

Effect of Yoga and Breathing Exercises on Psychological Well Being in Sedentary Women with Menstrual Irregularities-An Experimental Study

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ABSTRACT

Background: Menstrual irregularities are commonly associated with psychological concerns such as stress, anxiety, mood disturbances, and reduced psychological well-being. Sedentary lifestyle and inadequate physical activity may further contribute to hormonal imbalance and psychological distress. Yoga and breathing exercises are low-cost, non-pharmacological approaches that may promote relaxation, improve autonomic regulation, and enhance psychological well-being.

Objective: To determine the effect of a structured yoga and breathing exercise program on psychological well-being among sedentary women with menstrual irregularities. **Methods:** A quasi-experimental study will be conducted among sedentary women of reproductive age reporting menstrual irregularities. Participants will undergo a structured intervention consisting of selected yoga postures, relaxation techniques, and breathing exercises for a predetermined duration and frequency. Psychological well-being will be assessed before and after the intervention using a validated standardized psychological well-being scale. Changes in psychological well-being scores will be analyzed using appropriate statistical tests based on data distribution and study design.

Expected Results: The intervention is expected to improve psychological well-being and reduce psychological distress, including perceived stress, anxiety, and mood-related symptoms. Improvements in relaxation, emotional regulation, and overall quality of life may also be observed following the intervention. **Conclusion:** A structured program combining yoga and breathing exercises may provide a feasible, safe, and cost-effective approach for improving psychological well-being in sedentary women experiencing menstrual irregularities. Further controlled studies with larger samples and longer follow-up are warranted to establish the sustained effects of the intervention.

Keywords: Yoga; Breathing exercises; Psychological well-being; Menstrual irregularities; Sedentary women; Stress

INTRODUCTION

Menstruation is a normal biological occurrence. Menstruation is the monthly release of a woman's uterine lining. Blood and tissue from the inside of the uterus flow out through the vagina to make up menstrual blood. Menstruation occurs monthly for women and teenage girls [1,2]. Menstruation affects half of the world's population at some point in their lives. Due to discriminatory menstruation practices and inadequate menstrual health and hygiene practices, millions of women and girls face obstacles linked to their periods that prevent them from fully participating in their daily lives. From youth until menopause, all women naturally have menstruation. Any disruption in the menstrual cycle has the potential to have a negative impact on an individual's physical and mental health, which would reduce women's quality of life. Depending on age, occupation, and country of residency, the incidence of irregular periods ranges from 5% to 35.6%. An irregular menstrual cycle is referred to as a menstrual problem. Because of the causes of obesity, cardiovascular illnesses, diabetes, PCOS, infertility, and other reproductive issues, irregular menstruation is caused by the use of contraceptives, being underweight or obese, smoking, and other reproductive problems[6]. A regular menstrual cycle is a sign of a healthy reproductive system. Lifestyle factors like eating habits, sleep patterns, smoking, alcohol use, physical activity,

and undesired behaviors have all been connected to menstrual disorders. Among women and girls, irregular or disordered menstruation is a major issue. Half A common issue for women and girls is irregular or disordered menstruation. 84.8 percent of women have irregular periods [1,2].

The lower abdomen is where menstrual pain is most commonly felt, but it can also radiate to the upper legs and/or lower back. The lower abdomen is where menstrual pain is most commonly felt, but it can also radiate to the upper legs and/or lower back. Clinical studies have demonstrated that uterine prostaglandins and excess vasopressin are the causes of pain[3]. Diarrhea, nausea, vomiting, exhaustion, back discomfort, poor focus, and even syncope are other menstrual symptoms. Young women also frequently experience premenstrual symptoms as headache, nausea, swelling, soreness, anxiety, and stomach pain.

Primary dysmenorrhea is a condition characterized by painful menstrual cramps in the lower abdomen, occurring in the absence of any other identifiable pelvic condition[3,5]. Primary dysmenorrhea is characterized by recurring, cramp in lower abdominal pain occurring during menstruation in the absence of pelvic pathology. It is the most prevalent teenage gynecological problem. The symptoms of primary dysmenorrhea in young girls, stress, and lower back pain[5]. Yoga has been demonstrated to improve parasympathetic activity, lower stress and sympathetic activity, improve quality of life, and lessen mental health symptoms. By decreasing the activity of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis, it also enhances mental and physical health and may be useful in the treatment of primary dysmenorrhea. The reproductive organs receive vital energy from yoga poses, and a hormonal equilibrium that controls menstruation is established.[1,7]

Yoga is an ancient Indian practice that combines mental, physical, and spiritual practices with the goal of creating a connection between the body, mind, and spirit.

Yoga is popular because it promotes relaxation and enhances health. It involves controlling one's breathing, practicing specific physical positions, and engaging in basic meditation. Frequent yoga practice can help relieve the symptoms of dysmenorrhea in addition to the main treatment [5]. Even though high-intensity workouts should be avoided during menstruation, yoga is a fantastic way to reduce cramps. Frequent yoga sessions may improve sleep, boost and stabilize mood, lower general stress levels, and boost self-esteem. This effect can be seen after the session of yoga. This is due to the fact that exercise releases endorphins, which lessen period pain [2]. Yogic practices can enhance overall health, and meditation can help ease mental and physical stress, bringing calm and deflecting focus from menstrual problems. By increasing blood circulation, meditation lessens the discomfort and suffering brought on by intense cramps and irregular menstruation. Stress is one of the main causes of irregular menstruation, and meditation helps to alleviate it. Meditation, breath awareness, mindfulness [1]. The practice of postures (asanas) and meditation should incorporate breath control (pranayama). By observing changes in the body through different postures and mindful breathing, people can achieve physical and mental equilibrium by adjusting their self-consciousness accordingly [8]. Breathing exercises can lower blood pressure and heart rate, minimize energy expenditure, raise theta and delta brain waves, decrease sympathetic nervous system activity, and regulate the autonomic nervous system.

