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THE EFFECTIVENESS OF ORGANIZING EXERCISES AIMED AT IMPROVING THE SPEED-STRENGTH TRAINING OF FOOTBALL PLAYERS AT THE STAGE OF SPECIALIZED TRAINING

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ABOUT ARTICLE

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Abstract: The article examines the studies conducted to improve the special physical training of football players, as well as the issues of improving the speed-strength training of football players at the stage of advanced specialization. The relevance and advantages of using methods and means aimed at improving the speed-strength training of football players at the stage of advanced specialization in the organization of their training are revealed. The effectiveness of the methods and training planning used in the study was proven, and conclusions were made.

Introduction

In recent years, consistent measures have been taken in our country to popularize physical education and sports, promote a healthy lifestyle among the population, and ensure the country's appropriate participation in international sports arenas. The Decrees and Orders

issued by our President outline important tasks, such as developing a system for the consistent training of football players and introducing nominations for regions with the highest levels of physical fitness. At the same time, it is necessary to implement specific programs that support the strengthening of public health in the field of physical education and sports, widely engage young people in sports, select talented athletes from among them, form national teams with skilled athletes who can ensure high performance in various sports, and create additional conditions for trainers.

In sports practices and methodological literature, great importance is given to qualities of movement such as strength and speed. These qualities are particularly evident in sports that have a system for evaluating performance outcomes. In recent years, the significance of these qualities has been increasingly emphasized in sports that involve the execution of technical movements. In sports games, particularly in football, players often encounter the ball's weight. As a result, they primarily use their strength to overcome their body weight and the ball's inertia. The beginning of movement, acceleration, stopping, changing direction, jumping, and kicking the ball are all movements where a football player demonstrates their strength. Clearly, in all cases, this demonstrates a dynamic characteristic. In general, during the game, football players display their speed-strength qualities, i.e., the harmonious combination of strength and speed. The speed-strength qualities of football players are determined by their ability to perform movements that are associated with some form of resistance in the minimum amount of time. [1,3,5]

In football, the primary movements performed by players are speed-strength movements, such as changing direction at maximum speed, jumping high to contest an incoming ball, and so on. The technical-tactical movements performed by players during the game require not only the correct execution of actions but also well-rounded physical development, especially in terms of speed-strength training.

Studies show that the intensity of work performed by football players during the game ranges from slow to maximum effort. The majority of the loads performed by players consist of tasks that are characterized by speed-strength qualities. The expanded tactical interactions between players (across the field) require them to increase the intensity of the game, achieve

the necessary speed for quick deceptive movements, and maintain advantageous tactical positions (especially in the final stages of an attack). The importance of speed-strength is significant for these actions.

In modern football, the high level of deceptive movements necessitates precise and long-distance passes. Currently, passes in football have become more powerful and are even executed unexpectedly for teammates. The power of shots on goal has also increased, with speed reaching higher levels and continuing to rise. Therefore, the demand is not only for athletes with strong "technique" but also for football players who possess high speed and strength [2,4,6,9].

Research Results and Discussion: Numerous scientific studies and advanced practices in sports games indicate that, in order to optimize the management of the sports improvement process, it is essential to have a system for pedagogical control over the activities of athletes. According to specialists in the field of sports games, the process of managing training sessions should be built based on the principles of training management theory. They believe that it is necessary to develop and implement a systematic approach to studying the changes occurring in athletes' bodies. In our view, this can be effectively achieved by evaluating the conditions of athletes during competitions and training sessions comparatively.

Complex monitoring in sports involves controlling the athlete's condition, the training loads, the technique of movement execution, the dynamics of performance results, the athlete's behavior during competitions, and the effectiveness of the training. The assessment of young football players' readiness for training is conducted by considering the age-related characteristics of their physiological development, the impact of regular football training on various training principles, and the specific stage of training. The results of complex monitoring serve as criteria for evaluating the effectiveness of the training process and for individualizing football players' preparation.

Based on the results of complex monitoring, training loads can be adjusted, providing the opportunity to adapt training sessions and loads to the athlete's condition. This also allows for quick, current, and stage-based assessments of the athletes' condition. According to V.M. Zatsiorsky, determining the athlete's condition is one of the most critical aspects of planning

the training process, which is achieved through pedagogical control. Pedagogical control involves obtaining information about the direction and causes of morphological and functional changes that occur in the human body under the influence of training. The essence of pedagogical control lies in monitoring the athlete's condition, the training loads, the technique of movement execution, the dynamics of sports results, the athlete's behavior during competitions, and their ability to withstand training loads.

