

# Effect of Surya Namaskar With and Without Walking On Body Mass Index among College Girls with Premenstrual Syndrome

R. Shakeela, S. N. Sugumar

*Abstract: Health is wealth. Keeping our body in good health is our duty, otherwise we shall not be able to keep our mind strong and clear. Science and technology have revolutionized the life style of mankind. Increased standard of living has brought great comfort to mankind. Along with this developments, the modern man becoming submerged in the material world with large number of problems and recurrent ailments. Stress and frustration and physical ailments have become common among the people in this world<sup>1</sup>. Birth is not for being tortured by diseases and problems. Happiness is the birth-right and the nature of mankind. Health only can give the happiness. But the happiness of women is disturbed very much by the menstrual problems. Every Woman may become physically, mentally and emotionally healthy through Yoga. The practice of Yogasanas for physical body and Pranayama for mind through Surya Namaskar will bring a positive change in mind & body, which in turn make people free to enjoy a harmony, healthy and wealthy life.*

**Keywords:** Health, Diseases, Menstrual problems, Premenstrual syndrome, Yoga, Surya Namaskar, Walking, Body Mass Index.

## I. INTRODUCTION

Human body is a wonderful prime mover of mankind to achieve the goals of life<sup>2</sup>. But it gets blocked often by the diseases and sufferings. Health is the prime factor which enhances Economic status of an individual as well as the Country. Women are the prime victims who get affected by health issues like menstrual problems. They have extra responsibility of producing healthier population to have healthier country. A menstrual problem like Premenstrual syndrome affects normal life of women, especially college girls. The sedentary life of college girls changes the Body Mass Index ratio which becomes one of the reasons for Premenstrual syndrome. The human body and mind should be active and mobile to be in good health. Physical exercise and breathing exercise will enhance the complete health of humankind. Yoga is the one which provides the total requirement of health of an individual. Especially Surya Namaskar, the combination of physical exercises (Yogasanas) and breathing techniques (Pranayama) is the best way to achieve good health. The importance of Surya Namaskar has been highlighted by providing sculpture at New Delhi International airport. Walking is the easiest exercise for all kind of people and has tremendous benefits for PMS.

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## II. RESEARCH OBJECTIVE

Objective of the study is to bring awareness among the People about the health benefits of Surya Namaskar for Menstrual problems like Premenstrual syndrome (PMS).

## III. REVIEW OF LITERATURE

The researcher has reviewed few literatures related to the subject of research, in order to have better understanding about the impact of adiposity in Premenstrual Syndrome. Dr.S.D.Archana (2018) explained in detail about the procedures and benefits of Surya Namaskar for menstrual abnormalities<sup>3</sup>. Vahid Ghaffararilaleh. et.al. (2018) concluded that the practice of Surya namaskar improves the quality of sleep of women with pre menstrual syndrome<sup>4</sup>. Amit Vaibhav et.al. (2016) elaborated in their article in detail about the procedures and benefits of Surya Namaskar for good health<sup>5</sup>. Anand Sharad Godse et.al. (2015) have explained how Surya Namaskar reduces the stress of college students and make them relaxed<sup>6</sup>. Dr.Swati et.al. (2014) have stated that Body Mass Index is also one of the factors of Premenstrual syndrome which occurs in adolescent girls at high propotion<sup>7</sup>.

## SIGNIFICANCE OF MENSTRUATION AND PMS

The menstrual cycle is natural change that occurs in the uterus and ovaries as an essential part of making reproduction possible. The menstrual cycle is essential for the production of eggs and for the preparation of the uterus for pregnancy. The average menstrual cycle takes about 28 days. Before a week or two of menstrual periods, women face lot of symptoms, which is called Premenstrual syndrome (PMS). PMS affects the normal day-to-day life of women. Three out of four women experience menstrual discomforts<sup>7</sup>. Nearly 150 symptoms are associated with PMS, but Body pains, Bloating, Breast tenderness, Lethargy & Fatigue, Mood swings, Irritability, Anger outburst, Depression, Anxiety and Obesity<sup>8</sup> are the most common symptoms of PMS.

## Body Mass Index (BMI)

BMI is a number calculated by dividing a person's weight in kilograms by his or her height in meters squared. BMI is used in determining obesity. BMI is not used to determine a person's actual percentage of body fat, but it is a good indicator to categorize weight in terms of what is healthy and unhealthy.

