced mild pain. Following the yoga sessions, 26 students (72.2%) reported mild pain. Statistical analysis revealed a significant difference before and after the intervention ($p = 0.000 < 0.05$), indicating the potential of child's pose yoga as a non-pharmacological method for easing dysmenorrhea.

Conclusion: The child's pose yoga technique shows promise in managing menstrual discomfort among adolescents, serving as a viable non-pharmacological alternative.

Keywords: child pose, dysmenorrhea, female adolescents, yoga

INTRODUCTION

Adolescence is defined as the period between the ages of twelve and twenty-four, according to the World Health Organization (WHO). In most cases, this term denotes the timeframe between the start of puberty and the attainment of adulthood, which generally begins at age 12 for girls and 14 for boys. Girls experience menstruation as a sign of adolescence (Aryani et al., 2018). Menstruation is a physiological process characterized by the cyclical expulsion of blood from the uterine lining, signifying the functional maturation of the female reproductive system. Adolescents typically experience menarche between the ages of 12 and 16. Normally, the menstrual cycle lasts about 28-35 days, with a bleeding

duration of 2-7 days. Women may experience pain during menstruation, known as dysmenorrhea (Amborowati et al., 2022).

Dysmenorrhea is defined as a physical disorder that occurs in adolescent girls during the menstrual phase, which is often marked by the presence of abdominal discomfort and cramping sensations. The age range of 15-25 is identified as a critical period where primary dysmenorrhea peaks (Julaecha, 2019). Dysmenorrhea is divided into two categories: primary and secondary. Primary dysmenorrhea is commonly identified by pain localized in the lower abdominal region, which may extend to the lower back. Furthermore, primary dysmenorrhea can also cause symptoms such as nausea, vomiting, headaches, and others (Sari et al., 2023). Secondary dysmenorrhea refers to menstrual pain that arises due to structural or pathological abnormalities within the reproductive organs, usually occurring in women over 30 years of age (McKenna & Fogleman, 2021).

Dysmenorrhea affects a substantial proportion of the global female population, with approximately 50% of women experiencing this condition. The World Health Organization (WHO) reported in 2016 that approximately 1,769,425 women, or 90% globally, experienced severe menstrual disorders (Dwiyanti et al., 2022). In Indonesia, the prevalence of dysmenorrhea reaches 64.25%, comprising 54.89% with primary dysmenorrhea and 9.36% with secondary dysmenorrhea. (McKenna & Fogleman, 2021). In West Java, the prevalence of dysmenorrhea is also notably high, affecting 54.9% of individuals. Among these cases, 24.5% are classified as mild, 21.28% as moderate, and 9.36% as severe. (Dzihna Karima et al., 2021). According to data from the National Health and Nutrition Examination Survey (2015), the average age of menstruation in Indonesian adolescents is around 13 years (Rossarila et al., 2021).

Menstrual pain in adolescents ranges from 43% to 93% in prevalence, with 78-80% experiencing mild pain. Meanwhile, pelvic pain in adolescents is around 25-38%. Menstrual pain experienced by adolescents can cause stress and mental health problems (Rossarila et al., 2021). Dysmenorrhea is a condition that can have detrimental impacts on adolescents' lives, including disruptions in various activities, decreased academic performance, sleep disturbances, impaired performance, negative moods, and an increased risk of anxiety and depression. Consequently, dysmenorrhea can disrupt adolescents' daily routines (Evana et al., 2025). Primary dysmenorrhea occurs not due to a physical disorder of the reproductive organs, but rather due to uterine muscle spasms triggered by excessive production of prostaglandins. These substances stimulate contractions in the uterine wall and cause narrowing of the surrounding blood vessels, resulting in a lack of oxygen supply to the tissues and pain during menstruation. This factor makes adolescent girls of childbearing age susceptible to primary dysmenorrhea (Gustina & Safitri, 2023). The management of dysmenorrhea involves a combination of pharmacological and non-pharmacological therapies. Medication-based treatment commonly involves the administration of nonsteroidal anti-inflammatory drugs (NSAIDs), including agents like mefenamic acid and ibuprofen, while non-pharmacological treatment typically includes warm compresses, aromatherapy, massage, herbal drinks, yoga, and relaxation therapies (such as acupuncture and acupressure) (Tresiana et al., 2023). Efforts to relieve menstrual pain also focus on non-pharmacological approaches, which are often more accessible to younger women. One such approach is yoga. The goal of yoga is to unify the physical, mental, and spiritual self. Yoga is a practice that combines breathing exercises, meditation, relaxation, and stretching. Some people find that practicing yoga helps relieve menstrual cramps (Widiastuti & Setiyabudi, 2020).

