

# The Effect of Suryanamaskar on Physiological Characteristics of Woman

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**Introduction:** The objective of Athis study was to investigate the effect of Suryanamaskar on physiological characteristics of woman. Another purpose of the study was to improve the physiological characteristics of the woman.

**Methods:** The subjects for this study were selected 40 women from Defence Colony Kankarkhera, Meerut (U.P). The subjects were equally divided into two groups (20 women control and 20 women experimental group). The age of the subjects was ranged between 40 to 45 years. Criterion measures for this study were different test items for physiological characteristics such as: To measure respiration rate about the women, Manual method was used, To measure Lung Capacity about the women, Spiro Meter was used, To measure Vital capacity about the women, Wet Spirometer was used, To measure Blood Pressure about the women, Sphygmomanometer was used and To measure Pulse rate about the women, Manual method was used. To find out the effect Suryanamaskar on physiological characteristics of woman, the t-test was used. For the testing of hypotheses, the level of significance was set at 0.05.

**Results and Discussion:** The results of the study show that there were significant ( $p > .05$ ) differences the effect of Suryanamaskar on physiological characteristics (Respiration Rate, Lung Capacity, Vital capacity, Blood Pressure & Pulse rate) of woman.

**Keywords:-** Respiration Rate, Lung Capacity, Vital capacity, Blood Pressure, Pulse rate and Suryanamaskart.

## I. INTRODUCTION

“The final goal of Yoga discipline is to make our mind and body still”

Maharishi Patanjali

The modern world appears to be much more concerned for health. The hold of health and fitness has grown very strong on the mind of individuals in the society at large. Physical activity and exercise can have immediate and long-term health benefits. Most importantly, regular activity can improve your quality of life. Good health is central to human happiness and well-being that contributes significantly to prosperity and wealth and even economic progress, as healthy populations are more productive, save more and live longer. Today performance in sports not only demands systematic training to develop physical, physiological and technical aspects of sports but also

demands training and considerations of psychological characteristics.

Hatha Yoga is a discipline involving various bodily and mental control, but control to them all is the regulation of the breath. Hatha is derived from tow roots, 'ha' (sun) and 'tha' (moon) which symbolically refers to the flowing of breath in the left nostril, called the moon breath. Yoga is derived from the root 'yuj' (to join) therefore Hatha Yoga is the uniting of these two breaths.

Hatha Yoga - the Hatha of Health - seeks primarily to correct our physical and mental disharmonies through a balanced programme of bodily and mental training. Probably it is the best-known form of Yoga in the Western world, popularized by a rich bibliography and partially re-elaborated in many exercises of contemporary physical education.

The Surya Namaskar is a great way of detoxing your body and helping it get rid of excess carbon dioxide and other toxic gases. When done at a fast pace, it is a great cardiovascular workout that stretches the abdominal muscles while simultaneously helping you reduce excess weight around your stomach. The asanas also result in toning your arms, abs, and giving great flexibility to your spine. Moreover, it helps to strengthen your entire skeletal system including your ligaments. If you're facing the problem of an irregular menstrual cycle, these asanas will help you suppress this irregularity and if practiced daily, it ensures easy childbirth. By incorporating it into your routine it will keep you youthful and healthy even in old age. It improves your blood circulation that aids in bringing back the glow on your face; preventing the onset of wrinkles, making your skin look ageless and radiant. It also prevents hair loss and the aging of hair. Surya Namaskar helps to improve memory and the nervous system. Moreover, it stabilizes the activity of the endocrine and thyroid glands, thereby reducing anxiety and inducing the sensation of complete calmness and tranquility.

Since physical education aims at the development of all phases of life and yogic practices are believed to have tremendous physiological values, the research scholar sincerely desired to explore in the area of effect of Suryanamaskar on some of the physiological variables.

