

Police physical education in police academy: student health fitness impact analysis

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Key words: the police sports police academy student health fitness effect

Abstract: objective: to analyze the police sports affect police academy student health fitness. Methods: a retrospective analysis of the way to a police academy class of 2013, 100 students (male 67, female 33) of height, weight, chest circumference, hip circumference, waist circumference, waist-hip ratio, lung capacity, quiet heart rate, vo2 Max, k achievements, diastolic and systolic blood pressure, pulse pressure difference, back strength, his right hand grip strength, left hand grip strength, sit-ups in succession, crook proneness, standing long jump, content of fat, muscle and lean body mass of data is analyzed, at the time of the students enrolled freshmen data as control group, with their graduation before data as observation group, analysis of school sports training's impact on student health fitness. Results: observation group boys bust and waist hip ratio is significantly higher than control group ($p < 0.05$), height, weight, waist circumference and hip circumference has no obvious difference ($p > 0.05$), the observation group of girls' body weight, chest circumference, hip circumference was significantly lower than the control group, waist circumference and waist-to-hip ratio is significantly higher than control group ($p < 0.05$), while the height has no obvious difference ($p > 0.05$), the observation group quiet heart rate, km running performance was significantly lower than control group, vital capacity and vo2 Max is significantly higher than control group ($p < 0.05$), but the vital capacity/body mass index had no significant difference ($p > 0.05$), the observation group of systolic blood pressure and pulse pressure difference significantly lower than that of control group ($p < 0.05$), diastolic blood pressure compared with no significant difference ($p > 0.05$), observation group back force, right hand grip, standing long jump results in succession, crook proneness and 1 min sit-ups is significantly higher than control group ($p < 0.05$), but no significant change in the left hand grip strength ($p > 0.05$), the observation group had a significantly lower than the control group, body fat content of muscle is significantly higher than the control group and observation group boys significantly higher lean body mass compared to the control group ($p < 0.05$), the girls lean body mass and the control group had no significant difference ($p > 0.05$). Conclusion: in the three years of police physical education learning, students fitness in the chest circumference, waist hip ratio, quiet heart rate, km running result, vital capacity, vo2 Max, systolic blood pressure, pulse pressure difference, back force, right hand grip, standing long jump results in succession, crook proneness, 1 min on sat, body fat, muscle content had significant changes, the girls' weight, hip circumference, waist circumference, waist-hip ratio, and the boy's weight and lean body mass change significantly, visible police physical education in police college students body composition changes in fitness have great positive effect.

Introduction

The police is a special group in the human society, to maintain social stability, promote social harmony and protect the personal safety and legitimate rights and interests of the masses of the

people plays an important role of [1]. Police colleges is to cultivate high-quality people's police state and society in the cradle. Due to the particularity of the profession, so that the police must have a healthy physical fitness and strong physique, guarantees in the face of the sudden emergencies, can have extraordinary energy and in-game adjustments ability, to complete the task and dangerous work [2]. Police and police college students is a combination of college students, so in the actual teaching of sports, must train and optimize their fitness [3]. Fitness is a word comes from the United States, by 1987, the sports health, sports, dancing, organization is put forward in the fitness health education plan, preached to the world, in different countries to fitness test contents and methods have different explanation and illustration, France, for instance, the physical fitness, work ability and efficiency in Germany, Japan's national strength, etc. [4], fitness concept in the development of our country for a long time, have a clear definition, it can be divided into sports fitness and health fitness, sports fitness including speed, coordination, power, sensitivity, reaction time and balance, health fitness including muscle fitness, cardiopulmonary endurance fitness, flexible, fitness, body composition, fitness and muscle endurance fitness [5]. Is for police colleges, doing well for university students in the three years the police sports and fitness of science and technology index change of concrete, and discusses the specific cause of the change of the indicators, to cultivate high quality of the police force has reference value. This article is about a police colleges now 2013 grade 100 students graduated from the entrance to the precursor to the fitness of index change, now report as follows.

The general data and methods

Select a police academy class of 2013, 100 students, of which 67 boys, girls 33. The students in the freshman year fitness check of the index, the boys age was (18.4 ± 0.5) , girls age was (18.1 ± 0.2) . The students in the body in good health, there is no training history and history of injury, no abnormalities.

