

# The Effect of Low-medium Intensity Training on Body Weight, Body Fat, Visceral, Bmr, Body Age, Whole Subjects, Trunck, Arm, Leg, Skele Whole Body in Obese Patients

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Abstract: The study aims to determine the effects of low-medium exercise intensity on body weight, body fat, visceral, BMR, body age, Whole, cut, arm, leg, skole whole body exercises in obese sufferers. It can be used to add references to audiences to try a healthy lifestyle by exercising. The study employed an experimental method using a single group receiving treatment, then administered tests and measurements to determine the body's response to obesity. The measurements of body composition include weight, body fat, visceral, BMR, body age, whole subject, cut, arm, legs, skele throughout the body. From the test results, it can be seen that T calculate from each variable  $> 0.05$  (T-table) and large value significance probability value of the whole variable  $> 0.05$ , then  $H_a$  is rejected, meaning that there is no exercise influence low-moderate varying to the sufferers obesity.

## 1 INTRODUCTION

Intensity is a measure that indicates the quality of an excitatory given during the exercise (stimulus in the form of motion activity). Hidayat (1990) states that "All explosive movements require great energy." This means energy expenditure is an indication of the intensity level of a job. About the intensity of exercise by Moelock (1984) explained, "intensity exercises declare the weight of exercise". Later Chu (1989:) states "Intensity is effort involved in performing a given task". So, exercise intensity is the magnitude of the workout load that must be completed within a given time. To know an intensity of exercise or workout is to measure the heartbeat.

According to Andersen (1999) in general, exercise intensity starts from 40 to 85% functional capacity. In people with heart problems, exercise intensity can be established between 40 and 60% functional capacity. Duration of exercise can be set according to one's response to exercise. For example, a person must have felt recovered within an hour of exercise. Apart from the intensity-setting techniques and intensity levels selected, the exercise intensity is an intensity that can be performed for 15 to 60 minutes. Basically, the final goal of

determining the intensity of the exercise is to give a clue for someone about the intensity of the exercise that will be able to provide maximum benefit to him while minimizing the risk of injury (Slentz, 2004).

According to Suharto (1997:98), the exercise intensity is a qualitative component that refers to the amount of work performed in a given time unit. The intensity of exercise can be highly-rated low based on several indicators, including: 1) based on the percentage of speed and strength used in the exercise, 2) based on the amount of pulse in the action of the exercise load. Intensity scale to exercise speed and strength as follows (Suharno, 1993): (1) Super Maximum 101% – upward of the best achievement, (2) maximum 100% of best achievement, (3) Maximum sub 80% – 99% of the best achievement, (4) medium 60% – 70% of Best Achievement, (5) Low (low) 59% down from best achievement. Bompa (1983), said that the intensity level can be measured according to the type or form of exercise. To exercise speed is measured in meters/second from the execution of a movement, while the intensity of the activity overcoming the load can be measured in kilograms (kg), while for team sports, it is based on the rhythm or tempo of the game.

The intensity of exercise is the function of the nerve stimulation force carried out in the exercise

and the strength of stimulation depends on the load speed of movement, variation of intervals or breaks between each of them. An element that is not less important is psychiatric pressure during exercise. So, the intensity is not merely measured from the effort done by the muscles only, but also the expenditure of energy on the nerves during exercise (Bompa, 1994).

The intensity level can be measured according to the training type. For exercises involving speed, it is measured in meters per second about the average movements performed for each minute. The intensity of the activities used to resist resistance, can be measured in kg or kg/m (one kg is lifted up as high as 1 metre against the weight force), while for team sports, the rhythm of the game can help to measure its intensity. The intensity of exercise differs from each other depending on the specificity of the relevant sports branch (BOMPA, 1994).

The pulse rate is one of the indicators that can be used to determine the intensity of exercise. The pulse is a wave that can be felt in the arteries when the blood is in the pump out of the heart. This pulse is easily felt in a place where there is an artery crossing (Sandi, 2016). The blood driven toward the aortic cystol not only moves forward in the blood vessels, but also creates a pressurized wave that runs along the arteries (Kasenda et al, 2014). Pulse frequency can be measured by pressing the radialistic arteries using the index finger tip and middle finger until the maximum pulsation can be detected (Bickley, 2013).

