

EFFECTS OF PHYSICAL ACTIVITIES ON ADULTS' OBESITY

UDC:796.012.6:613.25-053.8

(Review)

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Novi Pazar, Serbia***Abstract:**

Insufficient physical activity is the biggest health problem today, because it contributes to the development of many chronic diseases and disorders. As a specific type of stress, physical activity causes complex biochemical, physiological and psychological reactions in the body, which are interconnected. By properly programming the various forms of physical activity, we can expect transformation of certain dimensions of psychosomatic status of man and the translation of the human body from the actual initial state of the desired programmed state. When it comes to the kind of physical activity in preventing obesity, primarily recommended activities are so called aerobic activities, such as brisket-walking-a (sharp uniform walking, speed of 5-6 km / h), cycling, swimming, jogging. Those are all physical activities that are based on the repetition of stereotyped movements and which involved large muscle groups and cardiovascular system. Recommendations for the treatment of adults who are obese or have excessive weight are focused on the energy balance and lifestyle modification designed to reduce daily energy intake and increase physical activity. When it comes to obesity, it is more than clear that there is a dilemma regarding the selection exercise: exercise with resistance or aerobic exercise, and both types of exercise produce statistically significant results in reducing weight.

Key words: *physical activity, obesity, aerobic activities, diet, cardiovascular system, Body mass index (BMI)*

INTRODUCTION

The lack of movement reflects the time in which men live in the present, a movement is one of the important factors to preserve health. Insufficient physical activity is the biggest health problem today, because it contributes to the development of many chronic diseases and disorders. As a specific type of stress, physical activity causes complex biochemical, physiological and psychological reactions in the body, which are interconnected. By properly programming the various forms of physical activity, we can expect transformation of certain dimensions of psychosomatic status of man and the translation of the human body from the actual initial state of the desired programmed state. Obesity is considered one of our most serious pub-

lic health challenges, and strategies for prevention and treatment of the same occupy the top of the list of priorities (Hill & Wyatt, 2005). Understanding obesity starts understanding energy balance. Weight gain leading to obesity, can only be a result of energy imbalance, which implies that a higher intake of energy consumption, for a certain time period. Similarly, weight loss occurs when energy consumption is greater than energy intake. That means, when the intake and consumption are equal, body weight remains unchanged. Because weight gain and weight loss and features of the energy balance, prevention of weight gain should theoretically be achieved by changing the dietary energy intake and physical activity.

TYPES OF PHYSICAL ACTIVITIES

When it comes to the kind of physical activity in preventing obesity, primarily recommended activities are so called aerobic activities, such as brisket-walking-a (sharp uniform walking, speed of 5-6 km / h), cycling, swimming, jogging. Those are all physical activities that are based on the repetition of stereotyped movements and which involved large muscle groups and cardiovascular system. Walking such as "brisket-walking" is the simplest, most secure and practical activity that anyone can manifest, and there are almost no contraindications. Walk fast pace leading to increased secretion of endorphins and serotonin, which improves mood and is very important for motivation. The main advantage of brisket-and-walking are the effects on metabolism (basal metabolism speeds), the skeletal system (prevents osteoporosis and, unlike running, there is no danger of overloading the joints), especially in the cardio vascular system (heart stronger, increases elasticity of blood vessels, regulates blood pressure, lowers cholesterol). When weight reduction is concerned, many authors have attempted to answer the question of which type of exercise would be effective and useful FOR obese people. Borg, Kukkonen, Fogelholm & Pasanen (2002), were speaking about the possible reasons for achieving better results aerobic exercise, in relation to training load. Aerobic physical activity such as walking, cycling, stair climbing, activities that can be implemented at any time of day or night at any place, while the training load activity that often requires a means going to a place (fitness center), which can affect their commitment to this form of exercise, and in connection with this and the regularity of exercise. In their study, Borg and associates have attempted to answer the question whether the commitment to practice walking with the load is different among obese people. They found out that respondents who reduced weight with weight load exercise, more neglected exercise program, and the authors recommend aerobic exercise as a rational form for the reduction of body weight. Bryner, Ullrich, Sauer, Donley & Yeater (1999) found that after 12 weeks of low-calorie diet, body weight significantly reduced in the group that was involved in aerobic activities, compared with a group that was involved in an exercise program to load. This relationship of the results the authors attributed to a greater extent of the aerobic activities. Noted that the training load is useful for people who are on "low-calories" diet and want to

weaken, and they can do it in just 12 weeks. Since the diet and exercise are commonly used methods for reducing body weight, the purpose of this paper is not only a recognition of a special program for weight loss, but determining how these programs are effective usually applied in the treatment of obesity.

