

Effect Evaluation of Functional Strength Training on Shooting Skills of Football Players

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Abstract: Football shooting technology refers to a kind of systemic and instantaneous explosive force produced by the human body during sports. It requires athletes to have good physical quality, so exploring functional strength training is of great help to improve competition results. Firstly, this paper introduces the function of shooting technology on football players, and studies the definition, characteristics and application of functional strength training in football. This paper also uses the method of questionnaire to investigate the influence of football players' shooting technology before and after functional strength training. And through the empirical study of body movement function strength training, the final investigation results show that physical exercise function strength training has significant effect on improving young football players' shooting skills, while body strength exercise helps to enhance and improve the stability of the body. Through the first two stages of training, the shooting speed before functional strength training is 112.54km/h, while after training is 94.9km/h. There is a very significant gap between the two stages. At the same time, it also reflects that the stability of shooting skills of young football players has been significantly improved, which shows that human functional strength training has an obvious effect on enhancing shooting skills of young football players, and human functional strength training also helps to enhance and improve human sports stability. Physical exercise functional strength training is developed on the basis of traditional strength training, which makes up for the lack of core muscle group exercise ability in traditional strength training methods.

Keywords: functional strength, strength training, football shooting technology, effect evaluation

1. Introduction

With the continuous progress of competitive sports in China, the technical level of athletes in the competition is becoming higher and higher. In recent years, China's football career has made great progress, especially in training and competition. However, there is still a certain gap compared with foreign developed countries [1-2]. Therefore, how to improve the athletes' ability to use techniques and tactics has become one of the problems to be solved. How to better improve players' training in technical action rhythm and speed requires us to study it [3-4].

Many scholars have conducted relevant research on football training methods. Many foreign countries attach great importance to the research of football technology teaching methods and training practice. They also attach great importance to the cultivation of players' basic skills and the structure of theoretical knowledge system. A series of related contents are very perfect, and have achieved some results in practical work [5-6]. China also draws lessons from foreign advanced experience in terms of athletes' shooting scoring rate. For example, by observing the video, it is found that the coaches use the "foot kick" technology to judge whether to complete the shooting. When there is a space occupation in the kicking leg area about 5 minutes before the start of the game, the players will choose to kick to the last part for continuous hitting practice. In China's football training, due to the players' insufficient mastery of football skills and techniques, many nonstandard, inaccurate and wrong movements are caused. The first reason is that athletes' basic skills are not solid, resulting in mistakes. Second, the players did not grasp the rhythm and control the defensive action, resulting in failure or loss of points. Third, the athletes' personal quality needs to be further improved and they do not pay enough attention to technical training, which affects the football performance and improves the football level, which is one of the problems faced at present [7-8]. These are the problems we should pay attention to solve and improve. The above research has laid the foundation for this paper.

Using the methods of literature, expert interview and mathematical statistics, this paper analyzes

and evaluates the foot performance of training. The use of functional strength training technology can effectively improve the reaction speed and accuracy of players to the technical action of football goal. At the same time, it can also greatly improve the large error caused by the error or error phenomenon when the athlete shoots.

2. Discussion On The Effect Of Functional Strength Training On Football Players' Shooting Technology

2.1 Effect Of Shooting Technique On Football Players

Shooting technology is to improve the ball control ability through various means on the basis of defense and gap, so as to achieve the goals of breaking the ball, fast passing and scoring [9-10]. In all competitions, shooting and scoring is a very important and meaningful technique, which is also valued by many players and coaches. In training and competition, we will see that a good shooting technique can play a great role. It can not only change the position and size of players, but also affect the number of mistakes in the whole game, which can effectively improve the performance of players. All players in the ball area should achieve their goals. In this process, each player must strictly and reasonably control and distribute the scores. Successful shooting is completed in a complete and continuous fake action, so it must be accurate, coherent and rhythmic. Shooting training is a complex technical action. In the game, we should have the ability to accurately and quickly judge the ball, defend the opponent and pass the ball. If you don't grasp the whole technical link correctly, this skill will lose its meaning. If football players control their body muscle strength and maintain good posture balance, flexibility and explosive power, they can easily complete the shooting action. Similarly, in the process of defense, if the opponent is damaged by his excellent shooting skills, resulting in his own injury or other adverse conditions, resulting in reduced or even unsuccessful scoring opportunities [11-12].

