Indonesian Journal of Global Health Research
Volume 8 Number 2, April 2026
e-ISSN 2715-1972; p-ISSN 2714-9749
https://jurnal2.globalhealthsciencegroup.com/index.php/IJGHR

REDUCING DYSMENORRHEA IN ADOLESCENT GIRLS WITH YOGA AND BENSO RELAXATION

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ABSTRACT
The majority (70-93%) of adolescents experience discomfort related to menstruation. It has been reported that 90% of menstruating adolescents experience menstrual pain, and 21% of these experience severe pain. Their quality of life and participation in school, sports, and social activities are all affected. Dysmenorrhea leads to decreased quality of life, absenteeism, and an increased risk of depression and anxiety. Up to half of patients with dysmenorrhea miss school or work at least once, and 10% to 15% experience regular absences during menstruation. To find out decrease in dysmenorrhea in adolescent girls with yoga and Benson relaxation. Using the true experimental design method using one group design, pretest-posttest design, sampling technique using purposive sampling. The number of samples in this study is 30 samples. The adolescent girls' dysmenorrhea scale was measured using the Numeric Rating Scale (NRS) before and after treatment, data analysis is carried out univariately to describe the frequency distribution and bivariately using the Wilcoxon test. The results of the Wilcoxon signed rank test statistical test show a value of $\rho < 0.001$, which means that there is a decrease in dysmenorrhea in adolescent girls with yoga and Benson relaxation. Decrease in dysmenorrhea in adolescent girls with yoga and Benson relaxation.

Keywords: adolescent girls; benson relaxation; dysmenorrhea; yoga

How to cite (in APA style)
Sam, K. L. N., & Sasanti, D. A. (2026). Reducing Dysmenorrhea in Adolescent Girls with Yoga and Benso Relaxation. *Indonesian Journal of Global Health Research*, *8*(2), 1101–1108. https://doi.org/10.37287/ijghr.v8i2.1718.

INTRODUCTION

"Dysmenorrhea" comes from a Greek root word meaning difficult menstrual flow (Burnett & Lemyre, 2017). Dysmenorrhea, also called menstrual cramps, is a cyclic pain in the lower abdomen such as the uterus and pelvic area, which also radiates to the back of the thighs, usually occurring before or during menstruation or even throughout menstruation. It is the most common gynecological condition, affecting 50-90% of women of reproductive age worldwide (Iacovides et al., 2015; Koçoğlu et al., 2025; S et al., 2024; Samba Conney et al., 2019). Additional symptoms of dysmenorrhea include bloating, headache, nausea, fatigue, and sleep disturbances, which usually last for 24–48 hours (Yildirim et al., 2025). Women may experience various menstrual problems during the period from puberty to menopause (Kirmizigil & Demiralp, 2020). Dysmenorrhea is an important topic in adolescent medicine because of its significant impact on the quality of life of adolescent and young adult women (Gutman et al., 2022). The majority (70-93%) of adolescents experience discomfort related to menstruation (Sachedina & Todd, 2020). It has been reported that 90% of menstruating adolescents experience menstrual pain, and 21% of these experience severe pain. Their quality of life and participation in school, sports, and social activities are all affected (Munro & Grover, 2024). Dysmenorrhea leads to decreased quality of life, absenteeism, and an increased risk of depression and anxiety. Up to half of patients with dysmenorrhea miss school or work at least once, and 10% to 15% experience regular absences during menstruation (McKenna & Fogleman, 2021). Therefore, it is necessary to make efforts to treat dysmenorrhea in adolescent girls.

