The effect of short-cycle exercise training on college students' obesity

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Keywords: college students; obesity; short-cycle movement

Abstract: In college life, physical education courses have become elective courses. Due to the lack of compulsory constraints, schools do not conduct physical examinations for students. Therefore, many students reduce physical activity, resulting in increased weight and obesity. Reasonable physical exercise can keep students healthy and maintain good body shape. Physical education will affect students' psychology and maintain a good psychology. This paper explores the impact of short-cycle exercise on college students' obesity through empirical research.

1. Introduction

Obesity is a sub-health state. From a medical point of view, obesity is a chronic disease of metabolism. Obesity is a symptom of obesity caused by excessive accumulation of body fat, which can bring some diseases such as hyperlipidemia and hypertension. It also affects the beauty of people's appearance. People who are obese will have many effects on their lives due to obesity. People need to maintain good health, enhance physical exercise, consume excess fat in the body, and then achieve the purpose of weight loss. Similarly, college students should actively engage in outdoor sports.

2. The effect of exercise on obesity

2.1 The inhibition of appetite by aerobic exercise

During the exercise, the blood in the body flows to the legs, footsteps and arms, thereby reducing the blood of the internal organs of the body. Taking low-intensity, medium-intensity aerobic exercise for a long time can reduce the blood in the stomach and thus suppress appetite. purpose. By reducing the amount of food consumed by students, the symptoms of obesity can be alleviated.

2.2 Effects of exercise on fat cells in the body

There are already relevant experts and scholars in China to detect and study the volume and quantity of fat cells in human body. In human adolescent fat cells, large changes will occur. After this period, the number of fat cells in the human body will be relatively sTable. However, the volume of fat cells will gradually increase. At the same time, foreign scholars have studied the fat cells of animals, let the animals carry out a certain amount of aerobic exercise, and after a period of time, observe the changes in the volume and quantity of fat cells on the animal's body. Studies have found that aerobic exercise can effectively inhibit the accumulation of fat cells and reduce the volume of cells, but the number of cells is reduced to a small extent [1]. It can be seen that short-cycle aerobic exercise can consume a lot of energy in the body, further transform the fat into the ATP energy required by the human body, reduce the volume of fat cells, and at the same time effectively inhibit the accumulation of fat in the body.

2.3 Aerobic exercise regulates the endocrine system

When students perform aerobic exercise, they will promote the changes of their endocrine system, which will produce endocrine hormones. The hormones enter the nervous system of the human body, which stimulates the nerves and makes people feel excited. At the same time, exercise increases the body's adrenal hormones, inhibits the production of insulin, and the secretion system also produces a large number of enzymes. Enzymes can decompose fat, enzymes such as oxidase

  DOI: 10.25236/cstss.2019.018

can effectively break down fat, thereby achieving the purpose of reducing the body fat. Aerobic exercise has the greatest influence on insulin secretion in the human body, which can significantly reduce insulin in the body and fat. Transform, reduce the amount of fat in the body, and convert fat into energy. It can be seen that short-term exercise can effectively reduce the amount of fat accumulation in students [2].

3. Analysis of the effect of exercise on metabolism in human body

3.1 Exercise metabolism

When the human body is in motion, multiple organs are involved, and the skeletal muscles in the body participate more. Students participate in different types of sports, the amount of body fat consumption is also different, some exercise intensity, short time, so the body fat burning faster. When students are engaged in slow exercise, such as jogging, cycling, etc., the fat consumption in the body is slower, but the duration is long, and the body fat loss is also achieved. According to different types of sports, the types of metabolism that can be divided into human bodies are also different.

Different metabolisms are produced according to various types of exercise methods. In the weight-loss exercise, students need to target different types of exercise according to the proportion of fat content in different parts of the body to reduce the fat content of the part. When students exercise, they should also have a comprehensive understanding of sports to avoid damage to the body caused by excessive exercise. According to the advice of teachers or coaches, combined with their physical condition, develop a scientific weight loss plan, in order to carry out weight loss exercise more scientifically and efficiently [3].

3.2 Sports

In the process of weight loss, students must use exercise equipment to perform weight loss exercise, maintain a certain amount of small and medium-sized exercise and long-term exercise, and at the same time enhance the strength training of obese parts. There are related experts in China, with the white mice as the research object, through the development of a certain exercise plan for the mice, to observe the changes in the amount of fat in the mice. Some scholars use the human body as a target to recruit volunteers in the society, set a certain amount of exercise and exercise time for volunteers. After a period of time, observe the changes in the body fat content of volunteers. The study suggests that people are climbing or at the gym. When exercising for a short period of time, it can effectively reduce fat in the body. It also promotes metabolism in the body. For example, the use of fitness equipment such as pullers and dumbbells can enhance the strength training of the legs and arms and promote fat oxidation in these two parts. In the case of football, basketball, badminton and other ball games, due to the large amount of these exercises, it will accelerate the consumption of body fat, which will bring about significant changes in the metabolism of the human body [4].

