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Role of Aerobics Exercises to Reduce Body Fat Percentage of Overweight People

Dr. Munjal M. Rami

Assistant Professor

S.S. Patel College of Physical Education

The Charutar Vidya Mandal University, (CVMU)

Vallabh Vidyanagar, Anand, Gujarat

Dr. B.L, Nagar

Principal

S.S. Patel College of Physical Education

The Charutar Vidya Mandal University, (CVMU)

Vallabh Vidyanagar, Anand, Gujarat,

ABSTRACT:

The purpose of the present study was to find the role of aerobics exercises to reduce body fat percentage of overweight people. For this study 40 overweight male & female subjects were selected between the ages of 35-45 years from the general population of district Anand, Vallabh Vidyanagar City and then selected subjects were divided into two groups i.e. 20 as

an experimental group and 20 as control group. In the present study purposive-random sampling technique was applied to select the subjects. For measuring body fat percentage, the body composition analyzer and WHO's BMI norms table were used. The BMI was calculated easily from the following formula BMI = [Weight in kg / Square of height in meters]. After assessment of pre-test as experimental treatment aerobics exercises training was conducted for the experimental group for 8 weeks and no training to control group. After the completion of 08 weeks aerobics exercises training, the post-test (measurement of body fat percentage) was conducted to know the significant difference. The 't' test was applied to find out the significant difference. On the basis of statistical analysis, it was concluded that aerobic exercises play a significant role in reducing the body fat percentage of overweight people.

Key words: Body composition, Aerobics activities, Body mass index.

INTRODUCTION:

Throughout human history, being fatty was not an option. The constant struggle to hunt, gather or harvest enough food to maintain life meant most people were always slim. Fatness was a sign of excess weight, found only in wealthy people. So early on, being fatty was a status symbol. Human body composition refers to the assessment of the absolute and relative amounts of bone, muscles, and fat mass measured by different methods depending on the technology i.e. skin fold calipers, hydrostatic weighing, body composition analyzer, BMI etc. Body Mass Index (BMI) is grass estimation for the amount of fat in the body. It tells whether one needs to lose weight or not. BMI tells whether body weight is appropriate for one's height. In Indians it is advisable that the BMI should not be more than 29.9. Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health. It is defined by Body Mass Index (BMI) and further evaluated in terms of fat distribution via the waist hip ratio and total cardiovascular risk factors. BMI is closely related to both percentage body fat and total body fat. Aerobics is a form of exercise, which emphasizes the balanced development of the body through strength, flexibility and awareness in order to support efficient, graceful movement. Aerobics is a body conditioning routine that helps build flexibility and long, lean muscles strength and endurance in the legs,

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abdominals arms and hips. It puts emphasis on breathing to relieve stress and allow adequate oxygen flow to muscles, developing a strong core or center (tones abdominals while strengthening the back), and improving coordination and balance. Aerobics system allows for different exercises to be modified in a range of difficulty from beginning advancing. Intensity can be increased over time as the body conditions and adapts to the exercises. Aerobics help weight loss by building lean muscles while burning fat, weight is lost by creating a calorie deficit, burning more calories than take in. Aerobics are designed to make the heart and lungs work harder, strengthening the cardiopulmonary system in the process for good cardiovascular fitness. It is greatly recommended to exercise 5 to 6 times a week and for 30 – 40 minutes daily, not including warming up at the start and cooling down at the end. Keeping all the views in mind regarding the importance of aerobics exercise the present study was carried out to determine the role of aerobics exercises to reduce body fat percentage of overweight people.

METHODS:

To achieve the purpose of the study 40 male and female overweight people were selected as subjects from the general population of Vallabh Vidyanagar (Gujarat). Purposive sample technique was applied to select the subjects. Selected subjects were divided into two equal groups i.e., 20 as experimental and 20 as control group. Age group of the subjects ranged from 35 – 45 years. The study was conducted during October and November 2023.

Variables and Instruments:

For measuring body fat percentage the Body Composition Analyzer and BMI norms table were used. The BMI was calculated easily from the following formula.

BMI = [Weight in kg / square of height in meters]

As far as experimental training is concerned the 8-week specified aerobics exercise training programme was conducted in a systematic manner.