Low-intensity sports have several benefits and weaknesses, including: 1) Suitable for people who are just starting to exercise, people who are obese, and people who are quite advanced, 2) taking long time so it is suitable for those who Love to enjoy the sport for a long time, 3) Good for athletes or people who want to improve endurance skills, such as marathon, 4) taking long time, so it is not suitable for those who do not have much exercise time, 5) for those who want to lose Weight loss, will experience problems because according to the study of Wilson, et al., those who perform low intensity only experience temporary weight loss because the body's metabolism has been adapted, 6) the risk of experiencing muscle shrinkage due to lean muscle many activations.

A number of experts and health institutes suggest that daily exercise is done with moderate intensity and adequate duration. It is medium intensity for 150 minutes in a week or high intensity sports for 75 minutes a week. This duration is with a 30-minute sports pattern in one day for 5 days a week, or with

another division but with the same end result. This figure applies if you are aiming to maintain health and weight. However, if you exercise with the aim of losing weight, it may take a different portion. That is by increasing the exercise time so that burning calories occurs even more. Just like the medicine, weight and age are the determinants of how much exercise you need.

Sports can be differentiated into three, among including: light exercise, a person only exercising during leisure time every week. The approximate number of calories issued in this type only ranges from 500 calories per week. In medium or moderate exercise, exercises are at least over 3 days a week with an average exercise period of 30 minutes, or when calculated based on calories ranging from 1000-2000 calories per week. Meanwhile, heavy exercise is depicted with a longer sport and heavier than medium sports with energy spent reaching 2000-2500 calories per week.

Researchers from Imperial College London compared the global Body Mass Index (BMI) of nearly 20 million adults during the year 1975-2014 with data that the level of global obesity among men rose tripled, from 3.2 percent to 10.8 press En. For women, more than doubling, it is up from 6.4 percent to 14.9 percent. That means that there are 266 million men of obesity and 375 million obese women in the world in the year 2014, with all mankind increasing heavier 1.5 kilograms every decade since the year 1975. Researchers found that 2.3 percent of men and 5 percent of women have become very obese, which means they have a BMI of more than 35 kilograms per square metre. Every year the problem of obesity becomes a spotlight that needs special attention to handle it. The problem of obesity has become an urgent problem around the world, especially developed and developing countries. If the trend of obsity is not immediately lowered, no death rate will be greater.

Body fat should be done by someone who wants to lose weight or improve his condition. The body fat scales provide a clear and accurate picture of body composition, so that it can lose weight effectively. Monitoring of body composition should be done in various stages. Exercise and adjusting the diet would result in the body fat percentage would be reduced, however this does not mean it would lose weight. Exercising the body would produce more muscle. Muscles are also responsible for weight loss. With the body fat scales or 14 monitor body composition, it can track such developments. Body fat is not the same as body mass. The majority of our bodies are made up of water, muscles, and fat.

The percentage of body fat is a number that indicates how much fat you have.

Visceral fat, or abdominal fat, is a type of body fat that is in the stomach and surrounds the internal organs. Different types of subcutaneous fats are piled up under the skin, have less of a negative impact on health and are easier to lose than visceral fats. Visceral fat is associated with a number of negative effects on health, including increased blood pressure, dementia, heart disease, hormonal imbalance, and insulin resistance, which can lead to Diabetes type 2. Fat deposits actually act similarly to the organ, and secrete substances affecting the surrounding organs. It is thought that belly fat may be very risky because it is near the main blood vessel that carries blood to the liver from the whole intestine. Some substances are excreted by fat, especially loose fat cells, can be carried to the liver and then affect the levels of fat and cholesterol in the blood. Abdominal fat is also closely related to the increase in LDL and decreased levels of HDL cholesterol, as well as breast cancer, endometrial cancer, and colorectal cancer. Measurements using regular body scales have not been able to measure other elements of the body's composition (in this case, it is related to obesity). This consideration is used by researchers to use a tool called Body Fat Monitor.