Conventional medical therapy for dysmenorrhea involves prescribing oral contraceptive pills or nonsteroidal anti-inflammatory drugs. However, not all women are able or choose to take medication. Alternatives to conventional medical therapies, such as transcutaneous electrical nerve stimulation, acupuncture, acupressure, behavioral interventions, relaxation, and herbal and dietary therapies, are gaining popularity due to their minimal or even no side effects (Chien et al., 2013). Another way to reduce dysmenorrhea is through non-pharmacological therapies, such as Yoga and Benso relaxation. Yoga, a form of physical activity involving various postures, breathing techniques, and meditation, has been shown to have therapeutic benefits for individuals with various health conditions, including chronic pain (Chien et al., 2013). In a recent survey, approximately 21 million Americans reported practicing yoga in the past year. Data from this national health survey showed that 51% of this sample attended yoga classes. Reasons given for yoga were increased energy (66%), improved immune function (50%), and health and disease prevention (28%). Top conditions experienced included back pain (20%), arthritis (6%), and stress (6%) (Field, 2016).

Yoga has been reported in studies to help people with low back pain, reducing pain and disability (Chhikara et al., 2023). Yoga improves core strength, flexibility and lower back stabilization, which are important in relieving chronic lower back pain, improving physical fitness and also relieving stress (Singh, 2014; Yonglitthipagon et al., 2017). Yoga is recommended as an easy-to-use, non-invasive technique for the management of musculoskeletal pain of various causes because it is safe, economical, and has few or no side effects (Chhikara et al., 2023) Yoga appears to be an effective treatment for primary dysmenorrhea (Rakhshaee, 2011). Furthermore, the Benson relaxation technique is one way to deal with pain accompanied by using deep breathing methods and saying words according to each individual's beliefs (Vanty & Sari, 2023). Benson relaxation has the same effect as other types of relaxation on dysmenorrhea. The Benson relaxation process helps the body relax, thereby stopping the production of adrenaline and all other hormones needed during stress. This occurs because the sex hormones estrogen and progesterone, as well as the stress hormone adrenaline, are produced from the same chemical building blocks. When someone reduces stress, the production of these two sex hormones is reduced. Benson relaxation allows the body to produce hormones essential for pain-free menstruation (Lestari Puji Astuti, Putri Kusuma Wardhani, 2018). The aim of the study was to determine the reduction in dysmenorrhea in adolescent girls using Yoga and Benson Relaxation.

METHOD

This research uses a true experimental design method using one group design, pretest-posttest design. The population of this study was all adolescents at SMAN 6 Balikpapan in 2025. The sample in this study was adolescents in grades X-XII who experienced dysmenorrhea. The sample was an intervention group with yoga and benso relaxation of 30 respondents. The study was conducted from December 2025 to February 2026. The sampling technique used purposive sampling. The inclusion criteria for this study were adolescents with dysmenorrhea and adolescent girls who were not taking painkillers. The exclusion criteria for this study were adolescent girls with secondary dysmenorrhea or diseases related to the reproductive system. The adolescent girls' dysmenorrhea scale was measured using the Numeric Rating Scale (NRS) before and after treatment. The Numeric Rating Scale (NRS) has been standardized and is often used to assess pain, so its validity and reliability have been tested. The research instruments were Research SOPs and Numeric Rating Scale (NRS) in the Yoga and Benson relaxation interventions. Data analysis was carried out univariately to describe the frequency distribution and bivariately using the Wilcoxon test to see Reducing Dysmenorrhea in Adolescent Girls with Yoga and Relaxation Benson. This research has received ethical approval with number 3982/F/KEP/USM/XI/2025 from Sari Mutiara Indonesia University.

RESULT

This research uses a true experimental design method using one group design, pretest-posttest

design. The population of this study was all adolescents at SMAN 6 Balikpapan in 2025. The sample in this study was adolescents in grades X-XII who experienced dysmenorrhea. The sample was an intervention group with yoga and benso relaxation of 30 respondents. The study was conducted from December 2025 to February 2026. The sampling technique used purposive sampling. The inclusion criteria for this study were adolescents with dysmenorrhea and adolescent girls who were not taking painkillers. The exclusion criteria for this study were adolescent girls with secondary dysmenorrhea or diseases related to the reproductive system. The adolescent girls' dysmenorrhea scale was measured using the Numeric Rating Scale (NRS) before and after treatment. The Numeric Rating Scale (NRS) has been standardized and is often used to assess pain, so its validity and reliability have been tested. The research instruments were Research SOPs and Numeric Rating Scale (NRS) in the Yoga and Benson relaxation interventions. Data analysis was carried out univariately to describe the frequency distribution and bivariately using the Wilcoxon test to see Reducing Dysmenorrhea in Adolescent Girls with Yoga and Relaxation Benson. This research has received ethical approval with number 3982/F/KEP/USM/XI/2025 from Sari Mutiara Indonesia University.

