

## Impact of Yoga on Mood Swings among Women with Premenstrual Syndrome

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### ABSTRACT

The psychological, physical, and behavioral effects of yoga on women suffering from Premenstrual syndrome, as how yoga can help them. Through my research I intend to emphasize on the impact of yoga on premenstrual syndrome among women with premenstrual syndrome and ensure the necessary support for their contribution towards the nation. The attention has been given to understand the impact of experimental group and control group, especially with regards the India population. The sample size was twenty-eight, and selected conveniently. The age group selected for this study was Women that is between the ages of thirteen to twenty-eight. The premenstrual syndrome scale comprised of 40 questions with three sub-scales, Physiological symptoms, psychological symptoms, and Behavioral symptoms. The BMIS scale is an open-source mood scale consisting of 16 mood-adjectives to which a person responds. The scale can yield measures of overall pleasant-unpleasant mood, arousal-calm mood, positive-tired and negative-calm mood. Subjects underwent a pre-test mood swings questionnaire, then received a yoga intervention before undergoing a screening test for premenstrual syndrome. Following a six-weeks period of daily yoga practice for forty-five minutes minimum, the post-test of the Mood Swings Questionnaire was given during the week before the start of menstruation. The result showed that following six weeks of yogic intervention, the experimental group significantly improved on two scales of pleasant – unpleasant mood and Positive tired mood compared to the control group.

**Keywords:** *Yoga, Premenstrual Syndrome, Mood Swing*

A female draws out different attributes that are distinct from those of a male, varying in components such as physical, mental, biological, and reproductive. These are inherent and natural from the moment a mother conceives a female child. Womanhood is the stage of a female's life that follows youth and puberty. There are three very important physiological functions that distinguish women from men and are completely absent in men. Menstruation, pregnancy, and lactation are examples of physiological functions (Hess & Hess, 2014). Each of these mechanisms has a significant impact on a female's lifestyle, attitude, and behavioural patterns. Menstruation is a physiological

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condition that begins at menarche and lasts until menopause. Every month, a woman's body undergoes a radical transformation in preparation for a possible pregnancy. Physical and emotional feelings are experienced as hormones shift their delicate balance. These monthly variations might cause discomfort and worry for some people for several days., while for others, they are merely an inconvenience. But no woman can ignore the ongoing changes in her body and mind. Prior to menstruation, it is known that three out of every four women endure mild physical and mental issues (Erbil et al., 2010).

The menstrual cycle is a physiological occurrence that has been linked to a variety of psychosocial factors. The social, cultural, and family environments of women influence their beliefs and attitudes toward menstruation (Firat et al., 2009). The symptoms of Premenstrual Syndrome (PMS), which is a relatively prevalent issue, can have a significant impact on everyday life. This Qusai experimental study sought to determine the prevalence of PMS symptoms and how yoga affected premenstrual syndrome. According to recent study, 90% of women suffer one or more premenstrual symptoms each cycle (Premenstrual Syndrome (PMS) | Office on Women's Health, n.d.). Most of the studies conducted on this variable are conducted abroad. In India, research on these variables has been conducted sparingly during the past five years in an effort to better understand how yoga might be incorporated into women's daily lives. To understand whether yoga has a substantial effect on premenstrual syndrome in women. It is a widespread issue around the world, in the lives of women. A study conducted by Lata & Lohan (2017) to understand the effect of Yoga on Premenstrual Syndrome amongst College Girl Students in India. The goal of this study was to see how yoga affected premenstrual syndrome in college girls. The study concluded that yogic intervention can be an effective way to reduce the symptoms of premenstrual syndrome. As a result, yogic intervention (asanas and pranayamas) could be prescribed as a preventive measure to help girls deal with premenstrual problems.

According to the research done by Gnanasambanthan, S., & Datta, S. in 2019 Premenstrual syndrome. Symptoms can have a significant impact on Since up to 8% of women are severely disabled by PMS, it is crucial that these women are correctly recognised utilising the research at hand and treated accordingly. Streeter et al., (2010) Over a 12-week period, the researchers monitored two randomized groups of healthy people. While the other patients walked for the same amount of time, one group did yoga three times each week for an hour. This encouraging finding calls for more investigation into the connection between yoga and mood and implies that yoga could be used as a treatment for some mental illnesses. The frequency of negative mood states increased with age, according to Emiley, et al., (2013) study of the negative mood states experienced by adolescent secondary school students. They also noted that girls consistently reported experiencing negative mood states more frequently than boys. In this study conducted by Alshdaifat, E et al., in 2022. The relationship between perceived stress and menstrual problems. This study set out to ascertain the frequency of premenstrual and menstrual symptoms among medical students, as well as to look into the relationship between premenstrual severity and premenstrual syndrome's perceived stress. The study's conclusion was that students' participation in academic activities is negatively impacted by premenstrual and menstrual symptoms. Universities need to do more to assist female students who are struggling with menstruation.