Moreover, yoga's relaxation techniques may promote the production of endorphins and enkephalins in the body, which function as natural pain relievers. By diligently practicing

yoga, blood circulation can be improved, thereby minimizing pain. Due to its ease of implementation, requiring only muscle and breathing engagement without special equipment, yoga is often a preferred option among researchers (Dwi Hareni et al., 2023). There are several yoga poses to relieve menstrual pain (dysmenorrhea), including the lotus pose, cobra pose, child's pose, wind-relevant pose, reclining spinal twist, and corpse pose. The child's pose, or *balasana*, is a yoga posture that can help relieve tension, fatigue, back pain, neck discomfort, and other symptoms by gently widening the hips, thighs, and ankles. (Amalia (2015:76), (Dwi Hareni et al., 2023). Child's pose yoga can be beneficial in minimizing hip pain and triggering feelings of relaxation and calm (Widiastuti & Setiyabudi, 2020). Previous research has highlighted that yoga is one way to manage menstrual pain, or dysmenorrhea. Research findings have validated this claim which revealed that applying yoga techniques to manage dysmenorrhea in adolescents has proven effective for adolescent girls as a first-line treatment for menstrual pain without resorting to pharmacological medications (Triyani et al., 2021),

The Child's Pose yoga movement is widely used because it is easy and effective, and can help improve body balance. This movement can also support emotional balance, reduce stress, and help alleviate pain. Consequently, exercises such as movements that elongate the lower back and open the hips are beneficial for minimizing hip pain and can induce feelings of relaxation and calm, which can be beneficial in reducing dysmenorrhea. Research indicates that the Child's Pose yoga movement has an impact on dysmenorrhea pain levels, as it can reduce pain caused by dysmenorrhea. (Widiastuti & Setiyabudi, 2020),

RESEARCH METHOD

This type of study is included in the quantitative research category using the Pre-Experimental method with a research design involving pre-and post-intervention measurements on a single group. One Group Pretest Posttest is a type of research in which an initial measurement (pretest) is first carried out on a group of subjects who are then given treatment, and then followed by a final measurement (posttest) on the level of menstrual pain in female adolescents by giving Yoga Child Pose. The population of this study were female adolescents in grades 7 & 8 at SMPN 2 Pamulihan, Sumedang Regency. In this study, the sampling method applied in this study was purposive sampling. Sampling was conducted using a defined sampling method. The inclusion criteria in this study were students who experienced primary dysmenorrhea and were willing to participate as respondents. The exclusion criteria were students who were taking pain medication and those who had complaints related to reproductive health. There were 36 eligible respondents who participated in the intervention. The selected sample must meet the sample criteria: students who are willing to be respondents, students who experience primary dysmenorrhea (not accompanied by disease), and students who do not have injuries to the knees, shoulders, and neck. This study employed the Numeric Rating Scale (NRS) as the primary instrument for pain assessment. Participants were instructed to rate their pain on a scale from 0 to 10, where 0 represented no pain and 10 denoted the most severe pain imaginable. The yoga intervention was administered in alignment with established Standard Operating Procedures (SOP). The child's pose yoga intervention was performed twice daily for 30 minutes each session. This movement can be performed at any time or during menstrual pain. (Ina S, 2024). This research has received ethical approval with the reference number 177/09.KEPK/UBK/VIII/2024.

RESULTS

Referring to Table 1 the results showed that the majority of respondents continued to experience menstrual pain (dysmenorrhea) even after undergoing the yoga child pose intervention, with the highest level of pain being mild pain (26 respondents (72.2%)), while a small proportion experienced no pain (7 respondents (19.4%)), and a small proportion experienced moderate pain (3 respondents (8.3%)). The Level of Menstrual Pain (Dysmenorrhea) After the Yoga Child Pose Intervention.

