

IMPACT OF YOGIC PRACTICES ON PHYSIOLOGICAL SELECTED FACTORS OF OVERWEIGHT ADULT WOMEN

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ABSTRACT: *The purpose of scientific study by a random sample was to figure out the impact of yogic practices among obese adult women on selected physiological variables. For the purpose of the research, 30 obese adult women residing in Chennai City between the ages of 25 and 35 years were randomly selected from 15 subjects in two categories, experimental group I and group II, using a random sampling group method. It was speculated that there will be substantial variations in selected physiological variables such as Systolic Blood Pressure and Body Mass Index (BMI) relative to the control group owing to yogic practices among obese adult people. For this analysis, the training time was eight weeks. Experimental group-I had yogic practice in the morning, for an hour, six days a week. Community II was held in successful repose. For all the participants, the pre-test and post-test were done before and after the testing. Study of Co-variance (ANCOVA) was used to evaluate the data to figure out the essential variations between the groups. The significance test was set at a degree of trust of 0.05. Because of yogic meditation on chosen physiological factors such as the index of body mass (BMI) and the control group among obese adult women, the findings revealed that there were substantial variations. It was concluded that as compared to Group II on physiological variables such as Systolic Blood Pressure and Body Mass Index (BMI) in obese adult people, there was a positive influence on yogic practices and the result was agreed at a level of confidence of 0.05. It was concluded that yogic activities are required to maintain a healthy weight and blood pressure for obese adult people.*

Key words: *Yogic practices, Body mass index (BMI), Systolic blood pressure, Obesity.*

INTRODUCTION

The highest creation of "God" is woman. The blessings of "God" are feminine. The most important aspect of our culture is women. Women from the past perform only domestic tasks, but are physically fit. Existing women often work outside the home. She's busy all the time, but due to a lack of physical exercise, she is obese. She has no free time to waste with herself and feels comfortable. Women play an essential part in the development of civilization as well. They have done work in all fields such as medicine, architecture, commerce, organisation, teaching, etc. They often work in government, in the newspapers, and in the military. Even in an area that is unique to men, they still work. "In the words of Napoleon, the importance of women is I will give you a great nation if you give me good mothers. Therefore, we can't neglect the role of adult

women in this culture. Women are the most significant aspect of their families and culture. A safe woman can raise her kids and run society in a positive way. It is necessary, therefore, for every woman to preserve her own health.

Obesity is an unhealthy excess of body fat, normally 20 percent or more of the ideal body weight of a person. Obesity happens in one's body because there is an excess quantity of weight. Overweight and obesity are classified by the WHO for adults as overweight with a BMI greater than or equal to 25 and obese with a BMI greater than or equal to 30. The body mass index (BMI) has been the medical norm for calculating extra weight and obesity in recent years. For stored energy, heat insulation, shock absorption, and other purposes, everybody requires a certain quantity of body fat. Women have more body fat than males, as a rule.

Due to the increasing rise in its prevalence and the resulting increase in morbidity and mortality, obesity is an important public health concern. Since 1975, obesity worldwide has almost tripled. In 2016, around 1.9 billion adults, 18 years and older, were overweight. Among them, more than 650 million are obese. 39% of adults 18 years of age and older were overweight in 2016, and 13% were obese. 41 million children under the age of 5 were overweight or obese in 2016. More than 340 million children and teenagers aged 5-19 were overweight or obese in 2016. About 25% of Indians are overweight, with over 3% being obese (3 Crores Indians). Among urban adults, obesity accounts for 5 percent. A total of 1.4 crore children are obese in India. 24.4 percent of women are overweight in Tamil Nadu (46.7 percent are from Chennai). 19.8 percent of men are overweight in Tamil Nadu (out of this 6 percent are from Chennai). Americans invest \$33 billion annually on weight management devices and services.

Symptoms of Adult Obesity

Many comparatively younger people are experiencing hip problems and knee pain, with diet disorders causing more and more people to reel under excess body weight. A variety of health conditions, including blood pressure, coronary disorders, breathlessness, intensified sweating, snoring, failure to cope with unexpected physical exercise, body discomfort, poor morale and self-esteem, are linked with overweight.

