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Research Paper

EFFECT OF YOGIC PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES AMONG OBESE WOMEN

HEALTH SCIENCE

Keywords: Yogic practices, Body Mass Index (BMI), RestingPulse Rate and Obesity

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ABSTRACT

The Random group experimental study was designed to find out the effect of Yogicpractices on selected Physiological Variables among Obese Women. It was hypothesized that there would be significant difference on selected Physiological variables such as Body Mass Index (BMI) and Resting Pulse Rate among Obese Women due to the influence of Yogic practices than the control group. To achieve the purpose of the study, 30 Obese (BMIof30to35) women from Chennai aged between 40 to 50 years were selected randomly. The subjects were divided into one experimental group and a control group of 15 subjects each in a group. Experimental group underwent Yogic practices for the period of 12 weeks six days per week of an hour basically, then slightly increased between 1.15 hours and 1.30 hours. The Control group was not exposed to any specific training but in active rest. The pre-test and post-test were conducted before and after the training for all the groups. The Body Mass Index (BMI) was measured by Weighing machine and Meter Sale and Resting Pulse Rate was measured by BP Monitor machine. The data collected from the subjects were treated statistically through using Analysis of Co-variance (ANCOVA) to determine the significant difference among the groups. The Hypotheses were tested at 0.05 level of confidence. The results and the conclusions of the study showed that Yogic practices were effective in decreasing significantly Body Mass Index (BMI) and Resting Pulse Rate among Obese Women than the control group.

I. INTRODUCTION

Today, more than at any other time in the history of humanity people are facing stresses and strains that are beyond their control. There is an unprecedented rise in psychosomatic and mental illnesses. The evolution identity of an individual is lost. Happiness, freedom and peace have become empty words. Health is the very foundation of happy life **(Vethathiri Maharishi)**. Obesity, an ailment characterized by an excessive accumulation of body fat, is fast emerging as world's single most preventable health problem. Obesity is the sixth most major contributor to a host of disorders and diseases. It is estimated that of 2.1billion are Obese, worldwide. 9.8% of women is obese globally. One in every two American adults will be obese by 2030. Obesity will create tremendous economic burden in the country. In India, 13 crore people are suffering from obesity. Yoga is a needed and a powerful remedy not only for the day to day problems but also to overcome niggling health problems. The philosophy of yoga is "Caring, Sharing and empowering: Yoga provides an excellent means for returning to normal body weight without any side effect and an inspired life like,

- Improve our physical endurance (Yoga)
- Reduces the mental frequency (Meditation)
- Enhances awareness (Introspection)

II .PURPOSE OF THE STUDY

The purpose of the study was to find out the effect of Yogic practices on selected Physiological variables among Obese Women.

III .HYPOTHESIS

It was hypothesized that there would be significant difference in Physiological variables such as Body Mass Index (BMI) and Resting Pulse Rate among Obese women due to the influences of Yogic practices than the Control group.

IV .REVIEW OF RELATED LITERATURE

Sahay BK (2007) studied the science of yoga was an ancientone; Studies have confirmed the useful role of yoga in the control of diabetes mellitus and Obesity. The observed decreases in adiponectin and leptin (ratio = 0.86,95% Cl 0.74-1.01, and ratio = 0.94,95% CI0.87-1.01, respectively). BMI z-score (r 0.136; P = 0.010). There was adecrease in free fatty acids. There was an increase in lean body mass and decrease in body fat percentage, results are consistent with the hypothesis that regular yogic practice can benefit individuals who wishto maintain or lose weight. The author of the study concluded that yogic practice scan play an important role in decreasing the risk factors of Obesity and Diabetes diseases. **McCaffreyR, etal. (2005)** studied to determine the effectiveness of a yoga program on blood pressure, heart beat rate, stress and BMI a group of Obesity and hypertensive patients in Thailand were studied with the experimental soup showing significantly decreased mean stress scores and blood

pressure, heart rate, and body mass index levels compared with the control group. BMI z (β=-0.21, p=0.02) and explained a significant proportion of unique variance in post treatment BMI z (AR (2) =0.04). Mean observed by authors heart rates were 55% and 82% of maximal heart rate during Yoga and Meditation respectively. Further studies are suggested to determine the effects of yoga on hypertension in Thailand. **Haines DJ,etal. (2007)** studied College faculty and staff participated in a one-group pre post-test study to determine whether the12-week walking intervention had an effect on body mass index (BMI),blood pressure, heart beat rate , blood glucose, and cholesterol. The authors observed differences between baseline and follow-up in BMI (p =.024, heart rate (p = 2 to 3), blood glucose (p = .06), and total cholesterol (p = .09). The program had a moderate effect on fitness, mood, health awareness, nutrition, and health. The regular Walking can benefit individuals who wish to maintain or lose weight and control the Heart beat rate.

V .METHODOLOGY

To achieve the purpose of the Random group experimental study, 30 Obese (BMI of 30 to 35) women from Chennai aged between 40 to 50 years were selected randomly; the subjects were divided into one experimental group of Yogic practices and a control group (CG) of 15 subjects each. Experimental group underwent Yogic practices for the period of 12 weeks, six days per week of an hour basically, then slightly increased between 1.15 hours and1.30 hours in the morning. The control group (CG) was not exposed to any specific training but they participated in their regular activities. Yogic practices was given to the experimental group which include LaghooShankhaprakshalana, Kunjal and Neti, Agnisar and Nauli, Suryanamaskar, Pawanmuktasana, Bhastrika Pranayama and Meditation. The selected variable Body Mass Index (BMI) was measured by weighing Machine and Meter scale and Resting Pulse Rate was measured by BP Monitor Machine.