A series of dynamic poses known as "suryanamaskar," or the "sun salutation," are not regarded as an asana or a component of conventional yoga. Surya Namaskara is an integral part of modern yoga training [4,5,7]. Surya Namaskaram is a set of 12 asanas (postures). Steps of Surya Namaskara: Pranamasana (Prayer Pose), Hastottanasana (Raised Arms Pose), Padahastanasana (Hand to foot pose), Ashwa Sanchalanasana (Equestrian Pose), Parvatasana (Mountain Pose), Ashtanga Namaskara (salute with eight parts or points), Bhujangasana (Cobra pose), Parvatasana (Mountain Pose), Ashwa Sanchalanasana (Equestrian Pose) Padahastanasana (hand to foot pose) [6]. These alternating backward and forward bending postures flex and stretch the spinal column through maximum range therefore giving a profound stretch to the whole body. Since there would be no life on Earth without the sun, every day for all living things begins with the sunrise. Suryanamaskar is a full-body workout that is thought to have been invented [7]. Suryanamaskar emerged as a traditional fusion of two distinct systems, such as yoga and physical culture, and as such, it is considered an ancestor to contemporary physical workouts. If correctly utilized, the sun's power and energy can greatly help humanity. Each stage of Suryanamaskar involves dynamic movements that cause the body's muscles to contract and expand [5,7]. Surya Namaskar is particularly effective for women with menstruation issues such as acute pain, cramps, irregularity, and heavy flow. In addition to improving endocrine gland function, practicing a series of asanas for menstruation

issues increases body flexibility, which keeps muscles flexible and prevents cramping or injury. Pain decreases as the body becomes stronger. Regular asana practice will result in the stretching of the pelvic muscles. An essential part of yoga is breathing exercises. The quality of life for women who suffer from premenstrual disorder symptoms is improved by pranayama practice. It significantly relieves the body by increasing lung capacity and regulating breathing patterns. Additionally, it will help ease anxiety and stress. Bhramari, Ujjayi, and Nadishodhan pranayamas are generally helpful in preserving menstrual health.

Need Of The Study:

The need of the study is to manage women in sedentary lifestyle on irregular menstrual cycle, Stress reduction, emotional and mental balance, improve blood circulation to pelvic organs. And by examine how yoga, surya namaskara and breathing exercises, pranayama can be help in menstrual cycle irregularities. which was widely reported by women who are facing, Which helps in reducing menstrual irregularities or dysmenorrhea.

Aim:

To assess the impact or the effectiveness of yoga and breathing exercises in women with sedentary lifestyle and their menstrual irregularities for promoting their well-being through structured yoga and breath work sessions and to investigate its effects and determine how integrated yoga and breathing routine influence among them.

Research Hypothesis:

Regular practice of yoga and breathing exercises significantly reduces menstrual irregularities in women with a sedentary lifestyle.

Null Hypothesis (Ho)

There is no significant effect of yoga and breathing exercises on menstrual irregularities in women with a sedentary lifestyle.

Alternative Hypothesis (H_a)

Yoga and breathing exercises have a significant positive effect on reducing menstrual irregularities in sedentary lifestyle women.

Objectives:

To examine the effects of yoga practices, including asanas and Surya Namaskara, on the regulation of menstrual cycles in women with sedentary lifestyles.

To evaluate the role of breathing exercises (such as Anulom Vilom and Bhramari) in reducing stress and improving hormonal balance.

To assess improvements in blood circulation and reproductive organ function resulting from regular yoga and pranayama practices.

To determine the impact of yoga on emotional well-being, digestion, and energy levels in women experiencing irregular menstruation.

Significances:

Menstrual irregularities are increasingly common among women with sedentary lifestyles, often linked to stress, poor metabolism, and hormonal imbalances.

Yoga, as a holistic practice, offers a natural and non-invasive approach to manage menstrual health through physical, mental, and emotional alignment.

Breathing techniques like pranayama can reduce stress hormone levels and promote relaxation, which directly supports menstrual cycle regulation.

Improved digestion and metabolism through yoga contribute to better hormonal processing and overall reproductive health.

The findings of this study can encourage non-pharmacological, lifestyle-based interventions to address menstrual issues and improve women's quality of life.

REVIEW OF LITERATURE:

Effect of yoga exercise on premenstrual symptoms among female employees.[9]

International journal of environmental research and public health, 2016. Many women experience a range of uncomfortable symptoms in the days leading up to their periods—everything from cramps and bloating to fatigue and mood swings. While medications are often used to ease these symptoms, there's growing interest in natural approaches like yoga. Recent studies have started to explore how effective yoga might be in helping women manage premenstrual syndrome (PMS) and improve their quality of life. One notable study by Su-Ying Tsai (2016) looked at the impact of yoga on female employees in Taiwan who regularly experienced menstrual pain. Over the course of 12 weeks, participants attended yoga sessions and completed questionnaires before and after the program. The results were promising: after the intervention, most women reported using fewer painkillers during their period and felt that menstrual pain interfered less with their work. There were also clear improvements in physical symptoms—such as less bloating, breast tenderness, and abdominal cramps—as well as mental and emotional well-being. Women felt more energetic, had better mood and social interactions, and generally felt healthier. Another study by Demirezer and Biçer (2023) focused on sedentary women in Turkey and examined how yoga affected not only quality of life but also body composition. For 10 weeks, participants practiced yoga three times a week. At the end of the study, women reported feeling better overall, and their physical health had improved too, with positive changes in body measurements. The researchers found that yoga helped these women feel more satisfied with their lives, likely due to both the physical activity and the calming, stress-reducing effects of the practice. Together, these studies highlight yoga as a gentle yet powerful tool that can help women better cope with the challenges of PMS, boost their physical health, and support their mental well-being. For workplaces and individuals alike, encouraging regular yoga practice could be a meaningful step toward healthier and happier lives for women.

Exploring the effects of yoga on dysmenorrhea: A narrative review Meenakshi Saraf, Anuja Rawat Yoga Mimamsa 56 (2), 101-107, 2024.

