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# THE EFFECT OF YOGA ON REDUCING ANXIETY LEVELS IN THE MENSTRUAL CYCLE OF ADOLESCENT FEMALES: A LITERATURE REVIEW

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# ABSTRAK : PENGARUH YOGA TERHADAP PENURUNAN TINGKAT KECEMASAN PADA SIKLUS MENSTRUASI REMAJA PUTRI : TINJAUAN PUSTAKA

Latar Belakang: Setiap bulan perempuan berusia 12–49 tahun (WUS), tidak sedang hamil dan belum menopause mengalami menstruasi. Pada saat menstruasi masalah yang dialami banyak wanita adalah rasa tidak nyaman atau rasa nyeri. Perubahan fungsi sistem syaraf otonom selama fase luteal menstruasi berhubungan dengan gejala psikosomatik pada fase menstruasi. Alternatif preventif untuk meningkatkan kesehatan perempuan adalah dengan melakukan yoga. Yoga memberikan manfaat pada kesehatan fisik dan mental melalui pengaturan sumbu HPA (Hipothalamus Pitutari Adrenal) dan System Syaraf Simpatis, meningkatkan aktifitas parasimpatis, menurunkan tekanan darah menurunkan stress dan tingkat kecemasan. Gerakan-gerakan fisik dari yoga merangsang, menguatkan tubuh serta meningkatkan sirkulasi darah. Organ-organ panggul, otot-otot perineal dan panggul menjadi lebih sehat, mendapatkan asupan oksigen, sehingga vaskularisasi menuju organ reproduksi menjadi optimal.

Tujuan: Mengetahui pengaruh Yoga terhadap penurunan tingkat kecemasan pada siklus menstruasi remaja putri.

Metode: Desain penelitian ini menggunakan systematic literature review yang bersumber dari EBSCO, ProQuest, Science Direct and PubMed dengan jangka waktu terbit 10 tahun..

Hasil: penelitian ini menemukan bahwa yoga dapat menurunkan tingkat kecemasan pada siklus menstruasi remaja putri.

Kesimpulan: Yoga mempunyai pengaruh yang efektif terhadap penurunan tingkat kecemasan pada siklus menstruasi remaja putri.

Saran: Pemberian treatment yoga dapat direkomendasikan sebagai tindakan non farmakologi dan terapi komplementer untuk menurunkan tingkat kecemasan dengan biaya yang murah, resiko sedikit, manfaatnya lebih besar dan efektif serta sangat sesuai untuk remaja perempuan yang menginginkan aktivitas ringan dan mudah.

Kata Kunci : Menstruasi; Remaja Putri; Tingkat Kecemasan; Yoga

#### **ABSTRACT**

Background: Every month women aged 12–49 years (WUS), not pregnant and not yet menopausal experience menstruation. During menstruation, the problem experienced by many women is discomfort or pain. Changes in the function of the autonomic nervous system during the luteal phase of menstruation are related to psychosomatic symptoms during the menstrual phase. A preventive alternative to improve women's health is to do yoga. Yoga provides benefits to physical and mental health through regulation of the HPA axis (Hypothalamus Pituitary Adrenal) and the Sympathetic Nervous System, increasing parasympathetic activity, lowering blood pressure, reducing stress and anxiety levels. The physical movements of yoga stimulate, strengthen the body and improve blood circulation. The pelvic organs, perineal and pelvic muscles become healthier, get oxygen intake, so that vascularization to the reproductive organs becomes optimal.

Purpose: To determine the effect of Yoga on reducing anxiety levels in the menstrual cycle of adolescent girls .

Methods: This research design uses a systematic literature review sourced from EBSCO, ProQuest, Science Direct and PubMed with a publication period of 10 years.

Results: This study found that yoga can reduce anxiety levels in the menstrual cycle of adolescent girls. Conclusion: Yoga has an effective influence on reducing anxiety levels in the menstrual cycle of adolescent girls.

