

FULL LENGTH ARTICLE

Effect of yogic practices and aerobic training on percent body fat among college womenS. Veeramani^{a,*}Received 03rd November 2016,
Accepted 20th November 2016www.ijpefs.com

DOI:10.26524/1642

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Abstract: This study was designed to find out the effect of selected Yogic practice and Aerobic training on body composition (percent body fat) among College Women students. To achieve the purpose of the study, seventy five students were randomly selected from various departments of Annamalai University as subjects. All subjects were with normal and healthy bodies and their age ranged from eighteen to twenty two years (18-22). The selected subjects were divided into two experimental groups and one Control Group no step was taken to equate the group in any manner. Group I Control Group, Group II underwent Yogic Practices; Group III underwent Aerobic Training for three alternate days in a week for a period of Six weeks. The dependent variable selected for this study was percent body fat and it was measured by using skin fold caliber. All the subjects were tested prior and immediately after the experimental period on percent body fat. The obtained data from the experimental groups before and after the experimental period were statistically analyzed with dependent 't'-test and analysis of covariance (ANCOVA). The result showed that percent body fat tends to decrease in both experimental groups yogic practice group and aerobic training group ($p < 0.05$). It is concluded that both are effective enough in reducing percent body fat in obese female subjects.

Keywords: Percent body fat, Skin fold caliber, Yoga, Aerobics.

1 Introduction

Training is a programme of exercise designed to improve the skills and to increase the energy capacity of an athlete for a particular event, therefore training is essential for the development of physical fitness components. Physical fitness is health status pertaining to the individual having the physiological readiness to perform maximum physical effort when required. The physical work capacity of an individual can be improved as a result of the regular physical activity. Aerobic exercise involves a series of specially choreographed routines which are a combination of various dance steps and another whole body movement including walking, running and include stretching and large muscles. It increases the working capacity of the cardiovascular and pulmonary systems, weight control and can be a source of fun and relaxation [1]. Yoga defines itself as a science-that is a practical, methodical, and systematic discipline or set of techniques that have the lofty goal of helping the human being to become aware of their deepest nature. Yoga has given the

increasing pace and conflict present in modern life, with all its resulting stress, one could say that has become an essential tool for survival, as well as for expanding the creativity and joy of our lives [2]. Therefore, the purpose of the study is to assess the effect of selected yogic practice and aerobic training on body composition (percent body fat) among College Women students.

2 Methodology

This study was designed to find out the effect of selected Yogic practice and Aerobic training on body composition among College Women students. To achieve the purpose of the study, seventy five students were randomly selected from various departments of Annamalai University as subjects. All subjects were with normal and healthy bodies and their age ranged from eighteen to twenty two years (18-22). The selected subjects were divided into two experimental groups and one Control Group no step was taken to equate the group in any manner. Group I Control Group, Group II underwent Yogic Practices;

Group III underwent Aerobic Training for three alternate days in a week for a period of Six weeks. The dependent variable selected for this study was percent body fat and it was measured by using skin fold caliber.

3 Training protocol

The subjects in the experimental group I participated in Yogic practices and the experimental group II participated in Aerobic training programme for six weeks. The training was given alternative days in a week to yogic practice group and Aerobic training group. The aerobic training period was approximately 45 minutes of including warming up and cool down exercises. Aerobic exercise involves a series of specially choreographed routines which are a combination of various dance steps and other whole body movements including walking, running and including stretching and large muscles and conditioning exercise for the abdominal thighs gluteus and arm muscles. It increases the working capacity of the cardiovascular and pulmonary systems. The Yogic practice period was approximately 30-45 minutes. The package of asanas such as Trikonasana, Parsarita, Padottanasana, Sirsasana, Sarvangasana, Ustrasana, Baddhakonasana, Suptavirasana, Janusirsasana,

Paschimottanasana, Setubandha Sarvangasana, Viparitakarani was given and Savasana was given for relaxation process [2].

4 Statistical procedures

The All the subjects were tested prior and immediately after the experimental period on Body Composition. The obtained data from the experimental groups before and after the experimental period were statistically analyzed with dependent 't'-test and analysis of covariance (ANCOVA). Whenever the F-ratio for adjusted post-test means was found to be significant, the scheffe's test was applied as post-hoc test to determine the paired mean differences. The level confidence was fixed at 0.05 levels for all the cases to find out the significance.

