

Research on the Effect of Aerobics Training Based on Sports Characteristics on College Students' Physical Fitness

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Abstract: Competitive bodybuilding is a sport that integrates artistic beauty and sports competitiveness. It is gradually popularized in colleges and universities and flourished among college students. Due to the limited investment in training of college students' competitive aerobics athletes, it is worth discussing how to make college students' physical fitness training better serve the special technology. College students' aerobics training can greatly improve their physical fitness, which is helpful to their own ability and artistic expression. Competitive calisthenics requires athletes' physical quality, technical ability and artistic expression. It is a competition project that shows the health, strength, beauty and overall quality of the human body. With good strength and flexibility, athletes can adapt to the training of competitive aerobics as soon as possible, thus shortening the time for an ordinary athlete to become an excellent athlete. Based on the characteristics of athletes' competitive sports, this study explores the impact of competitive aerobics special training on the physical fitness of college students participating in training.

1. Introduction

Competitive aerobics is gradually developing into a dynamic and energetic sport for the purpose of competition and loved by college students [1]. There are higher requirements for athletes' physical quality, technical ability and artistic expression. College students' aerobics training can greatly improve their physical fitness, which is helpful to their own ability and artistic expression. College students' aerobics training can greatly improve their physical fitness, which is helpful to their own ability and artistic expression [2]. Competitive calisthenics requires athletes' physical quality, technical ability and artistic expression. It is a competition project that shows the health, strength, beauty and overall quality of the human body [3]. The body has enough energy and spirit to carry out daily affairs without feeling excessive fatigue. And there is enough energy to enjoy leisure activities and the ability to cope with emergencies. Strengthening physical fitness content for aerobics teaching has a great effect on improving students' overall physical quality and actively promoting multi-level physical education teaching [4].

Physical fitness is a comprehensive indicator of health from the perspective of physical education. It refers to the ability of the body to perform its functions effectively and efficiently, and it is also an ability of the body to adapt to the environment [5]. Only with good physical fitness and comprehensive skill level can the employer's favor be favored. Physical fitness is the evaluation of human body comprehensive indicators from the perspective of physical education. With good strength and flexibility, athletes can adapt to the training of competitive aerobics as soon as possible, thus shortening the time for an ordinary athlete to become an excellent athlete [6]. Physical fitness can examine the body's health from the perspective of human function and skills, which is a comprehensive evaluation of individual health. And the development of individual fitness is the result of active participation in physical exercise. Only regular physical exercise can achieve the best physical fitness [7]. Only by enabling athletes to possess or exceed good physical fitness to complete difficult new movements can they adapt to the increasing technical requirements of the rules of competitive aerobics [8]. The purpose of this study is to explore the effect of special training of Competitive Aerobics on the physical fitness of college students participating in the training. It provides a theoretical basis for evaluating the training effect and improving the training level.

2. Understanding and Analysis of the Characteristics of Competitive Aerobics

In sports training, it is considered that competitive aerobics belongs to technology-oriented sports, and skill training accordingly plays a leading role. Through the combination of aerobics teaching activities and physical fitness exercises, the concept of healthy physical fitness is conveyed, and it also helps students to learn to choose their own health as the purpose of physical exercise. Aerobics training is usually accompanied by music. It demonstrates the physical coordination ability of college students in performing different difficult movements continuously. The content of aerobics teaching to strengthen physical fitness content is taught in stages in the form of multimedia teaching, video and pictures [9]. The exercise method of strengthening physical fitness content is moderately embedded in teaching practice. Once the physical sensitivity and coordination of college students are improved, the physical quality of college students will also be improved. Not only can it increase the difficulty of aerobics training, but also improve the degree of aerobics viewing.

In the aerobics training, aerobics exercises such as support, jumping, and turning are not suitable. This puts extremely high demands on the balance of the human body. In training practice, the best effect of speed power can be achieved only by improving both muscle strength and muscle speed. Completing a set of technical movements with high quality requires athletes to have good upper and lower limbs, waist and abdomen strength, abundant physical strength and the ability to coordinate and accurately complete the movement. In experimental teaching, classroom learning is conducted by students through group learning and discussion. To guide students to understand the degree of exercise load, and to conduct self-regulation. Good balance of human body is an important factor to promote the correct posture of human body and to promote the efficient development of life and work. In aerobics training, various difficult movements such as support, jump and rotation will have a greater impact on the muscles of all parts of College students. Athletes have good physical fitness as the basis, competition psychology can reach the best state, can calmly play their training level, to achieve the best results of the game.