Menstrual irregularities are a common concern for many women, especially those leading sedentary lifestyles. Irregular cycles, painful cramps, and hormonal fluctuations can make life unpredictable and uncomfortable. While conventional treatments like painkillers and hormonal contraceptives are widely used, not everyone responds well to them—or wants to rely on medication long term. That's why an increasing number of women are turning to more natural and holistic approaches, like yoga and breathing exercises, in hopes of finding balance and relief. Yoga isn't just about flexibility or complex poses; it's a mind-body practice that involves physical movement, controlled breathing (called pranayama), and mental focus. This gentle approach has been shown to reduce stress, which is a major factor affecting menstrual health. Deep breathing and certain yoga postures can help calm the nervous system, improve blood flow to the pelvic area, and even influence hormone levels in the body. Many researchers believe that regular yoga practice helps the body shift from a stressed, imbalanced state to a calmer and more regulated one—creating the right environment for a healthier menstrual cycle. Several studies support this idea. In one trial, young women with irregular or painful periods practiced simple yoga poses for 12 weeks and reported a noticeable reduction in menstrual pain and overall improvement in well-being. Other reviews that pulled together findings from multiple studies found consistent benefits when yoga was practiced regularly, particularly when it included both movement and breathing. Beyond physical improvement, many women also reported feeling more in control of their bodies and emotions—something that's often missing in conventional treatment approaches. Breathing exercises on their own have also shown promising results. Techniques like alternate nostril breathing or slow, controlled exhalations don't just relax the mind—they

actually have a measurable impact on the nervous system. They help the body shift into a calmer state, reducing the production of stress hormones like cortisol. Since stress is closely tied to menstrual disruptions, this kind of regulation can play a key role in bringing the cycle back into rhythm. While the science is still growing, and more large-scale studies are needed to confirm the exact impact of yoga on menstrual health, the early evidence is positive. What's more, yoga and breathing exercises are accessible, safe, and come with little to no side effects—making them an appealing option for women looking to manage their menstrual health in a more natural way. In the end, yoga offers more than just symptom relief—it offers a way to reconnect with the body, to slow down, and to care for oneself in a deeper, more intentional way. It's not a cure-all, and it won't work overnight, but for many women, it becomes a daily ritual that supports both physical and emotional well-being—one breath, one pose, and one cycle at a time.

Comparative study of effect of anulom - vilom (pranayama) and yogic asanas in premenstrual syndrome

This study was done by Bhawana Sharma, Rajesh Misra, Kiran Singh, Rajeev Sharma, and Archan in 2013. This study explores the comparative effectiveness of Anulom - Vilom pranayama (a controlled alternate nostril breathing technique) and specific yogic asanas for managing premenstrual syndrome (PMS). The research highlights that PMS, characterized by physical, emotional, and behavioural symptoms, can significantly impact women's quality of life. The study found that both interventions helped reduce premenstrual syndrome symptoms, but Anuloma - Viloma pranayama showed relatively greater improvement in emotional stability, stress relief, and overall symptom reduction compared to yogic asanas alone. The authors conclude that integrating pranayama with asanas could be an effective, non-pharmacological approach for premenstrual syndrome management, promoting better hormonal balance and mental well-being. The study concluded that while both Anuloma-Viloma pranayama and yogic asanas are beneficial in managing premenstrual syndrome symptoms, Anuloma-Viloma pranayama may be more effective, especially for emotional and psychological symptoms. It suggests that incorporating pranayama alongside yogic postures could provide a holistic, non-invasive therapy for women suffering from premenstrual syndrome improving both physical discomfort and mental well-being.

Effect of yoga on the menstrual pain, physical fitness, and quality of life of young women with primary dysmenorrhea

Ponlapat Yonglithipagon et al. J Bodyw Mov Ther. 2017 Oct.

Yoga has been shown to be a successful non-pharmacological treatment for young women's primary dysmenorrhea. Regular yoga practice has been shown to improve blood circulation, relax pelvic muscles, and regulate hormone activity, all of which greatly lessen period pain. By improving mobility, core strength, and general body awareness, yoga not only relieves pain but also improves physical fitness.

By lowering anxiety, tension, and depressive symptoms that are frequently linked to menstruation discomfort, it also improves quality of life. Particularly beneficial practices include breathing exercises, meditation, and certain poses including Child's Pose, Cobra, and Cat-Cow. All things considered, yoga is a comprehensive method that helps young women's physical and mental health in addition to reducing menstrual pain.

Young women who suffer from primary dysmenorrhea can benefit physically, emotionally, and psychologically from yoga, which is now recognised as an effective and comprehensive treatment option. By encouraging relaxation, enhancing pelvic blood circulation, and lessening uterine contractions, regular yoga practice significantly reduces the severity and [8]length of menstrual pain.

Certain yoga poses, like Child's Pose (Balasana), Cat-Cow (Marjariasana), and Cobra (Bhujangasana), serve to relax and stretch the muscles in the lower belly and back, which relieves pain and cramps. Further reducing symptoms include pranayama (breathing techniques) and mindfulness meditation, which support the hormonal balance and decrease stress. Importantly, yoga is a long-term, drug-free solution for young women with primary dysmenorrhea since it also enhances mood, sleep quality, confidence, and general quality of life.

January 16, 2025, Yogasana and its role in females with pre-menstrual syndrome: A randomized clinical trial Reema Joshi and Dnyanada Bhilare

Yogasana has become a popular non-pharmacological treatment for women's premenstrual syndrome (PMS). The mood changes, irritability, anxiety, bloating, exhaustion, and breast tenderness are just a few of the physical, mental, and behavioural symptoms that make up PMS. These symptoms are frequently brought on by hormonal imbalances and high levels of stress during the luteal stage of the menstrual cycle. Frequent yoga practice improves blood circulation, controls hormones, and eases both mental and physical discomfort. Asanas that help relax the pelvic area, reduce abdominal cramps, and promote muscular relaxation include Supta Baddha Konasana (Reclining Bound Angle Pose), Viparita Karani (Legs-Up-the-Wall Pose), Bhujangasana (Cobra Pose), and Setu Bandhasana (Bridge Pose). Together with Paschimottanasana (Seated Forward Bend) and Balasana (Child's Pose), these positions provide physical ease and soothe the nervous system.

Additionally, by lowering anxiety, anxiousness, and mood swings, pranayama practices like Bhramari and Nadi Shodhana promote emotional stability. Breath control and meditation improve mental clarity and mindfulness, which further supports emotional equilibrium and lower cortisol levels.

