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EFFECT OF TRAINING PROGRAM ON CERTAIN PHYSICAL & PHYSIOLOGICAL VARIABLES FOR OBESE PERSONS

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Abstract

Purpose. Morbid obesity means that a person is so fat that their well-being and health are really in danger. Medical professionals often use this term to indicate that the only treatment for the patient to lose weight is weight loss surgery. Morbid obesity is generally defined as a body mass index (BMI) of more than 40. The purpose of this study was to investigate the effects of training program on certain physical & physiological variables for obese persons.

Methods.

The research sample was deliberately selected from obese men aged between 40-50 years, where the research sample reached 10 individuals and based on BMI test. The data collected before and after the program for the experimental group.

Results.

Statistical analyses showed that:

- Significant Difference between the pre and posttests for experimental group in Strength of the abdominal muscles, Strength of the back muscles, Pulse rate, Systolic blood pressure, Diastolic blood pressure, BMI for posttest to the experimental group

Conclusions.

Under the conditions of our study, sports training to 12 weeks resulted in an improvement in Strength of the abdominal muscles, Strength of the back muscles, Pulse rate, Systolic blood pressure, Diastolic blood pressure, BMI. These results must be considered by coaches in order to better understand and implicated of these concepts for technical effects of training.

Key words: Morbid obesity, Strength, BMI.

Introduction.

Morbid obesity has been defined in different ways, however, consensus is found in the literature that it is the result of the interaction of multiple variables such as genetic vulnerability, neuroendocrine functioning, metabolism, environmental factors and behavioral factors (M. Rubio, et al. 2007; C. Wilborn, et al. 2005; J. Lillis, et al. 2009) emphasized that an element of great importance corresponds to the behavior patterns that they lead to an increase in food consumption and / or a decrease in energy expenditure, from which an energy imbalance is generated that leads to obesity.

WHO (2011) reports that worldwide the prevalence of obesity has doubled since 1980. In 2008 approximately 1.5 billion adults (people 20 years of age or older) were overweight, of which about 200 million men and about 300 million women were obese. The WHO (2007, review appointment, is not in the references) presented data regarding obesity and overweight in adults in Colombia, where 46% of the adult population (ages

between 18 and 69 years of age) He was overweight, 32% had pre-obesity; data that correspond to what was found with the National Survey in Egypt.

To establish the psychological function of food practices related to an unhealthy lifestyle, as with morbid obesity, it is useful to consider the interplay between culture, behavior and biology, because although obesity is the result of a biological imbalance between consumption and energy expenditure, the establishment of these prolonged patterns implies various cultural factors.

(Speakman, et al. 2008) show research with animal models that help to understand the basic processes that regulate energy balance, showing that along with the genetic and physiological basis of obesity, there are important environmental aspects associated with this condition. Studies in this context include analysis of animal responses to diets high in fat or high in fat and in sugars (cafeteria diet), the effects of dietary restriction on body mass and weight loss, and the impact of potential drugs on some components of energy

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balance. One of the factors identified in primates, for example, is the reduction of physical activity due to its prolonged retention in restricted spaces, which can be equated with the increasing limitation of outdoor activities and for a limited time in children and youth in various areas urban western society.

Obesity is increasingly widespread in the Arab Republic of Egypt, posing a significant risk to the health of individuals and communities. Fonseca-Junior et al (2014) suggests that obesity is one of the leading causes of many diseases such as heart disease (CVD), diabetes, hypertension Blood, atherosclerosis, rheumatoid, back pain and some types of cancers.

The problem of obesity varies between different types and degrees, including lower body obesity, upper body obesity, and middle obesity of the body as a whole, and with regard to the degree of obesity, the World Health Organization WHO determines three grades based on what is known as Body Mass Index (BMI), whose calculations are based on body length and weight guides according to a specific formula, the problem of morbid obesity comes with the highest score of this classification, and the World Health Organization mentions 2012 that it depends on the body mass index in all its research, and determines that the individual is considered obese if they His score is between 30-34.99 which is a The first level of obesity and 35. It is the second level of 39.99, and finally if the Morbid Obesity class (40 and over)

Both (E. Powers & B. Howley (2015) believe that the use of this indicator gives enough indication of the components of body composition in terms of the amount of fat and muscle and its distribution in different body areas.

Through their work, the researchers, by virtue of their relationship with health club officials, have found a high rate of obesity among a large number of members and leaders of these clubs, as well as the fact that the obesity of the degree of excessive excessively significantly affect the various aspects of the lives of people with mobility Psychological, social and family side, the researchers have devised this outwardly and estimated in terms of body shape and motor potential and problems of lack of fitness in a small number of participants in these centers

By looking at some studies such as (Bouchard et al. 2009; Baillot et al 2013; Mazen & Mazen, 2014; Fonseca Junior, et al. 2016) the researchers have done a Pilot Study to confirm their observations, relied in that study to record measurements of body weight BW and body length BH for a large number of participants in health clubs (about 120 participants) and then calculate the body mass index BMI, and show them the validity of the results According to the phenomenon of

obesity, the researchers sought to deal with this subject in scientific study in an attempt to shed light on this aspect and activate programs and scientific methods to reduce the rates of obesity and improve fitness The physiological and physical such persons through the implementation of the program of the current search procedures.