Result

Table 1.
Respondent Characteristics Based on Age (n=30)

Age	f	%
14-16 years old	15	50
17-19 years old	15	50

Table 1 shows the age characteristics of respondents, namely 14-16 years old and 17-19 years old, each amounting to 15 (50%) respondents.

Table 2.
Respondent Characteristics Based on Menstrual Cycle Length (n=30)

Menstrual Cycle Length	f	%
< 28 days	4	13,3
28 days	8	26,7
> 28 days	18	60

Table 2 shows the characteristics of respondents based on the length of the menstrual cycle, namely < 28 days totaling 4 (13.3%) respondents, 28 days totaling 8 (26.7%) respondents and > 28 days totaling 18 (60%) respondents.

Table 3.
Respondent Characteristics Based on Menstrual Duration (n=30)

Menstrual Duration	**f**	**%**
< 7 days	3	10
7 days	12	40
> 7 days	15	50

Table 3 shows the characteristics of respondents based on the length of menstruation, namely < 7 days amounted to 3 (10%) respondents, 7 days amounted to 12 (40%) respondents and > 7 days amounted to 15 (50%) respondents.

Table 4.
Respondent Characteristics Based on the Day of Dysmenorrhea (n=30)

Dysmenorrhea Period Day	**f**	**%**
First day	11	36,7
First Day and beyond	19	63,3

Table 4 shows the characteristics of respondents based on the day of onset of dysmenorrhea, namely that dysmenorrhea occurred most frequently on the first day and thereafter with a total of 19 (63.3%) respondents, while dysmenorrhea that occurred on the first day was 11 (36.7%) respondents.

Table 5.
Reduction of Dysmenorrhea in Adolescent Girls with Yoga and Relaxation Benson

Variable	N	z	ρ
Yoga and Relaxation Benson	30	-4,099	0.000

Based on table 5, the results of the Wilcoxon signed rank test show that the value of ρ < 0.001 means that there is a decrease in dysmenorrhea in adolescent girls with yoga and Benson relaxation.

DISCUSSION

Characteristics of the participants

Table 1 shows the age characteristics of the respondents, namely 15 (50%) respondents aged 14-16 years and 17-19 years, respectively. This is in accordance with research from Riona, 2021, which states that early adolescence in a girl who has just started menstruating will experience severe menstrual pain (dysmenorrhea) because the cervix has not yet dilated, so that in early adolescence the occurrence of dysmenorrhea is often found. Other factors such as stress due to the large amount of schoolwork cause pressure on the sensation of the nerves in the hips and lower back muscles, causing severe dysmenorrhea (Septi Riona, Helni Anggraini, 2021). Therefore, the researcher's suggestion for young women and parents is to learn techniques for reducing dysmenorrhea.

Table 2 shows the characteristics of respondents based on menstrual cycle length, with the most common menstrual cycle length being >28 days, totaling 18 (60%). According to Mau's 2020 study, prolonged menstrual cycle length (menstrual cycle >35 days) is the most common cause of dysmenorrhea in female students at SMAN 1 Manado. Menstrual cycle length is influenced by a higher body mass index, late age at menarche, and heavy physical activity and stress (Mau et al., 2020). The menstrual cycle is calculated from the first day of menstruation to exactly the first day of menstruation the following month. This cycle varies from one woman to another. This means it varies from 18 to 40 days, with an average of 28 days. However, only about 10-15% of women have a 28-day cycle. Meanwhile, a normal menstrual cycle occurs every 21-35 days, with periods lasting approximately 3-7 days. According to experts, a woman will experience 500 periods during her lifetime (Wardani et al., 2021).