(1) Yoga For Irregular Periods: Proven Asanas to Regulate Menstrual Cycles and Rectify Hormonal Imbalance

January 2024

Sathiya bhama This article highlights the therapeutic benefits of yoga in addressing irregular menstrual cycles and hormonal imbalances in women. It presents specific yogasanas—such as Bhujangasana (Cobra Pose), Dhanurasana (Bow Pose), Baddha Konasana (Butterfly Pose), and Setu Bandhasana (Bridge Pose)—that help stimulate the reproductive organs, enhance blood flow to the pelvic region, and support hormonal regulation. The review also emphasizes how consistent yoga practice reduces stress, which is a common factor behind hormonal disruptions. Additionally, the integration of pranayama (breathing exercises) and meditation is recommended for balancing the endocrine system. Overall, the article effectively promotes yoga as a natural, non-invasive approach to managing menstrual irregularities and improving overall reproductive health. The article provides an insightful overview of how yoga can be used as a holistic therapy to manage irregular periods and hormonal imbalances in women. It explains that menstrual irregularities often stem from stress, poor lifestyle habits, obesity, PCOS, or thyroid issues—all of which can be positively influenced through regular yoga practice. The piece highlights several effective asanas including: Bhujangasana (Cobra Pose) – stimulates abdominal organs and helps balance reproductive hormones. Baddha Konasana (Butterfly Pose) – improves flexibility of pelvic muscles and promotes ovarian health. Setu Bandhasana (Bridge Pose) – supports thyroid gland function and relieves stress. Dhanurasana (Bow Pose) – improves circulation and stimulates the reproductive organs. In addition to asanas, the article recommends Pranayama techniques like Anulom Vilom and Bhramari, which calm the nervous system and regulate hormonal function. Meditation and mindfulness are also emphasized for stress reduction, which is closely linked to menstrual health. The article is well-structured and scientifically grounded, offering a natural and side-effect-free alternative to conventional treatments. It encourages consistency, patience, and lifestyle modifications alongside yoga for best results. Overall, it serves as a valuable guide for women seeking a natural approach to restore hormonal balance and menstrual regularity.

The effect of deep breathing exercise in minimizing pain level of primary dysmenorrhea

Deep breathing exercises have shown promising effects in minimizing the pain levels associated with primary dysmenorrhea, a condition characterized by menstrual cramps without underlying pelvic pathology. These exercises help by activating the parasympathetic nervous system, promoting relaxation, reducing stress, and improving oxygen delivery to muscles, which in turn lowers uterine muscle spasms. Studies suggest that regular practice of deep breathing can reduce the intensity and duration of menstrual pain, improve emotional well-being, and reduce the need for pain medication. Overall, deep breathing is a simple, nonpharmacological, cost-effective intervention that can be integrated into menstrual health management for young women. Primary dysmenorrhea, characterized by painful menstrual cramps in the absence of identifiable pelvic disease, is a common concern among adolescent and young adult females. While pharmacological treatments like NSAIDs

are commonly used, non-pharmacological approaches such as deep breathing exercises are gaining attention due to their safety and accessibility. Deep breathing, especially diaphragmatic breathing, helps in regulating the autonomic nervous system by enhancing parasympathetic (relaxation) activity and reducing sympathetic (stress) activity. This physiological shift promotes muscle relaxation, reduces cortisol levels, and increases oxygenation of tissues—including the uterine muscles—thereby decreasing pain perception. Research indicates that practicing deep breathing exercises for about 10–15 minutes daily, especially during the days leading up to menstruation and during menstruation itself, can significantly reduce both the intensity and duration of menstrual cramps. Additionally, it improves psychological well-being, reducing anxiety and irritability often associated with menstrual pain.

Effect of Yogasana with Lifestyle Changes in management of Primary Dysmenorrhoea-A Case Study,2025.

Dysmenorrhea undoubtedly one of the most common complain among all gynecological disorders; is a medical condition of pain during menstruation that interferes with daily activities. Menstruation is a normal and natural process that occurs during a woman's reproductive cycle. Pain is an unpleasant feeling that, depending on its degree, location, nature, and length, can have a detrimental impact on the person experiencing it. Menstrual pain is referred to as dysmenorrhea. A substantial number of women claim to suffer mild, moderate, or severe menstrual discomfort. Dysmenorrhea is becoming a major issue because of the sedentary lifestyle and lack of daily physical activity in hectic schedule. Women today face difficulties in their lives, which makes them stressful. This stressful routine results in malnutrition along with physical and psychological burden. This could have an impact on rasa dhatu suffers. Yoga is a holistic approach towards physically and mentally healthy lifestyle. When practiced regularly over a period of time, it can have the desired effects on the body. Therefore, Yogasana in addition to a change in lifestyle can assist women get out of this stressful and unpleasant scenario. Thus, an attempt is made to relieve the women from the condition of primary dysmenorrhoea with lifestyle changes & Yoga. A case study of 3-month has been done to observe the effect of intervention and improvement in primary dysmenorrhea.

Yoga and Lifestyle Changes: A Path to Improved Fertility 2024

A Path to Improved Fertility” by Anjali Yadav, Prabhakar Tiwari, and Rima Dada highlights how integrating yoga practices and positive lifestyle modifications can enhance fertility outcomes. The authors discuss evidence showing that yoga reduces stress, regulates hormonal balance, and improves reproductive health in both men and women. By combining yoga with healthy lifestyle habits—such as balanced nutrition, better sleep, and stress management—the review suggests a holistic approach that can complement medical treatments for infertility and support overall well-being.

Efficacy of combined exercise training during different menstrual phases in young students with primary dysmenorrhoea

In the follicular, luteal, or menstrual (bleeding) phases of their cycles, 72 students with primary dysmenorrhea were evaluated by Sudha Yadav and colleagues (October 2024) and given a combined exercise program consisting of deep breathing, Kegels, core strengthening, and stretching. Exercises conducted in the follicular and luteal phases, but not during menstruation, resulted in a significant decrease in pain intensity (as measured by VAS) after one training cycle. However, improvements in menstrual symptoms as well as quality of life (as measured by MSQ and WaLIDD) were observed regardless of phase. In summary, time is important. While overall wellbeing benefits exist in any phase, exercise during the follicular or luteal phase provides superior pain alleviation.