## II. METHODOLOGY

The subjects for this study were randomly selected from defence colony Kankarkhera, Meerut (U.P). The total number of subjects for this study was 40 women (20 women control and 20 women experimental group). The age of the subjects was ranged between 40 to 45 years. Necessary data were collected for physiological characteristics (Respiration Rate, Lung Capacity, Vital capacity, Blood Pressure & Pulse rate) such as: To measure respiration rate about the women, Manual method was

used, To measure Lung Capacity about the women, Spiro Meter was used, To measure Vital capacity about the women, Wet Spirometer was used, To measure Blood Pressure about the women, Sphygmomanometer was used and To measure Pulse rate about the women, Manual method was used. To find out the effect Suryanamaskar on physiological characteristics of woman, the t-test was used. For the testing of hypotheses, the level of significance was set at 0.05.

## III. RESULTS OF THE STUDY

To find out Suryanamaskar training effect between pre and post respiration rate of woman in the experimental group and control group, Dependent t-test statistics was used and presented in table-1.

Speed		Pre	Post	t.ratio
Experimental Group of Suryanamaskar Training	Mean	18.80	16.25	-18.89*
	S.D	1.36	1.29	
Control Group	Mean	18.50	18.35	-0.90*
	S.D	1.43	1.39	

Table 1: T-ratio of pre and post respiration rate of woman in experimental group and control group

\*Significant at .05 level

t-value required to be significant at 19 df = 2.09

It is evident from table-1 that significant difference was found in suryanamaskar training effect between pre and post respiration rate of woman in the experimental group as the t-value was found -18.89. This was a higher value than the required value at .05 level of significance, but an

insignificant difference was found between pre and post respiration rate of woman in the control group as the t-value was found -0.90. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-1.

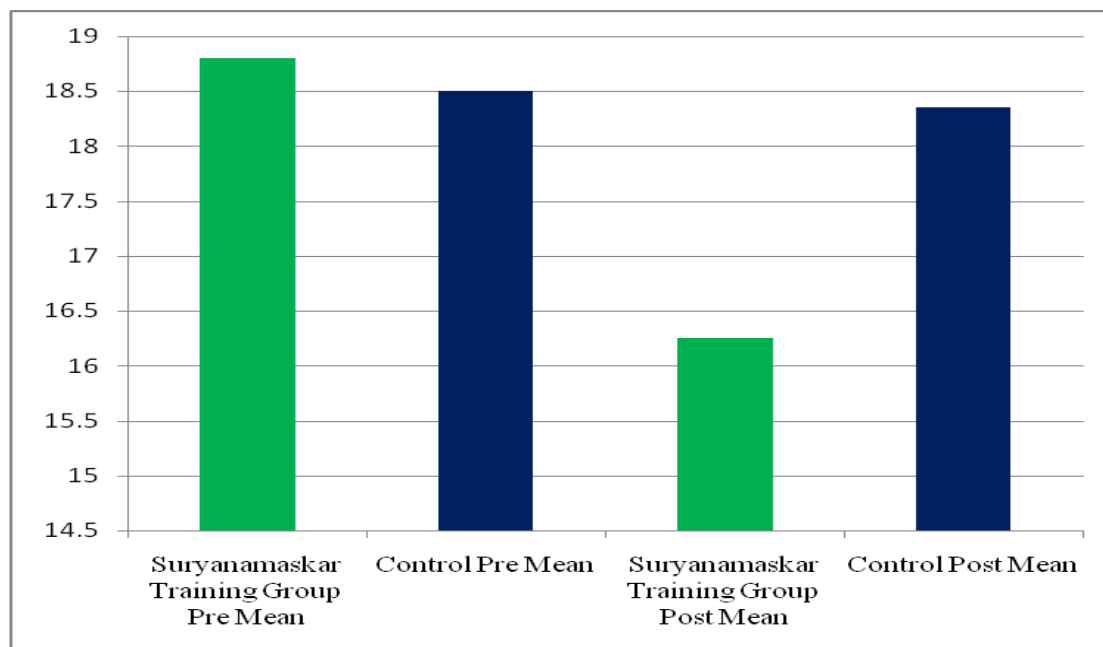


Fig. 1: Pre and Post respiration rate of woman in experimental group and control group

To find out Suryanamaskar training effect between pre and post lung capacity of woman in the experimental group and control group, Dependent t-test statistics was used and presented in table-2.