This research is the beginning of more scientific and applied research in the field of integrating treatment with sports programs with guidance on the modification of lifestyle in the treatment of obesity and the development of physiological and physical fitness for men, the results of the research may add a new method in the field of scientific and applied knowledge that can benefit specialists Obesity, physical therapy and physical education in universities, health clubs, obesity centers and body weight control.

The purpose of this study was to investigate the effects of training program on certain physical & physiological variables for obese persons.

Samples

The research sample was deliberately selected from obese men aged between 40-50 years, where the research sample reached 10 individuals and based on BMI test. The data collected before and after the program for the experimental group.

Search sample selection conditions:

- To be men of 40-50 years of age
- Be obese with an increase in body mass index (BMI) of more than 40 kg / m².
- To be those who have a certain desire to get rid of obesity.
- Obtaining the voluntary written consent of the need to adhere to the research experience program.
- Full compliance with the dietary guidelines accompanying the performance of the training program under consideration.
- Regularity in the training program.
- Do not suffer from conditions associated with morbid obesity.

Training program:

The proposed sports program was designed, and accordingly, the duration of the proposed program for twelve week for the obese was (5) training units per week, and then the number of training units (30) units, and the time of the unit ranges between (35) Minutes.

pre- measurements:

The pre- measurements of the variables in question were conducted during the period from 1-6 / 6/2019 in the research variables (physiological and physical).

- Implementation of the proposed sports program:

The proposed sports program was implemented in the period from 3/6/2019 - 15/7/2019, where

aerobic exercises, as well as various sports tools and devices were used within the gym hall.

- post- measurements:

Statistical analysis

All statistical analyses calculated by the SPSS statistical package. The results reported as means and standard deviations (SD). Differences between two groups reported as mean difference. Confidence

Results.

Table 1. Anthropometric Characteristics and age of the experimental group (Mean ± SD)

Group	N	Age [years]	Weight [kg]	Height [cm]
Experimental	10	43.12 ± 3.7	120.06 ± 4.31	172.05 ± 4.78

Table 1 shows the age and anthropometric characteristics of the subjects. There were no significant differences observed in the anthropometric characteristics and age for the subjects in the experimental group.

Table 2. Mean ± SD and "T" Test between the pre and posttests for experimental group in hand Grip Strength, Standing Long Jump Test, Softball throw test and shot speed.

Variables	Experimental group		Rate %	Sign.
	Before	After		
Strength of the abdominal muscles	2.27±0.42	20.35± 2.26	18.00	S
Strength of the back muscles	3.00±1.04	29.00 ±2.07	86.00	S
Pulse rate	85.00±3.56	76.00 ±3.04	10.59	S
Systolic blood pressure	144.00±4.31	135.00 ±3.55	6.25	S
Diastolic blood pressure	95.00±3.45	92.00 ±3.02	3.16	S
BMI	41.17 ±3.47	31.45 ±2.45	23.61	S

Table 2 shows that:

- Significant Difference between the pre and posttests for experimental group in Strength of the abdominal muscles, Strength of the back muscles, Pulse rate, Systolic blood pressure, Diastolic blood pressure, BMI for posttest to the experimental group.

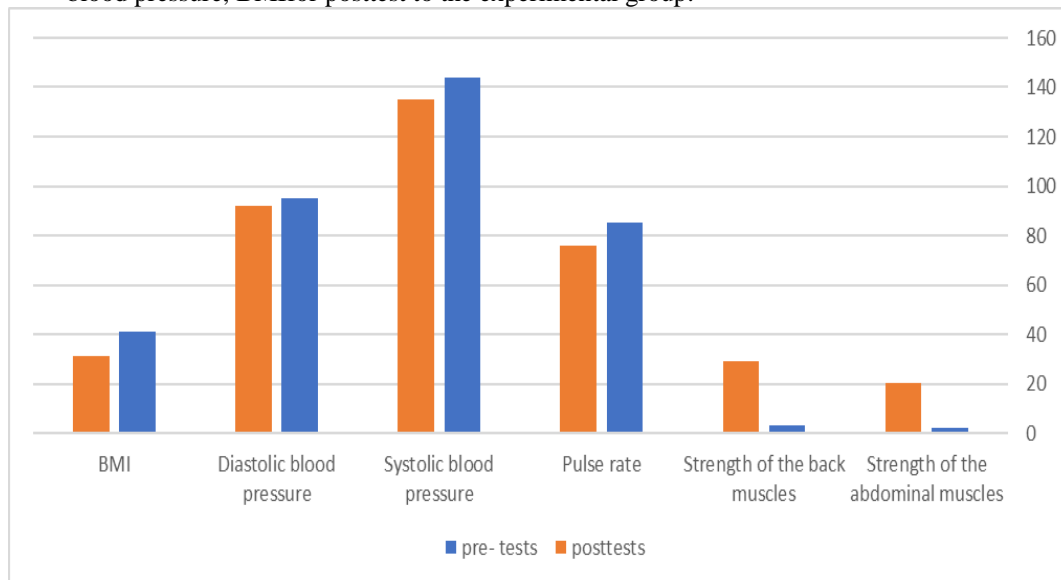


FIG. 1 shows the difference between the pre and posttests for experimental group in Strength of the abdominal muscles, Strength of the back muscles, Pulse rate, Systolic blood pressure, Diastolic blood pressure, BMI for posttest to the experimental group

Discussion.