Of the 100 cases of students after three years the police physical education in normal training, including two aspects of professional class training and basic course in police physical education. Basic course in physical education is training, and training, swimming, climbing obstacle queue formation, gymnastics, track and field and gymnastics, etc.; Specialized training including tactics, QinDi technology, of martial, shooting, seizing tactics and trauma, etc. In September 2013 and June 2016, respectively, measure the 100 cases of the research object of body shape indicators, aerobic fitness, muscle fitness, body composition, fitness, flexibility, fitness, etc. In order to ensure the scientific nature and accuracy of the test results, two measurement by the same inspector and the same instrument testing, test all pass the standardized testing of experimental operation training, the application of test instrument belongs to international sports bureau to develop physical fitness testing instrument. Body shape indicators including height, weight, waist hip ratio, waist circumference, chest circumference and hip circumference; Aerobic fitness indicators including quiet when the heart rate, vital capacity, k , VO_2 Max; Muscle fitness indicators including back force, right hand grip, standing long jump, 1 min sit-ups; Softness fitness indicators including ZuoWeiTi proneness; Body composition fitness indicators including body weight, fat mass, lean body mass, muscle weight and fat percentage. Instrument is mainly used a stopwatch, dynamometer, tape measure, BeiLiJi, stand before body bends determination frame, body composition analyzer, MAX - 11 metabolic test system.

SPSS20.0 software is adopted to improve the statistical analysis of the experimental data of data between groups, compared with t test and count data contrast chi-square test was used to $p < 0.05$ for the difference was statistically significant.

Results.

Observing the group of boys and waist-to-hip ratio is significantly higher than control group ($p < 0.05$), height, weight, waist circumference and hip circumference has no obvious difference ($p > 0.05$), and observe the group of girls' body weight, chest circumference, hip circumference was significantly lower than the control group, waist circumference and waist-to-hip ratio is significantly higher than control group ($p < 0.05$), while the height has no obvious difference ($p > 0.05$). As shown in table 1

level

Observation group quiet heart rate, km running performance was significantly lower than control group, vital capacity and minute vo2 Max is significantly higher than control group ($p < 0.05$), but the vital capacity/body mass index had no significant difference ($p > 0.05$). As shown in table 2.

Observation group of systolic blood pressure and pulse pressure difference significantly lower than control group ($p < 0.05$), diastolic blood pressure compared with no significant difference ($p > 0.05$). As shown in table 3.

Observation group back force, right hand grip, standing long jump results in succession, crook proneness and 1 min sit-ups is significantly higher than control group ($p < 0.05$), but no significant change in the left hand grip strength ($p > 0.05$). As shown in table 4.

Observation group had a significantly lower than the control group, body fat content of muscle is significantly higher than the control group and observation group boys significantly higher lean body mass compared to the control group ($p < 0.05$), the girls lean body mass and the control group had no significant difference ($p > 0.05$). As shown in table 3

Discussion

Weight to be able to response to the muscles, fat, protein, and internal development situation, the weight is too light indicates that malnutrition, weight is too heavy can lead to cardiovascular disease. The police colleges and universities sports teaching can make students develop normally, enhanced physique, improve physical fitness, on jobs in the future have a solid foundation for [6]. Measurements surrounded degree can reflect human bone structure size and human development degree of the internal organs, bust size, waist reflect the abdomen and abdominal muscle, fat, police physical exercise can improve human body function, reduce fat, increase the content of protein and muscles, thus improve the tension of the abdomen and waist circumference [7]. Cardiopulmonary endurance is muscle, circulation, breathing machine nervous system operation for a long time to maintain ability, aerobic endurance is functions and activities to keep time. Good cardiorespiratory endurance fitness prevention and control of chronic diseases, improve patients physical fitness and relieve stress, improve the psychological environment. Police physical education through the physical stamina training, reduce the students' heart rate, improve lung capacity and vo2 Max, improve the respiratory system, ensure that students in the future work has a strong ability of physical activities and the ability to adapt to the outside of the environment [8]. Police physical training to reduce the student's heart rate, systolic blood pressure also decreases, and the training of students in improving the blood circulation, make big artery blood wall increased flexibility, strength, stamina and responsive flexibility to ascend, diastolic pressure and fully down. The police in the fight with criminals, needs to have a powerful punch strength and quick motor speed, this needs to strengthen the training of muscle strength, enhance the body's neuromuscular system's ability to overcome resistance, increase muscular endurance and muscular fitness index, make muscle has long time against resistance. Flexible fitness is human body each joint in different

directions of sport ability and tendons, joints, ligaments and muscles, such as elasticity and stretching capacity. Improve the quality of the flexible can guarantee the quality, give full play to the strength and speed for more coordinated action, prevent the happening of accident harm accident [9]. In police physical training, the students do a lot of aerobic and anaerobic exercise, the body composition, the balanced development of aerobic exercise can reduce the accumulation of body fat, reducing excess fat, build muscles, long training students under the muscle weight, body fat content. In this study, the student fitness in the chest circumference, waist hip ratio, quiet heart rate, km running result, vital capacity, vo2 Max, systolic blood pressure, pulse pressure difference, back force, right hand grip, standing long jump results in succession, crook proneness, 1 min on sat, body fat, muscle content had significant changes, the girls' weight, hip circumference, waist circumference, waist-hip ratio, and the boy's weight and lean body mass change significantly, visible police physical education in police college students body composition changes in fitness have great positive effect.

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