

Healthy Physical Fitness Teaching Design Based on Football Project

Sun Junjiang

Yunnan Institute of Economics and Management, 650106, Yunnan, China

Keywords: football project; physical fitness; physical education; quality education

Abstract: At present, the overall level of football in China is not high, but the school sports with "health first" as the guiding ideology, football is a good choice. Compared with professional training bases, ordinary colleges generally do not have expensive training equipment and sophisticated Physiological and biochemical monitoring system, therefore, football training in colleges and universities should also be distinguished from professional football training, but the mechanism of physical quality improvement is the same. All training should be done on the basis of scientific feasibility, and the improvement of physical quality is also required. This study aims to study the physical fitness training of college football in the actual environment of colleges and universities, and realize the soccer fitness training method with the purpose of scientific football training as the means and the improvement of students' physical quality.

1. Introduction

Football is regarded as the world's largest sport. In addition to the attractive characteristics of football skills and tactics, the comprehensiveness of football's physical fitness requirements is also one of its main features. The fitness level is football. Compared to other projects, football is a comprehensive competition for athletes' aerobic endurance, strength, speed and flexibility in 90 minutes^[1].

2. Football characteristics

Football is an intermittent exercise consisting mainly of high-intensity running and small-intensity running. The whole activity time is within 90-120 minutes. It is walking, jogging, running, speeding, sprinting, and emergency stop. Techniques and tactics such as dribbling, ball control, kicking, stopping the ball, heading the ball, running position, etc. on the basis of sports such as turning, jumping and reasonable physical collision. Some scholars have statistics, in the game, the whole game is running. The moving distance reaches 8 to 12 kilometers, of which the total distance of 10 to 20 meters of sprint runs is about 2 kilometers, which is 24%, 36% for jogging, 11% for fast running, and 7% for backward running. The method accounts for 22%. It can be seen that to complete the whole football match, the three energy supply systems have different requirements. But aerobic metabolism is the foundation, and its aerobic energy supply accounts for 70% of the football game's energy supply~ 80%.

3. College football training features

3.1 Athlete category

There are three main types of athletes in ordinary colleges and universities in China: First, high-level athletes, mainly graduates and athletes of various sports schools at the provincial and municipal levels, whose sports level is at the first level, and individually reach the level of sports athletes; Athletes mainly refer to the football special athletes of the physical education department; the third is the general professional student athletes. The overall data is shown in Figure 1 below:

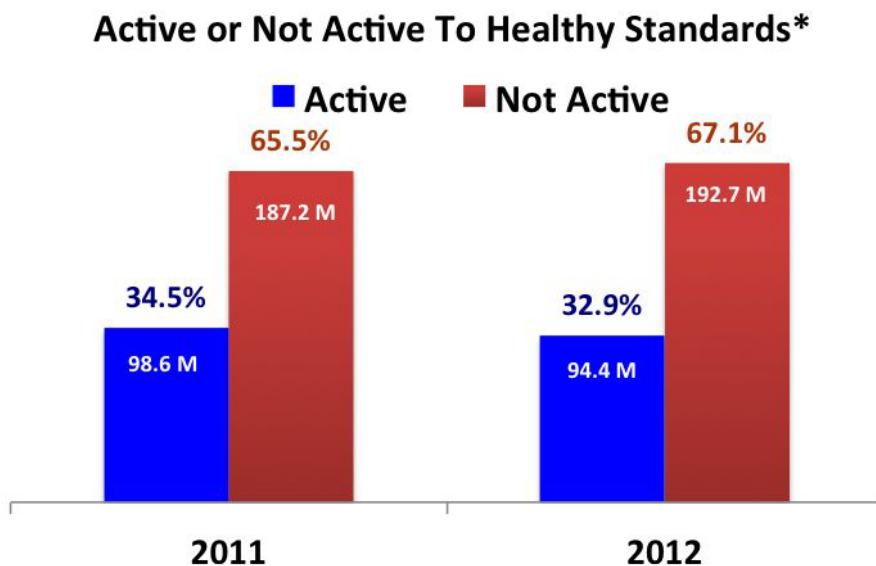


Figure 1: Statistics on the characteristics of college football training

As shown in Figure 1 above, the first two basically have professional football training. The third situation is basically after the university or because of the team that likes or is required to be formed by the university competition. It is the most, this study is also mainly for this group of people^[2].

3.2 The basic form of college sports training

Different colleges and universities have different developments in football training. In some good schools, training facilities, coaches, and funds can be fully guaranteed. Football training is carried out all the year round. Some schools have insufficient conditions, training facilities are simple, and funds are insufficient. Football training is only the competition period is carried out. There is also a situation in which the school does not have a soccer team and the students spontaneously organize the football team. But in any case, the football training must have scientific guidance.