Speed		Pre	Post	t.ratio
Experimental Group of Suryanamaskar Training	Mean	3978.75	4294.20	47.93*
	S.D	104.01	111.76	
Control Group	Mean	3898.50	3900.05	1.42*
	S.D	183.28	185.32	

Table 2: T-ratio of pre and post lung capacity of woman in experimental group and control group

\*Significant at .05 level

t-value required to be significant at 19 df = 2.09

It is evident from table-2 that significant difference was found in Suryanamaskar training effect between pre and post lung capacity of woman in the experimental group as the t-value was found 47.93. This was a higher value than the required value at .05 level of significance, but an

insignificant difference was found between pre and post lung capacity of woman in the control group as the t-value was found 1.42. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-2.

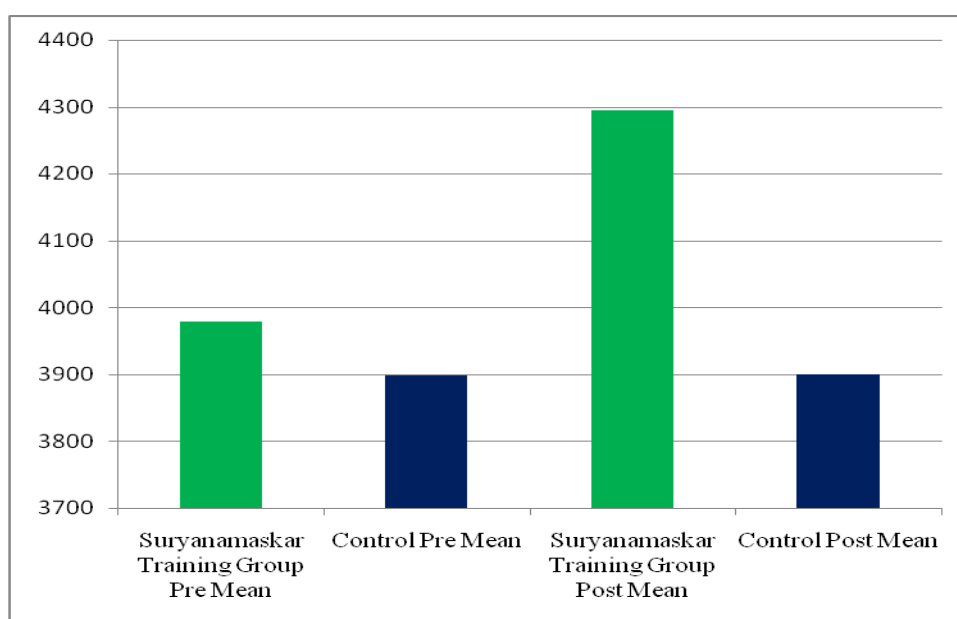


Fig. 2: Pre and Post lung capacity of woman in experimental group and control group

To find out Suryanamaskar training effect between pre and post vital capacity of woman in the experimental group and control group, Dependent t-test statistics was used and presented in table-3.

Speed		Pre	Post	t.ratio
Experimental Group of Suryanamaskar Training	Mean	3104.75	3281	54.47*
	S.D	90.88	99.25	
Control Group	Mean	3117.25	3116	1.31*
	S.D	98.23	95.83	

Table 3: T-ratio of pre and post vital capacity of woman in experimental group and control group

\*Significant at .05 level

t-value required to be significant at 19 df = 2.09

It is evident from table-3 that significant difference was found in Suryanamaskar training effect between pre and post vital capacity of woman in the experimental group as the t-value was found 54.47. This was a higher value than the required value at .05 level of significance, but an

insignificant difference was found between pre and post vital capacity of woman in the control group as the t-value was found 1.31. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-3.

