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Application of Functional Training Methods in Wrestling Training

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Abstract: *At present, competitive sports is the core of national sports competitiveness and the key to the development of national sports. As an important event of the Olympic Games, wrestling is gradually attracting the attention of gold medal competitions in various countries. This article aims to study the application of functional training methods in wrestling training. Based on the analysis of the principles of functional training, the evaluation methods and training methods commonly used in functional training, 20 male wrestlers from a sports college are the research objects. Divide them into experimental group and control group, observe the difference of wrestling training effect between the two groups of athletes under different training methods. Experimental results show that functional training can improve the balance ability of wrestlers.*

Keywords: *functional training, wrestling training, balance ability, functional action screening*

1. Introduction

Functional training is a scientific training method. Compared with traditional training methods, functional training methods add prevention and rehabilitation training to the exercises before exercise [1-2]. It helps to enhance the athlete's physical fitness and competitiveness, and at the same time quickly detect and evaluate the athlete's physical injury, find the source of the injury, and quickly deal with the athlete's physical injury, and quickly repair the damaged part. The functional training method is a combination of physical injury protection technology and athletes' usual exercise, which seems to be able to effectively reduce the chance of physical injury, enhance the athlete's comprehensive competitiveness, and thus improve the athlete's career [3-4].

In recent years, many scholars at home and abroad have conducted research on functional training and achieved good results. Some scholars believe that functional training is a deliberate exercise, mainly through the development of sports model goals and prevention of sports injuries to develop a targeted training plan. Therefore, the strength of multiple joints and muscles of the whole body can be adjusted and developed in a balanced manner, and the adjustment and coordination of muscles can be effectively trained. Comprehensively improve stability, balance, adjustment, response speed and core strength [5-6]. Some scholars believe that exercise itself is the key to functional training, and the human body itself is the best functional training device. We need to be careful and improve our motor skills. He divided the movement of the human body into four categories: horizontal displacement, thrust and traction, rotation and vertical displacement, and called it the "four pillars of the human body." Today, in the field of competitive sports, people often aim at the four basic sports pillars of the human body[7-8]. There are also some researchers who suggest that in-depth exploration, reflection and analysis are needed for functional exercise methods. Therefore, choosing a specific training program is very important in functional exercise. The functional training process focuses more on the accuracy of training, rather than the number of training [9-10]. But some other researchers have proposed that the training methods of functional exercises mainly pay more attention to the relationship between physiological structure and nerves and muscles. The practice steps are mainly based on the normal function of the human body, through the simulation of technical movements, and finally select the training method to be trained. Functional exercise combines practical needs with theory, and proposes a corresponding exercise system to better control the nervous system and most of the muscles during the training process, and effectively improve the special abilities of the human body [11-12]. In general, functional training is increasingly used in the field of competitive sports.

On the basis of consulting a large number of relevant references, this article combines the principles

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of functional training, the commonly used evaluation methods and training methods of functional training, and conducts a research on the application of functional training in wrestling training through experimental methods.

2. Application of functional training methods in wrestling training

2.1 Principles of functional training

(1) Action principle

Functional training theory advocates "competition is action" and emphasizes that action is the material basis of human movement. The development of sports is a process of qualitative change, and movements are characterized by order, direction and individuality. Functional training is the correctness, efficiency and effectiveness of the sports model, only because it discovers the important value of basic fitness technology in the development of human fitness and the overall development of human health. As an activity that exercises the control and accuracy of "action", functional exercise does not focus on the excessive use of the muscles of the limbs in a certain action, but instead focuses on the core abilities of the trunk, contestants, and deep small muscles. Balanced development to promote the effective transmission of the body's power chain, thereby improving overall sports performance.

(2) The principle of specificity

Special training is an important part of sports training, which allows athletes to directly enter the competition situation and feel the essence of the project. Functional training is a specific purpose for improving the athlete's performance after confirming that the athlete's basic physical condition is stable. Functional training is a bridge between general training and special training. This is a special training, but it is different from special training. Functional training for the general public is manifested in strengthening the use of more body movements in daily life and work by different roles under different social divisions of labor, which fully reflects the adaptability of functions and functions, and is also specific.

(3) Systematic principle

The functional training system is not only supported by strict theoretical basis, but also supported by reasonable exercise practice. This training method is aimed at difficult sports. The system consists of a series of interrelated interactive practice training methods. These systems are independent of each other and support each other. Educational operating systems are based on behavioral models. Before performing functional training, practitioners should perform functional movement control (FMS) and analyze the results to determine if there is a sports injury or major postural problems. If it is, then a selective functional activity assessment (SFMA) is required, and corrective training is performed based on the results; if it does not exist or is unclear, we will implement a personalized training plan based on the individual's personal situation.

