



Body Composition Response to Aerobic and Yogic Exercises

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Abstract

The goal of the present study was to find out the effect of aerobic and yogic exercises on body composition. To achieve this purpose, forty five untrained students were selected from department of Arts & Science, Annamalai University, and Chidambaram TamilNadu. The subject's age ranged from 18 to 21 years. They were segregated into three groups, each group consisting of fifteen subjects with two experimental groups and one control group. Aerobic exercise and yogic exercise were selected as independent variables. The body composition was selected as dependent variable. Experimental group-I underwent the selected aerobic exercises and experimental group-II underwent the selected yogic exercises. The training period were weekly five classes for twelve weeks. The collected data were statistically analyzed by using Analysis of Covariance (ANCOVA). When the F ratio of the adjusted post-test mean was found to be significant, Scheffe's post hoc test was employed to find out the paired mean difference. All the data were analyzed using SPSS statistical package. The level of significance was set at 0.05 level. The results of the study shows that the aerobic exercise and yogic exercise groups reveals significant improvement influenced in body composition as compared to the control group. The body composition of aerobic exercise group is better than the yogic exercise group.

Keywords: Aerobic, Yogic, Exercise and Body Composition.

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Introduction

Fitness is the ability to live a full and balanced life. The totally fit person has a healthy and happy outlook on life. Fitness is the young man's absolute necessity. It breeds self-reliance and keeps man mentally alert. Physical fitness is essential for human beings to adjust well with his environment as his mind and body are in complete harmony. Aerobic and yogic exercises are considered to be more effective than other methods of training in developing body composition. It is long lasting and can be performed at different stations without apparatus. Yoga practice includes Asanas and Pranayama and aerobic exercises include running, walking, swimming, bicycling and aerobic dance that improve the body composition.

Aerobic exercise is the exercise that involves or improves oxygen consumption by the body. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy-generating process. They are several kinds of aerobic exercises which are performed at moderate levels of intensity for extended periods of time. To obtain the best results. Yoga is a systematic and methodical process to control and develop the mind and body to attain good health, balance of mind and self-realization.

Thought yoga has the potential power to make us healthy added to our vigor, still most people lack the knowledge of systematic practice of yoga. They perform yogic exercises for a short period and when their health improves, they discontinue the yoga practice. For this reason, the effective results of yogic practices cannot be determined perfectly. Many scientists, doctors, psychologists etc, all over the world are extensively studying the beneficial aspects of yoga which encourages us to attain positive health through yoga (Pradhan, 2008). The present study is to find out the effects of aerobic and yogic exercises on body composition.

Methodology

Subjects

For this study forty five untrained students were selected from department of Arts & Science, Annamalai University, and Chidambaram TamilNadu. The subject's age ranged from 18 to 21 years. The selected subjects were divided into three groups with fifteen subjects in each group at random with two experimental groups and one control group.

Variables

Experimental group-I underwent the selected aerobic exercises and experimental group-II underwent the selected yogic exercises were selected as independent variables. The body composition was selected as dependent variable.

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Training Programme

The aerobic group was given training on aerobic dance with music's programme for 30 minutes with an intensity that elicited heart rates of 140-160 beats per minute. The progressive load method was used for twelve weeks on the respective groups. During the training. The yogic group was given training on selected asanas and pranayama. The training period were weekly five classes for twelve weeks. The control group did not undergo any training programme other than their routine work.

Statistical Analysis

The data were collected on body composition for all the three groups before and after the experimental period. The analysis of covariance (ANCOVA) was

applied to find out significant difference if any. If the obtained 'F' ratio was found significant, the Scheffe's test is applied as post hoc test to determine which of the paired mean had significant differences. In all the cases the level of confidence is fixed at 0.05 to test the significance.

Results

Body Composition

The data collected during pre and post-tests among aerobic exercise, yogic exercise groups and control group on body composition have been analysed statistically and the results are shown in table-1.

Table I. Analysis of covariance for pre- and post-test data on body composition among aerobic, yogic exercise groups and control group

	Arabic Exercise group	Yogic Exercise group	Control group	S.O. V	Sum of square s	df	Mean square	'F' Ratio
Pre-Test								0.042
Mean	12.38	12.21	12.23	B:	0.279	2	0.140	
SD	1.53	1.90	2.00	W:	140.02	42	3.334	
Post-Test								11.63*
Mean	09.54	10.44	12.38	B:	63.436	2	31.718	
SD	1.27	1.57	2.02	W:	114.475	42	2.726	
Adjusted Post-Test								111.70*
Mean	09.45	10.49	12.42	B:	68.429	2	34.215	
				W:	12.558	41	0.306	

*Significant at 0.05 level of confidence

df-degrees of freedom; SD-Standard Deviation; S.O.V.-Source of Variance. B-Between; W-Within

The table values required for significance at 0.05 level of confidence for 2 and 42 and 41 are 3.22 and 3.23 respectively.

Table-I further shows that the adjusted post-test mean values for aerobic exercise group is 09.45, yogic exercise group is 10.49 and control group is 12.42, which have an 'F' ratio of 111.70 and it is higher than the table value of 3.23 required for df 2 and 41 at 0.05 level of significance. It is found that significant differences exist

among the three groups on body composition after adjusting the initial mean differences on the post-test means. In order to determine which of the paired means have significant differences, Scheffe's test was computed and it is presented in table-II.

Table II. Scheffe's test for the differences between the adjusted post-test paired means of maximum strength

Adjusted Post-Test Means			Means Differences
Aerobic Exercise Group	Yogic Exercise Group	Control Group	
09.45		12.42	3.02*
	10.49	12.42	1.93*
09.45	10.49		1.04*

* Significant at 0.05 level.

The confidence interval required for significance at 0.05 level is 0.44.

An examination of the table-II indicates that the adjusted post-test mean difference of body composition between aerobic exercise group and control group is 3.02 and yogic exercise group and control group is 1.93 which are higher than the confidence interval value of 0.44 at 0.05 level of significance. It is inferred that the twelve weeks of aerobic and yogic exercise training have significantly improved the body composition in two experimental groups as compared to the control group.

Table-II also shows the mean difference between aerobic exercise group and yogic exercise group is 1.04 which is more than the confidence interval value of 0.44 at 0.05 level of significance. The result reveals that the aerobic exercise group shows significant differences on body composition as compared to the yogic exercise group. The result shows that the aerobic exercise group shows significant difference on body composition as compared to yogic exercise group but the yogic exercise group shows significantly higher on body composition as compared to control group but less than the aerobic exercise group.

Findings

The following similar studies on body composition by many researchers have been supported that aerobic exercises and yogic exercises have influenced body composition. The result of the study is in onsonance with (Licl.et.al, 2006), (Toy 2008) and (Shenbagavalli and Mary Recthammal 2008), (Madanmohan et.al, 2008), (Chen et.al, 2009), (Tran et.al, 2001), (Chen et.al, 2009) and (Venkatareddy et.al, 2003).

Conclusions

The study concluded that the aerobic exercise group and yogic exercise group reveals significant improvement influenced in body composition as

compared to the control group. The body composition of aerobic exercise group is better than the yogic exercise group.

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