Table 3 shows the characteristics of menstrual duration in respondents, with the most frequent duration being >7 days, amounting to 15 (50%). According to Qoriaty's 2016 research, there is a significant relationship between menstrual duration and the occurrence of dysmenorrhea. The longer the menstruation, the more frequent the uterine contractions, resulting in more prostaglandin hormone release. Excessive prostaglandin hormone causes pain during menstruation (Nurul Indah Qoriaty, 2016).

Table 4 shows the characteristics of respondents based on the day of onset of dysmenorrhea, namely that dysmenorrhea occurred most frequently on the first day and thereafter, with a total of 19 (63.3%) respondents. There has been no further research measuring the relationship between the day of onset of dysmenorrhea and the incidence of dysmenorrhea.

Effectiveness of Yoga

Based on Table 4.5, the Wilcoxon signed rank test shows a ρ value of <0.001, indicating a decrease in dysmenorrhea in adolescent girls with yoga and Benson relaxation. This research is supported by several studies showing that yoga can reduce pain in the short to medium term (Zhu et al., 2020), provides benefits for chronic non-specific low back pain in the short and long term (Goode et al., 2016), effective for functional changes and back pain (Saper et al., 2017), improve balance (Myers et al., 2020), improvement in cognitive appraisal of pain (Marshall et al., 2022), and slow-moving yoga is effective in increasing flexibility (Field, 2016).

Yoga also improves the cardiopulmonary system by lowering heart rate and blood pressure, and increasing breathing capacity. Yoga has been shown to reduce an overactive autonomic nervous system (the "fight or flight response") and can help alleviate many of the comorbidities (the presence of two or more chronic diseases or conditions) of chronic pain, including anxiety, stress, depression, and feelings of inadequacy. Yoga can also help someone overcome pain catastrophizing (believing something is much worse than it really is) and change their perspective on living with chronic pain (Singh, 2014).

Yoga intervention is associated with a reduction in the severity of dysmenorrhea and may be effective in lowering serum homocysteine levels after an 8-week intervention period, is safe and effective in reducing menstrual symptoms and depression, improving quality of life, increasing physical fitness and body awareness, treating the primary symptoms of dysmenorrhea, reducing the severity and duration of primary dysmenorrhea (Chhikara et al., 2023; Chien et al., 2013; Günebakan & Acar, 2023; Rakhshaee, 2011; Yonglitthipagon et al., 2017).

Effectiveness of Benson Relaxation

The results of the study showed that Benson Relaxation can reduce premenstrual syndrome by reducing symptoms, improving quality of life and reducing stress (Raipure & Patil, 2023a), and reduce the discomfort of dysmenorrhea (Raipure & Patil, 2023b). The Benson relaxation technique is one way to deal with pain, accompanied by using deep breathing methods and saying words according to each individual's beliefs (Vanty & Sari, 2023). Benson relaxation has the same effect as other types of relaxation on dysmenorrhea. The Benson relaxation process helps the body relax, thereby stopping the production of adrenaline and all other hormones needed during stress. This occurs because the sex hormones estrogen and progesterone, as well as the stress hormone adrenaline, are produced from the same chemical building blocks. When someone reduces stress, the production of these two sex hormones is reduced. Benson relaxation allows the body to produce hormones essential for pain-free menstruation (Lestari Puji Astuti, Putri Kusuma Wardhani, 2018).

Benson's Relaxation Steps:

1. Advise the client to take the position that feels most comfortable, either lying down or sitting.
2. Close your eyes slowly without forcing it, so that there is no muscle tension around the eyes.
3. Relax your muscles as much as possible, starting with your feet, calves, thighs, and stomach, and working your way up through your body. Extend your hands and arms, then relax them and let them hang naturally. Try to stay relaxed.
4. Choose the words to be spoken according to your beliefs.
5. Begin by breathing slowly and naturally, silently reciting your chosen words as you inhale and repeating them as you exhale. Relax your entire body with an attitude of surrender.
6. Repeat point 4 continuously for 10-15 minutes

CONCLUSION

Decrease in dysmenorrhea in adolescent girls with yoga and Benson relaxation

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