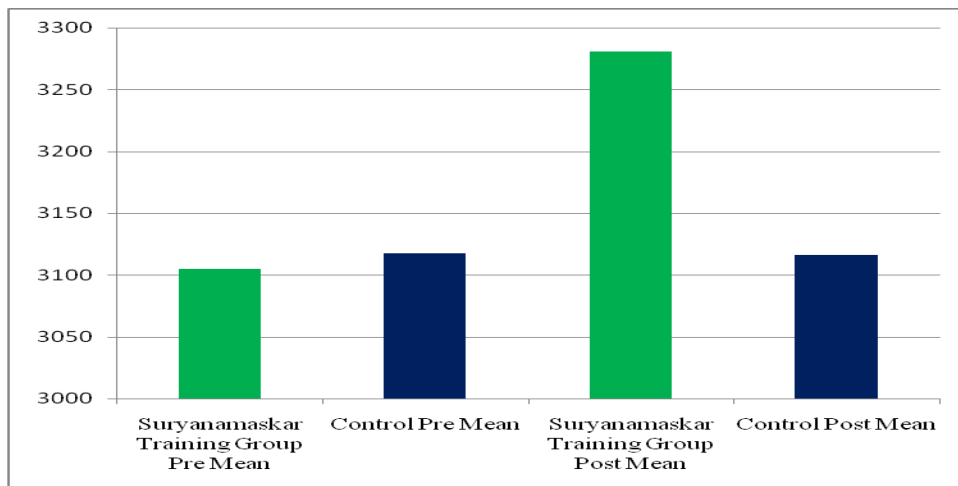


Fig. 3: Pre and Post vital capacity of woman in experimental group and control group

To find out suryanamaskar training effect between pre and post systolic blood pressure of woman in the experimental group and control group, Dependent t-test statistics was used and presented in table-4.

Speed		Pre	Post	t.ratio
Experimental Group of Suryanamaskar Training	Mean	126.20	123.15	-7.74*
	S.D	6.22	5.30	
Control Group	Mean	128.65	128.90	.96*
	S.D	5.96	5.47	

Table 4: T-ratio of pre and post systolic blood pressure of woman in experimental group and control group

\*Significant at .05 level

t-value required to be significant at 19 df = 2.09

It is evident from table-4 that significant difference was found in suryanamaskar training effect between pre and post systolic blood pressure of woman in the experimental group as the t-value was found -7.74. This was a higher value than the required value at .05 level of significance,

but an insignificant difference was found between pre and post systolic blood pressure of woman in the control group as the t-value was found .96. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-4.

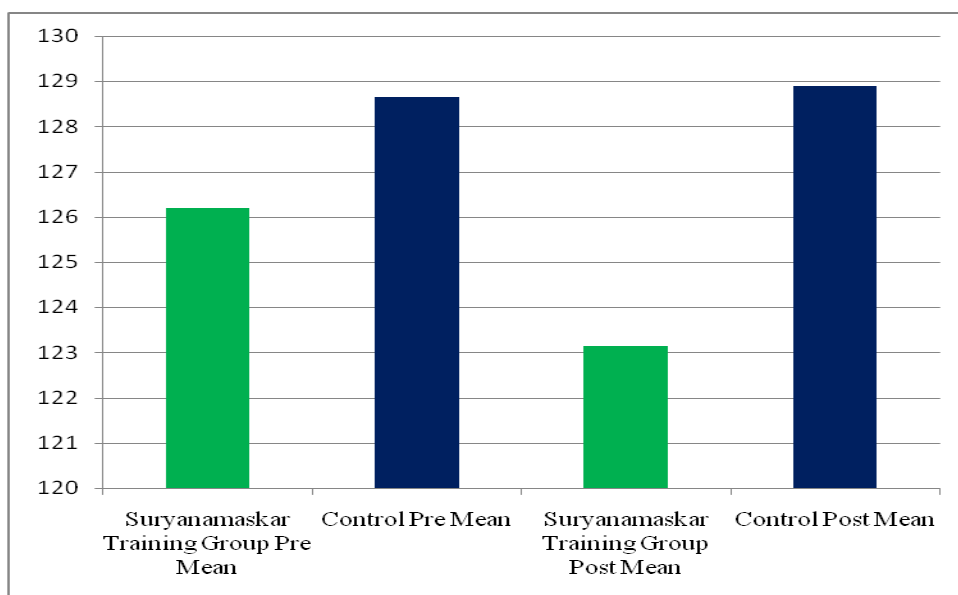


Fig. 4: Pre and Post systolic blood pressure of woman in experimental group and control group

To find out Suryanamaskar training effect between pre and post diastolic blood pressure of woman in the experimental group and control group, Dependent t-test statistics was used and presented in table-5.

