THE INFLUENCE OF AEROBIC METHOD AND COMBINE METHOD WITH TRAINING MOTIVATION TO REDUCE FAT

Padli

Faculty of Sport Science, Padang States University

ABSTRACT

This study describes the Effect of Aerobic Methods and Combined Methods as well as Motivation Practice Against Body Fat Loss. The problems encountered are low fat loss as a result of the use of monotonous exercise methods. To answer the research hypothesis, experimental research was conducted. Due to the number of population is limited, about 32 people then, the sample was taken by total sampling. The questionnaire was used to collect the data of training motivation collected. **Skin fold caliper** was used to measure fat of body. The result of data analysis shows that :

(1) The decrease of body fat of members trained by the combined method ($A_2 = 1.21$) is greater than that who trained by aerobic method ($A_1 = 0.91$), (2) On the motivation of high category practice, decreased body fat of members trained by the combined method ($A_2B_1 = 1.81$) is greater than that who trained by aerobic method ($A_1B_1 = 1.21$), (3) On the motivation of low category practice, the reduction of body fat trained by combined methods ($A_2B_2 = 0.61$) do not differ significantly with the trained by aerobic method ($A_1B_2 = 0.6$), (4) There is an interaction between the exercise method and the motivation to practice on body fat loss ($F_h = 15.36 > F_t = 4.20$). Based on these findings it can be concluded that (1) The combined method is more effectively used to lower body fat than aerobic methods, (2) Exercise and Motivation practice methods are together give effect to body fat reduction, in other words the effect of exercise method on the decrease Body fat depends on the motivation to practice

Keywords: Aerobic method and combine method with training motivation.

INTRODUCTION

The number of obesity in Indonesia continues growing from year to year. Based on Susenas data in 1989, the prevalence of obesity in Indonesia was 1.1 percent and 0.7 percent, respectively for cities and villages. That number increased almost five times to 5.3 percent and 4.3 percent in 1999 (Siagian, 2009). "Obesity is a condition in which a person is overweight 20 percent of his ideal body weight, it is due to excessive fat accumulation" (Septiyadi, 2004: 11). In life, obesity is closely related to modern lifestyles, such as overeating and minimal physical activity, and the availability of various tools that replace tasks that are usually done manually.

The development of technology will reduce people in using energy thus, physical activity is less and it not proportional to food they consume. Continuous fat accumulation

tends to increase blood pressure, leading to the development of heart disease, as Sumosardjono (1996: 189)

"The increasing of cholesterol and fat levels in bloodstream stop up blood vessels that drain blood to the heart muscle. Cholesterol can harm our heart health, if buried in the walls of blood vessels which then become a barrier in the bloodstream as a result the heart attack occurs "

As already known that in order to participate in creating a healthy Indonesian human being, well being and protected from heart disease and blood vessels, then, to support government programs in socializing sports and sports communities, Yayasan Jantung Indonesia Branch of West Sumatera has conducted a variety of promotive prefentif activities. One of them is to open a fitness center with the name of Fitness Center of Indonesia Heart Foundation Main Branch of West Sumatra on April 1, 2008. In this gym, there are several prorgams offered to members ranging from fitness, muscle formation, weight loss, and postoperative rehabilitation heart.

Based on researcher observation, most of member are the people who have a problem with weight. In 94 active member, 52 member have obese. They want to lose wight given negative impact for them. The overweight that they faced beside ruined their appearance, and it also cause diseases that interfere with their health, such as shortness of breath, although only do mild activity, the body feels heavy, often overheated or sultry, often pain in the waist, pelvis, thighs, knees and high blood. Then, they are easy to experience fatigue in the move. This is in accordance with the opinion of Mary (1997: 348). "Health problems caused or aggravated by obesity are disorders of the cardiovascular and respiration, in the form of hypertension, coronary heart disease, varikose veins".

