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Effect of varied intensity of aerobic training on body composition

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Abstract

The purpose of the present study was to investigate the effect of varied intensity of aerobic training on body composition. To achieve the purpose of the study thirty college men students were selected from Alagappa University college of Physical Education, Karaikudi during the year 2018. The subject's age ranges from 18 to 25 years. The selected students were divided into two equal groups consists of 15 men students each namely experimental group and control group. The experimental group underwent a aerobic training programme for six weeks. The control group was not taking part in any training during the course of the study. Body composition was taken as criterion variable in this study. The selected subjects were tested on Body composition was measured through Skin fold caliper. Pre-test was taken before the training period and post-test was measured immediately after the six weeks training period. Statistical technique 't' ratio was used to analyse the means of the pre-test and post test data of experimental group and control group. The results revealed that there was a significant difference found on the criterion variable. The difference was found due to varied intensity of aerobic training given to the experimental group on Body composition when compared to control group.

Keywords: Varied Intensity of aerobic training, body composition and 't' ratio

Introduction

Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it".

~Plato~

Now-a-days, there is an escalating emphasis on appearing smarter, feeling better and living longer. In order to achieve these ideals as, scientific evidence tells us that one of the keys is high fitness and exercises. On the contrary, acquiring these ideals is a challenge because today physical activity is less a part of our daily lives. More over there are fewer jobs that require physical exertion. Physical activity consists any bodily movement produced by the skeletal muscles that results in a substantial increase over resting energy expenditure. Regular physical activity is essential to maintain good health. (Bouchard *et al.*, 2007) ^[1]

Aerobic means "with oxygen" and to enable a person to continue an activity for a prolonged period, during which continuous flow of oxygen has to be ensured to the working muscle for liberation of energy. (Uppal, 2009) ^[4]. The body composition refers mainly to the relative proportion of the three principle tissue components of the human body (i.e) muscle, bone and fat. "Body composition refers to body weight in terms of the absolute and relative amounts of muscle, bone and fat tissues". (Heyward, 2006) ^[3]

"Body composition is also considered an important measure of health fitness. A high percentage of body fat relative to bone and muscle has been shown repeatedly to be a predictor of risk for a wide range of degenerative diseases". (Ross & Pate, 1987) ^[2]

Methodology

Selection of subjects

The purpose of the study was to find out the effect of varied intensity of aerobic training on body composition. To achieve this purpose of the study, thirty college male students were selected as subjects at random. The age of the subjects were ranged from 18 to 25 years.

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Selection of variable

Independent variable

- Varied intensity of aerobic training

Dependent variable

- Body composition

Experimental design

The selected subjects were divided into two equal groups of fifteen subjects each, such as a varied intensity of aerobic training group (Experimental Group) and control group. The experimental group underwent varied intensity of aerobic training for three days per week for six weeks. Control group, which they did not undergo any special training programme apart from their regular physical activities as per their curriculum. The following anthropometrical variable, namely Body composition was selected as criterion variable. All the subjects of two groups were tested on selected criterion

variable Body composition was measured through skin fold caliper test at prior to and immediately after the training programme.

Statistical technique

The ‘t’ test was used to analyse the significant differences, if any, difference between the groups respectively.

Level of significance

The 0.05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

Analysis of the Data

The significance of the difference among the means of the experimental group was found out by pre-test. The data were analysed and dependent ‘t’ test was used with 0.05 levels as confidence.

Table 1: Analysis of t-ratio for the Pre and Post Tests of Experimental and Control Group on Body composition (Scores in mm)

Variables	Group	Mean		SD		df	‘t’ ratio
		Pre	Post	Pre	Post		
Body composition	Control	25.23	25.14	1.64	1.00	14	1.16
	Experimental	25.12	24.60	1.14	1.18		2.64*

*Significance at 0.05 level of confidence.

The Table-1 shows that the mean values of pre-test and post-test of the control group on Body composition were 25.23 and 25.14 respectively. The obtained ‘t’ ratio was 1.16, since the obtained ‘t’ ratio was less than the required table value of 2.14 for the significant at 0.05 level with 14 degrees of freedom it was found to be statistically insignificant. The mean values of pre-test and post-test of the experimental group on Body composition were 25.12 and 24.60 respectively. The obtained ‘t’ ratio was 2.64* since the obtained ‘t’ ratio was greater than the required table value of 2.14 for significance at 0.05 level with 14 degrees of freedom it was found to be statistically significant. The result of the study showed that there was a significant difference between control group and experimental group in body composition. It may be concluded from the result of the study that experimental group improved in body composition due to six weeks of varied intensity of aerobic training.

group. It is also found that the improvement caused by varied intensity of aerobic training when compared to the control group.

Conclusion

On the basis of the results obtained the following conclusions are drawn,

1. There was a significant difference between experimental and control group on Body composition after the training period.
2. There was a significant improvement in Body composition. However the improvement was in favor of experimental group due to six weeks of varied intensity of aerobic training.

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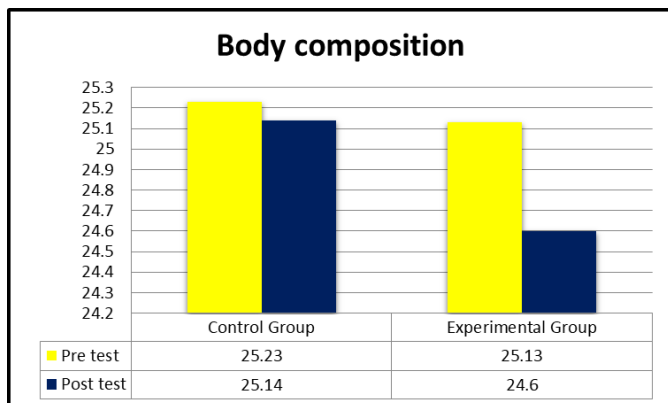


Fig 1: Bar Diagram Showing the Pre and Post Mean Values of Experimental and Control Group on Body composition

Discussions on Findings

The result of the study indicates that the experimental group, namely varied intensity of aerobic training group had significantly improved the selected dependent variable namely Body composition, when compared to the control