



Effect of Low Intensity Aerobic Exercise on Body Composition of Middle Aged Men Endurance Among Middle Aged Men

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ABSTRACT

The main purpose of this study was to find out the effect of low intensity aerobic exercise on body composition of middle aged men. For this study Thirty (N=30) middle aged men from Gudiatham vellor District. The age of the subjects ranged from 40 to 50 years. They are free from coronary artery disease. The selected subjects were divided into two equal groups each group consist of fifteen subjects named as Experimental Group 'A' and Control group 'B' Experimental Group 'A' underwent low intensity aerobic exercise for four days per a week for the period of twelve weeks and group 'B' acted as control group not participated any specific training. The data were collected before and after the training periods by Standardized test on Fat Mass, Lean Body Mass and Body Mass Index. The collected data were analyzed by analysis of co variance. The level of significance was fixed at 0.05 level of confidence. The results reveal that there are no significance changes on body composition.

KEYWORDS

Low Intensity Aerobic exercise, Fat Mass, Lean Body Mass and Body Mass Index.

INTRODUCTION

It is well known that overacting and lack of exercise generally bring about obesity. It is interest in to note research has shown that along with obesity comes an increase in the number of adipose cells as well as an increase in their size. The total amount of body fat exists in two depots or storage sites. The first depot, termed essential fat, is the fat stored in the marrowbones as well as in the heart, lungs, spleen, kidneys, intestines, muscles, and lipid rich tissues throughout the central nervous systems. The term fat free mass and lean mass are often considered interchangeable when they should not be the lean body mass contains a small percentage of essential fat stores chiefly within the central nervous system, marrow of bones, and internal organs. Healthy person has been physical and mental functions correspond to those of the average person in the same age group at the same period of time. Functioning of the body requires energy, which depends upon the ability of the heart and blood vessels to process oxygen and deliver it to the muscle, where it becomes fuel for energy. Regular exercise results in an increase in the blood, improved oxygen carrying and waste removal capacity and increase in workload capacity. A good aerobic exercise program can help one live a longer, healthier life and enhance one's well being. One get a multitude of benefits if one do one's aerobic workout on a regular basis even if the intensity is low or short in duration. So the researcher identified low intensity aerobic exercise reduces the body fat, strengthening muscles throughout the body etc.

METHODOLOGY

The main purpose of this study was to find out the effect of low intensity aerobic exercise on body composition of middle aged men. For this study Thirty (N=30) middle aged men from Gudiatham, Vellore District Tamil Nadu. The age of the subjects ranged from 40 to 50 years. They are free from coronary artery disease. The selected subjects were divided into two equal groups each group consist of fifteen subjects named as Experimental Group 'A' and Control group 'B' Experimental Group 'A' underwent low intensity aerobic exercise for four days per a week for the period of twelve weeks and group 'B' acted as control group not participated any specific training. The data were collected before and after the training periods by Standardized test on Fat Mass, Lean Body Mass and Body Mass Index. The collected data were analyzed by analysis of co

variance. The level of significance was fixed at 0.05 level of confidence. Training was given after the match practice from 6. 30 AM to 7.00 AM. The data were collected before (pre test) and after the training periods (post test) by using standardized test for Fat Mass = [Percentage of fat / 100] × Body Mass (wt), Lean Body Mass (LBM = Body Mass (wt) – Fat Mass) and Body Mass Index (Body Mass Index = $wt^{1/12}$). To find out significance differences among the groups ANCOVA was used. Whereas the F ratio was found to be significant for adjusted post-test mean. The level of significance was fixed at 0.05 level of confidence.

TABLE – I
DIRRENCE IN MEAN OF EXPERIMENTAL AND CONTROL GROUPS ON BODY FAT (PERCENTAGE)

Groups	Nos.	Initial mean	± SD	Final mean	± SD	Mean diff.	SE	't' ratio
Exp.	15	18.66	2.70	18.02	2.48	.646	0.43	0.680 NS
Cont.	15	19.15	4.14	19.38	2.29	.233	8.71	0.19 NS

Not Significant at 0.05 level of confidence.
('T' value needed for significance at 0.05 level with 14 degree of freedom is 2.14 and at 0.01 level is 2.98)

From the above table value it clearly shows that there are no significance changes in pre test and post test of experimental and control group on body fat. Since the obtained 't' values are 0.680 and 0.190 which are lesser than the table value of 1 and 14 degrees of freedom of 2.98 at 0.05 level of confidence. This may due to the fact that the low intensity aerobic exercise was not influenced to reduce the body fat.