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08 weeks training programme of various aerobics exercise:

Category	Duration	Name of Exercise
Beginner	2 Weeks	Walking, Standing Footwork, jumping jack, basic aerobics exercise.
Intermediate	2 Weeks	Aerobics exercises, step up, jogging on treadmill, cross trainer, cycling, exercise with stick, high knees.
Advanced	4 Weeks	Skipping rope, Advanced aerobics exercises, mountain climber, jogging on treadmill, cross trainer, cycling, high knees.

Procedure:

For the measurement of body fat percentage as percentage Body Composition Analyzer and WHO's BMI norms table were used. After assessment of pre-test as experimental treatment Aerobics exercise training was conducted for experimental group for 8 weeks and no training was given to control group. After the completion of specified training programme, the post-test measurement of body fat percentage and BMI was conducted to know the significance difference. To ensure uniform testing all subjects were testing by same tools (weighing machine and measuring tape).

Statistical Technique:

The 't' test was used to determine the role of aerobics exercises to reduce body fat percentage of overweight people. Further the level of significance was set at 0.05 levels.

RESULT OF THE STUDY:

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To find out the significant difference between the pre-test and post-test means of control group and experimental group on BMI norms the 't' test was applied. The findings related to it are presented in tables 1 to 4.

TABLE – 1

Significance Difference in Pre-Test (Body Fat Percentage Score) Between Control and Experimental Group

Group	No.	Mean	S.D.	't' ratio
Control Group	20	32.70	2.88	0.88
Experimental Group	20	33.58	2.33	

Significant at 0.05 level't' 0.05 (28) = 2.04

It is observed from Table – 1 that the calculated' (0.88) is less than the tabulated 't' (2.04). Hence, it may be considered that there was no significant difference found between the control and experimental group on pre-test scores of body fat percentage.

TABLE 2

Significance Difference in Post-Test (Body Fat Percentage Score) Between Control and Experimental Group

Group	No.	Mean	S.D.	't' ratio
Control Group	20	32.91	3.04	4.75
Experimental Group	20	28.27	2.02	

***Significance at 0.05 level 't' 0.05(28) = 2.04**

It is observed from Table – 2 that the calculated' (4.75) is more than the tabulated 't' (2.04). Hence, it may be considered that there was significant difference found between the control group and experimental group on the post-test scores of body fat percentage.

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TABLE – 3

Significance Difference in Body Fat Percentage Score between Pre-Test and Post-Test of Control Group

Group	No.	Mean	S.D.	't' ratio
Control Group	20	32.70	2.88	0.26
Control Group	20	32.91	3.04	

Significant at 0.05 level 't' 0.05(28) = 2.04

It is observed from table – 3 that the calculated' (0.26) is less than the tabulated 't' (2.04). Hence, it may be considered that there was no significant difference found in body fat.

TABLE – 4

Significance Difference in Body Fat Percentage Score between Pre-Test and Post-Test Experimental Group

Group	No.	Mean	S.D.	't' ratio
Experimental Group	20	33.58	2.33	6.44
Experimental Group	20	28.27	2.02	

***Significant at 0.05 level 't' 0.05 (28) = 2.04**

It is observed from table – 4 that the calculated 't' (6.44) is more than the tabulated 't' (2.04) Hence, it may be considered that there was significant difference found in body fat percentage between pre-test and post-test of the experimental group.

4. DISCUSSION:

On the basis of obtaining results, it has been observed that there was no significant difference found between control and experimental group on pre-test scores of body fats percentage.

Results also revealed that there was no significant difference found in body fat percentage scores between pre-test and post-test of control group but as far as 8 weeks aerobics exercise training (experimental training) is concern there was significant difference found in post-test scores of body fat percentage between control and experimental group as well as in pre and post-test of experimental group. By aerobic exercise training the body fat percentage of the experimental group was reduced in comparison to the control group which didn't have any training. So, their performance with respect to aerobics exercise training programme was found to be significant because by the 8 weeks aerobics exercise training experimental group was also improved (reduce in body fat percentage) in comparison to pre and post-test of body fat percentage.

5. CONCLUSION:

With the limitations of the study, it was concluded that there were no significant similarities found between control and experimental group on pre-test scores of body fats percentage. Further it was concluded that by the 8 weeks aerobics exercises training the experimental group having low percentage of body fats in comparison to control groups having no training. The overall result showed that the effect of aerobics exercises was significant on body fat percentage of the experimental group as compared to the control group.

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