

Effect of Yogic intervention on Premenstrual Syndrome among Adolescence

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Abstract. Background: Premenstrual Syndromes (PMS) are major public health issues that have a significant impact on one's mental health. Additional healthcare costs, absenteeism from work, and activity restrictions all add to the economic burden of such a disorder. Yoga as a therapeutic regimen has been shown to be useful to individuals with mental health and premenstrual syndrome. Aim of the study: The present study was conducted to assess the effect of Yogic intervention on Premenstrual syndrome among Adolescence. Methodology: 30 students were selected from the Government Girls Higher secondary school with ages ranging from 14 to 17 years (group average age \pm SD 38.37 \pm 5.52 years). They all filled Modified Moos menstrual Distress questionnaire before and after the yogic intervention. They were randomly divided into Control and Experimental group. The participants in experimental group did Yoga for 45 minutes each day for 10 weeks under supervision of a female yoga therapist whereas those in control group did not do any such specific activity. Results: Data were analyzed using paired sample t-test. There was a statistically significant reduction in the pain, water retention, autonomic reactions, negative effect, impaired concentration, behavior change, arousal, Control in yoga group as compared to control group. Computed t-value for all participants (i.e., 6.31) has been found significant for $df = 28$, $P < 0.01$. Conclusion: Premenstrual syndrome can be alleviated by the Yogic Intervention. It is therefore possible to administer yogic intervention (asans and breathing exercises) to help alleviate the symptoms of premenstrual syndrome (PMS) in Adolescence girls.

Keywords. Premenstrual syndrome, Mental health, Yoga, Adolescent girls

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Introduction

PMS are major public health issues that have a significant impact on one's mental health. Additional healthcare costs, absenteeism from work, and activity restrictions all add to the economic burden of such a disorder [1]. In the luteal phase of the menstrual cycle, a group of distressing physical, cognitive, affective, and behavioural symptoms known as premenstrual syndrome (PMS) or premenstrual tension (PMT) can occur. These symptoms can cause disruptions in daily life, including relationships with family and friends, as well as work [2]. Premenstrual dysphoric disorder (PMDD) is the severe, largely psychological end of the PMS spectrum, which is referred to as premenstrual tension disorder (PMTD) [3].

PMS is shown to be prevalent in between 80% and 90% of women, with the highest frequency in the age group of 20-45 [4]. The symptoms of PMS are more common and more severe in educated women than in illiterate women, according to studies conducted in various nations, with a possible link between stress and PMS. In India, a study indicated that 20% of people have the condition and that 8% of those people have severe symptoms [5].

In a follow-up study, other researchers found that 10% of women had suicidal thoughts or wishes during their premenstrual period, with this number being higher among college students and industrial workers than among housewives [4]. Depression, low self-esteem, and lack of energy are more common in women during premenstrual syndrome [6]. Additionally, maternity care, family customs, and social life can all be altered by these changes [7]. Depression and other mental health issues can result from premenstrual syndrome (PMS). Because of this, several studies on PMS treatment alternatives have been undertaken during the previous two decades [8].

PMS without treatment can cause problems and disrupt daily activities and quality of life for women, so it is vital to look for tools and therapies that can relieve the symptoms of PMS and are cheap for individuals to get relief from these problems. Yoga can help people with physical,

mental, and emotional problems. Many studies have shown that yoga can help people. The study aims to look into the psychological, physical, and behavioral effects of yoga on women who have PMS and how yoga can help them.

Materials and Methods

30 students were selected from the Government Girls Higher secondary school with ages ranging from 14 to 17 years (group average age \pm S.D. 38.37 \pm 5.52 years). Permission was given by their principle, and each participant signed a consent form as well. They all have filled Modified Moos menstrual Distress questionnaire before and after the yogic intervention. They have randomly divided into the Control and Experimental group. Those practiced Yoga for 45 minutes each day for 10 weeks under supervision of a female yoga therapist. Girls who have history of chronic illness, high blood pressure, hypothyroidism, migraine, epilepsy, pelvic inflammatory diseases, endometriosis, irregular menstrual cycle, amenorrhea and any other psychiatric disorders were excluded from the study.