Thus, leading specialists emphasize that the creation of a scientifically grounded monitoring system is directly related to obtaining information about the state of various movement activities, and its collection should be considered as one of the most important stages in managing the training process [4,7,8,10].

The aim of the research is to assess the speed-strength training of football players at the stage of specialized training, improve the training sessions aimed at enhancing their speed-strength preparedness, and determine their effectiveness.

Research objectives

1. To study and analyze the research and literature on improving the speed-strength training of football players at the stage of specialized training.
2. To evaluate and analyze the speed-strength training of football players at the stage of specialized training by dividing them into experimental and control groups.
3. To organize training sessions by identifying effective means and methods for improving the speed-strength training of young football players and determine their effectiveness.

Our research was conducted with football players at the stage of specialized training at the Tashkent Regional Football Academy. The study involved 40 football players aged 14-17, who were divided into experimental and control groups. To assess their speed-strength training, control tests were conducted. A comparison of the players' age, height, and weight using the Student's t-test showed that there were no significant differences between the athletes in the control and experimental groups (Table 1).

1-жадвал

Назорат ва тажриба гуруҳи футболчиларининг тажрибадан олдинги натижалари

№	Кўрсаткичлар	Тажриба гуруҳи n=20	Назорат гуруҳи n=20	Стьюдент мезони t
1	Тана узунлиги (см)	166,8±4,14	167,1±5,24	0,599
2	Тана вазни	61,30±2,23	62,12±2,67	0,975
3	Турган жойдан 15 м. га югуриш (с)	2,53±0,140	2,52±2,43	0,202
4	Жойидан туриб 30 м. га югуриш (с)	5,19±0,046	5,18±0,160	0,523
5	Жойидан туриб узунликка сакраш (см)	180,4±1,87	181,7±3,98	1,288
6	40 см баландликдан сакраб тушгандан кейин узунликка сакраш (см)	176,0±2,85	176,9±3,91	0,765
7	Уч хатлаб сакраш (см)	5,77±33,3	5,73±13,4	0,095
8	Юқорига сакраш	38,05±2,89	39,15±3,66	1,645

In the experimental groups, 10% of the total training time (870 minutes) was allocated to developing speed-strength qualities. These exercises were conducted during the main part of the training session. They mainly consisted of exercises with a jump and swing characteristic, general developmental exercises (with and without equipment), track and field exercises (running, jumping, throwing), and relays. At the same time, a "strong" exercise method was applied for developing speed-strength qualities in the experimental group. These exercises were performed by the experimental group both with and without the ball. The training sessions were organized using circuit and group methods. Jumps were performed in combination with depth jumps, high jumps, or long jumps, followed by dribbling the ball, jumping, and striking with the foot or head. Using the "strong" method, the exercises were

completed within 20 minutes, during which the young football players performed bounding exercises for 20-30 repetitions, jumping into depth.

During the pedagogical experiment, a total of 97 training sessions were conducted, and in 44 of them, the "strong" method was applied. Each session lasted 90 minutes, with 20 minutes allocated to the "strong" method exercises (Table 2).

2nd table

The content of the training process in the control and experimental groups during the pedagogical experiment.

№	Volume and Content	Control Group		Experimental Group	
1	**Number of Weeks**	20			
2	**Number of Sessions**	100			
3	**Number of Matches**	20			
4	**Total Duration of Sessions**	9000 min	(150 hours)	8730 min	(145,5 hours)
5	**Special Equipment**	7650 min	85 %	6985 min	80 %
6	**Non-special Equipment**	1350 min	15 %	1745 min	20 %
7	**General Endurance**	2700 min	30 %	2620 min	30 %
8	**Speed Endurance**	1350 min	15 %	1310 min	15 %
9	**Strength, Agility, Flexibility**	2250 min	25 %	2185 min	25 %
10	**Speed**	1800 min	20 %	1745 min	20 %
11	**Speed-Strength Qualities**	900 min	10 %	870 min	10 %
12	**Dynamic Tension Techniques**	900 min	10 %	-	-
13	**"Strong" Technique**			870 min	10 %

At the end of the pedagogical experiment, repeated testing of the speed-strength training of both groups of football players showed that a significant difference in the 15-meter standing start sprints was observed only in the experimental group ($t = 2.504$; $P < 0.05$). The

improvement in this control test is attributed to the fact that when developing one quality (speed-strength), the "strong" exercise method positively influenced the development of the second quality (speed).