Good physical fitness is the basis of high-quality completion of special technical training, which can help athletes master relatively complex aerobics technical movements. Sports injury is generally closely related to the characteristics of sports events, techniques and tactics, and is often related to the level of sports training, conditions and other factors. When human body is injured by sports, it will change the body's shape, function and metabolism. The sports injuries of 50 Aerobics athletes were investigated, as shown in Table 1. The injury rate is 100%. It can be seen that the sports injury of Aerobics athletes is very serious.

Table 1 Sports injuries of 50 aerobics athletes

	Number of injured	Number of uninjured	Total
Number of people	46	4	50
Proportion (%)	92	8	100

Good cardiopulmonary function is the guarantee for athletes to complete heavy load exercise. Good collaboration between the heart, blood vessels, and respiratory system affects the ability of muscles to work with energy for long periods of time. The completion of all difficult actions must be guaranteed by the strength of each part. Strength is the key to achieving good results in competitive aerobics competitions. Due to the actual demand for metabolic supply in aerobics techniques, physical and sports materials. In order to meet the various requirements of aerobics training, college students should properly control their weight when performing aerobics training. Because many athletes need to take part in many matches, it will inevitably lead to subtle psychological changes of athletes after each match. Coaches should guide students to carry out extracurricular exercise and fitness according to their current state. By grouping and individual exercise, we can gradually understand the form of aerobics and healthy physical fitness. Strengthen students' physical quality, sports ability and consciousness of lifelong sports.

3. Effect of Physical Fitness Training on College Students' Competitive Aerobics Athletes

Physical fitness can be divided into healthy physical fitness and competitive physical fitness, and competitive physical fitness mainly includes sensitivity, coordination, balance, speed, explosive force and reaction time and other elements related to competitive ability. All aerobics training movements must rely on good muscle endurance as a support, so that Aerobics movements can be standard enough, and ultimately achieve the purpose of improving the efficiency of life and learning. Good physical fitness can make athletes fully mobilize the functions of various organs before competition and timely adjust and recover after competition. In aerobics, the range and intensity of physical activity are relatively large. But it can be effectively controlled by adjusting the movement route, direction and load. At the same time, it can effectively reduce body fat on the basis of enhancing students' muscle quality. The training of the sports team is in the early stage of training, so the special training is mainly the training in physical quality and technical ability. All of these require athletes to develop their physical fitness and athletic ability. Only with the corresponding physical fitness reserves can the task of competition and training be completed with high quality.

Since the development of aerobics, the physical factors of athletes have become more and more important. From the coaches of various teams to the athletes, physical training is placed in the first place. Athletes must maintain a specific range of motion or quality of action throughout the competition. Technical movements that violate the principles of biomechanics may increase the damage of muscles, ligaments and soft tissues. The test of aerobics athletes' knees, knees and other sports strengths can be used as one of the indicators for special strength evaluation. The muscle contribution rate of different methods is compared as shown in Figure 1.