3.3 Amateurish of the team

College football training is established on the premise of completing professional study in colleges. Students in school have heavy learning tasks. Many athletes come from different classes and different classes. The schedule of the courses is not uniform, and the integrity of the training team is affected. Sports training must be Consumption of a lot of energy, the eating conditions of college canteens are generally difficult to provide athletes with adequate and timely nutritional supplements.

4. Physical fitness training in college football

4.1 Training guiding ideology

College football training is different from professional football training. College football competitions should not belong to competitive sports. Therefore, college football training should follow the "health first" guiding ideology. Football sports have different requirements for the three major energy supply systems. Therefore, in physical fitness training, students should scientifically develop the phosphoric acid energy supply system, the oxygen-free energy supply system and the aerobic energy supply system. The energy source of power (explosive power), short-distance sprint running, jumping and other activities in football is mainly powered by the phosphoric acid system. Many key moments of football, such as breaking the shot, quickly copying the shot and the goalkeeper's volleyball, are mainly based on phosphoric acid. The original system is powered. The phosphoric acid energy supply system consists of ATP and phosphocreatine (CP). ATP is directly powered. CP can quickly generate ATP. The total energy supply is small, the duration is short, the power output is fast, and oxygen is not needed. The production of lactic acid and other substances is the basis of all high-power transfusion activities. Adenosine triphosphate (TP) and creative phosphate (CP) are high-energy phosphate compounds stored in muscle cells, and ATP decomposition directly supplies energy for 1 to 3 s during muscle exercise; Subsequently, under the action of creative kinase, CP for adenosine triphosphate (AP) re-synthesizes ATP, which can maintain high-power activity for 2 to 10 s. Therefore, according to the special characteristics of football, it is extremely high to improve the energy supply level of ATP-CP. important.

4.2 Development of an anaerobic energy supply system

Football running, speeding, side walking and other activities such as continuous exercise time of about 40 seconds is mainly completed by the anaerobic energy supply system. It is the main indicator for assessing the speed endurance level. The anaerobic energy supply system mainly refers to muscle sugar. The original or glucose re-synthesizes ATP in the process of anaerobic decomposition. The total energy supply is more than that of the phosphoric acid system. The output power is second, no oxygen is required to participate in the reaction, and lactic acid will cause fatigue. When the oxygen supply is insufficient, it can supply energy quickly. A way to cope with the body's needs, as shown in Figure 2 below:

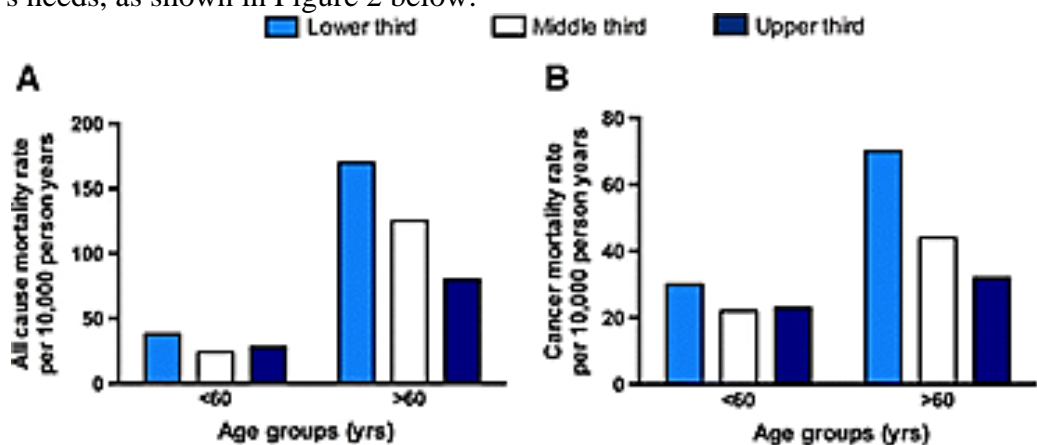


Figure 2: Healthy fitness development of the football project as a carrier

As shown in Figure 2 above, it can be clearly found that the energy supply of the glycogen

oxidative glycol system reaches the maximum rate at 30 to 60 seconds, and the energy supply can be maintained for 2 to 3 minutes. In the intense competition, the skeletal muscle energy consumption is large and fast. When ATP-CP is consumed in a large amount, the glycogen in the skeletal muscle decomposes a large amount of anaerobic and rapidly synthesizes ATP, and begins to participate in energy supply. According to the characteristics of the football game, the anaerobic energy supply system does not play much^[3].