(4) Principle of stability

Stability refers to the quality, condition, or degree of stability. In sports, it refers to controlling unnecessary movements to maintain a specific posture. This usually requires more strength to maintain. Functional training focuses on strengthening the stability of the body in order to maintain the correct posture of exercise, and transfer strength through the power chain. Functional training is mainly carried out under unstable conditions, such as the use of suspension, Swiss balls, corrugated plastic balls and other sports equipment, which completely stimulates the deep small muscle groups, so that they gradually develop and effectively stabilize the spine, hips and pelvis. Thereby continuously enhancing the stability of the core area of the body, thereby improving the efficiency of power transmission and improving the level of exercise.

2.2 Evaluation methods and training methods commonly used in functional training

(1) Commonly used evaluation methods for functional training

As far as the current research results are concerned, the most important evaluation methods are FMS detection, core strength, core stability, EMG detection and so on. At present, the most commonly used functional screening test method for functional activity is FMS. In the process of

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commercialization, FMS has been widely used in various national professional sports clubs, college sports clubs, and medical institutions. FMS is easy to operate, low cost, and it is a safe and effective test. When conducting human exercise tests, it can identify problems or deficiencies in certain joints or muscle groups. This is also a simple and easy test.

FMS test can be used as a tool of health examination to determine the physical problems of people that may not be detected in traditional physical examination or sports performance. In many cases, it is not simple to find the injury problem of poor muscle flexibility and unbalanced body energy. You can also quickly check human body dysfunctions and patterns of bad body movements. FMS movement method is not only the theoretical basis of sports, but also the basis of body movements. You can judge the player's performance through the basic movement method. It is not only in good condition, but also simple and convenient in action, and it is a very scientific and systematic test method.

(2) Training methods of functional training

The basic training method of functional training is to ensure that the players show the best competitive state in the competition, and the practice level is always professional and reaches the highest level. Functional training regards the exercise process as the process of training to stimulate consciousness, and emphasizes the development of effective exercise activities and competitions in a healthy state. Functional exercise and traditional Chinese physical training complement each other and jointly promote the formation of high-specialized sports performance.

The main methods of functional exercises are divided into core ability exercises, vibration training, balance exercises, suspension exercises and sensitivity exercises. It should be divided into freehand training, which is used to exercise the stability of the athlete's core, mainly including plank support, bridge support and so on. The other is to use a combination of Swiss balls to train equipment in unfixed positions, balance air pillows, skateboards, medical balls, etc., to practice the adjustment and stability of the athletes. The third is to combine the requirements of special sports. Sports training is a dynamic sports skill.

3.Experiment

3.1 Research objects

This article takes 20 male wrestlers from a sports college as the research object. Before the experiment, 20 athletes were randomly divided into groups, including 10 in the experimental group and 10 in the control group. The experimental group received an eight-week functional training intervention for lower limbs in daily training, and the control group received normal training. There are no significant differences between the experimental group and the control group in terms of age, height, weight, etc.

3.2 Experimental principles

(1) The principle of contrast

The experiment follows the principle of control. By creating a group comparison experiment, different groups use different training methods to test the different training results of the two training methods. Through statistical processing and comparative analysis of the relevant data of the two sets of experimental results, the difference between the functional training method and the conventional training method in the training effect of men's wrestling is confirmed.

(2) The principle of equality

The experiment follows the principle of averaging. In this study, 20 male wrestlers in all samples were grouped according to the pre-test results of the experimental group and the control group. This helps to balance the gap between the two groups of subjects before the experiment and balance the objective conditions.

(3) Single factor variable principle

The experiment follows the principle of single factor variables. In addition to various training methods during the experiment, the influence of other factors on the experimental results is also controlled. Only from the factors of different training methods, the two groups of experimenters intervened, and other factors were effectively controlled.

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(4) Scientific principles

The experiment follows scientific principles. Before the experiment, a large number of relevant documents were referred to, and the research results of predecessors were referred to. There is a dialectical cognitive understanding of the principles and scientific methods of the implementation of functional education concepts. Follow the basic requirements of scientific research experimental methods, follow the functional training principles of experimental research and the law of body load regulation.