Table 1. Frequency Distribution of Menstrual Pain Levels (Dysmenoreia) Before Child Pose Yoga Intervention

Menstrual Pain Level (Dysmenore)	Frequency (f)	Percentase (%)
No Pain (0)	0	0
Mild Pain (1-3)	25	69,4
Moderate Pain (4-6)	11	30,6
Severe Pain (7-10)	0	0
Total	36	100

Referring to Table 2, it was found that most respondents experienced menstrual pain (dysmenorrhea) after being given the yoga child pose, with the highest level of pain being mild pain (26 respondents (72.2%)), and A minority of participants reported no pain, with 7 individuals (19.4%), while a smaller portion experienced moderate pain, accounting for 3 respondents (8.3%)

Table 2 Frequency Distribution of Menstrual Pain Levels (Dysmenorrhea) After Child Pose Yoga Intervention

Menstrual Pain Level (Dysmenore)	Frekuensi (f)	Presentase (%)
No Pain (0)	7	19,4
Mild Pain (1-3)	26	72,2
Moderate Pain (4-6)	3	8,3
Severe Pain (7-10)	0	0
Total	36	100

Table 3 presents the results of a comparison between pre- and post-intervention menstrual pain scores among adolescent girls who practiced Child's Pose yoga.

Table 3. Effectiveness of the Yoga Child Pose in Managing Dysmenorrhea Among Teenage Girls at SMPN 2 Pamulihan, Sumedang Regency

Menstrual Pain Level (Dysmenorrhea)	Mean (Min–Max)	Standard Deviation	Median	p-value	Effect Size (r)	95% Confidence Interval
Before	2.31 (2–3)	0.467	2.00	0.000	0.62	[0.44 – 0.76]
After	1.89 (1–3)	0.523	2.00	0.000	0.62	[0.44 – 0.76]

The mean pain score before the intervention was 2.31 (range: 2–3) with a standard deviation of 0.467, while after the intervention, the mean score decreased to 1.89 (range: 1–3) with a standard deviation of 0.523. Although the median score remained constant at 2.00, the decrease in the mean score reflects a noticeable reduction in perceived pain intensity following the intervention. The Wilcoxon Signed-Rank test produced a p-value of 0.000, indicating a statistically significant difference between the pain levels before and after the yoga intervention ($p < 0.05$). The effect size ($r = 0.62$) suggests a moderate to strong impact, based on Cohen's criteria, and the 95% confidence interval [0.44 – 0.76] reinforces the consistency and reliability of this effect.

DISCUSSION

Most respondents (69.4%) reported mild menstrual pain, and nearly half (30.6%) experienced moderate pain. Theory, pain is a subjective discomfort, and the level and experience of pain can vary from person to person (Gulo et al., 2023). Mubarak (2007) defines pain as a feeling of discomfort, whether mild or severe (Miri et al., 2024). Dysmenorrhea is not caused by a disorder of the reproductive organs, but rather by uterine muscle spasms triggered by excessive prostaglandin production, resulting in menstrual pain (Gustina & Safitri, 2023). Menstrual pain (dysmenorrhea) generally begins around 1–2 days before a woman's period starts (Ariani et al., 2022). This pain often peaks during the first 24 hours of menstruation and then begins to subside on the second day of menstruation. Pain sensitivity varies among individuals. Menstrual pain (dysmenorrhea) is caused by increased levels of prostaglandins in a woman's body during menstruation. These prostaglandins play a role in stimulating endometrial muscle contractions. Consequently, the higher the prostaglandin concentration, the stronger the contractions in the endometrium. As a result, blood vessels narrow, or the endometrium experiences vasoconstriction, which causes ischemia, or an Oxygen deficiency inside the circulatory vessels, which causes pain. Meanwhile, Post intervention menstrual pain levels after performing Child's Pose yoga were found to be mostly mild (72.2%), with a small number experiencing no pain (19.4%), and moderate pain (3 respondents, 8.3%). Yoga is one of the best ways to relax and reduce discomfort. One recommended method for relieving menstrual pain is yoga (Widiastuti & Setiyabudi, 2020). Furthermore, the body may produce pain-inhibiting chemicals called endorphins and enkephalins when practicing yoga relaxation. Regularly practicing yoga helps improve blood circulation, thereby relieving pain. Yoga is not only accessible at any time but also engages the respiratory and muscular systems without the need for special equipment (Nia Desriva et al., 2022). Menstrual discomfort can be reduced with this therapeutic approach.