4.3 Development of aerobic oxidation systems

The football match lasts for 90 to 120 minutes. Obviously, aerobic metabolism is the basis of football competition. Its aerobic energy supply accounts for 70% to 80% of the energy supply of football matches. The aerobic energy supply system is sugar, fat and protein. Completely oxidize and re-synthesize ATP in the cells. The total amount of ATP produced by the aerobic energy supply system is large, the rate is low, oxygen is required to participate, and no lactic acid is produced. It is the main energy supply mode for low-intensity exercise, and the energy supply time is not easy to fatigue. 95% of ATP in the body is derived from oxidative phosphoric acid in the mitochondria, which is the main energy supply system for human energy consumption. The energy released by sugar aerobic oxidation is about 20 times larger than that produced by sugar anaerobic glycolysis, and the aerobic oxidation process is complicated. The energy supply rate is low, and it is widely used in the case of low exercise intensity and sufficient oxygen supply.

5. Suggestions on college football fitness training

In order to promote the physical fitness of students, the guiding principle of "health first" is taken as the starting point. According to the principle of physical fitness training and the characteristics of college football teams, the following training suggestions are proposed.

5.1 Prioritize the development of aerobic energy supply systems to improve students' heart and lung function

Student-oriented college football must develop aerobic energy-capacity. On the one hand, from the characteristics of football, since aerobic energy supply accounts for 70% to 80% of the energy supply of football matches, athletes have aerobics. The improvement of endurance should of course be the focus of physical fitness training. On the other hand, aerobic exercise can improve cardiopulmonary function, improve cardiorespiratory endurance, increase the maximum rate of oxygen utilization, increase the ability of the heart to output blood and the number of micro vessels, and increase muscle mass. The mitochondria are responsible for oxidizing nutrients, reducing the production and accumulation of lactic acid, and slowing the fatigue of muscles, which can maintain certain exercise intensity for a long time.

$$\text{Target HR Zone} = \text{HRmax} \times \% \text{Intensity} \quad (1)$$

Since the first aerobic exercise of Cooper, the American medical doctor, aerobic exercise has become the most popular exercise and fitness method in the world. Our medical and health experts also agree that aerobic exercise is the best way to exercise. The WHO is also proposing that everyone should do a 30-minute aerobic exercise every day. It can be seen that aerobic exercise is the most healthy exercise, and aerobic exercise can best reflect the "health first" guiding ideology.

5.2 Arrange training reasonably to prevent sports injuries

Football is a long-term, high-intensity sport. It is prone to fatigue during training and competition. The strength of exercise, reaction, sensitivity, flexibility, etc. is reduced, the movement is stiff, and the attention is not concentrated. So according to football Characteristics, scientific and reasonable training, adhere to the principle of comprehensive physical exercise. When training different content on the same day, first carry out explosive and strength exercises, because these exercises require concentration and good physical function, and such training It can effectively stimulate the nervous system and improve the coordination and coordination of nerves. If you have long-term endurance training, athletes will be fatigued, inattention, nervousness, and explosive and strength exercises, it will easily cause damage. Prepare activities, prepare for the big, calf and ankles, knees and ankles that are easily injured, and do a good exercise in time after training or competition.

6. Conclusions

Football is a good way to promote physical fitness while enjoying the fun of football rules. In the pursuit of health for college football, how to conduct football training scientifically is an effective way to achieve this goal. Football match the time is as long as 90 to 120 minutes. There are various ways of movement. There are walking, jogging, running, speeding, sprinting, emergency stop, turning, jumping and reasonable physical collision. This determines the energy supply method that needs to be developed. Diversified, including aerobic energy supply system, anaerobic energy supply system, phosphoric acid energy supply system. College football players have diverse student sources, poor training conditions; diet and nutrition cannot keep up with sport's needs, and promote physical and mental health as a training objective. Make college football training must focus on the development of aerobic exercise training, improve students' aerobic cardiopulmonary function; rationally arrange the order of aerobic training and anaerobic training to prevent sports injuries; adhere to scientific guidance and effectively improve the special fitness Training effect.

References

- [1] Mikkelsen B, Bloch P, Reinbach H, et al. Project SoL—A Community-Based, Multi-Component Health Promotion Intervention to Improve Healthy Eating and Physical Activity Practices among Danish Families with Young Children Part 2: Evaluation[J]. *International Journal of Environmental Research & Public Health*, 2018, 15(7):1513-.
- [2] Dharod J M, Drewette-Card R, Crawford D. Development of the Oxford Hills Healthy Moms Project using a social marketing process: a community-based physical activity and nutrition intervention for low-socioeconomic-status mothers in a rural area in Maine[J]. *Health Promotion Practice*, 2011, 12(2):312.
- [3] Butterly R, Dan A, Brown A, et al. Client perceptions of the MUSCSEL project: a community-based physical activity programme for patients with mental health problems[J]. *Journal of Public Mental Health*, 2006, 5(4):45-52.