## Surya Namaskar or Sun salutation

The Sun Salutation consists of 12 positions done in succession. This should be practiced at sunrise

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facing up to the sun. Surya Namaskar is the King of Yogasana. It is a general tonic for the entire body. It activates the body as well as mind together. The various Yoga postures in Surya Namaskar help in energizing each of the seven Chakras (energy centers) in the human body. Surya Namaskar Asanas along with Breathing techniques and Mantra chanting provides a powerful energy to the body and mind.

### 12 Steps or positions of Surya Namaskar

Step 1	Prayer Pose	<b>Pranamasana</b> Heart centre OM Mitraya Namah	<b>Exhale</b> Anahata Chakra (everyone's friend)
Step-2	Raised arm pose	<b>Hastha Uttanasana</b> Throat centre OM Ravaye Namah	<b>Inhale</b> Vishuddhi Chakra (praised by everyone)
Step-3	Hand to Foot pose	<b>Padahasthasana</b> Pelvic centre OM Suryaya namah	<b>Exhale</b> Svathishthana Chakra (the guide of all)
Step-4	Equestrian Pose [Right Leg forward]	<b>Aswa Sanchalanasana</b> Eyebrow centre OM Bhanave namah	<b>Inhale</b> Ajnya Chakra (the giver of beauty)
Step-5	Inner equanimity Pose	<b>Parvatasana</b> Throat centre OM Khagaya namah	<b>Exhale</b> Vishuddhi Chakra (stimulator of the senses)
Step-6	Eight-Limbed salutation	<b>Astanga Namaska</b> Navel centre OM Pushne Namah	<b>Inhale &amp; Exhale</b> Manipura Chakra (the sustain everything)
Step-7	Cobra Pose	<b>Bhujangasana</b> Pelvic centre OM Hiranyagarbhaya namah	<b>Inhale</b> Svathishthana Chakra (the creator)
Step-8	Mountain Pose	<b>Parvatasana</b> Throat centre OM Marichaye namah	<b>Exhale</b> Vishuddhi Chakra (destructive disease)
Step-9	Equestrian pose [Left Leg forward]	<b>Sanchalanasana</b> Eyebrow centre OM Adityaya namah	<b>Inhale</b> Ajnya Chakra (the Inspirer)
Step-10	Hand to Foot pose	<b>Padahasthasana</b> Pelvic centre OM Savitre Namah	<b>Exhale</b> Svathishthana Chakra (Purifier)
Step-11	Raised arm pose	<b>Hastha Uttanasana</b> Throat centre OM Arkaya Namah	<b>Inhale</b> Vishuddhi Chakra (radiant)
Step 12	Prayer Pose	<b>Pranamasana</b> Heart centre OM Bhaskaraya namah	<b>Exhale</b> Anahata Chakra (the Illuminator)

Surya Namaskar is a wholesome exercise which makes the body and mind calm and improves concentration. It is said to remove bodily and mental tensions, improves blood circulation, stimulate the nervous system and raise the body heat. All joints are loosened and lubricated. It offers great flexibility to the spine. It is an exercise that works directly on

adrenal, thyroid and pituitary glands. It not only helps in improving metabolism, tones the reproductive organ, liver to ease the menstrual problems and also helps to achieve pain-free periods as well.

### Walking

Walking is a simplest exercise which gives greater benefits and can be done by all age groups<sup>9</sup>. It strengthens the abdomen region, expands the lungs, improves digestion, removes constipation and balances the nervous system. The breathing is regulated, thereby calming the mind. If loyally followed, the performer will get good Health, vibrant Energy, Efficiency and Longevity. By doing walking daily, endorphins – the feel good hormone secrets and it acts as a natural painkiller and gives relief from uncomfortable periods.

## IV. METHODOLOGY

The research scholar has selected forty five college girls with Premenstrual Syndrome problem randomly from GKM Engineering college, Tambaram, Chennai, Tamilnadu. Their age ranged between 17-21 years. Structured questionnaire contains 50 questions of PMS symptoms used to know the severity of menstrual problems. All the college girls with Premenstrual Syndrome were assigned to experimental group I, experimental group II and control group each group consists of 15 subjects. Experimental group I underwent Surya Namaskar with Walking, experimental group II underwent Surya Namaskar without Walking and for control group no training was provided during the period of study. The training was given six days per week, one hour per day for a period of eight weeks.

Body mass index has been taken as dependent variable. Experimental design consisting pre and post test has been adopted for research. Pre test, Post test and Adjusted post tests have been analyzed statistically using ANCOVA – Analysis of Co-variance.