Not only will Yoga aid in establishing a stable and regular menstrual cycle, but it will also aid in coping with any psychological changes, apprehension, or dread they may go through as a result of physical imbalances. Regular yoga practice helps to maintain hormonal

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balance, prevent obesity, improve reproductive organs, and build muscle strength Prabhu, S., Nagrale, S., Shyam, A., & Sancheti, P., (2019).

### *Procedure*

Quantitative methodology uses a pre test, mid-test and post test research design. Design that is Quasi experimental. In this study, the Premenstrual Syndrome Scale will be administered to subjects as a screening test for premenstrual syndrome, followed by a mood swings questionnaire for the pre-test, and finally, a yoga intervention will be given to the subjects. Then, for at least 6 weeks, yoga will be continued to practice, and then, during the week preceding the onset of menstruation, the post test of the Mood swings questionnaire will be administered. By attempting to prevent the effect of extraneous variables on their statistical relationship. This research was conducted on women aged 13 of between 28 years. The process for the experimental group was organised with the intervention of SAHAS institute of yoga in Bangalore, with a small number of female subjects. The premenstrual syndrome screening test was completed on these women before the intervention began, so the women who had mild and moderate levels of premenstrual syndrome were taken into consideration individually. All the women began the new session. The 14 Women underwent a pre-intervention mood swing test on the first day of the intervention, and before the intervention began, the yoga therapist and I designed a 6-week module for the people since all 14 people received a six-week yoga intervention. Yoga therapist who led 45-minute daily sessions for all 14 Women individually over the course of six weeks.

During this course all the Women were regular attendees of the sessions, during the third week of the yoga intervention, these Women underwent a mid-test for mood swings. The post test of mood swing was completed at the conclusion of the sixth week of the intervention. As it progressed, more of the physical aspect was focused, but with each session, they gained clarity on how yoga is useful and which aspects to give importance upon and the theoretical aspect of the asanas was also focused upon. The technique for the control group was as follows: the pre test was administered on the same date as the experimental group, the mid-test was also administered on that date, and the post test was also administered on that date. since the control group received no treatment.

### *Instruments*

Two measures were used in this study,

1. ***Premenstrual Syndrome Scale (PMSS)***: The premenstrual syndrome scale had three subscales and 40 questions (Physiological, Psychological and Behavioural symptoms). 40 items make up this 5-point Likert-type scale. The following scoring system is used to determine the values on the scale: the response Never scored as "1", rarely as "2", sometimes as "3", very often as "4" and always as "5" points. Validity has been tested extensively 0.81 and reliability between 0.97
2. ***Brief Mood Introspection Scale (BMIS)***: A person replies to 16 mood-adjectives on the BMIS scale, which is an open-source mood scale (e.g., Are you "happy"?). The scale can be used to assess positive-tired, negative-calm, and overall pleasant-unpleasant moods as well as arousal-calm and arousal-alert moods. Between 0.76 and 0.83 was considered to be a very excellent range for Cronbach's alpha reliabilities.

**RESULTS AND TABLES**

*Descriptive statistics for the experimental group and the control group.*

*Table 1 Shows the number of subjects, mean and standard deviation of Experimental Group.*

<b>Scale- Mood Swing</b>	<b>n</b>	<b>M</b>	<b>SD</b>
Pleasant- unpleasant mood scale			
Pre test	14	30.71	5.136
Mid test	14	30.93	5.903
Post test	14	41.86	7.574
Arousal-clam mood scale			
Pre test	14	29.93	3.951
Mid test	14	28.71	3.197
Post test	14	30.29	3.496
Positive -tired mood scale			
Pre test	14	14.00	2.353
Mid test	14	14.57	2.681
Post test	14	18.00	3.282
Negative relaxed mood scale			
Pre test	14	17.79	3.378
Mid test	14	17.86	2.107
Post test	14	17.29	2.335

As predicted, the overall scores of means and standard deviation improved over the course of the study.

*Table 2 Shows the number of subjects, mean and standard deviation of the Control group.*

<b>Scale- Mood Swing</b>	<b>n</b>	<b>M</b>	<b>SD</b>
Pleasant- unpleasant mood scale			
Pre test	14	38.07	5.876
Mid test	14	37.36	6.709
Post test	14	34.86	7.523
Arousal-clam mood scale			
Pre test	14	30.00	3.038
Mid test	14	32.21	5.132
Post test	14	29.86	2.908
Positive -tired mood scale			
Pre test	14	17.00	2.717
Mid test	14	16.86	4.130
Post test	14	14.79	1.949
Negative relaxed mood scale			
Pre test	14	14.86	3.880
Mid test	14	16.57	5.774
Post test	14	12.00	2.288

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As predicted, the overall scores of means and standard deviation did not improve over the course of the study.