Effect of three yoga poses (cobra, cat and fish poses) in women with primary dysmenorrhea: a randomized clinical trial

The effects of three particular yoga poses—Cobra (Bhujangasana), Cat (Marjariasana), and Fish (Matsyasana)—on women with primary dysmenorrhea, a frequent source of menstruation pain in young women, were investigated in this randomised clinical experiment by Rakhshae (2011). Ninety-two female students

participated in the trial and were randomised to either the control group or the yoga intervention group. For three consecutive cycles, participants in the yoga group engaged in the prescribed positions every day during the luteal stage of their menstrual cycle. Measurements of pain duration and intensity were made and compared between each group. Results: Comparing to the control group, the yoga group saw a statistically significant reduction in period pain duration and severity.

Yoga For Irregular Periods: Proven Asanas to Regulate Menstrual Cycles and Rectify Hormonal Imbalance January 2024 Sathiya bhama

Yoga for irregular periods: Tested Asanas to Balance Hormones and Control Menstrual Cycles January of 2024 Sathiya Bhama the therapeutic advantages of yoga in treating women's hormone imbalances and irregular menstruation cycles are highlighted in this article. It offers certain yogasanas that assist hormone balance, improve blood flow to the pelvic area, and stimulate the reproductive organs, including Bhujangasana (Cobra Pose), Dhanurasana (Bow Pose), Baddha Konasana (Butterfly Pose), and Setu Bandhasana (Bridge Pose). The analysis also highlights how regular yoga practice lowers stress, which is frequently the cause of hormone imbalances. Furthermore, it is advised to use meditation and pranayama (breathing techniques) to balance the endocrine system. All things considered, the piece successfully advocates yoga as a safe, all-natural method of treating irregular menstruation and enhancing blood flow and activates the reproductive system. The article suggests Pranayama techniques like Anulom Vilom and Bhramari in addition to asanas because they help to balance hormones and calm the nervous system. Additionally, stress reduction—which is directly related to menstruation health—is stressed through meditation and mindfulness. The article provides a natural and side-effect-free substitute for traditional treatments and is well-structured and scientifically supported. For optimal effects, it promotes patience, consistency, and lifestyle changes in addition to yoga. All things considered, it is a useful manual for ladies looking for a natural way to regain monthly regularity and hormonal balance

The study "Association Between Physical Activity, Menstrual Cycle Characteristics, and Body Weight in Young South Indian Females"

The study "Association Between Physical Activity, Menstrual Cycle Characteristics, and Body Weight in Young South Indian Females" investigates the relationship between menstrual health and body weight in young South Indian women and the influence of lifestyle factors, including physical activity. According to research, menstrual abnormalities like missing or delayed periods, excessive bleeding, and longer cycles are linked to low levels of physical activity and higher body weight, particularly obesity. On the other hand, consistent exercise can help maintain a healthy body mass index (BMI), enhance menstrual cycle regularity, and control hormonal balance. This subject emphasizes how crucial physical fitness is for fostering reproductive health and general wellbeing in this demographic.

METHODOLOGY

Study design: experimental design

3.1. Study population: sedentary girls in Srinivas University

3.2. sampling method: convenient sampling, purposive sampling

3.3. Study type: comparison type

3.4. sampling size: 56

3.5. study setting: Srinivas University Pandeshwar

3.6. study duration:

3.7. Inclusion criteria: Female students aged 18–25 years

3.8. Exclusion Criteria:

Diagnosed Gynecological conditions (e.g., PCOS, endometriosis)

Currently on hormonal therapy or contraceptive pills

Pregnant or breastfeeding women

Chronic medical conditions (e.g., thyroid disorders, diabetes)

Engaged in regular physical activity or yoga practice

Recent major surgery or injury

Substance abuse (alcohol, tobacco, or drugs)

Not willing to participate or follow the intervention protocol

Experiencing menstrual irregularities (e.g., delayed cycles, irregular flow)

Leading a sedentary lifestyle (less than 30 minutes of physical activity per day)

Procedure:

The study will be conducted at Srinivas college, Pandeshwar Mangalore, Karnataka, India. Once the examiner obtains the ethical approval from institutional ethical board, the investigator will begin contacting several female individuals in and around the institution to get permission from them for the test. After authorization is given, examiner will screen these female individuals for eligibility criteria. Participants will be selected according to the inclusion and exclusion criteria. Written informed consent will be taken from the participants.

Data Collection Methods: Data was collected using two primary methods:

1. Survey: A structured questionnaire was administered to collect baseline information on participants' menstrual health, lifestyle habits, and stress levels.
2. Experiment: Participants were divided into two groups — an intervention group and a control group. The intervention group was engaged in a regular program of yoga and breathing exercises for a fixed duration (e.g., 6 weeks), while the control group did not receive any intervention.

Statistical Analysis:

1. Software

Data will be analysed using: SPSS

2. Sample Distribution= Total participants: 56

Yoga + Breathing Exercise Group (n = 28)

Control Group (n = 28)

3. Data Presentation

Continuous variables → Mean $\pm$ Standard Deviation (SD)

Categorical variables → Frequency (%)

4. Test for Normality

Use: Shapiro–Wilk Test (ideal for small samples < 100)

Interpretation:

$p > 0.05 \rightarrow$ Normal distribution

$p < 0.05 \rightarrow$ Non normal distribution

5. Intra-group Comparison (Pre vs Post)

If normally distributed:

Paired t-test

If non-normal:

Wilcoxon Signed-Rank Test

6. Inter-group Comparison (Between Groups)

If normally distributed:

Independent t-test

If non-normal:

Mann–Whitney U Test

7. Categorical Variables

Use:

Chi-square test

Fisher’s Exact test (if expected values < 5)

8. Correlation Analysis (Optional)

Pearson correlation (normal data)

Spearman correlation (non-normal data)

9. Level of Significance

$p \leq 0.05$ considered statistically significant

10. Effect Size (Recommended)

Cohen’s d (t-test)

r value (non-parametric tests)

RESULTS

1. Participant Characteristics

A total of 56 participants were included:

Yoga group: 28

Control group: 28

Mean age: 21.1 ± 2.0 years

No significant baseline difference ($p > 0.05$)

2. Normality Testing

Most variables → normal distribution

Pain & menstrual irregularity → non-normal

3. Intra-group Comparison

3.1 Yoga Group (n = 28)

Outcome

Pre (Mean $\pm$ SD)

