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THE EFFECTS OF EIGHT WEEKS AEROBIC EXERCISE ON SOME ANTHROPOMETRIC INDEXES OF OBESE FEMALE STUDENTS

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ABSTRACT

The aim of this study was to evaluate the effect of eight weeks Aerobic Exercise on some anthropometric indexes of girls 15 to 17 years. 20 female volunteer subjects with an average age of 16/25±1/81 years, Height 157/84±2/10 cm, Weight 65/80±2/11 kg And BMI of 31/24±1/93 kg per square meter, respectively. Eight week aerobic exercise, Three times a week The first week for 25 minutes and was performed with an intensity of 45% maximum heart rate Of subjects before and after anthropometric measurements including weight, body fat percentage, waist circumference, hip circumference and waist-to-hip ratio were measured. Statistical analysis The data were analyzed by t-test method Test and a significance level of P <0/05 was considered The results showed that aerobic training significantly reduced fat content (p<0/001), BMI (p<0/001), Waist (p<0/001), Hip circumference (p<0/001), And waist-to-hip ratio (p<0/001) was. Aerobic exercise by increasing lipase activity and metabolic hormones epinephrine and nor epinephrine reduced the percentage of fat and anthropometric indices associated with obesity.

Keywords: Aerobic Exercise, Aerobic Exercise, nor epinephrine

INTRODUCTION:

In recent years, overweight and obesity is increasing in developing countries and the prevalence of obesity in children has increased over the past years; however, the various

measures to prevent it, had considerable success obesity predisposing diseases such as cancer type 2 diabetes, coronary artery disease, and cardiovascular disease is (Warburton, 2006). Adolescence is an important period for the development of obesity. At no period of evolution, humankind needs the energy is not the size of puberty and adolescence physiological changes that occur during adolescence Being overweight increases the risk of falls, especially when it is unhealthy dietary patterns common in adolescents is associated (Janssen, 2005). During adolescence, the pattern is formed. This age group tends to remove some meals, eating junk food, inadequate consumption of fast foods, follow weight loss diets and diets are unreasonable the other hand, obesity is a growing problem It is during adolescence (Calamaro, 2009). Due to the growth of technology and computer games and high-performance and a variety of mobile entertainment that many hours of spare time the young people of our country constitutes, all hands together and makes daily activities of young people may be limited to a minimum. This factor has caused in our country, the prevalence of obesity at a young age and adolescence increases (McMurray, 2000). (Janssen, 2004) Physical activity is an essential element in any strategy that seeks to problems related to lifestyle sitting obesity among children and adults handle it. The World Health Organization estimated that in 2020 non-communicable diseases cause three-quarters of deaths in developing countries would be (MeBeth, 2003). Anthropometric measurements important criteria in the evaluation of body composition and health and are non-invasive detection of clinical sciences and sport will be of interest to researchers (Slaughter, 1988). The index of basic information about the characteristics of the motor and increasing the level of skill and practice to achieve a high level of success in the execution of the exercise and gives coaches. Growth and health of children in all communities represents an important indicator of the health and nutrition of the population is considered to be (Cole, 2000) (Huang, 2002) Also, some studies have shown that the relationship between risk factors and the volume of adipose tissue is much stronger than the association with other anthropometric indicators of obesity, such as waist size. In addition, the accumulation of visceral fat even in non-obese healthy subjects is associated with risk factors for coronary artery disease (Gharakhanlou, 2012). Aerobic exercise can lead to weight loss and aerobic capacity is associated with decreased fatigue and an increased ability to perform daily tasks helps (Raustorp, 2004). Given that weight gain is one of the most important problems of today's world and of the importance of youth in the development of the disease in this study, the effect of eight weeks of aerobic training on 15 to 17 years girls specialfacial anthropometric indices look.