Research design

A randomized controlled design was used in the study. A total of sixty participants were randomly divided into the experimental and control groups. Pre-assessment was done before the intervention. All participants have filled out moos menstrual distress questionnaire. After 10 weeks of intervention, post data was gathered. The specialists created a yoga module. [Yogic Intervention (Duration in minutes) : Starting with gayatri mantra chanting (2 minutes), Pawanmuktasan part 1 and 3 (8 minutes), Pragma yoga exercise (8 minutes), Tadasana, Tiryak Tadasana, Ardh- katihakrasana, Trikonasana (3 minutes), Janushishasana, Vkrasana, Marjarisasana, pashchimottanasana (4 minutes), Dhanurasana, Salbhasana, Bhujangasana (3 minutes), Sarvanasana, matsyasana, setubandhasana (3 minutes), Shavasana (3 minutes), Kapalbhati (for cleansing) (3 minutes), Chest, Abdominal, Yogic breathing (4 minutes), Nadi-shodhan pranayam, Bhramari (4 minutes)] that

included asanas and pranayama. For 10 weeks, the experimental group did yoga practice for 45 minutes each day. On the other hand, the control group was engaged in the activities of their daily lives and was not allowed to partake in yoga training.

Assessment

Moos Menstrual Distress Questionnaire (MDQ) 4th Edition: The MDQ is a self-report questionnaire consisting of 46 items that can be used to assess and treat premenstrual and menstrual symptoms. Each item has five possibilities that are rated in a range of zero to four. Rudolf H. Moos invented it in 1968. There were five answers for each item: 'No experience of symptoms', 'present mild', 'present moderate', 'present strong', and 'present severe'. 4 marks for 'present severe', 3 marks for 'present strong', 2 marks for 'present moderate', 1 mark for 'present mild', and 0 mark for 'No symptoms experience'. There are eight subscales in the test: Pain, Water Retention, Autonomic Reactions, Negative Affect, Impaired Concentration, Behavior change, Arousal, Control.

Results

Data were analyzed using paired sample t-test. The differences in pre-test and post-test mean scores were studied. The collected data was analyzed by computing the mean and standard deviation. The t-test was used to compare the scores of the adolescent girls. The difference was found significant at a 0.05 level of confidence on the all scales of premenstrual syndrome in the post-test of the yoga group. There was a statistically significant reduction in pain, water retention, autonomic reactions, negative effect, impaired concentration, behavior change and arousal in the post-test in the yoga group (shown in table 1).

In table 2 the pre and post intervention scores of pre menstrual syndrome of college girls in control group. In the control group, mean scores for autonomic reactions increased in the post-test, whereas mean scores for pain, water retention, negative effect, impaired concentration, behavior change, and arousal reduced

slightly in the post-test. The difference was found significant at 0.05 level of confidence.

Figure 1 showed significance differences between the mean differences of Yoga and Control Group. After ten weeks, significant improvement was observed in all aspects of premenstrual-syndrome. After ten weeks of the yoga intervention, a significant improvement in all dimensions of premenstrual-syndrome was observed in the yoga group compared to the control group. At the 0.05 level of confidence, this difference was statistically significant.

Discussion

Research has shown that PMS is linked to the lots of problems, like low academic achievement, poor work performance, and lack of motivation and concentration [9]. Regular yogic posture practice helps to balance hormone function and tone the nervous system, reducing the psychological symptoms of premenstrual-syndrome [10]. Yogic postures reduce negative effects and poor concentration significantly. Improving overall health and assisting in the relief of nervous tension and anxiety in women suffering from PMS [11]. Yoga's physical effects are connected to the release of the -endorphins and the shift in neurotransmitter levels associated with emotions, such as dopamine and serotonin [12].

In women with PMS, yogic exercises can assist in reducing belly bloating, breast discomfort, abdominal cramps, and cold sweats [13]. Bhujangasana has an impact on the reproductive organs as well. It also helps to the enhance digestion, blood circulation, and alleviate back discomfort [14]. Specific yogic postures like fish, cobra, and cat pose helps in decrease level of pain intensity and pain duration in women with dysmenorrhea [15]. Another study concluded that the yogic practices also help to reduce pulse rate, blood pressure, respiration rate (RR/min), peripheral temperature, galvanic skin reaction (GSR), skin reactivity, and anxiety level and statistically significant improvement in pain tolerance ability [16]. Yoga is advised for the treatment of the pain, tension, and anxiety because it reduces sympathetic activation and cognitive and physical arousal.

