Analysis of the results of assessing the speed and strength qualities of basketball players using a computerized measuring device “BTKSBKU-T”

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Abstract

Purpose: Improvement of methods for measuring the speed and strength of basketball players using computerized measuring equipment. The aim of the study is to accurately and objectively assess the physical condition of athletes, develop individual training programs based on the results obtained, and increase the effectiveness of the training process.

Methods: Speed-power, power sports that “serve” a basketball player at the stages of performing specific techniques have priority in ensuring the effectiveness of accurate ball passing and short-distance running on the field. Increasing the effectiveness of an attack due to one or more ball passes is beyond doubt that the effectiveness of repeated repetition of such techniques during an attack, especially in competition cycles, directly depends on speed and strength endurance.

Results: Therefore, the results of an objective assessment of these types of strength create a measure for making the necessary changes to the training and exercise program.
We conducted a study to evaluate the speed and strength qualities of basketball players aged 13-14 using a specially designed computer measuring device – “BTKSBKU-T”. The study involved 13-14-year-old basketball players, firstly, because it coincides with the sensitive period for these children and allows us to obtain information about the level of development of speed and strength in young children who are just mastering the technical and tactical aspects of basketball, as well as in young basketball players who have been playing basketball for a year or two, and secondlySecondly, it creates an opportunity to evaluate the training programs currently being applied in practice.

Conlcusion: The results of the assessment of the speed and strength qualities of the young basketball players of Samarkand City Sports School № 2 and the basketball players of Mirabad district Sports School № 2 in Tashkent city show that the ability to accurately pass the ball with great force and run around the field with high speed, as well as the ability to accurately throw the ball received through our equipment at the target with great force and it was determined that basketball players of Samarkand City Sports School № 2 had a throwing force of 41.2 kg. For basketball players playing basketball at sports school № 2 in the Mirabad district of Tashkent, this figure was 38.9 kg, or the difference in performance was 3.7 kg in favor of young basketball players at sports school № 2 in Samarkand (see table 1). Such a difference, of course, is insufficient, given the regular classes of basketball players from sports school № 2 in Samarkand and young basketball players from sports school № 2 Mirabad district of Tashkent city.

Keywords: young basketball players, assessment, analysis, speed and strength qualities, preparation, accuracy, quality.

Introduction

The results of the study showed that the result obtained using a computerized device for determining the speed and strength qualities of basketball players aged 13-14 years was 39.8 ± 9 kg in terms of the strength of the net ball transfer, and the running time to the remaining targets after the ball was thrown was 9.33 ± 2.28 seconds.

It is important to note that the distance of the ball to the target is 3 m, and the distance between the two targets is 7.5 m. The exact hit of the ball on target, the run to the second target after the throw, the running time and the force of the ball throw are stored in the computer memory. The saved data is transferred to Excel, which allows us to analyze the transferred data.

Results and discussion

When determining the force of throwing a ball into our special equipment, it was revealed that the students of Samarkand city Sports school №. 2 resulted 41.9 kg, and the students of the Mirabad district sports school № 2 in Tashkent resulted 38.9 kg. In sports school № 2 in Samarkand, the result was 3.7 kg better. We determined how much time was spent on a total of 4 targets, taking into account the time spent on each target. Here we can see how long it took the basketball players of Samarkand City Sports School № 2 to score the ball on target: 8.33± 1.06 seconds. And for children playing basketball at sports school № 2 in the Mirabad district of Tashkent, it is expressed in 9.38 ± 1.09 seconds.

It was noted that the time difference between the basketball players of Samarkand City Sports School № 2 and the basketball players at Sports School № 2 of the Mirabad district of Tashkent was 1.05 seconds. As you can see, by measuring the speed and strength qualities with the help of equipment, we determined with what force the basketball players pass the ball and how much time they

spend moving around the court after passing the ball.

The time to throw a ball into a projectile was 8.33±1.06 seconds for basketball players of Samarkand City Sports School № 2, while the time for basketball players of Mirabad district Sports School №. 2 in Tashkent was 9.38±1.09 seconds. The difference in these figures was 1.05 seconds. The basketball players of Samarkand City Sports School № 2 had a ball throwing force of 41.2 kilograms, while the students of sports school № 2 in the Mirabad district of Tashkent had 38.9 kilograms, or they demonstrated a stable retention time of muscle tension in such a dexterous state up to 3.7 kilograms. In the last two speed and strength conditions, we observed a clearly noticeable asymmetric difference, or such an asymmetric difference was 8.33± 1.06 seconds for basketball players at Samarkand City Sports School № 2 and 9.38±1.09 seconds for basketball players at a sports school № 2 in the Mirabad district of Tashkent. According to all the test indicators, muscle tension and movement in the fast-power mode did not significantly differ between the basketball players of Samarkand City Sports School № 2 and the basketball players of Tashkent City Sports School № 2. (see diagram 1).