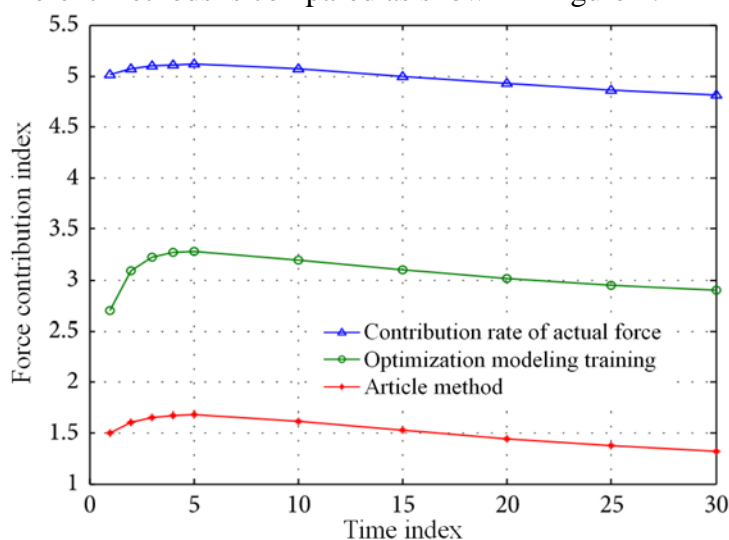


Fig. 1 Contributing rate comparison

Comprehensive physical fitness training is an important way to prevent sports injuries. The coaches should work on the relevant competition factors such as the entry project, the routine combination, and the technical difficulty. The aerobics movement controls the exercise load by changing the factors such as time, speed of music, and range of motion. Therefore, aerobics teaching based on the physiological characteristics of students, improving cardio-respiratory fitness is one of the important goals of teaching [10]. According to actual needs, we will develop strengths and avoid weaknesses, focusing on the development of athletes' explosive power, durability and flexibility. Thereby strengthening the stability of the joint, and finally achieving the ability to improve the entire body against fatigue damage. In competitive aerobics, various difficult movements such as support, jump, rotation, etc. Higher requirements are put forward for the muscle strength and endurance of shoulder strap, upper arm, lumbar abdominal and lower limb muscles of athletes. The exercise of muscle strength and muscle endurance is mainly based on the strength training in the practice of healthy physical fitness, and complements the practice of Aerobics skills.

Most of the technical movements of aerobics are accomplished mainly by lower limbs.

According to the changing trend of flexion angle and muscle force of Aerobics athletes, the changes of three-dimensional motion angle and muscle force of knee joint in each analysis step are applied to the finite element model as boundary conditions. The motion angle parameters applied to the finite element model are shown in Figure 2.

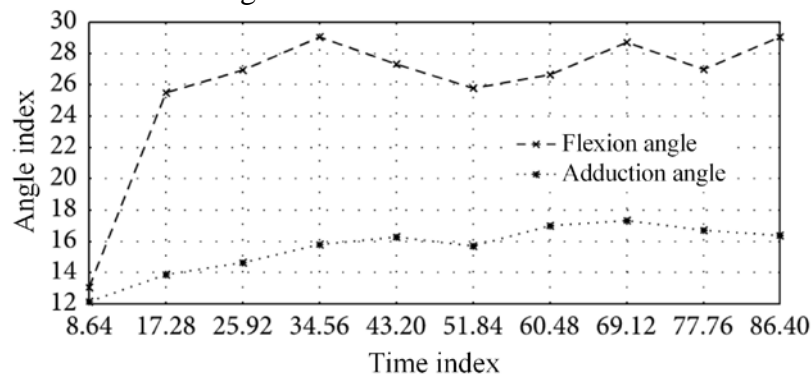


Fig. 2 Motion angle data applied to the finite element model

Fat is indispensable for maintaining normal life activities and health, and lean weight is more important for improving sports performance. General physical fitness training can lay a good foundation for the improvement of special physical fitness. Coaches should always combine general physical fitness training with special physical fitness training. Reasonable use of various training methods and means to maximize the development of athletes' special sports quality. In order to ensure the effective use of special techniques in competitions, athletes should have the level of skills in line with special techniques. All Aerobics movements should be completed at this speed. A set of jumping training in aerobics training requires college students to have good jumping ability and explosive power. Subjects, especially girls, should be trained to reduce body weight and reduce body fat levels, reducing body fat levels to ideal levels. In this way, a better body shape can be exhibited, and muscle work efficiency can be improved during exercise. In the physical fitness training, physical fitness training should be carried out according to the individual characteristics of the athletes, the technical requirements of the complete set, and the competition tasks.

4. Conclusion

Physical fitness training is an important part of College Students' competitive aerobics training. Only by integrating it with technical training can the effect of mutual promotion of skills and physical fitness be achieved. The experiment shows that the aerobics teaching experiment which strengthens the content of physical fitness has a certain effect on promoting the teaching effect of aerobics. To a certain extent, it can enhance students' aerobics exercise ability and grasp the basic laws of aerobics. Due to the restriction of manpower and experimental funds, the relatively simple and easy-to-operate items are selected for the test of students' health and physical fitness indicators. College students are the main members of the future society. Their health level reflects the health level of the whole society to a certain extent. Physical education teachers should first put forward higher requirements for themselves, try to accept new things, and accept advanced ideas. The aerobics teaching that strengthens the physical fitness content combines advanced sports theory with traditional teaching practice. Guided by interest, it fully reflects the main position of students in teaching activities. Coaches need to clearly understand the key role of the diversity of fitness training methods in athlete training. Scientific and reasonable arrangement of physical fitness training will improve the special technical level of college students' competitive aerobics athletes.

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