Variables (n=30)	Pre Test Mean	Pre Test SD	Post Test Mean	Post Test S.D.	T Value
Pain	40.54	3.6	35.25	3.5	5.75*
Water retention	40.36	3.6	35.77	7.02	3.06*
Autonomic Reactions	42.61	7.88	38.83	7.42	17.07*
Negative effect	58.29	22.1	54.19	22.03	30.56*
Impaired concentration	59.51	25.77	55.93	25.24	3.56*
Behavior Changes	64.12	28.45	59.67	28.27	29.15*
Arousal	39.36	21.12	56.12	20.79	2.01*
Control	67.45	28.36	62.67	21.39	20.30*

Table 1: Significance differences between pre and post test mean scores of Pre Menstrual Syndrome of Yoga Group; *significant at 0.05 level of confidence

Variables (n=30)	Pre Test Mean	Pre Test SD	Post Test Mean	Post Test S.D.	T Value
Pain	48.03	13.6	47.7	13.34	4.5*
Water retention	38.6	7.98	37.1	7.64	8.76*
Autonomic Reactions	42.7	7.53	48.06	8.2	8.42*
Negative effect	57.23	21.67	55.8	21.69	10.78*
Impaired concentration	57.86	24.49	56.46	24.38	6.43*
Behavior Changes	62.53	27.49	56.2	24.36	1.56*
Arousal	59.56	21.1	57.73	21.12	21.77*
Control	66.66	28.5	64.33	28.04	12.85*

Table 2: Significance differences between pre and post test mean scores for Pre Menstrual Syndrome of Control Group. *significant at 0.05 level of confidence

It promotes the body's intrinsic healing powers, assisting in the restoration of the appropriate functioning of the various biological systems [17]. The Yoga raises levels of the g-amino butyric acid in the brain, which is a powerful inhibitory neurotransmitter. These changes lead to the assumption that yoga influences the neuroendocrine and autonomic nerve systems, decreases sympathetic tones, and increases parasympathetic tones, all of which may play a role in enhancing sleep patterns and reducing sleep disturbance in females with PMS [17]. According to research, the yoga practice during PMS improves sleep, reduces stress and the anxiety, and reduces belly bloating, breast tenderness, abdominal cramps, and cold sweats. The current study attempts to incorporate various facts from previous research in order to address the bigger question of what sort of yogic package is

effective for balancing hormone levels, improving functional capacity, reducing psychological barriers, and improving quality of life [18].

Conclusion

Yoga is a non-invasive complimentary alternative therapy which has help to reduce cognitive, behavioral, somatic and psychological symptoms of premenstrual syndrome. Regular practice of Yoga brings harmony in bodily system and mind. The Yoga as a safe treatment has also been introduced for premenstrual syndrome. This RCT study's strengths include an adequate sample size, supervised practice sessions, randomization. Further study will be formed in follow-up and biochemical parameters with adequate sample size.

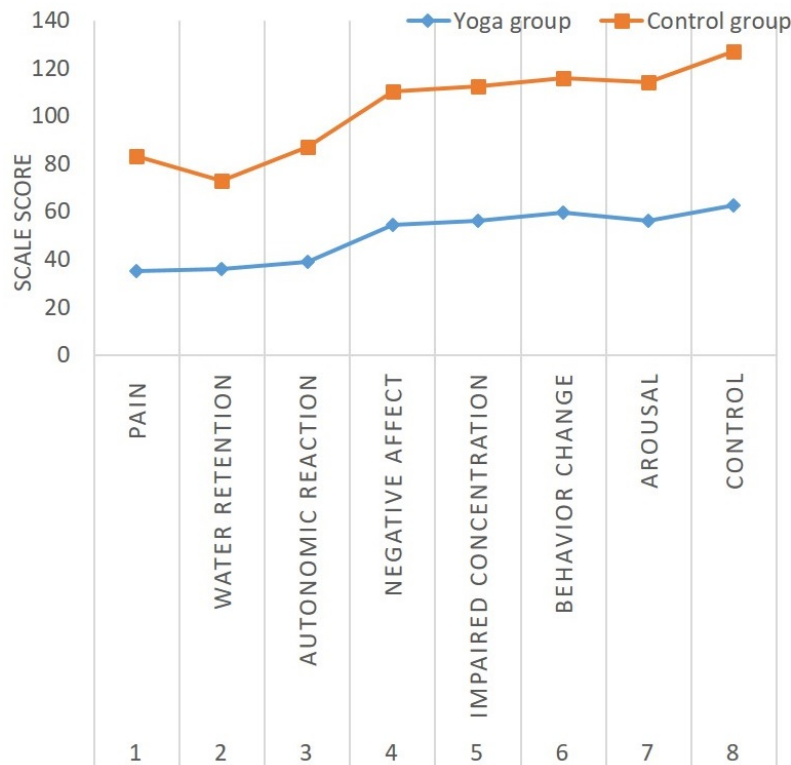


Figure 1: Significance differences between mean differences of Yoga and Control Group. *significant at 0.05 level of confidence

Compliance with ethical standards Not required.

Conflict of interest The authors declare that they have no conflict of interest. **Financial support and sponsorship** None

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