### DATA ANALYSIS

Results on body mass index

The results on the effect of Surya Namaskar with and without Walking on Body Mass Index among College girls with premenstrual syndrome problems presented in the table given below Computation of analysis of covariance of body mass index

**Table-I**

	Ex.Gr. I	Ex.Gr. II	Control Group	Source of Variance	df	Sum of Squares	Mean Squares	Obtained 'F'
Pre Test Mean	24.08	24.76	24.5	between	2	3.53	1.77	0.34
				within	42	217.32	5.17	
Post Test Mean	19.22	22.31	24.64	between	2	221.79	110.9	26.65*
				within	42	174.76	4.16	
Adjusted Post Test Mean	19.26	22.28	24.63	between	2	215.89	107.95	25.76*
				within	41	171.8	4.19	
Mean Diff	4.86	2.45	-0.14					

**Source: estimated**

\*Significant at 0.05 level of confidence.



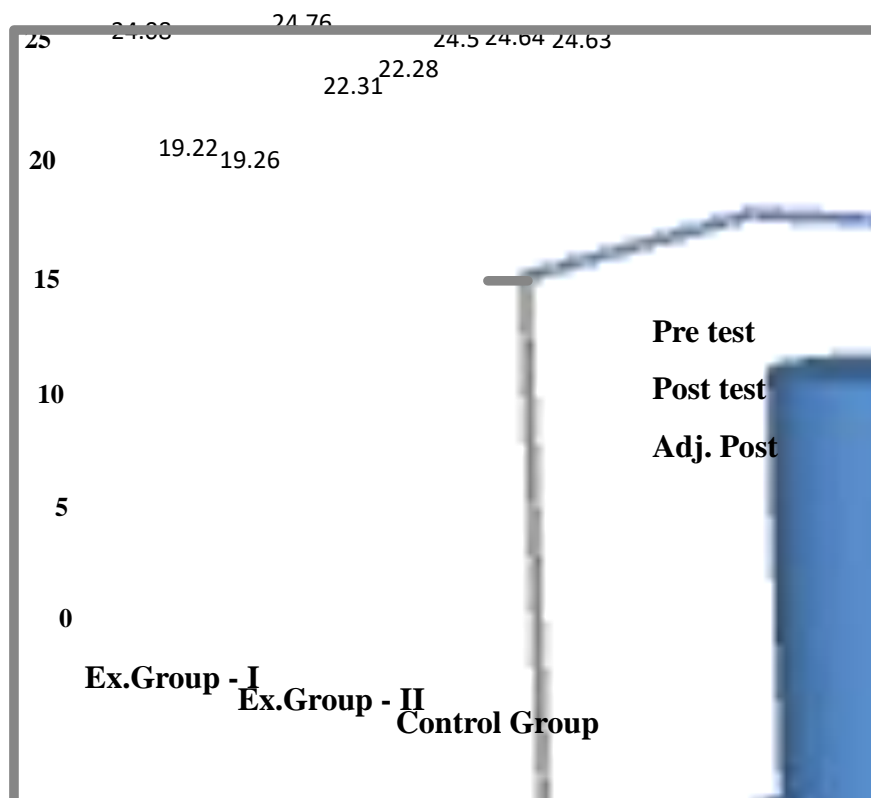


Figure-I The obtained mean values were presented through bar diagram below

## V. FINDI FINDINGS

The difference among pre test scores, Post test scores and adjusted mean scores of the subjects were statistically treated using ANCOVA and F values obtained were 0.34, 26.65 and 25.76 respectively. It was found that obtained F value on pre test score was not significant at 0.05 level of confidence as the obtained value was lesser than the required table value and post test Scores was significant at 0.05 level of confidence as the value was greater than the required table F value of 3.22.

## VI. CONCLUSION

As per the research, abnormal BMI is a factor of Premenstrual Syndrome. Surya Namaskar along with walking provides a solution to reduce the weight gained by sedentary life and gives relief from menstrual problems. The study reveals that adequate exercise save the adolescent girls and gives a permanent solution for the sufferings from PMS.

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**S. N. Sugumar** Organized a few International and National conferences in India and abroad. He authored more than 20 books and published more than 100 research articles in the National and International Journals. He taught UG and PG students for 31 years at RKM Vivekananda College, and right now he is working as Professor and HOD, Department of Economics, VISTAS, Chennai. Specialized in Development and Health Economics.