Speed		Pre	Post	t.ratio
Experimental Group of Suryanamaskar Training	Mean	74.75	76.75	3.53*
	S.D	3.61	2.17	
Control Group	Mean	74.30	74.35	.29*
	S.D	2.79	2.45	

Table-5: T-ratio of pre and post diastolic blood pressure of woman in experimental group and control group

\*Significant at .05 level  
t-value required to be significant at 19 df = 2.09

It is evident from table-5 that significant difference was found in suryanamaskar training effect between pre and post diastolic blood pressure of woman in the experimental group as the t-value was found 3.53. This was a higher value than the required value at .05 level of significance,

but an insignificant difference was found between pre and post diastolic blood pressure of woman in the control group as the t-value was found .29. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-5.

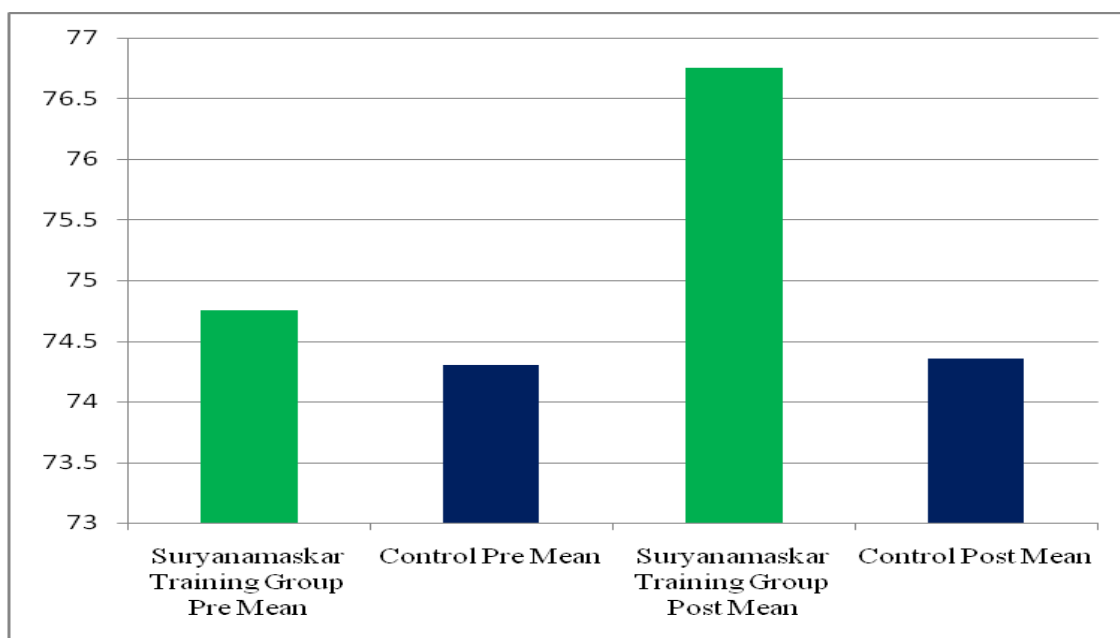


Fig. 5: Pre and Post diastolic blood pressure of woman in experimental group and control group

To find out Suryanamaskar training effect between pre and post pulse rate of woman in the experimental group and control group, Dependent t-test statistics was used and presented in table-6.

Speed		Pre	Post	t.ratio
Experimental Group of Suryanamaskar Training	Mean	79.55	76.65	-11.59*
	S.D	3.72	3.10	
Control Group	Mean	79.90	79.95	.33*
	S.D	3.45	3.46	

Table 6: T-ratio of pre and post pulse rate of woman in experimental group and control group

\*Significant at .05 level  
t-value required to be significant at 19 df = 2.09

It is evident from table-6 that significant difference was found in Suryanamaskar training effect between pre and post pulse rate of woman in the experimental group as the t-value was found -11.59. This was a higher value than the required value at .05 level of significance, but an

insignificant difference was found between pre and post pulse rate of woman in the control group as the t-value was found .33. This was a lower value than the required value at .05 level of significance.

The scores are also illustrated in the figure-6.