2.2 Application Of Functional Strength Training In Football Tactics

2.2.1 Definition Of Functional Strength Training

Functional strength training originates from the field of rehabilitation and health care. The so-called functional strength training is to practice various muscle groups through certain means to make them overcome motor obstacles in a specific part. Its main purpose is to improve the body's ability to coordinate technical movements and functions. In physiology, it is to arrange all parts of the human body scientifically and reasonably to achieve the required effect to a certain extent. The strength of human gravity center is closely related to the dynamic quality. The greater the exercise load, the stronger the exercise ability. Athlete's strength refers to the role of the body, which is mainly composed of endurance and maintenance. This will not only make the players more proficient in technical movements, but also increase their own knowledge and skills. At the same time, it can also enhance the athletes' memory and attention to various sports, so as to achieve the best results and win the biggest victory in the competition. Compared with traditional strength training, functional strength training has more specific specificity and scope. The coordination of various small muscle groups, such as the coordination of shallow and deep muscles and the coordination of upper and lower limbs, can be strengthened and improved through the changes of different kinds of sports, and can also realize the training and improvement of local limbs, human organ system and some joints through some common and effective means. At the same time, it can also enhance the connection between various parts of the body, various joint systems and ligaments, so as to improve the coordination and flexibility of the whole body. It mainly includes two ways: one is to take the parts that athletes need to pay attention to from one action to another as the core muscle group, and the other is to start strengthening the training of a technical movement centered on a certain part of the body. This training can make the machine more relaxed, labor-saving and simple in practice.

2.2.2 Characteristics Of Functional Strength Training

The purpose of athletes' functional strength training is to improve the contraction and relaxation function of human muscles. Through the exercise of muscle groups in various parts of the body in the process of exercise, we can improve the functional state of the body, enhance physique and control weight. Athletes' functional strength training is mainly to improve the strength of all parts of the body, muscle groups, ligaments and soft tissues around joints. Its action principle is to enhance the functional ability of the human body by adjusting the muscle groups of various parts of the body. In the plantar pressure exercise, we can see that all movements need to support the legs or lift the knees in a certain

amount. At the same time, we also need to increase the strength of shoulder lifting, upper body flexion, sagging and contraction muscles to improve the flexibility of ligaments (tendinitis) and soft tissues around the whole body and joints. The athlete's body is an organic whole, so in the training of strength quality, we should not only have proper basic ability, but also pay attention to whether the muscle contraction and extension force and the energy required by the muscle groups around the joints to act on various technical movements can be coordinated and unified to complete various exercise contents. Human muscles can contract, stretch and expand when doing various actions. Therefore, athletes must pay attention to keeping the joints of all parts of the body in a relaxed state. Systemic exercises include various types of physical fitness and muscle groups in various parts, such as lying flat, prone position, rolling leg supine ball, weight-bearing back flexion and extension, etc. These belong to the special strength training within the scope of basic skills, and so do other aspects. They mainly focus on the explosive power of legs and abdomen (under aerobic conditions).

2.2. Application Of Functional Strength Training To Football Player Training

When shooting, football players require good dynamic support leg stability, fast foot explosive force, trunk stability and torsional explosive force. Through the biomechanical and anatomical analysis of football games, in the research process of functional strength training step library, people focus on solving the basic ability and stability of athletes, the basic ability and stability of supporting legs, as well as explosive whip force and swinging legs. Take as many special promotions as possible. In addition, functional strength exercises also focus on exercising deep muscle groups that are not easy to exercise in traditional strength exercises. In the process of exercise, we pay special attention to the sitting posture, training movements and standards of athletes, because of this. Functional strength training can better improve athletes' physical function, help them recover from sports and prevent sports injuries. Traditional strength training does not focus on the core area and the core muscles around the joints. In terms of physiological function, little attention has been paid to the stabilizing effect of small muscle groups on the body, the moderate antagonism of antagonists, and the recruitment and domination of muscles by the nervous system. Functionally, without increasing limb stability, it can more directly improve the recruitment speed and peak strength of a single muscle, so as to improve the synergy between large muscle groups, small muscle groups and antagonistic muscles, so as to optimize the force, acceleration and deceleration of the structure at different levels. Functional strength training optimizes the ability to transmit and coordinate strength, and pays more attention to the overall dynamic balance of the body.

2.3 Basic Requirements For Football Shooting Technology

(1) Football Standing

Generally speaking, most of the shots used in fixed football are direct shots, which requires great strength and accurate pitching position. The greater the strength, the faster the ball speed, and the greatest damage to the defender's defense. In the process of shooting, the position of the ball determines the trajectory of the football. The more accurate the position of the ball, the higher the chance of scoring.