5 Result

The influence of independent variables on each criterion variables was analyzed and presented below. The analysis of dependent 't'-test on the data obtained for Body composition – percent body fat of the pre-test and post-test of the control group, yogic practice group, and aerobic training groups have been analyzed and presented in Table 1.

Table-1

The summary of mean and dependent 't'-test for the pre and post tests on body composition – percent body fat of control and experimental groups

	Control Group	Yogic practice Group	Aerobic training Group
Pre test mean	26.59	26.28	26.32
Post test Mean	26.60	24.70	24.37
t'test	0.569	13.64*	14.68*

(Table value required for significance at 0.05 level for 't'-test with df 24 is 2.064)

Table 1 shows that the dependent 't'-test values between the pre and post-tests means of control, yogic practice and aerobic training groups were .569, 13.64 and 14.68. Since the obtained 't'-test value of experimental groups are greater than the table value 2.06 with 24 at .05 level of confidence, it is concluded that control group, yogic practice group and aerobic

training groups had a significant improvement in the performance of Body Composition – percent body fat. The analysis of covariance on Body Composition – percent body fat of that control group, yogic practice group and aerobic training groups have been analyzed and presented in Table 2.

Table-2

Analysis of Analysis of covariance on body composition – percent body fat of control and experimental groups

Adjusted post test Mean			SOV	Sum of Square	df	Mean Squares	F-ratio
Control Group	Yogic practice Group	Aerobic training Group					
26.47	24.78	24.43	Between Within	57.74 13.66	2 71	28.87 .192	150.07*

(The table value required for significance at 0.05 level with df 2 and 71 is 3.98)

From the table -2, the adjusted post test mean values of body composition – percent body fat for control, yogic practice and aerobic training groups

were 26.0, 24.78 and 24.43 respectively. The obtained F-ratio of 150.07 for adjusted post-test mean was more than the table value of 3.98 for df 2and 71

required for significance at .05 level of confidence. The results of the study indicate that there was a significant difference among the adjusted post-test means of control, yogic practice and aerobic training groups on the development of body composition – percent body fat. To determine which of the paired means had a significant difference, the t test was applied to know the degree of changes which are presented in Table -1 (Figure 1).

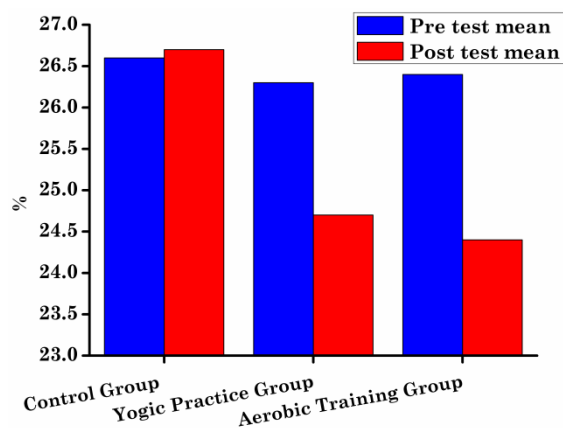


Figure 1: Amount of changes noted in percent body fat

6 Discussion

In the present study percent body fat showed a significant decrease as a result of yogic practice (6.01%) and aerobic training (7.40%). The present finding is in line with Arslan (2011) who found that aerobic training on obese subjects resulted in alteration of waist circumference, percent body fat, lean body mass, weight and BMI [3]. The alteration due to combined resistance and aerobic training resulted in a decrease in percent body fat and increase lean body mass. A study by Brock and Legg (1997) found that combined resistance and aerobic training which resulted in a reduction in percent body fat. Both resistance and aerobic has similar tendency of increasing fat-free mass and decrease the percent body fat [4-7].

7 Conclusions

From the results of the study that there is a significant difference in body composition – percent body fat between the adjusted post-test means of control, yogic practice and aerobic training groups. However, the reduction of percent body fat was significantly higher for aerobic training group than control, yogic practice groups.

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