Adult Obesity's Causes and Complication

In scientific terms, when a person eats more calories than he or she burns, obesity happens. From one person to another, what induces this imbalance between calories in and calories out will vary. It is likely that genetic, cultural, psychological, and other variables all play a role.

High Carbohydrate Foods: Some studies suggest that simple carbohydrates (sugars, fructose, desserts, soft beverages, alcohol, wine, etc.) lead to weight gain because they are consumed more easily than complex carbohydrates through the bloodstream (pasta, brown rice, grains, vegetables, raw fruits, etc.)

Medications: Weight gain-related medications. In reaction to feelings like depression, depression, discomfort, or frustration, often adult females eat excessively.

Diseases: Obesity is also caused by hypothyroidism, insulin intolerance, polycystic ovary syndrome, Prader-Willi syndrome and Cushing's syndrome.

Social problems: Lack of resources to buy nutritious meals or lack of good spaces for walking or exercising will raise the risk of obesity.

Ethnicity: Indian women appear to have hips that are wide.

Childhood weight: The weight of an individual during infancy, puberty, and early adulthood can also impact the development of adult obesity.

Hormones: In fact, women appear to gain weight during such activities, including breastfeeding, menopause, and oral contraceptives.

Obesity leads adult women at an increased risk of developing diabetes, irregular periods, infertility, osteoarthritis, PCOD, stress etc. Thirteen forms of cancer are most at risk for people who are overweight or obese: breast, colon and rectum, endometrium, gallbladder, intestine, oesophagus (throat), liver, kidney, meningitis (brain and spinal cord tissue cancer), multiple myeloma (white blood cell cancer), pancreatic, ovarian, and thyroid cancer. In the body, excess fat transmits chemical messages that change food processes. LDL is elevated (bad cholesterol) and HDL (good) cholesterol is reduced. This accelerates the deposition of fatty plaque in our arteries. Overweight or obesity, particularly when excess body fat (apple-shaped body) is held around the waist, increases the risk of stroke. Indirectly affecting millions of deaths per year is overweight and obesity.

Remedies for Obesity

The most efficient treatments for weight control of obese patients are systematic lifestyle modifications, including nutritional improvement, exercise, clinical management, pharmacotherapy and bariatric surgery. By emerging appreciation of the research basis of obesity may allow a more scientific approach to therapeutic interventions like yogic practices and tai chi, rather than simply blaming affected patients for their obesity. The NCCIH points out that approaches that focus on the mind and the body may help includes mainly by yoga, meditation, mind full eating etc.

Yoga in India is an ancient, conventional, psychological, physical and spiritual workout regime. Yogic practices are static/dynamic flexibility stretching and done on mat in standing, lying and seated positions. Yoga is widely recognized as most powerful way to improve both physical and mental health.

Goals of Research

The goal of the research was to determine if there would be any substantial difference among obese adult women in selected physiological variables such as systolic blood pressure and body mass index (BMI).

The Study's Intent

The aim of the research was to determine the effect of yogic practises among obese adult women on selected physiological variables, such as systolic blood pressure and body mass index (BMI).

Assumption

Important differences in selected physiological variables among obese adult women, such as systolic blood pressure and body mass index (BMI), were believed to be linked to control group II due to yogic activity in group I.

Delimitations

- The study was confined to obese adult women only.
- Subjects were selected from Chennai city only.
- The subject was only between 25 and 35 years of age.
- The study was confined to yogic practices as independent variable only.

- The research was limited only to Systolic Blood Pressure and Body Mass Index (BMI) as dependent variables.

Limitations

- There was little care for the other procedures taken by the participants.
- The subject's way of life style was not considered.
- During the training period, subject's occupation and their daily activities were not considered.
- External factors like diet habits, life styles, socio-economic status and motivation were not taken into consideration.
- Medications taken by the subjects were not taken into account.