The mean of body fat for experimental and control group is presented in figure 1.

Fig: 1 Cone diagram showing the pre test and post test data on body fat scores of two groups

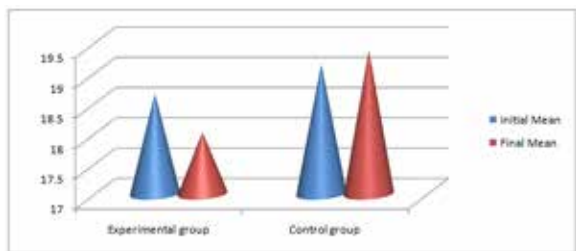


TABLE – II DIFFERENCES IN MEAN OF EXPERIMENTAL AND CONTROL GROUP ON LEAN BODY MASS (KG)

Groups	Nos.	Initial mean	± SD	Final mean	± SD	Mean diff.	SE	't' ratio
Exp.	15	35.04	9.24	35.50	9.19	.46	.21	0.680 NS
Cont.	15	35.46	7.52	34.65	8.12	.81	0.63	0.150 NS

NS: Significant at 0.05 level of confidence. ('T' value needed for significance at 0.05 level with 14 degree of freedom is 2.14.)

From the above table value it clearly shows that there are no significance changes in pre test and post test of experimental and control group on lean body mass. Since the obtained't' value are 0.680 and 0.0150 is lesser than the table value of 1 and 14 degrees of freedom is 2.98 at 0.05 level of confidence. This may due to the fact that the low intensity aerobic exercise was not influenced to reduce the lean body mass.

The mean of lean body mass for experimental and control groups were presented in figure 2.

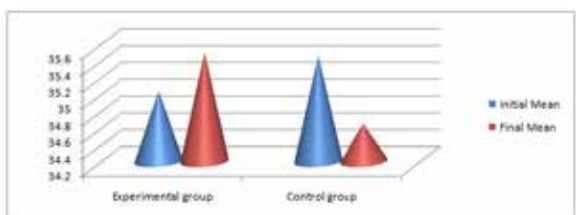


Fig: 2 Cone diagram showing the pre test and post test data on lean body mass scores of two groups

TABLE – III DIFFERENCES IN MEAN OF EXPERIMENTAL AND CONTROL GROUP ON BODY MASS INDEX (KG)

Groups	Nos.	Initial mean	± SD	Final mean	± SD	Mean diff.	SE	't' ratio
Exp.	15	17.06	2.49	17.24	2.57	-.18	.23	0.195 NS
Cont.	15	17.94	2.45	17.99	2.55	.05	-.51	0.038 NS

NS: Significant at 0.05 level of confidence. ('T' value needed for significance at 0.05 level with 14 degree of freedom is 2.14 and at 0.01 level is 2.98.)

From the above table value it clearly shows that there are no

significance changes in pre test and post test of experimental and control group on body mass index. Since the obtained't' value are 0.195 and 0.038 is lesser than the table value of 1 and 14 degrees of freedom is 2.98 at 0.05 level of confidence. This may due to the fact that the low intensity aerobic exercise not influence for reduce the body mass index.

The mean of body mass index for experimental and control group is presented in figure 3.

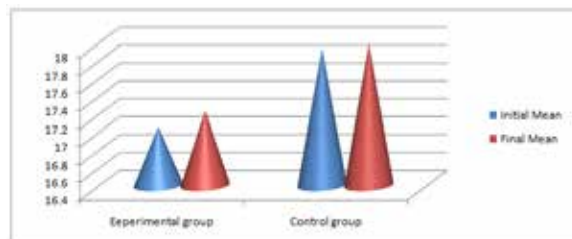


Fig: 3 Cone diagram showing the pre test and post test data on Abdominal Body Mass Index scores of two groups

Conclusion:

This may due to the fact that the low intensity aerobic exercise not influence for reduce the body composition such as body fat, lean body mass and body mass index

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