METHODS:

20 female volunteer subjects with an average age of 16/25±1/81years, Height 157/84±2/10 cm, Weight 65/80±2/11kg, And BMI of 31/24±1/93kg per square meter, respectively. Aerobic exercise per week for 8 weeks and includes 3 training sessions were conducted. In each session, the subjects for 10 minutes to warm up that includes both relaxation and stretching and exercise and at the end of each session for 7 minutes cold body that includes both relaxation and stretching cold Aerobic exercise was conducted in the form of running, jogging for 20 minutes the first week and 40 percent of maximum heart rate and use the overload principle in the eighth week for 45 minutes. out. And with an intensity of 60-70% of maximum heart rate do Grft.az subjects in two stages, before and after anthropometric measurements including weight, body fat percentage, waist circumference, hip circumference and waist-to-hip ratio to practice respectively.

Methods for measuring variables

Weight and height of the subjects with scale scorpion and the Japanese standard gauge length, for barefoot and minimal clothing (weight in kilograms with an accuracy of 0.1 kg, height in cm with an accuracy of 0.1 mm). The data were measured in the work sheet. The body mass index is the ratio of weight in kilograms to the square of the height (m) were calculated. Percent body fat calipers to help build America Lafatte skinfold caliper model, model (01128) was used.

Statistical Methods

The characteristics of the subjects and data by using descriptive statistics were used. After confirming normal distribution of data in both groups (Kolomograve- Smirnov test) mean differences using the paired t-test were analyzed at the significant level of 05/0. All statistical analysis was performed using the software spss 18.

RESEARCH FINDINGS

According to the results, significant differences in body fat (p<0/001), body mass index (p<0/001), waist circumference (p<0/001), hip circumference (p<0/001) and waist-to-hip ratio (p<0/001) in the pre-test and post-test was significant table 1.

Table 1: Comparison of anthropometric indicators in the pre-test and post-test

Significant	value of t	After the test	pre-exam	Variable / Steps
0/001	4/657	36/24±2/57	37/02±1/25	**Body fat (percent)**
0/001	5/245	26/65±1/53	31/24±1/93	**Body mass index (kilograms per square centimeter)**
0/001	3/15	78/04±1/35	80/14±1/25	**Waist circumference (cm)**
0/001	3/574	92/11±1/23	93/95±0/45	**Hip circumference (cm)**
0/001	2/254	0/836±/01	0/821±0/04	**Waist-to-hip ratio (cm)**

CONCLUSIONS

The results showed that eight weeks of aerobic exercise caused a significant decrease in body anthropometric indicators of female students 17-15 years are obese. Regular physical activity for normal growth and development performance variables such as aerobic capacity, muscle strength, flexibility and motor skills is essential Bar-Or, 1994.

The results of research Lynn Wolfe et al. (2006), Huang et al., (2012), Narayani et al. (2010), Murphy (1998), the effect of aerobic exercise to reduce fat girls saw anthropometric indicators, matches. Body weight gain as a result of an imbalance between intake and energy expenditure. The most important factor is energy intake and physical activity plays an important role in weight regulation. The strategy is the first step in the clinical treatment of obesity lifestyle including increased physical activity is associated with decreased caloric intake (Singh, 2010). Weight loss through exercise more fatty tissue is found. When that physical activity is associated with a significant reduction in body fat energy constraints caused. While preserving lean tissue, or in some cases, particularly in sedentary individuals increases. When aerobic exercise is also part of the energy needed to activate the muscles, of triglycerides stored in fat cells funded (Jakicic, 2005). It seems that much aerobic activity, muscle enzymes that are responsible for the training of beta oxidation of fat increases. In addition to this training, the release of free fatty acids from fat tanks increases the muscles are more easily available (Bauman, 2008). Also cardio fat as the main source of production uses more energy. So because of lower levels of low-density lipoprotein can be due to its effect on body fat percentage due to the use of fat as a source of energy. During exercise, the body's endocrine system can increase the hormones epinephrine, nor epinephrine, growth hormone, cortisol, and increase fat oxidation of fatty acids as fuel use (Deforche, 2003). (Hinkleman, 1993). The results of the present study the research park (2003) to evaluate the effect of combined aerobic and resistance training on anthropometric indexes studied and a significant decrease in the amounts found did not match the might of the results of this the present study investigated the use of different exercises and different age and physical condition of the participants. According to the results of this study we conclude that aerobic exercise reduces anthropometric indices in children of obese and therefore education institutions, teachers and sports instructors recommend regular aerobic exercise to maintain the

health of students in school athletic programs use.

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