REVIEW OF RELATED LITERATURE

Chauhan A et.al., (2017) a research was performed on raising the Body Mass Index and Blood Pressure: A Randomized Controlled Experiment in Yoga Instruction. In this study, the impact of yoga practice on 64 participants (age 53.6 ± 13.1 years) (experimental group) was determined, while the findings were compared with 26 healthy volunteers (control group). In a one-month pilot study, we investigated the impact of yoga on physiological parameters. For 1 hour a day in the morning for 1 month, most of the participants were beginners and studied yoga. Prior to and after 1 month of yoga activity, BMI and BP (systolic and diastolic) were examined. The practice of yoga induces a drop in BMI (26.4 ± 2.5 - 25.22 ± 2.4), systolic BP (136.9 ± 22.18 mmHg to 133 ± 21.38 mmHg), and diastolic BP (84.7 ± 6.5 mmHg to 82.34 ± 7.6 mmHg). In the other hand, no major differences in the control group's BMI and BP were found. It was concluded that the practice of yoga has the potential to control BMI and BP without taking any medications.

Telles S et.al., (2014) A comparative randomized research analysis was performed comparing the effects of yoga and walking among people who are obese and overweight. The independent factors included yoga exercises and walking habits. The study compared the effects of supervised yoga or supervised walking 90 minutes a day for 15 days on: related biochemistry, anthropometric factors, body form, postural stability, and bilateral hand grip strength in persons who are overweight and obese. Sixty-eight adults, 5 of whom were overweight (BMI?? 25 kg/m² and 63 of whom were obese (BMI?? 30 kg/m²; mean age group \pm S.D. 36.4 ± 11.2 years; 35 women), were randomized to a yoga group in 2 groups I and (ii) a walking group with the same diet in 64. The experimental groups were pre-post modifications within each group. The two groups ($p < 0.05$; repeated ANOVA calculation, post-hoc analysis) were significant. Significant serum leptin improvements ($p < 0.01$) and LDL cholesterol decreases ($p < 0.05$) have been found to be related to yoga practice. Serum adiponectin ($p < 0.05$) and triglycerides ($p < 0.05$) decreased significantly because of group walking events, it was concluded. The BMI, waist circumference, hip circumference, lean mass, body water, and total cholesterol decreased dramatically, it was concluded.

METHODOLOGY

90 were submitted, 50 were scanned, and 30 obese adult women residing in Chennai City between the ages of 25 and 35 were randomly selected for the purpose of the random group experimental analysis using the random group sampling system in two categories, namely group I and group II of 15 subjects each. The preparation time for this research was 8 weeks.

Experimental group-I spent an hour performing yoga six days a week. Group-II regulation was on active rest.

The yogic practices given to group I subjects are Kapalbhati, SukshmaViyayama, Surya Namaskar, ParsvaUttanasana, Pada Hasthasana, Trikonasana, Utkatasana, Uthanapadasana, JatharaParivritti, Navasana, Halasana, Chakrasana, Dhanurasana, Bhujangasana, Yogamudra, Pachimotasana, ArdhaMatsyendrasana, Pavanatmuktasana, Savasana, NadiSodhana, Bhastrika, Suryabhedhana, Ujjaye and Meditation.

The differences between initial and final results on Systolic blood pressure and Body Mass Index were considered as the effect of yogic practices among selected subjects. Sphygmomanometer was used for measuring blood pressure. Body Mass Index was calculated by weighing machine and Stadiometer.

For all the participants, the pre-test and post-test were done before and after the testing. The Study of Co-Variance (ANCOVA) test was used to evaluate the results. The significance test was set as a degree of trust of 0.05.

RESULTS AND DISCUSSIONS

Data on variables obtained from the two groups before and after the training period were statistically analysed to assess the relevant difference using Analysis of Covariance (ANCOVA) and evaluated at a confidence level of 0.05. These are shown in the Tables below.