(2) Football Field Sports

In football match, there are many unstable factors in sports situation, which are related to the interference of guards and have a great impact on shooting. Therefore, in this case, players should first pay attention to the trajectory of the football, and then pay attention to its position. There must be no error between the two. Otherwise, the ball has arrived, the person has not arrived, the person has arrived, the ball has not arrived, and these cannot successfully complete the shooting. Comprehensive consideration, coupled with the technical basis mastered by long-term training, no matter which part of the ball is selected, it can hit the ball with high quality at an accurate contact position.

(3) When The Ball Moves In The Air (Point Your Head At The Ball)

Because of the mastery of header technique, head burst is the most threatening shooting method in fast sports. There are three main points to keep in mind: fast, accurate and very. Fast means fast movement, because the balloon has a certain flight path in the air. The balloon needs to reach people. There are two main points. Quasi refers to the accurate determination of the landing point. Players must accurately judge the speed and trajectory of football flight. The choice of landing site is very important. This means that the ball must be very powerful at the moment, because the head cannot be fully used at

any time, such as when hitting the ball. The head can only rely on the waist and abdomen to supply the muscles of the whole body, so the exposure and closing must be completed quickly to ensure the shooting intensity.

3. Investigation On Shooting Skills Of Football Players

3.1 Investigation Purpose

In order to comprehensively evaluate the effect of training, before the experiment, the athletes are first collected by means of competition video, video data and online retrieval. Then use the collected data results to analyze the causes and solutions of errors or errors in the training process, and finally put forward some suggestions and countermeasures according to the conclusions of these studies.

3.2 Respondents

Taking the men's football team members and relevant coaches of a sports college as the main research object, a series of studies were carried out on the influence of physical exercise function strength training and shooting technical stability of young men's football players.

3.3 Investigation Methods

This paper mainly adopts the calculation method of reliability coefficient. The credibility coefficient refers to the relative degree between the individual and the surrounding environment. The calculation methods of credibility coefficient can be divided into two types: one is direct method, the other is unweighted summation method. The calculation formula is:

$$r_{kr20} = \frac{K}{K-1} \left[1 - \frac{\sum_i^k 1p_i q_i}{S_t^2} \right] \quad (1)$$

$$\alpha = \frac{K}{K-1} \left(1 - \frac{\sum_i^K 1S_t^2}{S_t^2} \right) \quad (2)$$

K. S represents the amount of information given in the test question and the accuracy under its own conditions. There are two factors: one is the maximum number of sample points on the training video. The other is the error of the data itself. Therefore, in order to obtain accurate values, these randomness indexes must be processed and analyzed.

4. Discussion

4.1 Achievements Of Football Players' Shooting Skills

Table 1 is the score table of shooting skills of football players before and after functional strength training.

Table1. Results before and after functional strength training

	Before functional strength training	After functional strength training
Vertical jump height in situ(cm)	62	64
The Llinions test(S)	18.3	17.8
Standing triple jump (m)	7.31	7.98
Run at 5-25 m and turn back(S)	33.68	32.9
A 20m dribble shot around the pole(S)	7.9	7.5
One step to help run and kick far(m)	38	40
In situ throw outside the ball(m)	26	21