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Suggestions: Yoga treatment can be recommended as a non-pharmacological action and complementary therapy to reduce anxiety levels at a low cost, with minimal risk, greater benefits and effectiveness and is very suitable for adolescent girls who want light and easy activities.

Keywords: : Adolescent Girls; Anxiety Level; Menstruation; Yoga

### INTRODUCTION

Adolescence is a transition period from childhood to adulthood marked by physical, emotional and psychological changes. According to WHO, adolescents are people aged 10-19 years. Meanwhile, according to the Population and Family Disaster Agency, the age range of adolescents is 10-24 years and not yet married. Entering adolescence, physical changes usually occur. Physical changes in adolescents are marked by accelerated growth, accelerated growth can be seen from the increase in height which reaches 90% - 95%, weight gain reaches 59% due to changes in fat tissue. One of the physical signs that occurs in adolescent girls is marked by menstruation (Indrawati, I; Handoko, G; Supriyadi, 2023).

According to WHO (World Health Organization), the age limit for adolescents is 12-24 years. Meanwhile, according to the Ministry of Health, the age limit for adolescents is 10-19 years. The number of adolescents in the world reaches 1.2 billion or 18% of the world's population. In Indonesia, according to the 2020 Population Census, the population in the 10-19 age group reached 75.49 million or around 27.94% of the population (Widyaningrum, et al. 2021). Based on data from the Ministry of Health in 2023, the number of female adolescents aged 10-19 years reached 22 million (Data and Information on the Indonesian Health Profile, 2023).

Menstruation is one of the signs of a woman's fertility. This process is a normal process because pregnancy does not occur (Mathur 2020). Disorders that usually occur during menstruation are dysmenorrhea. According to the research results of the Adolescent Reproductive Health Information and Counseling Center (PIK-KRR) in Indonesia, the incidence of primary dysmenorrhea is 72.89% and secondary dysmenorrhea is 27.11%. The incidence of dysmenorrhea that occurs in women of productive age ranges from 45-95%.

Premenstrual stress is characterized by physical, psychological and behavioral changes that occur in 75% of women of productive age. Due to physiological hormone fluctuations in women that occur regularly and cyclically. Anxiety when facing premenstrual syndrome is also a problem for adolescent girls. Anxiety can cause body reactions that will occur repeatedly such as an empty feeling in the stomach, shortness of breath, heart palpitations, profuse sweating, headaches and others (Lin Y; Gao W. 2023).

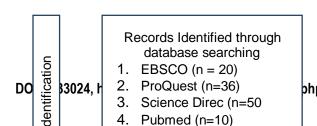
There are several non-pharmacological techniques that can help reduce premenstrual anxiety or during menstruation, including yoga. Yoga is included in complementary midwifery services. Providing complementary midwifery services has many advantages and benefits such as supporting public health, without side effects, becoming a leading service from BPM, and reducing morbidity due to services provided by untrained personnel (Mathur; Nikita, 2020).

So researchers are interested in conducting further research on the effect of yoga on reducing anxiety levels in the menstrual cycle of adolescent girls by finding journals related to the effect of yoga on reducing anxiety levels in the menstrual cycle of adolescent girls with the title "The Effect of Yoga on Reducing Anxiety Levels in the Menstrual Cycle of Adolescent Girls".

### **RESEARCH METHODS**

Article review was created using literature review method. The articles used were obtained from journal search engines carried out on EBSCO, ProQuest, Science Direct and PubMed that are published within the last 10 years. Literature search used the keywords yoga, anxiety, menstruation, adolescent girls.

With journal searches used the conjunction "AND" or "OR". The data were analyzed using a table containing the name of the researcher, title of the article, year, methodology and research results.