This study assessed the effects of 12 weeks training program, on the Strength of the abdominal muscles, Strength of the back muscles, Pulse rate, Systolic blood pressure, Diastolic blood pressure,

post- measurements of the variables were carried out in the period from 16-17 / 7/2019.

intervals (mean diff ± 95% CI). paired sample t-test used to determine the differences in physiological & fitness parameters between the pre-posttests for experimental group. The p<0.05 was considered as statistically significant.

BMI. Experimental results indicated that all variables significantly improved in the experimental group after the training program.

There are statistically significant differences between pre and post measurement in the

abdominal muscle strength variable, where the improvement rate reached 20.00%, the strength of the back muscles reached 86.00%, and the body weight ratio improved to 20.76%, due to the improvement of research variables.

When comparing the weight measurements of the individuals of the research sample before and after the program, the results indicated that there was an improvement in the averages and by choosing its statistical significance, there were significant differences at the level (0.05) between the pre and post measurements. This indicates the effectiveness of the proposed mathematical program in influencing a decrease variable. Weight, aerobic exercise aims to reduce the weight of the research sample who are obese, and this reflects positively on the overall shape of the body.

(Douglas, 2017) points out that regular exercise is inversely related to body fat level leading to weight loss, consistent with the findings of study (Suha, 2007; Attito, 2011; Aida, 2012; Baghdadi, 2014; Sami, 2016) whose studies have found a decrease in body weight as a result of aerobic exercise. On a continuous and regular basis.

In the opinion of the researchers that the faster the exercise and maintain the body weight the better and gives positive results, the physical exercise codified in various forms have a significant impact on the aesthetic, and the greater the level of fitness with him increased self-confidence and self-esteem, and this has a positive impact in Behavior and personal life of the individual and then the development of social life.

Aerobic exercises are also movements based on physiological and anatomical foundations. It is one of the methods of physical sports therapy for the purpose of describing the targeted movement, whether in the form of exercises or physical, functional or skilled work, in order to restore the basic functions of the body and rehabilitate it physically to return efficiently to daily activity.

(Abul-Ela & Ahmed 2003) point out that aerobic exercise has become the main target of all fitness programs for health. Prevention of diseases, especially obesity, also helps to lose weight and improve blood pressure and the concentration of plasma lipids and compensate for insulin activity and reduce blood glucose and reduce body fat.

(Ahmed, 2014) points out that aerobic exercise programs are one of the best methods that can be applied for proper health and structure. - Increase relaxation and reduce anxiety, tension and frustration - Increase the level of energy and efficient delivery of blood loaded with oxygen to the cells of the body.

(Samir & A. Ahmed, 2005) show that the need for physical activity increases after the age of forty as it becomes more likely to gain weight due to

increased body fat stores, sagging muscles of the buttocks and abdominal area. Many physical attributes and protection from diseases.

According to (Mustafa, 2004) that the volume of fat decreases as a result of physical effort and increased energy consumption and increase the ability of tissues to receive insulin and carry sugar molecules and burn inside the cell.

According to (Sultan, 2014), the codified physical effort for a period has led to physiological and morphological responses. Sugar, triglycerides and low-density lipoprotein, increase the rate of high-density lipoprotein.

From the viewpoint of the researchers - and what they have seen from the references and studies - they believe that physical activity protects the human from some serious diseases or that may cause impotence to humans, including obesity due to lack of movement and excessive eating, especially saturated with fats, and other diseases, and to follow a method Physical activity is better for human health, as it does not cause any problems or side effects, sports activity can be very effective in correcting the level of fat and blood lipids, as the rise of fat and blood lipids above the normal rate is a source of risk associated with diseases of the heart. The exercise is very important for health and weight loss in excess of the body's need and maintain appropriate weight and maintain health through physiological vital organs work efficiently, and prepare programs for physical training and prefers to make physical activity part of a pattern of human life.

The lack of such programs is mainly due to the lack of cooperation and rare cohesion between the specialists in the sports and medical fields, which led to the neglect of a large and important segment of society that needs to unify the efforts of these specialists in both the fields of sports and medicine. Attention to the concepts associated with physical training and physiology of physical effort best methods of gaining health and fitness through the exercise of motor activity where this is achieved by the preparation of physical programs with a high degree of safety and effectiveness, obesity represents a deviation from the natural structure of the human body, fat 20% of the body weight for men is an indication of the beginning of obesity.

Conclusion

Under the conditions of our study, sports training to 12 weeks resulted in an improvement in Strength of the abdominal muscles, Strength of the back muscles, Pulse rate, Systolic blood pressure, Diastolic blood pressure, BMI. These results must be considered by coaches in order to better understand and implicated of these concepts for technical effects of training.

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