Thus, it can be argued that during the training sessions conducted for almost 2 years, the speed and strength quality did not receive effective development. It can be assumed that during the 2 years of training sessions, basketball players did not approach the purposeful education (building up) of the ability to strain muscles in an isometric mode in various power situations seriously, which deserves importance in competitions. However, most experts and scientists working in the field of physical culture and sports emphasize that, firstly, there is no close relationship between types of speed-strength strength in sports practice, including in sports games, and secondly, they recognize that in situational sports games, where dynamic movements prevail, strength or endurance do not play a leading role. It is also possible that basketball players are constantly on the court. Speed, especially speed and power, is of great importance in sports.

Especially in basketball, the phases of running around the court at high speed play a big role in passing the ball to your partner with strength and accuracy, as well as in choosing a comfortable position for yourself.

In basketball, speed and strength qualities are manifested mainly in passing the ball with great force, running at high speed over short distances and jumping. Such fast movements allow the player to move from defense to attack using fast power, and in attack, leave the opponent in trouble with the help of fast movements. Both speed and strength are demonstrated in a short period of time, while great attention should be paid to the muscles of the arms and legs. High-speed running and jumping are very important in basketball, and passing the ball involves strengthening the leg muscles by running at high speed on an open court. The need for repeated repetition of such movements requires basketball players to have speed and strength endurance with sufficient energy.

Fig 1. The results of the assessment of the speed and strength qualities of children involved in basketball at Samarkand city Sports School № 2 and Mirabad district sports School № 2 in Tashkent using computer measuring equipment – n=20 ± δ.

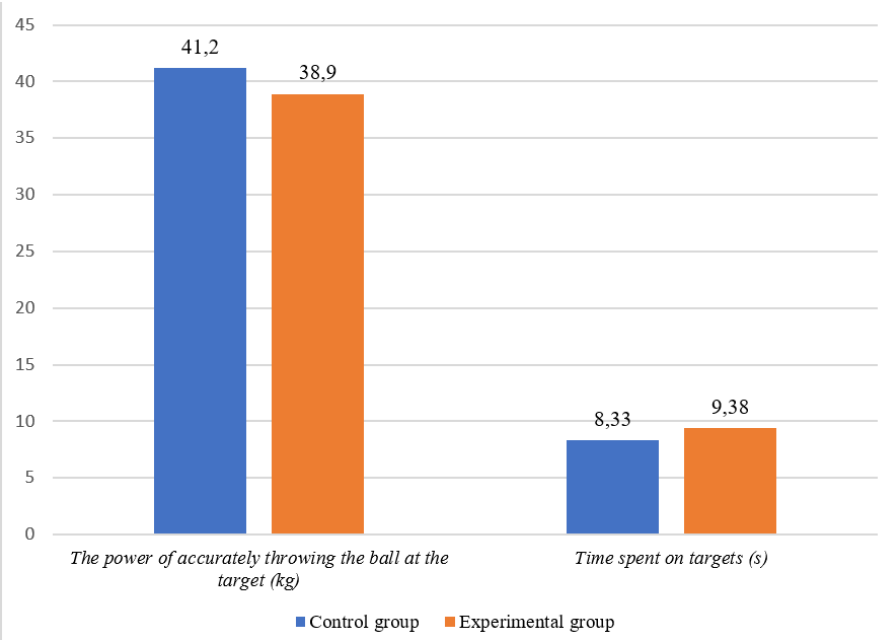
№	Tests performed on the equipment	Samarkand City Sports School № 2	Tashkent City Sports School № 2	The difference in performance
1	The power of accurately throwing the ball at the target (kg)	41.2±5.2	38.9±8.9	3,7
2	Time spent on targets (s)	8,33±1,06	9,38±1,09	1,05

Note: *- It is necessary to throw the ball accurately on the equipment.*

Conclusion

Passing the ball in basketball is one of the main basketball techniques. The accuracy and

Fig 2. Diagrams showing the difference in the observed indicators of the quality of speed and strength among children playing basketball at sports school № 2 in Samarkand and sports school



Note: *1 – throwing the ball at the target with a certain force is a holding force; 2 – running to the second goal at high speed after throwing the ball is a time saver;*

power of passing the ball determine the intensity of the game. Passing the ball to each other with speed, strength, and accuracy makes it easier for players to move from defense to attack. By passing the ball with force and moving at high speed through another zone, we see that the attacker's chances of escaping the defenders' pursuit increase several times. It can also be said that tests conducted using computer measuring equipment for young basketball players help determine the quality of speed and strength. The results of the study show that young basketball players have improved their speed and strength. In basketball, passing the ball not only increased the effectiveness of the offense, but also helped increase the intensity of the game.

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