



The Effect of Anaerobic exercise on BMI of Adosented young Girls”

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Abstract: the investigator under took this study with the objectives of: to make a survey on body mass index among adult women in Andhra Pradesh suggest suitable anaerobic exercises for the benefit of adult women, and to finding out the effect of anaerobic exercises on body mass index of adult women. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the groups on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as appropriate.

Key words: Anaerobic exercise, BMI, young Girls

Introduction

Now-a-days physical education is an integral part of total education process. Through well directed physical education program, children develops skills for the worldly use of leisure time, engage in activities, conductive to healthful living (Williams, 1966). Physical education may be defined as an education through the physical where many of educational objectives are achieved by means of big muscle play activities.

Need For Burning Out Fat

While exercising our muscles burn both fat and glucose (carbohydrates in the blood) in different proportions. Depending on how an individual exercises muscle can burn fat in a larger proportion to glucose. If an individual increases their effort by performing a more intense exercise they will burn more calories however, because oxygen cannot always be delivered to the hard-working cells in sufficient quantities, cells are forced to burn more carbohydrates in order to keep up with increasing demand.

Exercise for Burning out Fat

Excessive body weight is associated with various diseases, particularly cardiovascular diseases, diabetes mellitus type 2, obstructive sleep apnea, certain types of cancer, and osteoarthritis. As a result, obesity has been found to reduce life expectancy (Haslam and James, 2005).

While exercising our muscles burn both fat and glucose (carbohydrates in the blood) in different proportions. Depending on how an individual exercises muscle can burn fat in a larger proportion to glucose.

Body Composition

In physical fitness, body composition is used to describe the percentages of fat, bone and muscle in human bodies. Because muscular tissue takes up less space in our body than fat tissue, our body composition, as well as our weight, determines leanness.

Body composition (particularly body fat percentage) can be measured in several ways. The most common method is by using a set of measurement calipers to measure the thickness



of subcutaneous fat in multiple places on the body.

Body Mass Index

The body mass index (BMI) is a statistical measurement which compares a person's weight and height. Though it does not actually measure the percentage of body fat, it is used to estimate a healthy body weight based on how tall a person is. Due to its ease of measurement and calculation, it is the most widely used diagnostic tool to identify weight problems within a population, usually whether individuals are underweight, overweight or obese.

Aerobic Training: The word aerobic means with oxygen to represent idea. Even so the dynamics of the idea are more complicated than implied by the definition. Aerobic can be viewed as an intricate system of bodily supply and demand. That is the body needs energy for burning off the foods that eat fills any kind of activity and the need. Oxygen is the spark the fuel needs to burn regardless aerobics is the word in general use.

Benefits of Aerobic Training: The major benefits of aerobic exercises are stronger and more efficiently operating heart and lungs, more energy physical flexibility, conditioned muscles, proper use of fats and effective burning of calories. The increased oxygen flow gained through aerobics re-energies by giving any one more energy and a "re-awakening" of his senses.

Anaerobic Training: Anaerobic exercise is used by athletes in non-endurance sports to build power and by body builders to build muscle mass. Muscles that are trained under anaerobic conditions develop biologically differently giving

them greater performance in short duration-high intensity activities.

Health Requirements for Adult Women

Women in India have come a long way! From just a skilled homemaker women today have acquired skills and capabilities of not just being a homemaker but being at par with their male counterparts.

Need of the Study: Drastic change in lifestyle or women's lesser body resistance; women's increasing health issues are catching everyone's eyes. The most common health issues that women of India today are dealing with breast cancer, stroke, polycystic ovarian disease, weight gain etc. Women have health issues that deserve special consideration - everywhere. Achieving and maintaining general health by focusing on major health concerns for women become imperative. The following were considered as significance of this study. The results of this study may be helpful to identify the trend in keeping health related physical fitness variable, body mass index among adult women.

Objectives and methodology of this study: There are different physical activities methods followed by different groups of women for the benefit of their health related physical fitness. Among these methods influence of anaerobic exercises requires more attention for improving health related physical fitness, namely, body mass index. Hence, the investigator under took this study with the objectives of:

- (a) to make a survey on body mass index among adult women in Andhra Pradesh



(b) suggest suitable anaerobic exercises for the benefit of adult women, and

(c) to finding out the effect of anaerobic exercises on body mass index of adult women.

Methodology: The purpose of the study was to find out whether there would be any significant improvement on selected health related physical fitness variable, body mass index among adult women due to 12 weeks anaerobic exercises. In this chapter, selection of subjects, experimental variables, tester reliability, instrument reliability, orientation of the subject, test administration, and statistical techniques were discussed. The study was delimited to 150 adult women from different age groups from 18 to 21 years selected from different colleges in Andhra Pradesh. Only adult women studying in colleges and having regular academic activities were selected for this study. The investigator could not control lifestyle, psychological stress and factors that affect metabolic function. The investigator could not control sleep/ wake cycle of the subjects.

The investigator reviewed scientific journals, books and expert guidance on selection of health related physical fitness variable among adult women. Based on the experience gained the investigator selected body mass index to be determined through weight and height of the subjects as dependent variable and adult women of different age groups, namely, 18 year, 19 year, 20 year and 21 year old women as independent variable for this study.