3.3 Exercise intensity

The intensity of exercise is closely related to the reduction of fat in the human body. The intensity of exercise also affects the oxygen consumption and energy supply of the human body. The exercise intensity can be detected by the detecting device, for example, detecting the number of heartbeats after the body is exercised, and detecting the amount of oxygen in the body by the breathing device. The intensity of exercise that people can withstand at different ages is different. Therefore, it is necessary to set the exercise intensity according to different ages and physical qualities. Therefore, in the course of the experiment, try to select the subjects with the same age group and the same body size. Because each person's physical health has a certain difference, it will also affect the tester's heart rate and oxygen consumption data. Some research experts have shown that when obese people undergo aerobic exercise, the body's fat will be reduced to varying degrees.

3.4 Exercise time

So far, the medical profession has not exercised people for a long time, which can effectively achieve the purpose of reducing body fat. Because the human body of different countries in the world is different, the medical profession has not given people a reasonable standard of exercise time. When designing the experimental plan, it is necessary to design a variety of exercise time for the test subject, observe the tester's speed of body fat reduction in different time periods, and then study the best time for human body exercise.

4. Empirical Research

4.1 Research object

Open recruitment of subjects in colleges and universities, and select 10 college students who are overweight. The obesity standard is set, and by measuring the BMI value, when the BMI is greater than 27, it is considered obese. The height and weight of the 10 students were measured to calculate the BMI value of each student, and the blood pressure and heart rate of the 10 students were also measured. Body data of the study subjects, as shown in Table 1.

Table 1 Study object data

Gender	Average age	Average height	Weight	BMI
Male(5)	19	165	75	29
Female(5)	18	163	71	27

4.2 Research method

The obesity of the body parts of the 10 students was tested. Before starting the test, a series of test standards and test indicators, such as BMI, body fat and other related indicators, and the body composition instrument made in Korea were selected. Measurement tools such as rulers and weight scales are also required, and all measurement data needs to be accurate to one decimal place.

4.2.1 Indicator test

The body indicators of the subjects 8 days before the test and 8 days after the test were tested. The 10 students were given blood tests, and the contents of cholesterol and fatty proteins in the blood were studied, and the insulin in the students was tested.

4.2.2 Exercise plan

In this empirical study, the experimental time was 8 weeks. The selected 10 college students were asked to perform three outdoor aerobic exercises every week, and each exercise time should reach one hour. Students are free to choose various types of sports, such as running in the school playground, cycling, running on the treadmill in the gym, sitting on the push-ups, etc. During the exercise, the students should exercise in small and medium-intensity, and the exercise intensity is too low. Will affect the results of the study. Researchers must set certain standards of exercise for students so that they must follow the test criteria to complete the test. If the student is unable to perform medium-intensity training for personal physical reasons, the exercise intensity can be appropriately reduced, but the exercise time cannot be reduced and must be maintained for one hour.

4.2.3 Observation index

For the 10 college students, each student's body BMI, body fat and other related indicators were tested, as well as the blood, lipid and fasting insulin levels of the students.

4.2.4 Statistical processing

All experimental data were collected and statistically analyzed by SPSS.

4.3 Result analysis

Short-term exercise will have a certain impact on the blood of students. After research and testing, the blood and cholesterol triglycerides in the blood of these 10 students have not changed much, but the lipoprotein and insulin in the blood have been reduced to some extent. The high-density lipoprotein and fasting insulin data in the body of the students varied greatly compared with other subjects. The statistics Table is shown in Table 2.

Table 2 Statistics of data results

Project	Before intervention (average value)	After intervention (average value)
Bust	99.93	97.31
Hip circumference	104.32	101.2
Abdominal circumference	97.45	95.43
Weight	74.1	72.13
BMI	29.76	28.29
Fat	31.43	19.37

5. Conclusion

People need to exercise for two hours a day, they can maintain a good body, so that the proportion of fat in the body is maintained at a certain level, the interval between each exercise is no more than one hour, depending on the individual's physical fitness, age and How much fat is in the body to develop a reasonable exercise time. For people with normal body shape, exercise time should be appropriately increased and the duration between the two exercises should be reduced, so as to maintain the body and avoid obesity.

References

[1] Han Yuxi, Liu Yang, Wu Yaqiong, et al. Observation on the effect of combined exercise, nutrition and education on obese female college students[J]. Journal of Guangzhou Physical Education Institute, 2018, 38(1): 68-72.

[2] Li Kai. Effects of exercise combined with dietary intervention on serum fatty acid composition and body composition in obese adolescents[J]. Journal of Wuhan Institute of Physical Education, 2018, 52(9): 87-93.

[3]Yu Hong. Changes in body composition, cardiopulmonary function and metabolic index of overweight people in high-intensity cycling training [J]. Chinese Journal of Tissue Engineering, 2019, 23(11): 1738-1742.

[4] Zuo Xuejun. The obese people's movement must master three elements [J]. Friends of the old comrades, 2017 (8): 56-56.