Obesity is one of the sources/improve some diseases, including: heart, stroke, high blood pressure, cancer and many more. Given the danger from obesity, it is necessary an attempt, a way to prevent and overcome obesity. The need for a study that could make the solution of obesity need to continue to be studied from various angles, not only from the medical corner, but from the angle of nutrition, even sports science.

## 2 RESEARCH METHODS

### 2.1 Participants

Participants are generalization areas consisting of objects / subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions are drawn. Population in this study is Determination of the sample in this study using purposive sampling techniques, namely sample techniques with certain considerations (Notoatmodjo: 2010)

### 2.2 Study Design

This study is experiment and uses descriptive quantitative methods.

### 2.3 Data Collection technique

The data collection technique used test and measurement. The analysis technique was done using validity and reliability.

### 2.4 Statistical Analysis

The data collection technique used test and measurement. The analysis technique was done using validity and reliability

## 3 RESEARCH RESULT AND DISCUSSION

After obtaining the data, the results were obtained. Data obtained from these measurements were then analysed. The data showed that:

Table 1: Data Measurement

No	BB	BF	VES	BMR	BMI	BA	SW
1	92	41.1	14	1696	33.8	55	39.4
2	93.5	40.9	13.5	1722	33.6	55	39.1
3	84.8	36.5	11.5	1626	31.9	49	35.5
4	69.3	38.9	9	1371	28.8	45	34.7
5	116.8	36	23.5	2258	38.1	61	26.3

Table 2: Data Measurement

NO	TR	ARM	LEG	SWB
1	56.9	56.9	56.7	21.9
2	34.6	56.9	56.1	22.1
3	30.8	49	47.5	24.6
4	30.9	54.5	52.1	22.2
5	25	36.5	37.2	27.4

An analysis of the data used to answer the hypothesis proposed is the presence or absence of the effect of low-moderate intensity exercise on body weight, body fat, visceral, BMR, body age, whole subject, trunck, arm, leg, whole body skele in obese people. Based on the results of research that has been obtained with data analysis and hypothesis testing, it can be concluded that there is no significant effect of low-moderate intensity exercise on body weight, body fat, visceral, BMR, body age, whole subject, trunck, arm, leg whole body skele in obese people. Exercise that is done is not able to

provide a better change in obese people in weight, bmr, bmi.

## 4 CONCLUSIONS

This research aims to determine the influence of low-moderate intensity exercises on body weight, body fat, visceral, BMR, body age, whole subject, Trunk, arm, leg, whole body skeletal in obese sufferers from T test results can be seen that T Count of each variable  $> 0.05$  (T-table) and large value significance probability value of the whole variable  $> 0.05$ , then  $H_0$  is rejected, meaning that there is no influence of low-moderate intensity exercise against body weight, body fat, visceral, BMR, body age, Subject whole, Trunk, arm, leg, skeletal whole body in obese sufferers.

Based on the results of the above studies, it shows that low-moderate intensity exercises are not able to contribute significantly to obese sufferers. Low-moderate intensity exercises performed for five times a week within an hour to a half hour of training in a month have not shown a change in the significant of weight of one's body.

The form of the given exercise must be adjusted to the objectives to be achieved and the specifications you want to improve. Low-intensity exercises are aimed at providing treatment in obese sufferers with a wide range of treatments to improve overall fitness. The low-medium intensity exercises in this study consist of several exercises and have different items each post between: Push up, sit up, leg curl, leg extension, bench press, Chest press, squat, and sports-game sports Happy to make obesity sufferers.

Many factors make a person able to lose weight. Factors of physical activity and food factors become the one to be aware of. Both factors go hand-in-hand to lose weight. In this research, it is not in the control of food assumptions that are consumption of obesity. This can also make the factor less significant in declining weight. In addition, the psychological guidance factors can also be done in losing weight. Weight cannot be deducted in an instant way, but slowly and continue. The correct exercise and diet program would be very helpful in weight loss programs. However, it is important to note that there is an unaltered genetic factor that also plays a role in obesity.

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