Additional records identified trough other sources n=5

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Figure 1. Article selection flow

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## **RESEARCH RESULTS**

Title	Methods	Sample Size	Output
Title  Role of Yoga in Minimizing Stress and Anxiety in Women Experiencing Dysmenorrhea (Annu Chhikara, 2023)	Methods  Before and after within-subject design	Sample Size 720 Girl Adolescent	The present review concludes that yoga delivers a powerful impact by lowering stress, anxiety, depression, lower back pain, and premenstrual asthma and can be viewed as supplementary medicine, lowering the cost of medical care by minimizing medications and hospital stays in women experiencing dysmenorrhea. Yoga has historically been shown to improve well-being, mood, attention, mental focus, and stress tolerance. Yoga offers numerous benefits that extend beyond its direct impact on health, making it a comprehensive approach for addressing the challenges associated with PD. According to reports, yoga is a versatile method for managing the interaction among various aspects of well-being, including psychological, physiological, musculoskeletal, and respiratory components. By employing practices such as Sudarshan Kriya and meditation, individuals can effectively alleviate symptoms of tension, anxiety, and depression. Regular physical exercise offers several benefits to the human body. Firstly, it enhances flexibility, allowing individuals to achieve a wider range of motion in their joints. Secondly, it contributes to improved cardiovascular health, promoting the efficient functioning of the heart and circulatory system. Lastly, exercise plays a role in regulating blood pressure through physiological mechanisms. Yoga modalities such as Bikram and lyengar are renowned for their musculoskeletal benefits,

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The effect of yoga therapy on anxiety levels during menstruation in adolescent girls (Robiatul Nurlaila et al., 2024)	This research design uses a quantitative approach, namely Quasi-experiment with a "One group Pre-test - Post-test" design.	30 students of State Middle School 14 Tarakan	particularly among women with asthma who are experiencing menstruation. Yoga offers a comprehensive approach that effectively tackles the diverse challenges associated with dysmenorrhea.  The average value of anxiety during menstruation in adolescent girls before the intervention was 21.70 and after the intervention the anxiety value during menstruation in adolescent girls was 14.53, there was a difference before and after the intervention with a p-value of 0.000 <0.05. So there is an effect of yoga therapy on the level of anxiety during
Yoga Exercises Can Reduce Anxiety Levels in the Menstrual Cycle of Adolescent Girls (Yulinda et al., 2017)	Research was conducted with quasi design one group experiment pretest-posttest	A total of 58 people were randomized to yoga and sports.	menstruation in adolescent girls in Tarakan city.  Measurement of vital signs by direct measurement and anxiety levels by using a questionnaire. The decrease in diastolic pressure was greater in the sports group, which was 4.50, while yoga was 0.55. In the yoga group, there was a decrease in heart rate frequency which is 1.83. The anxiety score decreased, the yoga group experienced a greater decrease in anxiety scores, which was 13.5 points. The conclusion is that there is no significant effect of yoga practice on systolic, diastolic pressure, pulse rate and respiration. Yoga can significantly reduce the level of anxiety in adolescent girls during menstruation (p<0.05)
The Effect of Double Action Treatment: Yoga and Chamomile on Dysmenorrhea and Anxiety in Adolescents (Murtiningsih et al., 2020)	The research village used a quasi-experimental post-test design with control group.	54 female students of General Achmad Yani Cimahi Health College who experience dysmenorrhea	Double action intervention: yoga and drinking chamomile proved more effective in reducing dysmenorrhea and anxiety compared to doing breathing relaxation. The results of this study illustrate that although the scores of menstrual pain and anxiety both decreased, the pain reduction score was greater with doing yoga and drinking chamomile.

## **DISCUSSION**

Menstrual cycle is a review of the characteristics of respondents in this study because

the menstrual cycle is one of the factors that can affect a person's stress and anxiety. Menstrual changes are one of the symptoms of menopause.