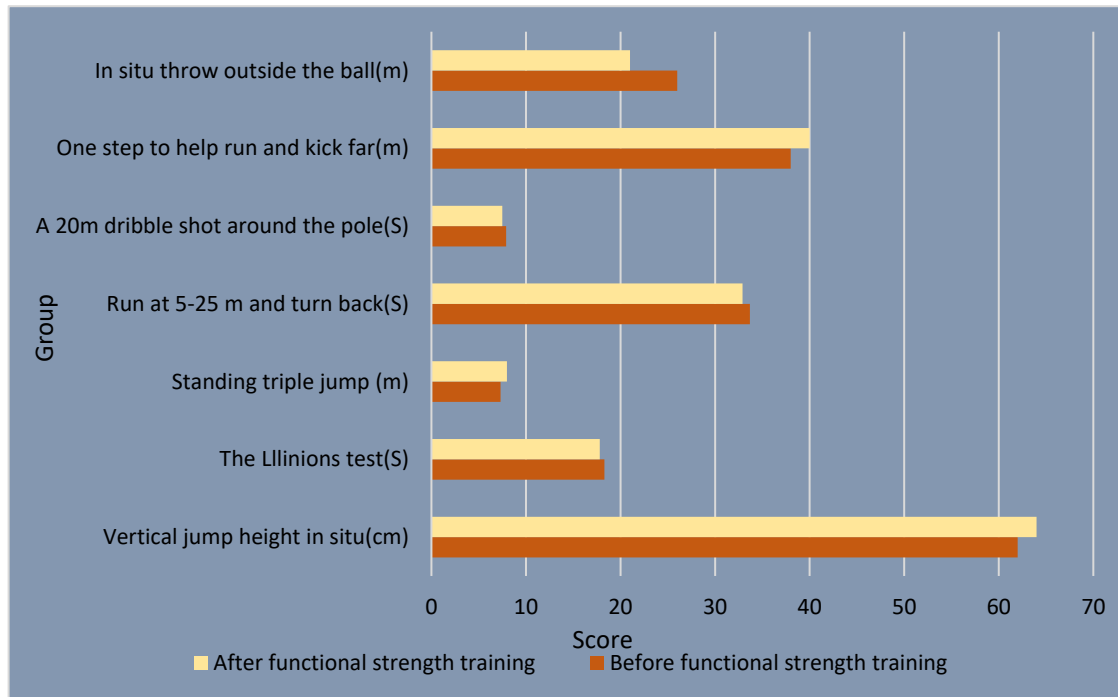


Figure1. Comparison of results before and after functional strength training

Through the experimental research on human sports functional strength training, from the comparison before and after training in Figure 1, it reflects that the stability of shooting skills of young football players has been significantly improved, which shows that human sports functional strength training has a significant effect on enhancing shooting skills of young football players, and human functional strength training also helps to enhance and improve human sports stability. Physical exercise functional strength training is developed on the basis of traditional strength training. It is a remedy for the lack of core muscle group exercise ability in traditional strength training methods.

4.2 Effect Of Functional Strength Training On Shooting Speed Of Football Players

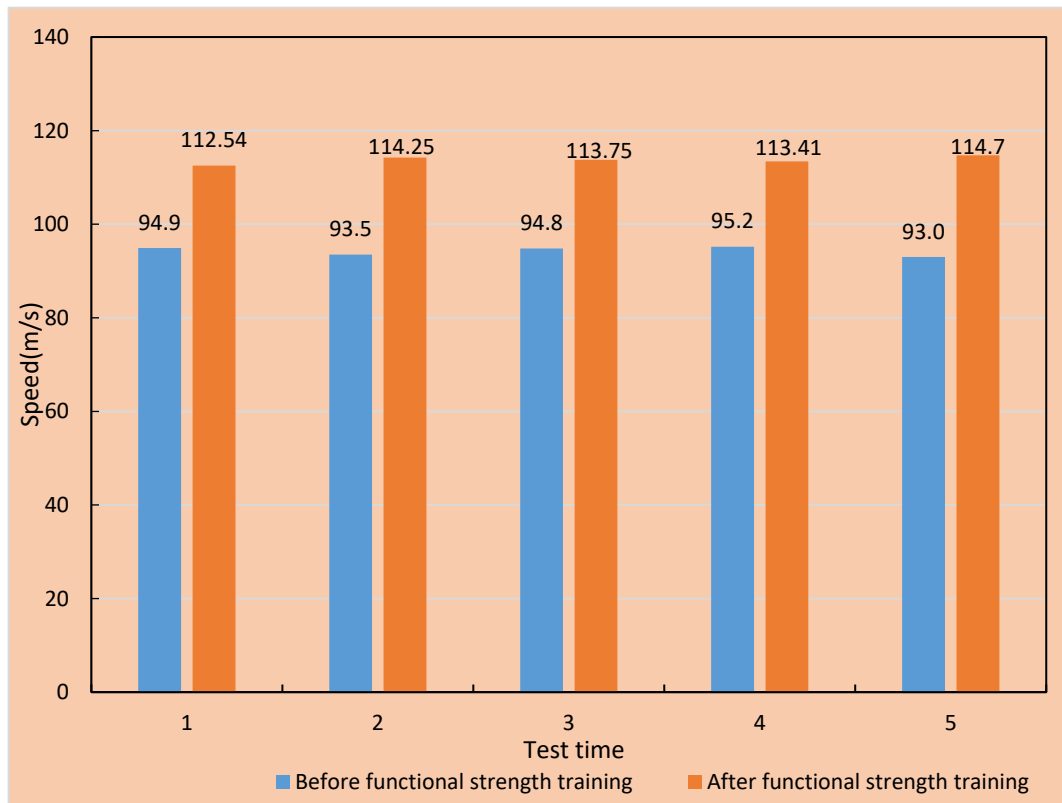


Figure2. Functional strength training before and after the shooting speed comparison

In the football game, the size of the ball and the conversion of attack and defense need the players to have a certain body and technology. These are related to the superior defense level, so we can judge whether an athlete has good skills and tactics. Through the analysis of shooting speed before and after functional strength training, it can be seen that when players shoot, their center of gravity should move from the toe to the outside to the predetermined height and then gradually reduce, so this shows that the speed of the ball will be faster at this time, otherwise. As can be seen from Figure 2, after two stages of training, the shooting speed before functional strength training is 94.5 km / h , 112 54 km / h after training., there was a very significant difference between the two before and after comparison ($P < 0.01$).