Table – I Analysis of correlation coefficients of the means of two research groups and the systolic blood pressure monitoring group (Scores in mmHg)

Tests/ Groups	Group I	Control group II	Source of Variance	Sum of Squares	Degrees of Freedom	Mean Squares	Obtained F ratio
Pre Test Mean	133.67	129.27	Between	53.33	1	53.33	0.43
			Within	3482.13	28	124.36	
Post Test Mean	124.13	130.00	Between	929.63	1	929.63	8.06*
			Within	3228.67	28	115.31	
Adjusted Post Test Mean	122.52	131.62	Between	1221.52	1	1221.52	18.64*
			Within	1769.82	27	65.55	

*Significant at 0.05 level of confidence. (Table F ratio of trust at 0.05 stage for df 1 and 28= 4.20, 1 and 27= 4.21)

For systolic blood pressure, the obtained F-ratio of 0.43 is lower than the table value of 4.20. This showed that there was no important separation between the classes of the pretest and posttest and the randomization of the pretest was close. As the F value of 8.06 was higher than the F value of 4.20 requested, the analysis of the post-test scores showed that there was a significant gap between the groups. This showed that the means of post-processing of the subjects had significant differences. Modified mean scores were calculated and subject to statistical treatment, taking into account the groups' pre and post test scores. The obtained F value of 18.64 was larger than the necessary F value of 4.21. This revealed that there was a large difference in the means due to eight weeks of yogic activities on Systolic Blood Pressure in line with the study done by Chauhan A et.al., (2017) [1].

In order to help explain the effects of this analysis, the ordered modified means on Systolic Blood Pressure was introduced via the bar diagram in Figure - 1.

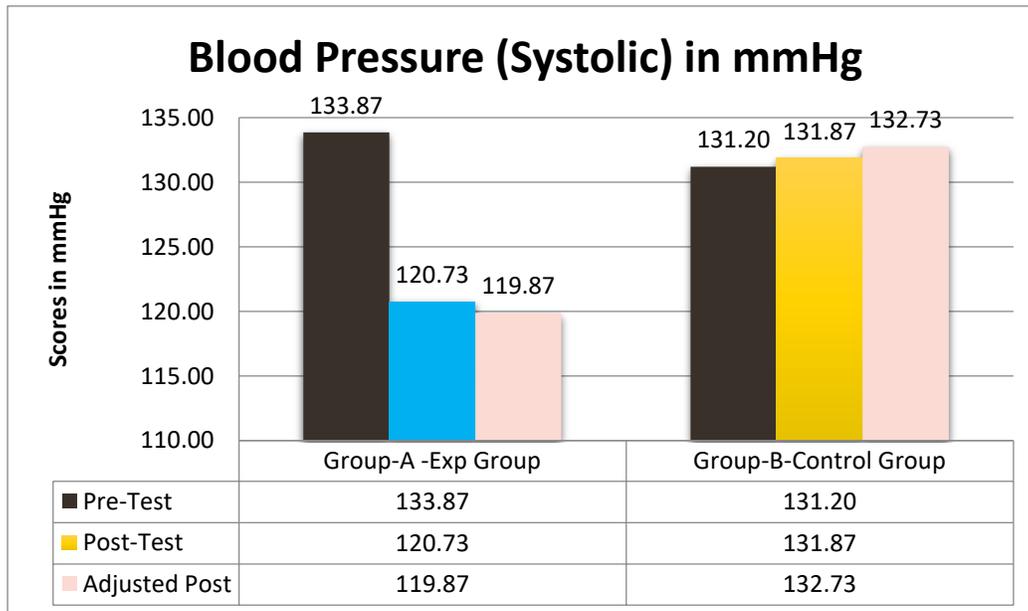


Figure-1 Showing the mean differences among the bar diagram systolic blood pressure groups (Scores in mmHg)

* Significant at 0.05 level of confidence. (Table F ratio at 0.05 level, of confidence for df 1 and 28= 4.2, 1 and 27= 4.21)

Table – II Analysis of covariance of the means of experimental group and the control group in body mass index (BMI) (Scores in kg/m²)

Tests/ Groups	Group I	Control group II	Source of Variance	Sum of Squares	Degrees of Freedom	Mean Squares	Obtained F ratio
Pre test mean	25.39	25.08	Between	1	0.71	0.71	1.07
			With in	28	18.42	0.66	
Post test mean	24.07	25.21	Between	1	9.86	9.86	21.00*
			With in	28	13.15	0.47	
Adjusted Post Test Mean	24.01	25.27	Between	1	11.33	11.33	27.92*
			With in	27	10.96	0.41	