EFFECTS OF EXERCISE TO BODY WEIGHT REDUCTION

Obesity is defined as excessive accumulation of fat, through measures that are considered normal for age, gender and type of bodily material. Obesity means excess fat in the body, not just overweight. A person may have a lower body weight than normal and still be obese. Obese people, by definition, has a body weight 20% above the ideal value, or more than 20% fat in men and more than 30% fat in women (BMI 30 or greater) (Sharkey & Gaskill, 2006). Obesity is now a public health problem associated with the health number of chronic conditions, including heart disease, hypertension, diabetes and others. Recommendations for the treatment of adults who are obese or have excessive weight are focused on the energy balance and lifestyle modification designed to reduce daily energy intake and increase physical activity. Understanding obesity starts understanding energy balance. Obese people bring food over a larger amount of fat and thereby are less physically active (Rising, Harper, Fontvielle, Ferraro & Ravussin, 1994), which further contributes to the growing problem of obesity. Some researchers think that the size and number of fat cells continue to grow at very obese people to increase the intake of energy-rich food, creating a stronger expression of the need for food. Weight gain leading to obesity, can only be a result of energy imbalance, which implies that a higher intake of energy consumption, the time period. Similarly, weight loss occurs when energy consumption is greater than energy intake. This means that when the input and consumption are equal, body weight remained unchanged. Because of weight gain and weight loss and features of the energy balance, prevention of weight gain should theoretically be achieved by changing the dietary energy intake and physical activity. Variables, such as daily life activities, weekly frequency and intensity, ultimately determine the power consumption and weight loss potential. Regular physical activity burns calories and helps you maintain your desired weight, the optimum percentage of body fat and

slim and healthy figure. Training to increase fitness also increases the participation of fat in energy metabolism. Exercise increases the amount of energy derived from fat compared to carbohydrates while at rest or during moderate activity. Physically healthy person has an efficient “furnace” for burning fat-increased ability to use fat as an energy fuel, and additional positive effects are closely related to reducing the risk of atherosclerosis and coronary heart disease. It was confirmed that even physical activity reduces the risk of bile stones, ignoring other risk factors such as obesity or sudden weight loss (Leitzmann, RIMM, Willett, Spiegelman, Grodstein, 1999). Latest research results indicate that good physical fitness reduces the risk of excessive weight gain and men who have excessive body weight, but which are in good condition have less chance of mortality than normal-weight people, a weaker condition (Lee, Jackson & Blair, 1998). Most overweight people seen in one family can be the result of so much heritage and environmental impacts. People with excessive body weight eat more and exercise less, and probably the same lifestyle is transferred to their children. However, in the study of twins that are identical and fraternal (Stunkard, Foch & Hrubes, 1986), researchers have found a large influence of genetic factors in the expression of body weight. They concluded that body weight and obesity is under strong genetic control, and that the environment in which a person grows up has relatively little impact. Fat stored in the abdominal cavity around the body can not, unfortunately, be measured liken folds because they are below the abdominal muscles. Researchers measure the relationship between the volume of hip and waist circumference to determine why the existence of fat depots in the region increases the risk of heart disease, hypertension, stroke, diabetes and certain malignant diseases. Within the abdominal cavity fat deposited around organs has a direct relationship with the liver through the circulation. Fat cells in that region tend to release free fatty acids directly into the liver, where it can be used for the synthesis of cholesterol. Whatever the reason you are fat risk, and we know that physical activity is an effective way to reduce the amount of metabolically active fat tissue, especially in men (Trichopulou, Ginardellis, Laggiou, Benetou, Nasko, 2001). In all BMI categories, those with the highest waist have a higher propensity to Hypertension, Diabetes, increased fat in the blood and the metabolic syndrome, compared with those with normal