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Menstruation can be caused by many factors, including psychological factors (stress, life stress, anxiety, physical and mental fatigue), hormonal imbalance, mood swings, and organic diseases (gastric inflammation, pain). Anxiety is one of the causes of menopause in women which can lead to stress, depression, low self-esteem, and anxiety. (Ababil Zahra et al., 2023)

Yoga is a process of unifying the body, mind and soul. Yoga combines breathing techniques, relaxation and meditation as well as stretching exercises. Yoga is recommended because it has a relaxing effect that can improve blood circulation throughout the body. Smooth blood circulation indicates good heart function. Research has found that a combination of yoga and meditation can increase the body's metabolism. Yoga aims to stimulate alpha waves in the brain that are connected to deep relaxation and mental health, this can lower blood pressure. Regular stretching exercises can strengthen the heart muscle which causes the heart to pump more blood with minimal effort. Thus, the heart's work becomes lighter. Stretching exercises can also increase fat metabolism by lowering lowdensity lipoprotein (LDL) levels and increasing highdensity lipoprotein levels by increasing heart rate and sympathetic nervous system response, so that blood vessels contract and blood pressure is maintained. (Bare B, 2021)

Yoga practice emphasizes concentration which has a positive effect, namely peace of mind. Concentration can be a means of relaxing the mind that is much needed by a stressed mind. Regular yoga practice can balance the autonomic nervous system, so that the body becomes more relaxed and the release of hormones that play a role in increasing blood pressure, such as adrenaline and epinephrine hormones, is more controlled. Yoga gymnastics techniques control breathing and thoughts. This exercise can strengthen the respiratory system, calm the nervous system, help reduce and eliminate chaos, and can strengthen the immune system. Breathing also plays an important role in the body's metabolism, which is the body's process of breaking down nutrients. (Sengupta P, 2024)

Anxiety is a natural thing that has been experienced by every human being. Anxiety is a feeling that is general in nature, where a person feels fear or loss of self-confidence that is unclear in origin or form. Anxiety is a response to certain threatening situations, and is a normal thing that accompanies development, change, new or unprecedented experiences and in finding self-identity and the meaning of life. Anxiety can cause body reactions that will occur repeatedly such as an empty feeling in

the stomach, shortness of breath, heart palpitations, profuse sweating, headaches, wanting to urinate or defecate. This feeling is accompanied by a feeling of wanting to move to run away from the thing that is worried about ( Parshad O et al, 2024)

Yoga that occurs in the body begins with the creation of a conscious relaxation atmosphere that systematically guides to a state of deep relaxation. The creation of relaxation will eliminate the voices in the mind so that the body will be able to release muscle tension. When the body begins to relax, the breath becomes relaxed and deep, so that the respiratory system can rest. This slowing down of the breathing rhythm will make the heart beat slower and have a positive effect on the entire circulatory system and heart to rest and experience the rejuvenation process.

Anxiety is a natural thing that every human being has experienced. Anxiety is

considered as part of everyday life. Anxiety is a general feeling, where someone feels fear or loss of self-confidence that is unclear in origin or form. Anxiety is an emotional response to an assessment that describes a state of worry, restlessness, fear, restlessness accompanied by various physical complaints. This condition can occur in various life situations or illnesses. In addition, anxiety can cause body reactions that will occur repeatedly such as an empty feeling in the stomach, shortness of breath, heart palpitations, profuse sweating, headaches, wanting to urinate or defecate.

This feeling is accompanied by a feeling of wanting to move to escape from the thing that is worried about. Anxiety is a non-specific symptom and autonomic nervous activity in response to ambiguity, non-specific threats that are often found and are often normal emotions (Vempati RP et al, 2024).

### CONCLUSION

This Literature Review comprehensively summarizes and explains the results of research from several literatures that have been collected regarding "The Effect of Yoga on Reducing Anxiety Levels in the Menstrual Cycle of Adolescent Girls", showing that yoga has an effect on reducing anxiety levels in the menstrual cycle of adolescent girls. Yoga is one of the non-pharmacological anxiety reduction managements that can be done independently and does not require costs.

It can be concluded that yoga has an effective influence on reducing anxiety levels in the menstrual cycle of adolescent girls.

### SUGGESTION

Providing yoga treatment can be recommended as a non-pharmacological action and complementary therapy to reduce anxiety levels at a low cost, with minimal risk, greater benefits and effectiveness and is very suitable for adolescent girls who want light and easy activities.

Further research needs to be developed using RCTs methods on larger samples. It is recommended to conduct similar research on adult women with anxiety or stress.

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