* Significant at 0.05 level of confidence.(Table F ratio at 0.05 level, of confidence for df 1 and 28= 4.20, 1 and 27= 4.21)

The F value obtained was lower than the necessary F value of 4.2 on pre-test scores 1.07 to be relevant at level 0.05. This showed that the pre-test and post-test groups did not vary significantly, and the pre-test randomization was identical. As the 21.00 F value obtained was

greater than the 4.20 F value required, the analysis of the post-test scores showed that there was a significant difference between the groups. This showed that the means of post-processing of the subjects had significant differences. Modified mean scores were calculated and subject to statistical treatment, taking into account the groups' pre and post test scores. The obtained F value of 27.92 was larger than the necessary F value of 4.21. This showed that there was a large difference between the means due to eight weeks of yogic stress practise in accordance with the study carried out by Telles S et.al., (2014) [2].

In order to better understand the findings of this analysis, the ordered adjusted means on Stress were provided via the bar diagram in Figure - 2.

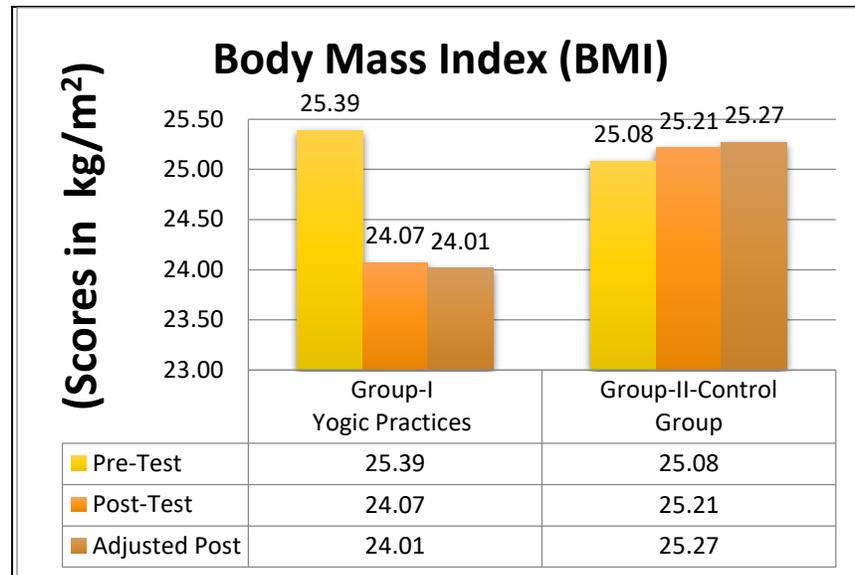


Figure-2 Displaying the using another among bar charts classes on index of body mass (Scores in kg/m^2)

* Significant at 0.05 level of confidence.(Table F ratio at 0.05 level, of confidence for df 1 and 28= 4.2, 1and 27= 4.21)

The research findings found that the Systolic Blood Pressure and Body Mass Index (BMI) reduced considerably as a result of Group-I Yogic activities than Group II. The conclusion was then agreed at the level of confidence of 0.05.

The results alluded to above were also substantiated by the observations of experts, such as Chauhan A et.al., (2017) and Telles S et.al., (2014) [1,2].

DISCUSSION ON HYPOTHESIS

It was speculated that there will be significant variations in selected physiological variables such as Systolic Blood Pressure and Body Mass Index (BMI) than in the control group, due to yogic traditions among obese adult individuals. The results showed that due to yogic exercises, Systolic Blood Pressure (Decreased) and Body Mass Index (BMI) (Decreased) were significantly different than among obese adult women in the control group.

CONCLUSION

It is concluded that meditation exercise greatly decreased Systolic Blood Pressure and Body Mass Index in obese adult people (BMI). Meditation exercises are also effective for obese individuals in maintaining healthy blood pressure and body mass index (BMI).

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