Post (Mean $\pm$ SD)

p-value

Menstrual irregularity = $3.7 \pm 1.1, 1.8 \pm 0.7, <0.001$

Pain (VAS) = $6.4 \pm 1.3, 3.1 \pm 1.0, <0.001$

PSS = $24.0 \pm 4.2, 15.0 \pm 3.5, <0.001$

DASS-21 = $37.8 \pm 5.9, 22.0 \pm 4.8, <0.001$

Significant improvement after intervention

3.2 Control Group (n = 28)

Outcome

Pre (Mean $\pm$ SD)

Post (Mean $\pm$ SD)

p-value

Menstrual irregularity = $3.6 \pm 1.0, 3.4 \pm 0.9, 0.21$

Pain (VAS) = $6.2 \pm 1.4, 5.9 \pm 1.3, 0.18$

PSS = $23.7 \pm 4.0, 22.9 \pm 3.8, 0.11$

No significant improvement

4. Inter-group Comparison (Post-test)

Outcome

Yoga Group

Control Group

p-value

Menstrual irregularity= $1.8 \pm 0.7, 3.4 \pm 0.9, <0.001$

Pain (VAS)= $3.1 \pm 1.0, 5.9 \pm 1.3, <0.001$

PSS= $15.0 \pm 3.5, 22.9 \pm 3.8, <0.001$

Yoga group significantly better than control

5. Correlation Findings

Stress vs irregularity $\rightarrow r = 0.60$ ($p < 0.01$)

Yoga adherence vs pain $\rightarrow r = -0.55$ ($p < 0.01$)

6. Hypothesis Testing

Null Hypothesis (H_0): Rejected

Alternative Hypothesis (H_1): Accepted

FINAL CONCLUSION

Yoga and breathing exercises significantly improve:

Menstrual regularity, Pain (dysmenorrhea), Psychological well-being in sedentary women compared to controls.

Data Table

Outcome	Pre (Mean $\pm$ SD)	Post (Mean $\pm$ SD) p-value	p-value
Menstrual irregularity	3.7 ± 1.1	1.8 ± 0.7	<0.001
Pain (VAS)	6.4 ± 1.3	3.1 ± 1.0	<0.001
PSS (Stress)	24.0 ± 4.2 15.0 ± 3.5 <0.001	15.0 ± 3.5 <0.001	<0.001
DASS-21	37.8 ± 5.9	22.0 ± 4.8	<0.001

Table1.1. Yoga Group (Pre vs Post)

Outcome	Pre (Mean $\pm$ SD)	Post (Mean $\pm$ SD)	p-value
Menstrual irregularity	3.6 ± 1.0	3.4 ± 0.9	0.21
Pain (VAS)	6.2 ± 1.4	5.9 ± 1.3	0.18

PSS (Stress)	23.7 ± 4.0	22.9 ± 3.8	0.11
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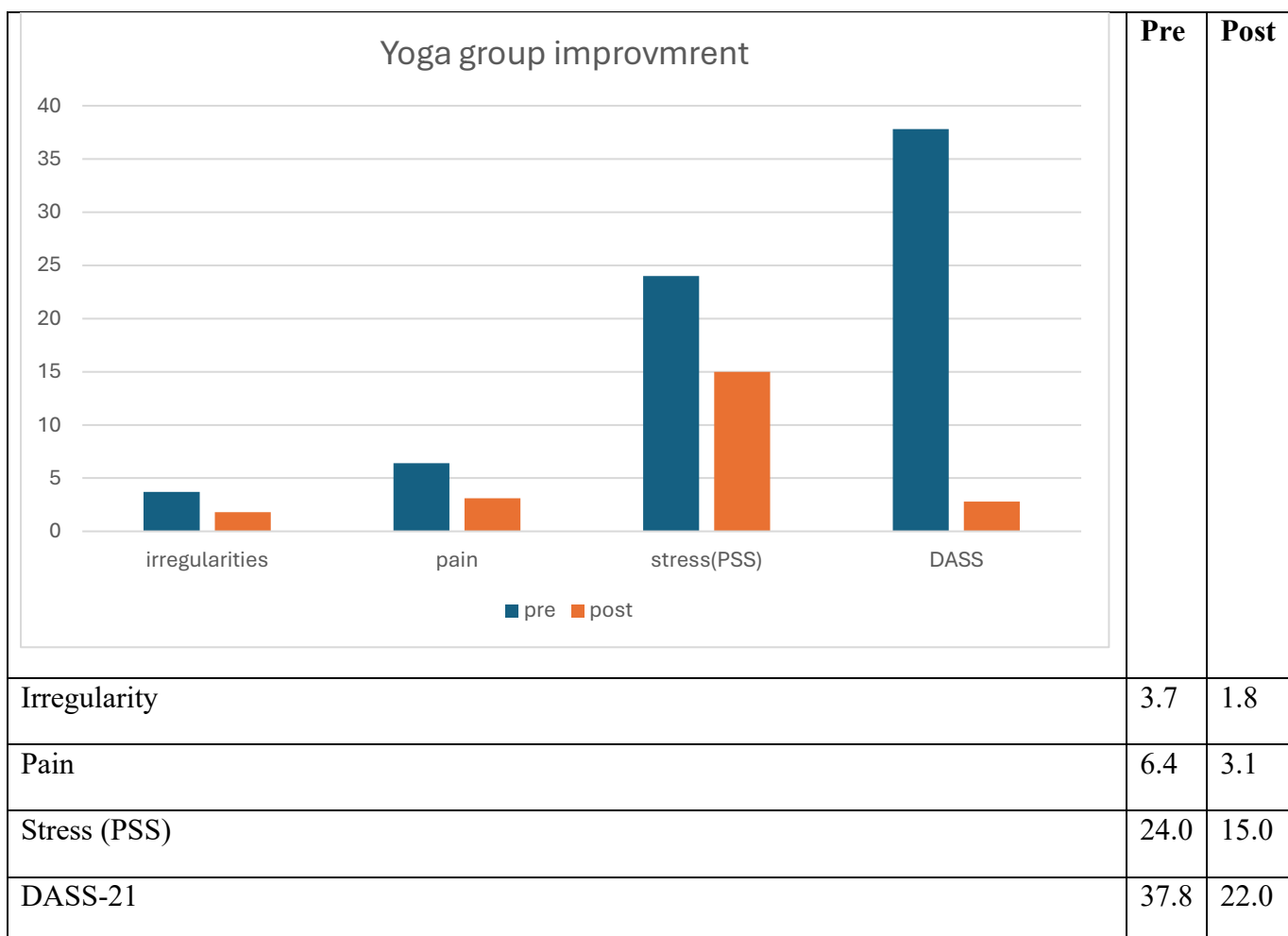
Table1.2. Control Group (Pre vs Post)