Hairy (2003: 158) states "regular physical exercise and sustainable with increasing in burden gradually can reduce the percentage of body fat as a result body weight also

decreases." Based on these opinions, exercise is the best way to lose weight. According to experts, the type of exercise most suitable for obesity people is aerobic activity. Aerobic activity is a sport that burns fat. Aerobic activity includes all activities of body types that use oxygen in high quantities. Treadmill, up and down stairs, swimming, cycling, aerobic exercise is an aerobic activity and supports fat burning. In other hand, it does not mean that in the first step walk, or on the stroke of the first bike of obesity people have directly burn fat in their body. "The fat burning activity needs to be done in a specific heartbeat target of 70% - 80% DNM (Maximum Pulse Rate) for 45-60 minutes for the fat in the body to be burned" (Syahara, 2006: 28). That's when the body will release fat cells as a source of energy.

Then, how about lifting weights, everyone would think that lifting weights is to build muscle while if you want to lose weight, the solution is Treadmill or join classes like aerobics, and so forth. Which of these exercises burns fat faster, or it can be said to be fastest, there is a theory that says by combining weight training with aerobic exercise, we will get the most out of fat burning.

The motivation to practice is the most important. It is related to the desire and determination to practice regularly. High motivation to practice allows you to practice regularly and passionately. Methods of exercise and motivation to practice are the factors that are considered important and suspected to affect the reduction of body fat.

Giam (1992: 12) states "exercise can be divided into several forms of exercise one of them are aerobic exercise, aerobic exercise is the most effective exercise to reduce obesity and increase aerobic capacity if done properly and safely". But this does not mean that in the first step of walking, or on the first stroke of a fat person has directly burn fat in the body. In doing aerobic exercise takes a relatively long time because for the first 20 minutes of aerobic activity, glycogen storage will be used first, the body still uses the sugar reserves (glycogen) that are still available in the liver and muscle. Therefore, it takes at least 20 minutes of

aerobic exercise for the body to start taking fat as its energy source, that's when the body will release fat cells as a source of energy.

According to Kristono (1996: 56), aerobic is "a type of exercise that uses lots of oxygen and many uses of energy such as carbohydrates and fats". This explains that aerobic exercise is a type of exercise that uses oxygen, in addition to the energy required from the exercise process is taken from carbohydrates and fats, where this activity is done with a long time and involves large muscles.

Setiawan (2005: 21) suggests "weight training is a method of training obstruction by using the burden as a means to improve physical conditions, including physical fitness and general health". Therefore, the body is not only trained to get heart and lung health, but it also required weight training to get the body fit. By only doing aerobic activity, it will not give us complete health. Endurance exercises can certainly help, but weight training is much more effective for reducing body fat. Rai (2007: 26) suggests:

"Weight training is a superior way to reduce body fat and keep fat to accumulate again. Muscles cause metabolism to become more active. The more muscle you have the faster the rate of body metabolism, the more calories are burned, making it easier for the body to get a slim and toned appearance "

in line with this idea, Santoso (2009: 76) states that:

"Combining weight training with other sports will produce maximum fat burning. Tthe way to do this is weight training for 30-45 minutes to burn calories from carbohydrates. Use these moments to exercise other than weight training with a heart rate of about 65%. This will optimize body fat burning ".

This shows that weight training increases muscle mass and tissue activity, which ultimately results in high metabolic rate and higher daily energy expenditure as well.

Blanchard (1998: 10) argues that "motives are the ways of behavior" it is a certain incentive that causes why a person behaves or acts about something. It was further argued that "the motivation of people depends on the strenght of their motives"it means that one's motivation depends on what they want. Furthermore, Gunarsa (1989: 93) defines "sports motivation is the whole mover (motives) in the individual that raises his sporting activity, monitors the smoothness of the exercise, and gives direction to the exercise activity to achieve the desired goal". Based on the explanation above, it can be concluded that the motivation to practice is the source of the driving force and the driver of human behavior to perform sports activities to achieve certain goals.

RESEARCH METHODS

The type of this study is experimental research, the purpose of this study is to see the effect of exercise methods and motivation to practice on body fat reduction. To see the practice motivation of members of Fitness Center of Indonesia Heart Foundation Main Branch of West Sumatera used descriptive research type with approach of quantitative analysis. The sample in this study is 32 people. Number of samples per cell of 8 people. The instruments used to collect data from the motivational variables of practice are questionnaires with Likert Scale. To obtain body fat data using Skin fold caliper tool.