### *Inferential statistics of experimental group and control group.*

**Table 3 Shows the repeated measures as their frequency value, degree of freedom value significant value of experimental group.**

Scale	F	df	Sig.	POST HOC
Pleasant- unpleasant mood scale	2.056	2	0.001	1>3
Arousal-Clam mood scale	0.726	2	0.373	2< 3
Positive-Tired mood scale	9.244	2	0.012	1>3
Negative-relaxed scale	0.208	2	0.773	1>3

*Note: Sig., significance,*

*1= pretest, 2=mid test, 3=post test.*

When using a one-way repeated measures analysis of variance (ANOVA) to test the alternative hypothesis for the experimental group, it was discovered that two of the mood swing dimensions had significantly changed (N=14). Thus, there is significant evidence to accept the alternative hypothesis of two dimensions of mood swing scale. The scores significantly rose with time, indicating that the yoga intervention's involvement improved the participants' Pleasant-Unpleasant Mood Scale and Positive-Tired Mood Scale.

**Table 4 Shows the repeated measures as their frequency value, degree of freedom value, significant value of control group.**

Scale	F	df	Sig.	POST HOC
Pleasant- unpleasant mood scale	2.300	2	0.258	No sig.
Arousal-Clam mood scale	1.327	2	0.083	No sig.
Positive-Tired mood scale	3.302	2	0.426	No sig.
Negative-relaxed scale	5.656	2	0.015	No sig.

*Sig., significance.*

The alternative hypothesis of the control group was tested using a one-way repeated measures analysis of variance (ANOVA), and the results showed that there was no significant change in any of the four aspects of mood swing (N=14). Therefore, there is sufficient evidence to reject the alternative hypothesis for each of the four mood swing scale dimensions. Follow up comparison indicated that each pairwise difference was not significant,  $P > 0.05$ . There was no significant increase in scores over time as there was no intervention for the control group.

**Table 5 Shows the independent t test of Pre-test of experimental group and control group.**

Pre Test	Experimental Group			Control Group			t	p
	N	M	SD	N	M	SD		
<b>Pleasant-unpleasant scale</b>	14	30.71	5.136	14	38.07	5.876	0.027	0.763
<b>Arousal clam mood scale</b>	14	29.93	3.951	14	30.86	3.308	0.054	0.958
<b>Positive tired mood</b>	14	14.00	2.353	14	17.79	2.949	0.021	0.832
<b>Negative relaxed mood</b>	14	17.29	3.378	14	15.00	1.288	0.034	0.642

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The t value obtained between the two groups, pleasant and unpleasant mood scale, Arousal clam mood scale, Positive tired mood scale, Negative relaxed mood scale 0.027, 0.054, 0.021, 0.034 are at corresponding p value are 0.763, 0.958, 0.832, 0.642 ( $p < .05$ ). This clearly shows that there is no significant difference in all the four dimensions of the mood scale of the experimental group and the control group in their Pre test. There won't be any significant difference cause at the time of pre test the experimental group did not get any intervention.

**Table 6 Shows the independent t test of Post-test of experimental group and control group.**

Post Test	Experimental Group			Control Group			t	p
	N	M	SD	N	M	SD		
<b>Pleasant-unpleasant scale</b>	14	41.86	7.574	14	32.93	7.691	2.454	0.005
<b>Arousal clam mood scale</b>	14	30.29	3.496	14	29.86	5.908	0.234	0.817
<b>Positive tired mood</b>	14	18.00	3.282	14	24.79	4.949	4.279	0.001
<b>Negative relaxed mood</b>	14	17.29	2.335	14	20.00	6.288	1.514	0.142

The t value obtained between the two groups, pleasant and unpleasant mood scale, Arousal clam mood scale, Positive tired mood scale, Negative relaxed mood scale 2.454, 0.234, 4.279, 1.514 are at corresponding p value are 0.005, 0.817, 0.001, 0.142 ( $p < .05$ ). This clearly shows that there is significant difference in the pleasant and unpleasant mood scale and positive tired mood scale of the experimental group and the control group in their Post test.

### CONCLUSION

Yoga was used as an intervention in the experimental group during the study, which involved two distinct groups, the experimental group and the control group. Each group contained 14 participants, whose ages ranged from 13 to 28. Subjects underwent a pre-test mood swings questionnaire, then received a yoga intervention before undergoing a screening test for premenstrual syndrome called the Premenstrual Syndrome Scale. Following a 6-week period of daily yoga practice for 45 minutes, the post-test of the Mood Swings Questionnaire was given during the week before the start of menstruation. by making an effort to minimize the impact of unrelated factors on the statistical link between them. There was a substantial effect of yoga on two variables of mood swing among premenstrual syndrome sufferers, according to pre-test, mis-test, and post-test results conducted on respective groups.

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### **Conflict of Interest**

The author(s) declared no conflict of interest.

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