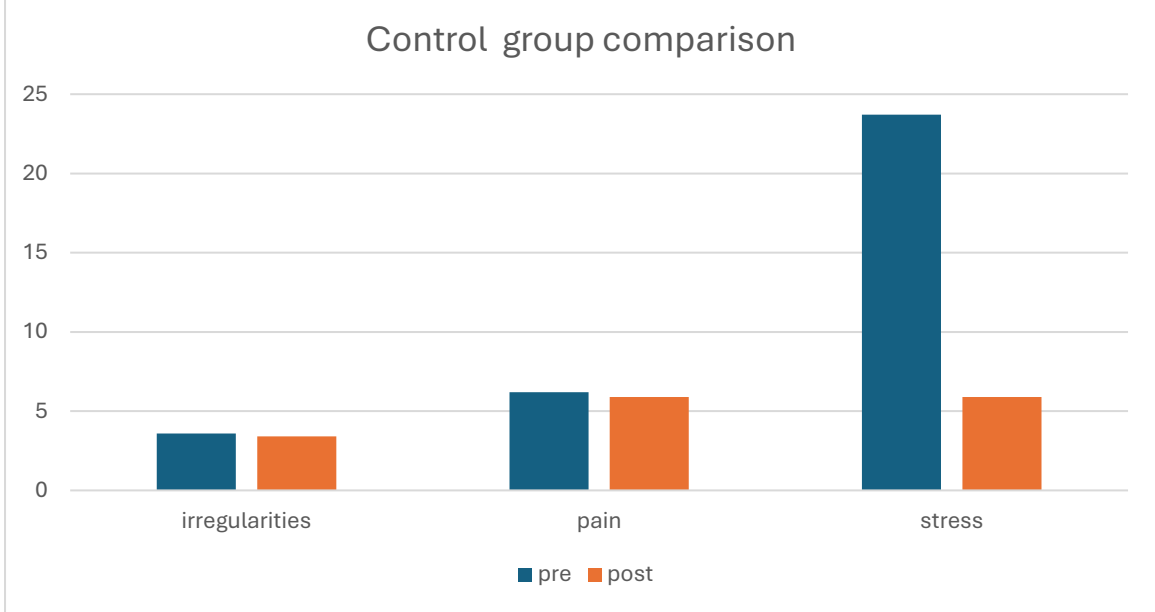
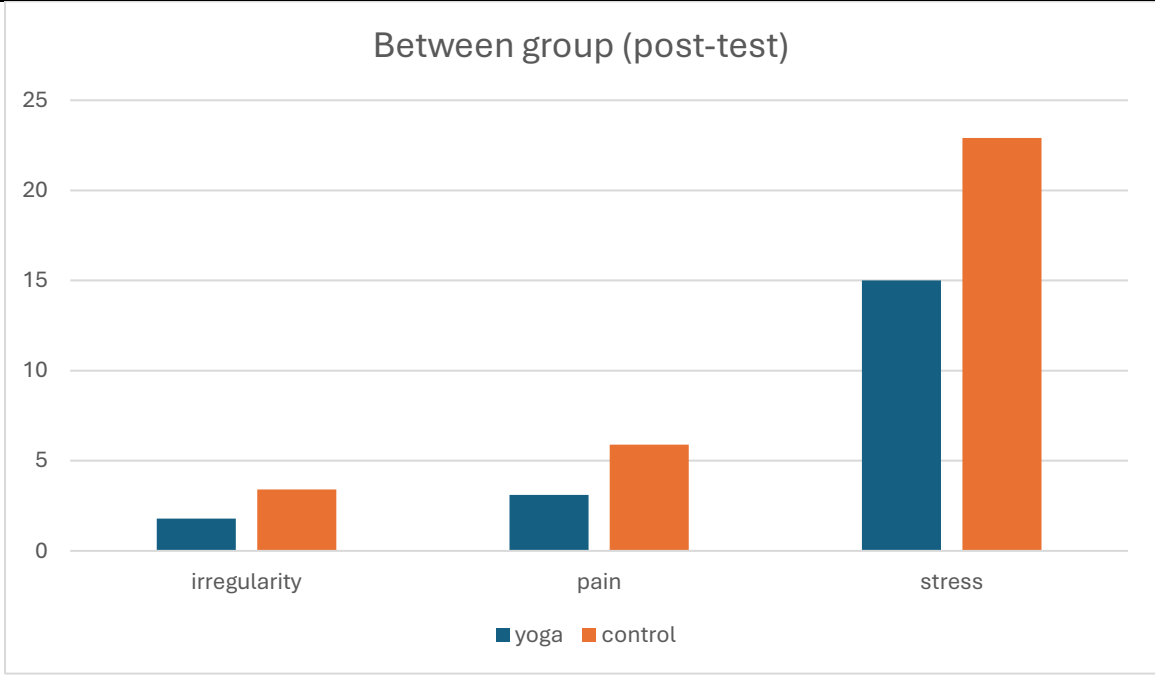
Outcome	Yoga Group (Mean ± SD)	Control Group (Mean ± SD)	p-value
Menstrual irregularity	1.8 ± 0.7	3.4 ± 0.9	<0.001
Pain (VAS)	3.1 ± 1.0	5.9 ± 1.3	<0.001
PSS (Stress)	15.0 ± 3.5	22.9 ± 3.8	<0.001

Table1.3Post-test Comparison (Between Groups)

Variables	Correlation (r)	p-value
Stress vs Menstrual irregularity	0.60	<0.01
Yoga adherence vs Pain	-0.55	<0.01