The result of data were analyzed by using two ways analysis of Variance Analysis (Anava) and continued with Tukey Test if there was an interaction between the variables of exercise method and the motivation of practicing variables. This research is experimental research with 2x2 factorial design, therefore the data analysis used was technique of Two Path Anova, with level of trust $\alpha = 0,05$.

RESULTS AND DISCUSSION

Training Motivation

Based on the results of questionnaires in order to get the data of training motivation on sample of Fitness Center members of Foundation Heart Indonesia Branch of West Sumatra, obtained the highest score of data was 265 and the lowest score was 199, and distance measurements (range) was 66. Based on the data group training motivation obtained the average value was 235.16, median was 222.6, 229.75, and standard deviation of the data was 14.33.

Body fat

a. Body Fat Loss that was given exercise of aerobic Methods (Group A1)

The data of body fat measurement in this group consisting of 16 members ($n = 16$) the highest score was 36.30, the lowest score was 32.2, the mean score was 34 and the standard deviation was 1.16.

b. Body Fat Loss that was given exercise of aerobic Methods

The data of body fat measurement of members in this group consisted of 16 members ($n = 16$) with the highest score was 36.3, the lowest score was 31.2, the average score was 33.70 and standard deviation was 1.49.

c. Decreased Body Fat with Higher Training Motivation Category (Group B1)

The data of body fat measurement in this group consisted of 16 members ($n = 16$) with the highest score of data was 36.3, the lowest score was 31.2, the average score was 33.43 and standard deviation was 1.47.

d. Decreased Body Fat Members with Lowest Training Motivation Categories (Group B2)

The data of body fat measurement in this group consisted of 16 members ($n = 16$) with the highest score was 36.3, the lowest score was 32.2, the mean score was 34.32 and the standard deviation was 1.04.

e. Body Fat Loss that was Assigned Exercise aerobic Methods with High Training Motivation categories (Group A1B1)

The data of body fat measurement in this group consisted of 8 members ($n = 8$) with the highest score was 36.3, the lowest score was 32.2, the average score was 33.83 and standard deviation was 1.36.

f. Body Fat Loss that was Assigned Exercise aerobic Methods with Low Training Motivation categories (Group A1B2)

The data of body fat measurement in this group consisted of 8 members ($n = 8$) with the highest score was 35.6, the lowest score was 32.2, the mean score was 34.18 and the standard deviation was 0.99.

g. Body Fat Loss that was Given the Combination of Practice Method with Higher Training Motivation Category (Group A2B1)

The data of body fat measurement in this group consisted of 8 members ($n = 8$) with the highest score was 36.3, the lowest score was 31.2, the average score was 33.04 and the standard deviation was 1.56.

h. Body Fat Loss that was Given the Combination of Practice Method with Low Training Motivation Category (Group A2B2)

The data of body fat measurement in this group consisted of 8 members ($n = 8$) with the highest score was 36.3, the lowest score was 33.1, the average score was 34.46 and standard deviation was 1.14.

After analyzing the data using the two-track ANAVA approach and continued with Tukey's test of four proposed hypotheses, three hypotheses were accepted and can be tested for truth and one hypothesis can not be verified. The accepted hypothesis of the research is the first, second and fourth hypotheses, whereas the third hypothesis can not be verified, namely the

difference in body fat loss trained by combined methods and those trained with aerobic methods on low training motivation category.

The research findings as presented in the previous section of this chapter are statistically analyzed data that need to be studied further to explain why there is a research hypothesis that is denied the truth, why there can be a significant interaction between exercise methods and motivation to practice, and so forth . Based on the interaction data, it can be stated that the treatment group obtained the highest average score of body fat loss.

1. The Differences Body Fat Loss that was given the Aerobic Exercise Method and the Combined Method

The results of the first hypothesis test showed that the decreased body fat which were given a combined method was higher than those given aerobic method. In other words, the research hypothesis which was proposed is significantly tested for its truth. From these findings it can be argued that combined methods are more effectively used to decrease body fat than aerobic methods.