waist circumference (Janssen, Katzmarezyk & Ross, 2002). It is clear that reducing weight with diet is associated with reduced energy consumption, and this state makes an additional change in body weight (Leibel, Rosenbaum & Hirsch, 1995). More and more people become obese because the daily energy consumption declines, and most people do not reduce food intake that would be harmonized with lower energy needs (Hill & Melanson, 1999). This conclusion also applies to children and adults. The researchers found that children with excessive body weight are less active than their “skinnier” peers. By observing the movement of obese children during sports games such as volleyball, the researchers noted that the thinner kids played all over the court, while obese mostly stood in one place (Mayer & Bullen, 1974). Some people believe that “low-calories” diet, from the viewpoint of weight control, is better than physical activity. They point out that they are easier to reduce calorie intake, to refuse to eat a piece of cake, but burn some cake. It is true, but let’s see is it really a better way to maintain control over their own weight. Examination of 25 women who lost 500 calories a day diet and exercise, or both, all women have the same number of pounds lost, but those from groups that are held on a diet lost less fat and more muscle and other tissue that is not fat. The authors of the study (Yellow & Golding, 1976) recommended to anyone who wants to lose weight healthy, to combine diet with exercise to lose more fat and less muscle tissue. The survey was conducted on 24 women, confirmed that a combination of diet and activity superior in reducing fat and preserving muscle tissue of the child (Ross, Pedwell & Rissanen, 1995). The above study clearly shows that the necessary physical activity to control weight. Calorie restriction can lose weight, but the weight loss also affects proteins (muscle tissue) and water. People with lower fitness get tired faster during the activity, and thus their ability to consume calories is reduced. When they form is improving, so is caloric expenditure growing and because the activity is more intense, more frequent and longer lasting. Increased physical fitness undoubtedly contributes to greater energy consumption and better weight control. Conducted study of effects of training (Docktor & Sharkey, 1971), and recent studies have confirmed that training significantly affects the sense of effort and fatigue of the respondents (Gaskill et al., 2005). As the condition improves, the person can exercise

more, and that does not affect fatigue and it is without increasing heart rate. Reduction of body weight by increasing physical activity, without restriction of energy intake, is modest (Garrow & Summerbell, 1995). On the other hand, most authors underline the importance of the role of physical exercise in the prevention of obesity (Sarris, 1998; Ravussin & Gautier, 1999; Jefferu, 2000). The mechanisms of exercise improve the reduction of body weight-supported by physiological and psychological factors (Wadden, Vogt, Andersen & Foster, 1997).

CONCLUSION

It is clear that aerobic exercise increases the ability of the organism with important cardiovascular and metabolic role, which means that the increased level of physical activity is indirectly proportional to the diseases caused by obesity. When it comes to obesity it is more than clear that there is a dilemma regarding the selection exercise. Exercise with resistance or aerobic exercise, and both types of exercise produce statistically significant results in reducing weight. Aerobic activities include work in the optimal zone in which the best "melt" weight, but there is not enough large load that would maintain or increase muscle mass. A review of research implemented and published in the last decade, studies show that carried on a similar sample, and in that sense further work had to focus on examining the effects of these programs on people, primarily the same, and then different age. In addition, to get objective results, we must increase the duration of the program, and the number of respondents.

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ЕФЕКТИ НА ФИЗИЧКИТЕ АКТИВНОСТИ ВРЗ ТЕЛЕСНАТА ДЕБЕЛИНА

УДК:796.012.6:613.25-053.8

(Преҗледен иҗруд)

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Апстракт:

Недоволната телесна активност е најголем здравствен проблем на денешницата, бидејќи предизвикува многу хронични болести и здравствени нарушувања. Со правилното програмирање на различни форми на телесни активности, можат да се очкуваат трансформации на одделни димензии на психосоматскиот стилус и преминување на човечкиот организам од активна иницијална состојба во посакувана програмирана состојба. Кога е во прашање видот на телесната активност во превенцијата на дебелината, пред сè, се препорачуваат таканаречените аеробни активности, слични на brisk walkingот, возењето на велосипед, пливањето, џоџингот, односно оние телесни активности кои се засноваат на стереотипно повторување на движењата во кои се ангажирани поголеми мускулни групи и кардиоваскуларниот систем. Препораките за лечењето на возрастните кои се здебелени или имаат прекумерна телесна маса, се фокусирани на енергетскиот биланс и модификацијата на начинот на живеење со цел да се намали енергетското внесување, а да се зголеми физичката активност. Кога дебелината се препира врз основа на доспајатата литература, е повеќе од јасно дека постои дилема при изборот на телесното вежбање. Во таа насока, вежбите со оптоварување или аеробното вежбање, даваат статистички значајни резултати при редукцијата на телесната маса.

Клучни зборови: физичка активност, телесна дебелина, аеробна активност, диета, кардиоваскуларен систем, Бодимакс индекс (BMI)