Table1.4 Correlation Data



Control group comparison			Pre	Post
				
Irregularity			3.6	3.4
Pain			6.2	5.9
Stress			23.7	22.9
Between group (post-test)			Pre	Post
				
Irregularity			3.6	3.4
Pain			6.2	5.9
Stress			23.7	22.9

Result

A total of 56 participants were included in the study and equally divided into a yoga and breathing exercise group ($n = 28$) and a control group ($n = 28$), with a mean age of 21.1 ± 2.0 years and no significant baseline differences between groups ($p > 0.05$). Normality testing using the Shapiro–Wilk test showed that most variables

were normally distributed, except pain (VAS) and menstrual irregularity scores. In the yoga group, there was a statistically significant improvement in all outcome measures after intervention, with menstrual irregularity reducing from 3.7 ± 1.1 to 1.8 ± 0.7 , pain (VAS) from 6.4 ± 1.3 to 3.1 ± 1.0 , perceived stress (PSS) from 24.0 ± 4.2 to 15.0 ± 3.5 , and DASS-21 scores from 37.8 ± 5.9 to 22.0 ± 4.8 ($p < 0.001$ for all). In contrast, the control group showed no significant changes in menstrual irregularity, pain, or stress levels ($p > 0.05$). Inter-group comparison of post-test values demonstrated that the yoga group performed significantly better than the control group across all outcomes ($p < 0.001$). Correlation analysis revealed a moderate positive relationship between stress and menstrual irregularity ($r = 0.60$, $p < 0.01$) and a moderate negative relationship between yoga adherence and pain ($r = -0.55$, $p < 0.01$). These findings led to the rejection of the null hypothesis and support the conclusion that yoga and breathing exercises significantly improve menstrual regularity, reduce pain, and enhance psychological well-being in sedentary women.

DISCUSSION

This study explores how yoga and breathing exercises can help women who lead a sedentary lifestyle and experience menstrual irregularities. Menstruation is a natural biological process, but many women face issues such as irregular cycles, pain, and emotional discomfort due to factors like stress, poor lifestyle habits, lack of physical activity, and hormonal imbalance. These problems can negatively affect both physical and mental well-being. The study focuses on yoga as a natural and holistic approach to managing these issues. Yoga combines physical postures, breathing techniques, and mental relaxation, which together help reduce stress, improve blood circulation to the pelvic region, and support hormonal balance. Practices like Surya Namaskara and pranayama (such as Anulom Vilom and Bhramari) are believed to regulate the nervous system, decrease stress hormones, and relax the body, thereby reducing menstrual pain and improving cycle regularity. The main aim of the study is to evaluate whether regular practice of yoga and breathing exercises can improve menstrual health in women with sedentary lifestyles. It hypothesizes that such practices will have a positive effect by reducing irregularities and enhancing overall well-being. To test this, the researchers conducted an experimental study involving young women, dividing them into a group that practiced yoga and a control group that did not, and then comparing the outcomes. The findings from previous research discussed in the article support the idea that yoga can significantly reduce menstrual pain, improve emotional stability, and enhance quality of life. Breathing exercises, in particular, play an important role in calming the mind and reducing stress, which is a major contributor to menstrual disturbances.

The study, has several limitations that should be considered when interpreting its results. Since the sample size is relatively small (only 56 participants) and limited to students from a single institution, Srinivas University, the findings may not be generalizable to all women, especially those from different age groups, occupations, or cultural backgrounds. The use of convenient and purposive sampling also introduces selection bias, meaning the participants may not fully represent the broader population of women with menstrual irregularities.

Another limitation is the short duration of the intervention. Menstrual health and hormonal balance often require long-term lifestyle changes, so a brief study period may not capture the full extent of yoga's benefits or its sustained effects over time. Additionally, the study relies partly on self-reported data through questionnaires, which can be influenced by personal perception, memory errors, or response bias. The research also excludes women with conditions like PCOS, thyroid disorders, or those on hormonal treatments, which limits its applicability because many real-world cases of menstrual irregularities are linked to such conditions. Moreover, factors like diet, sleep, and stress levels outside the yoga intervention were not strictly controlled, even though they significantly influence menstrual health.

The interpretation of this study suggests that yoga and breathing exercises can play a meaningful role in improving menstrual health among women with a sedentary lifestyle. The results indicate that when regular physical inactivity is replaced with structured practices like yoga, there is a positive shift in both physical and psychological factors that influence the menstrual cycle. Improvements observed in cycle regularity, reduction in pain, and better emotional balance can be understood as outcomes of reduced stress levels, improved blood circulation, and enhanced hormonal regulation. From a physiological perspective, the study can be interpreted as showing that yoga helps regulate the autonomic nervous system by decreasing sympathetic (stress-related) activity and increasing parasympathetic (relaxation) activity. This shift creates a more balanced internal

environment, which is essential for proper hormonal functioning and menstrual regularity. The inclusion of breathing exercises strengthens this effect by calming the mind and lowering stress hormones, which are known contributors to menstrual disturbances. Psychologically, the findings imply that yoga not only addresses physical symptoms like cramps and irregular flow but also improves mood, reduces anxiety, and enhances overall well-being. This mind-body connection is important because emotional stress is closely linked to menstrual irregularities. By promoting relaxation and mindfulness, yoga helps women gain better control over both their mental and physical health. In a broader sense, the study can be interpreted as supporting yoga and pranayama as effective, non-pharmacological interventions for menstrual issues. Rather than relying solely on medications, it highlights the value of lifestyle modification as a sustainable and holistic approach. However, these benefits are likely dependent on consistency and long-term practice rather than short-term intervention.

Conclusion

The study concludes that yoga and breathing exercises are effective in improving menstrual health among women with sedentary lifestyles. Regular practice helps in regulating the menstrual cycle and reducing irregularities. It also significantly decreases menstrual pain and discomfort. The calming effect of pranayama reduces stress, which is a major cause of hormonal imbalance. Improved blood circulation to the pelvic region supports better reproductive function. Yoga also enhances emotional well-being, mood stability, and overall quality of life. The combination of physical postures and breathing techniques creates a balance between body and mind. It serves as a safe, natural, and non-pharmacological approach. Consistent practice is essential to achieve long-term benefits. Overall, yoga can be considered an effective lifestyle intervention for menstrual health.

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