For the purpose of the study, random group design was employed. Randomly selected 150 (N=150) adult women were measured of their age, weight and height.

Based on the age of the subjects, the subjects were grouped into 18 year, 19 year, 20 year and 21 year adult women, apart from 30 subjects as control group drawn from age 18, 19, 20 and 21. Based on the weight and height the subjects body mass index was calculated, this formed as initial scores. The data was collected on the selected tests items as per the methods described above. The pre-test was organized before the experimental period and after 12 weeks of Experimental period post test was organized and data was collected for the study.

Hypotheses :The purpose of the study was to find out the Effect of Anaerobic Exercises on Body Mass Index of Adolescent & Young Girls.

1. It was hypothesized that there may not be any significant differences among different age groups of adult women studied on body mass index.
2. It was further hypothesized that selected anaerobic exercises may not significantly alter body mass of the adult women of different age groups.

Results and Discussions

The purpose of the study was to find out whether there would be any significant improvement on selected health related physical fitness variable, body mass index due to anaerobic exercises among adult women. To achieve the purpose of this study, the investigator randomly selected 150 adult women from the age 18 to 21 years from different colleges in Andhra Pradesh. This is the vital portion of thesis achieving the conclusion by examining the hypotheses. The procedure of testing the hypotheses was either by accepting the hypotheses or rejecting the same in accordance with the



results obtained in relation to the level of confidence. The subjects were compared and analysed on the effect of anaerobic training on body mass index of adult women. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the groups on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as appropriate.

Results on the Survey of Body Mass Index: The objective of the study can be classified into two broad purposes, namely, (1) to make a survey of body mass index of adult women, and (2) to find out the effect of anaerobic exercises on selected body composition index among adult women.

Results on Body Mass Index: In order to find out the effect of anaerobic exercises on body mass index of the adult women under different ages, namely, 18, 19, 20 and 21 the subjects were provided with 12 weeks experimental treatment of anaerobic power. The pre and post test scores were compared with control group subjects drawn from all the 4 ages

The obtained F-value on adjusted means was 18.62. The obtained F-value was greater than the required value of 2.42 and hence it was accepted that there were significant differences among the adjusted means on the body mass index of the subjects.

Discussions on Findings of Body Mass Index: The survey of body mass index among adult women in the age groups 18, 19, 20 and 21 years proved that 91.33% were normal and only 8.66% were overweight to obese. The results further proved that as years grow the body mass

index also increases, even though the BMI was within normal levels.

For the purpose of this study, it was hypothesized that :

1. It was hypothesized that there may not be any significant differences among different age groups of adult women studied on body mass index.
2. It was further hypothesized that selected anaerobic exercises may not significantly alter body mass of the adult women of different age groups.

The purpose of the study was to find out whether there would be any significant alterations on body mass index of adult women due to anaerobic exercises. To achieve the purpose of this study, the investigator randomly selected 150 adult women from the age 18 to 21 years from different colleges in Andhra Pradesh. Within the limitations the following conclusions were drawn:

1. The survey proved that 91.33% of the adult women were possessing normal BMI while 3.33% were found to be overweight, 4% obese and 1.33% were found obese.
2. The mean BMI of 18 years adult women was 20.50 with standard deviation ± 3.66 , 19 years was 19.92 with standard deviation ± 3.01 , 20 year was 20.20 with standard deviation ± 3.05 and 21 years was 22.41 with standard deviation ± 3.22 . Thus it was concluded that as the age increases, the BMI of the adult women were also increased among adult women.
3. It was concluded that the increase in BMI of 21 years was significantly greater than 19 years of age women and 20 years of age women. Even though it was found that there was no



significant difference on BMI among 18 years of age women with 19 years, 20 years, 21 years and control group women at the initial stage. The anaerobic exercises significantly contributed to regularize BMI of 18 years women and it was proved that 18 years women BMI was significantly lesser than 19 years, 20 years and 21 years adult women due to anaerobic exercises.

4. It was found that there was no significant difference due to anaerobic exercises between 19-year-old adult women and 20-year women. However, comparing with control group, 19-year women were significantly lesser BMI after experimental treatment.

5. It was found that there was no significant difference due to anaerobic exercises between 20-year-old adult women and 21-year women. However, comparing with control group, 20-year women were significantly lesser BMI after experimental treatment.

6. It was also found that 21-year adult women were significantly lesser BMI than control group due to anaerobic exercises.

7. On the whole it was concluded that comparing to control group, anaerobic exercises significantly altered BMI of adult women of all ages, namely, 18, 19, 20, and 21 and the effect on 18 years was significantly greater than other age groups, namely, 19, 20 and 21 years of adult women.

Recommendation: The findings proved that anaerobic training significantly altered selected health related physical fitness variable Body Mass Index among adult women and hence, suggested to include in the fitness training of the adult women.

It was recommended that a similar study may be conducted among middle aged women and older aged women to find out the effects of anaerobic exercises and other forms of physical activities.

1. A study among middle aged men and old age men may be undertaken to find out the effects of anaerobic exercises and physical activities among them on body mass index.

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