4.3 Effect Of Functional Strength Training On Shooting Hit Rate Of Football Players

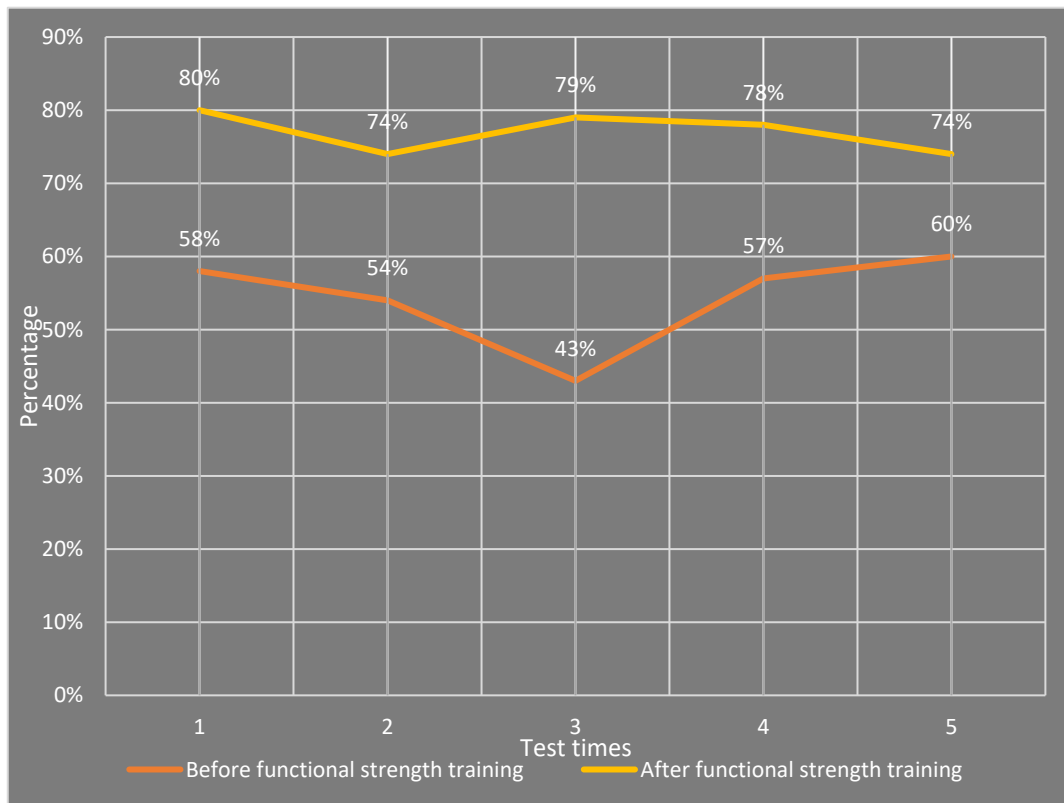


Figure 3. Effect of functional strength training on the shooting percentage

All the techniques and tactics of the game are organized and implemented according to the design of shooting opportunities and the number of goals. The level of shooting and scoring technology directly determines the number of goals, the results of the whole game, and the quality of athletes' shooting technology is directly related to the number of goals, and the shooting hit rate of athletes is the key to win the game. Generally speaking, the attack in the football game is relatively difficult to defend. The shooting times and chances of the two players are not many, and the chances of scoring are also less. Therefore, increasing the percentage of shooting is the victory of the game. It can be seen from the data in Figure 3 that during the training process, athletes need to maintain a high height and stable state when performing various movements. Therefore, a good and excellent, strong coherence and high accuracy are the key factors affecting the performance of football and its role. From the statistical results: for football technology, the key is the defense or the attacker. These two achievements have also improved a lot, followed by shooting and receiving. In training, we found that the stability and hit rate of players in shooting are weaker than those in defense. In all football matches, the number of goals is the only indicator to measure the outcome of the game.

5. Conclusion

Football is one of people's favorite sports today. Shooting is not only the ultimate goal of all offensive tactics in football matches, but also the simplest and only way to score goals. The selection and use of shooting technical indicators determine the final result of the game to a great extent. How to better improve the technical level of football players and how to score more goals in the fierce competition has become a wide topic and the main problem of coaches and players. This paper uses the methods of literature, mathematical statistics and analysis to evaluate the training results. The results show that there are significant differences in the best score and effective ball distance under different conditions.

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