3.3 Statistics

First, check the experimental group and the control group before the experiment, and record, analyze, and compare relevant data. Use SPSS and Excel software to perform statistical analysis on the experimental data of the two groups to ensure that there is no significant difference in the initial state of the two groups of subjects. After the experiment is over, the experimental group and the control group perform statistical analysis on the pre-test and post-test to determine whether there is a significant difference between the relevant data of the pre-test and the post-test. Finally, perform statistical analysis on the data related to the post-test experimental group and the control group to determine whether there is a significant difference. And record the experimental data obtained in this article to provide strong evidence for experimental research. The calculation process is as follows:

$$H0:\mu \geq \mu 0 \quad vs \quad \mu < \mu 0 \qquad (1)$$

$$H0:\mu \leq \mu 0 \quad vs \quad \mu > \mu 0 \qquad (2)$$

The P value is the total probability that when $\mu = \mu 0$, the test statistic value is less than or equal to the test statistic value obtained after the actual observation sample number is counted, then P value=P.

4.Discussion

4.1 Left foot balance ability test results

It can be seen from Table 1 and Figure 1 that the moving speed, average moving distance, total moving distance and maximum moving distance of the left feet of the two groups of players before the experiment after passing the balance strength test on the X-axis and Y-axis are compared with those between the upper groups. There is no obvious difference between the comparisons, and through the eight-week balance test exercise, the comparison of the two athletes shows that the average and maximum movement distance of the left foot of the two athletes on the X axis are significantly different, but the speed and total distance are significantly different. There is no significant difference in travel distance. For the left foot and on the Y axis, there is no significant difference in all indicators. The overall improvement of the balance ability of the left leg of the experimental group was greater than that of the control group.

Table 1. Comparison of test scores of left foot balance ability between the experimental group and the control group

Test index		Before the experiment		After the experiment	
		Experimental group	Control group	Experimental group	Control group
Left foot X axis	Moving speed	37.52±8.41	36.8±7.04	31.68±5	32.54±3.78
	Average moving distance	97.43±10.2	93.7±13.1	84.25±7.07	95.11±9.24
	Total distance moved	760.8±189.28	746.38±139.72	644.08±119.03	661.25±76.54
	Maximum moving speed	35.38±5.52	33.54±2.33	28.03±3.85	32.78±3.49
Y axis of left foot	Moving speed	35.63±6.65	34.67±3.22	30.65±3.71	33.83±3.4
	Average moving distance	165.34±17.05	152.45±15.09	125.49±19.72	139.8±15.75
	Total distance moved	723.15±124.04	703.7±65.41	623.5±75.27	687.04±69.08
	Maximum moving speed	45.05±9.06	41.39±12.31	36.17±4.62	38.18±7.05

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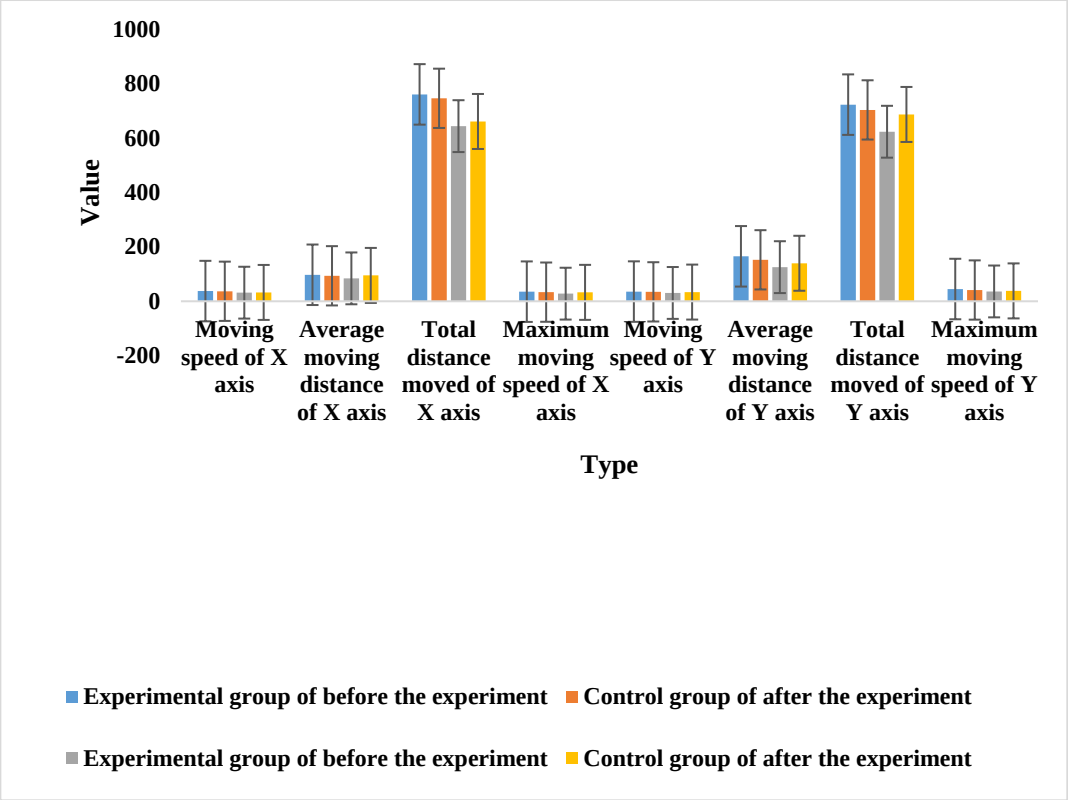