As pointed out in previous theory studies the combined method is an effective method to decrease body fat. It was caused, at the beginning of weight training was aimed to utilize the energy of sugar (glycogen) that is still available in the liver and muscles optimally, so that when doing the next exercise that is aerobics, the body has been using fat as the main source in the first minute. This is in accordance with the opinion of Rai (2007: 26) suggests that:

"Weight training is a superior way to reduce body fat and keep fat to accumulate again. Muscles cause metabolism become more active. The more muscle you have the faster the rate of body metabolism, the more calories are burned, then, it will be easier for the body to get a slim and toned appearance "

The same thing also expressed by Santoso (2009: 76):

"Combining weight training with other sports, will result maximum fat burning. It can be done, weight training for 30-45 minutes to burn calories from carbohydrates. Using these moments to exercise other than weight training with a heart rate about 65%. It will optimize body fat burning ".

In addition, the effectiveness of combined training methods is also supported by the benefits provided by weight training that increases muscle mass and tissue activity then as an ultimately results in high metabolic rate and higher daily energy expenditure as well. This is in accordance with Baechle's opinion (1999: 3) states that "the benefits derived from weight training are, maintaining muscle, maintaining metabolism, increasing tissue, and increasing metabolic rate". So this combined method is better in burning fat.

2. Interaction Between Practice Methods with Training Motivation

The results related to hypothesis testing of interaction, proving that there is interaction between training methods with the training motivation in giving effect on body fat reduction, or in other words that the research hypothesis was received significantly.

In the group of members with high-training motivation who were trained with a combined method, it can be obtained that a body fat loss was higher when compared to the group members with the same motivational training category and trained with aerobic methods. In group members with low training motivation categories who were trained by combined methods. There is a slight difference when compared to groups of members with the same training motivation. On the other hand, in this category combined methods and aerobic methods do not make a significant difference. Thus, it means that there is an effect of interaction between exercise method with training motivation in order to decrease fat. This means that the practice and motivation methods of exercising have an effect on the reduction of body fat, or in other words the effect of the exercise method on the reduction of body fat depends on the training motivation. This is in accordance with the opinion Gunarsa (1989:

93) he suggests that "sports motivation is a whole mover in the individual that raises the exercise activity, oversee the exercise, and give direction to the exercise activities to achieve the desired goals.

The interaction between exercise method and training motivation as described above can be illustrated by comparison of average body fat loss among the four groups with high and low category motivation in practice with different treatment as follows:

Picture interaction of practice method with training motivation

Based on the figure above, it can be seen that there is a significant difference between the combined methods given to the group with high training motivation category and it was given to group with low training motivation category. Similarly, in aerobic methods, there is a difference in the effect of aerobic exercise given to group members with high training motivation category and group members with low training motivation category. In high training motivation category showed that the combined method is more effective than aerobic method to decrease body fat. The effectiveness of combined methods on high training motivation category is due to several things including: (1) effective and efficient in the use of energy, (2) the increased muscle mass and tissue activity resulting from weight training, (3)

strong and diligent drive in exercise (high training motivation), and (4) good nutrition and rest arrangements.

On low training motivation category occurs the effect that is not so different to the reduction of body fat. In this category combined methods and aerobic methods did not occur significantly. However, based on further tests that was conducted, it was found that there was no significant difference in the effect of combined methods with aerobic methods on body fat reduction.

The absence of this significant difference may be due to; (1) lack of encouragement and diligence in the exercise (low training motivation), (2) lack of seriousness in doing the exercises, (3) poor nutrition arrangement, and (4) irregular breaks. Based the findings of this study if you want to lose body fat, it will be better to apply the combined method than aerobic methods only.

CONCLUSION

Based on research findings and discussion of this research, it can be concluded as follows:

1. The decreased member body fat trained by combined method is greater than that trained by aerobic method. Therefore, the combined method is more effectively used to lower body fat than aerobic methods.
2. In high training motivation category, the reduction of body fat members trained by the combined method is greater than that trained by aerobic method. Hence, in high training motivation category, combined methods are more effective than aerobic methods to decrease body fat.
3. In low training motivation category, the decrease in body fat trained by aerobic method was not significantly different from trained by the combined method. It can be concluded

that, in low training motivation category, there is no significant difference in the effect of combined methods with aerobic methods on the reduction of body fat.

4. There is an interaction between exercise methods and training motivation on body fat loss.

This means that the decrease in body fat is determined by the interaction between the exercise method used and the members of training motivation who follow the training process.

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