The analysis of the effectiveness of the Child's Pose yoga in alleviating menstrual pain among adolescents revealed that the average dysmenorrhea score prior to the intervention was 2.31, with a minimum score of 2 and a maximum of 3. After the implementation of the yoga intervention, the mean score decreased to 1.89, ranging from 1 to 3. Results of the Wilcoxon test indicated a p-value of 0.000 (<0.05), signifying a statistically significant difference in menstrual pain intensity before and after the Child's Pose yoga was administered. This occurs because pain is inherently subjective, and its intensity can only be accurately conveyed by the person experiencing it. Yoga alleviates pain by incorporating relaxation techniques, which can activate the release of endorphins and enkephalins, natural analgesic compounds that help diminish the perception of pain. Yoga contributes to pain reduction through its ability to elevate prostaglandin levels and promote vasodilation, which in turn helps relax contracted endometrial muscles and improve blood circulation, factors that collectively alleviate menstrual discomfort. In addition, yoga modulates pain

perception, fostering a calmer psychological state that facilitates recovery from painful sensations. Regular and consistent physical movements during yoga enhance blood flow, further supporting pain relief (Nia Desriva et al., 2022). Following the implementation of the Child's Pose yoga technique to address menstrual pain (dysmenorrhea), a notable reduction in pain intensity was observed. This improvement is attributed to the stimulation of the spinal cord during yoga practice, which induces the release of endorphins—natural neurochemicals with sedative effects that promote comfort. Evidence indicates that yoga can increase endorphin levels in the bloodstream by three to five times. Consequently, engaging in yoga, including the Child's Pose, correlates with heightened endorphin production. These endorphins are then absorbed by receptors in the hypothalamus and limbic system, regions of the brain that regulate emotional responses. Elevated endorphin levels are associated not only with pain relief but also with enhancements in memory, appetite, sexual function, blood pressure regulation, and respiration (Cahyati et al., 2022). Hasil ini sejalan dengan penelitian terbaru yang menunjukkan bahwa intervensi yoga secara teratur dapat meningkatkan toleransi terhadap nyeri dengan mengurangi kadar prostaglandin serta meningkatkan keseimbangan otonom sistem saraf (Fitria et al., 2023). Selain itu, praktik yoga juga terbukti menurunkan stres dan kecemasan yang merupakan faktor risiko dalam memperburuk dismenore (Mei et al., 2024).

CONCLUSION

This study provides evidence that the Child's Pose yoga technique has a meaningful impact in reducing mild to moderate menstrual pain in adolescent girls. The findings highlight that non-pharmacological interventions such as yoga can serve as effective alternatives for managing dysmenorrhea, particularly within the context of school-aged adolescents. By stimulating the release of endorphins and promoting muscle relaxation, this technique contributes to greater menstrual comfort and overall well-being. The study offers a valuable contribution to the field of midwifery and adolescent reproductive health by demonstrating that Child's Pose, as part of a simple and accessible yoga routine, can be implemented as a low-cost, non-invasive intervention. Its practical nature makes it especially suitable for use in school or community-based settings. Moreover, the intervention holds educational and promotive value by raising adolescents' awareness of natural, healthy options for pain management, reducing reliance on pharmacological treatments.

RECOMMENDATIONS

Recommendations for future researchers include developing this study further by considering additional variables such as stress levels, physical activity, and sleep patterns, which may influence the severity of menstrual pain. It is also recommended to conduct the intervention over a longer period and involve a control group to strengthen the scientific validity of the results. Future studies may also expand the subject population to include more diverse groups in order to enhance the generalizability of the findings.

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