Figure 1. Comparison of test scores of left foot balance ability between the experimental group and the control group

4.2 Right foot balance test results

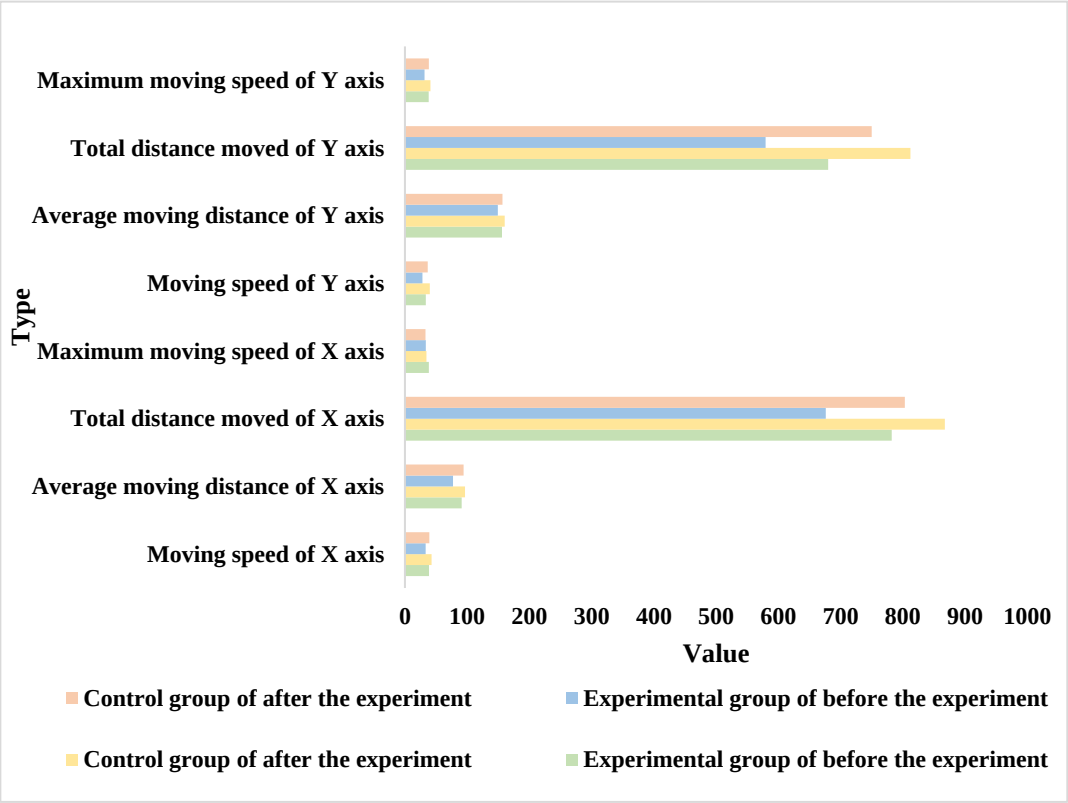

Figure 2. Comparison of test scores of right foot balance ability between the experimental group and the control group

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Figure 2 shows that before the experiment, the athletes in the experimental group and the control group had significant differences in speed and moving distance on the X-axis and Y-axis, and there was no significant difference in the average and maximum moving distances. After the experiment, the movement speed and total movement distance of the right foot balance ability of the two groups of athletes on the X axis are also significantly different ($P<0.05$), and there is no significant difference between the average movement distance and the maximum movement distance. On the Y axis, the two groups of athletes have no significant difference in average moving distance, other indicators show significant differences, and the experimental group is better than the control group. This shows that the overall improvement of the balance ability of the right foot of the experimental group is stronger than that of the control group.

5. Conclusions

This article mainly adopts experimental methods to practically implement appropriate exercise methods for wrestlers, and uses grouped exercises to investigate the degree of influence of different training methods on wrestling training, so as to explore more scientific and reasonable exercise methods and determine the functionality. The effect of training method on wrestling training of wrestlers.

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