VI .RESULTS AND DISCUSSIONS

The data pertaining to the variables collected from the two groups before and after the training period were statistically analyzed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of confidence. The Analysis of covariance (ANCOVA) on Body Mass Index (BMI) of the Yogic practices and the control Group(CG) was analyzed and are presented in table I.

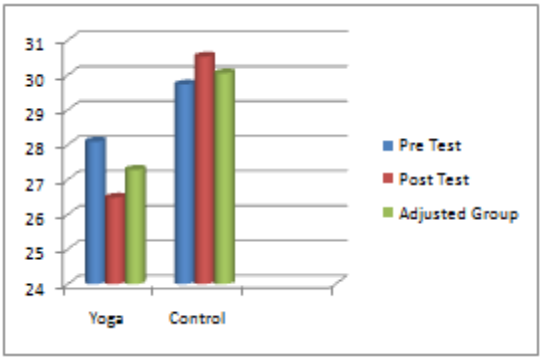
Table –I: Analysis of co-variance (ancova) of data on yogic practices and the control group in body mass index (bmi)

Test	Yoga	Control	SV	SS	DF	MS	F
Pre Test	28.09	29.73	between	23.60	2.00	11.80	2.85
			within	1414.62	42.00	33.68	
Post Test	26.48	30.53	between	153.51	2.00	76.75	3.43*
			within	939.14	42.00	22.36	
Adjusted	27.28	30.05	between	106.84	2.00	53.42	29.85*
			within	73.36	41.00	1.79	
Mean Gain	1.61	-0.8					

*Significant at 0.05 level of confidence. Table F ratio at 0.05 level of Confidence for (2. 42 and 2. 41) =3.21, 3.22 respectively

The obtained F -ratio values were greater than the table value, it indicates that there was since significant difference among the post-test and adjusted post-test means of the Yogic practices and the CG on BMI. The pre- test, post- test and adjusted post -test mean values of Yogic practices Group and control Group (CG) on Body Mass Index (BMI) were graphically presented in Figure 1.

Figure 1: Women scores of pre, post tests and adjusted post test of yogic practices and cg on body mass index (bmi)



The results of the study showed that Body Mass Index (BMI) decreased significantly as a result of yogic practices and than the control group. Hence, the hypothesis was accepted at0.05 level of confidence. Yogic practices decreased the Body Mass Index (BMI) effectively than the control groups. The above findings can also be substantiated by observations made by renowned experts **Sahay BK (2007), Haiaes DJ, etal.(2007) and McCaffrey R. et al (2005).** The Analysis of covariance (ANCOVA) on Resting Pulse Rate ofthe Yogic practices and the control Group(CG) was analyzed and are presented in table II.

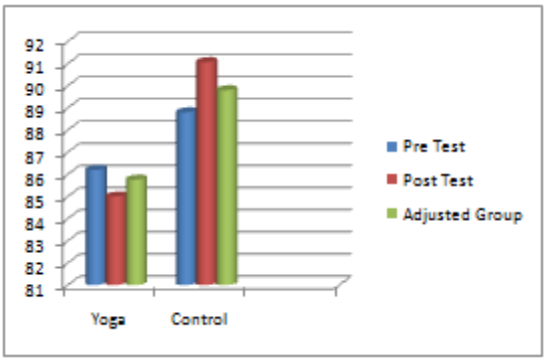
Table –II: Analysis of co-variance (ancova) of data on yogic practices and the control group in resting pulse rate

Test	Yoga	Control	SV	SS	DF	MS	F
Pre Test	86.20	88.80	between	60.04	2.00	30.02	3.08
			within	3886.53	42.00	92.54	
Post Test	85.00	91.07	between	808.93	2.00	404.47	5.37*
			within	3165.87	42.00	75.38	
Adjusted	85.76	89.80	between	545.16	2.00	272.58	14.16*
			within	789.06	41.00	19.25	
Mean Gain	1.20	-2.27					

*Significant at 0.05 level of confidence. Table F ratio at 0.05 level of Confidence for (2.42 and 2.41) = 3.21, 3.22 respectively

The obtained F-ratio values were greater than the table value it indicates that there was significant difference among the post test and adjusted post-test means of the Yogic practices and the CG on Resting Pulse Rate. The pre-test, post-test and adjusted post-test .mean values of Yogic practices group and Control group (CG)on Resting Pulse Rate was graphically presented in

Figure 2: Women scores of pre, post tests and adjusted post test of yogic practices and cg on resting pulse rate



The results of the study showed that Resting pulse Rate decreased significantly as a result of Yogic practices and than the control group. Hence, the hypothesis was accepted at 0.05 level of confidence. Systematic Yogic practices decreased the Resting pulse Rate effectively than the control group. The above findings can also be substantiated by observations made by renowned experts **McCaffrey R, etal. (2005) and Haines DJ, et.al (2007)**

CONCLUSIONS

Yogic practices decreased Body Mass Index (BMI) and Resting purse Rate among Obese Women than the control group.

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