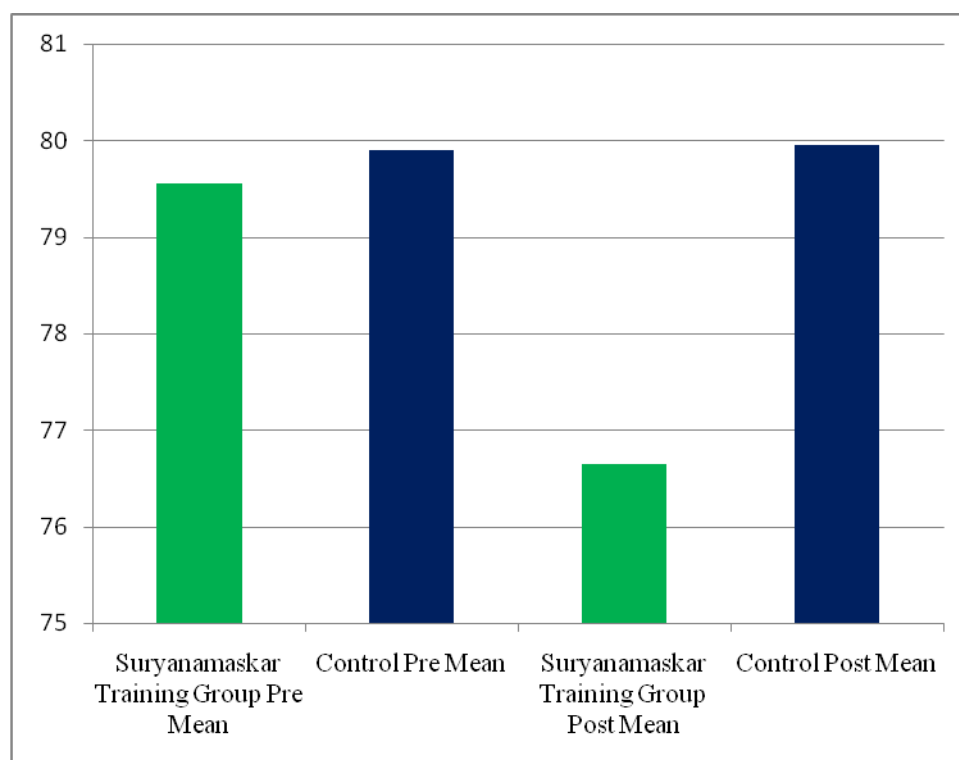


Fig. 6: Pre and Post pulse rate of woman in experimental group and control group

#### IV. DISCUSSION OF THE RESULTS

The present study was designed to the effect of suryanamaskara on physiological characteristics i.e respiration rate, lung capacity, vital capacity, blood pressure and pulse rate of the woman. Although the research scholar did not interfere with the personal lifestyle of the house wife women, some facts may be inaccessible. Which suryanamaskara training was more beneficial in looking at the lifestyle of house wife women and making their lifestyle more effective, it has been seen in this study. In order to achieve the objectives, various physiological characteristics of house wife women were collected from various scientific aspects and after that the house wife women were divided into two groups i.e. one control and one is experimental group for the study. After which these groups were trained, after that data were obtained from all these groups again. Before going to the conclusion of the study, it must be understood that the progress of any country depends on its generation. His positive contribution definitely helps any society or country to move in the right direction.

The result of the study revealed significant difference between the mean scores of suryanamaskara training effect on pre and post physiological characteristics (respiration rate, lung capacity, vital capacity, blood pressure and pulse rate) of house wife women in the experimental group. The mean score of suryanamaskara training house wife women group were found higher than the control group house wife women, The results of this study also point to the same. The result of present study is also on the line of the studies conducted by Mohan Madan & Bhavanani A.B. (2013) It was recommended that suryanamaskar be used as an

effective and in expensive method to improve pulmonary functions and general health of adolescent school children. Chaudhary Divesh & Ahsan Mohammad (2012) the result exposed that there was significant ( $p < 0.05$ ) effect of yoga training on physiological characteristics of college students. Exercise of selected yoga training program also assisted to improve physiological characteristics of college students.

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