A comparison of the results of speed-strength training indicated that, in nearly all types of jumps, there was a significant increase in the experimental group at the end of the pedagogical experiment. The experimental group showed a notable improvement in all indicators before and after the research ($P < 0.001$). In the standing long jump, the improvement was substantial, with the control group increasing by 6.1 cm (3.36%) and the experimental group by 7.25 cm (4.01%). In the standing triple jump, the increase was less noticeable, at 1.4% and 1.73%, respectively. In the 40 cm high jump followed by a long jump, there was also a noticeable improvement. The control group increased by 3.8 cm (2.15%), while the experimental group improved by 5.05 cm (2.86%). A more significant difference in the growth of speed-strength training results was observed in the experimental group in the standing high jump, where the result improved by 6 cm (23.0%) by the end of the experiment, compared to the beginning. The control group had a much smaller increase of 2.1 cm.

The varying degrees of improvement in different tests suggest that in the control group, speed-strength exercises were performed repeatedly without weights or with minimal resistance, which influenced the development of speed qualities.

When examining the changes in lower limb muscle strength indicators at the beginning and end of the experiment in both the control and experimental groups, it should be noted that both absolute and relative strength increased similarly in both groups. In the control group, absolute strength increased by 22.6%, from 64.5 kg to 79.1 kg, and in the experimental group, it increased by 24.6%, from 50.4 kg to 62.8 kg. Relative strength increased by 22.7% in the control group and by 25.9% in the experimental group. However, the effectiveness of the "strong" method exercises used during the pedagogical experiment is seen in the absolute and relative strength indicators. During the experiment, the relative explosive "strength" indicator decreased by 17.9% in the control group, while it increased by 28.4% in the experimental group.

At the start of the experiment, no significant differences in speed and speed-strength qualities were observed between the control and experimental group players. At the beginning of the experiment, the control group had an average 15-meter standing start sprint speed of 5.31 m/s, while the experimental group's was 5.79 m/s. By the end of the experiment, the experimental group showed a significant improvement ($P < 0.005$), while the control group did not show any noticeable changes. The results in the standing long jump, high jump, and triple jump were nearly identical for both groups.

At the end of the experiment, a significant increase in the 15-meter standing start sprint time was observed in the experimental group, with an increase of 4.49%. The control group only showed a 1.3% improvement. The difference between the two groups in the 15-meter standing start sprint was statistically significant ($P < 0.01$). For the 30-meter standing start sprint, the experimental group showed a higher increase than the control group, with increases of 2.34% and 1.55%, respectively. By the end of the experiment, no significant differences were found between the two groups.

During the experiment, exercises requiring acceleration over 90 meters were hardly used, which led to positive changes in walking speed over that distance. According to the research, at the end of the experiment, the experimental group showed a significant improvement compared to the control group in the standing long jump, high jump, and triple jump results (Table 3).

Conclusion. In modern football, the level of development of the sport places high demands on the physical conditioning of players, including qualities such as speed and speed-strength. The age of 14-17 years is particularly crucial for developing these qualities. Analysis of the literature shows that young football players in our country are significantly behind their European counterparts in terms of the development of speed and speed-strength qualities. This age range, from 14 to 17 years, is the most critical stage for developing these attributes. Understanding the changes in speed-strength qualities and the volume, methods, and techniques used to develop them plays a crucial role in optimizing the training process.

Analysis of the pedagogical experiment results indicates that the use of the "strong" method to develop speed-strength qualities, through specialized targeted exercises,

significantly reduces the time required to reach maximum strength values. This approach significantly improves the strength training indicators of young football players, especially in high jump movements.

References:

1. Decree of the President of the Republic of Uzbekistan Sh.M. Mirziyoyev dated April 7, 2023, No. ПҚ-115 on "Additional measures to develop mass and professional football in all aspects."
2. Andruzheichik, M.Ya. "On the correspondence of the volume and content of technical-tactical training to the requirements of the competitive activity of young football players" / M.Ya. Andruzheichik, V.I. Dzhioev // Scientific Notes: Collection of scientific papers; edited by M.E. Kobrinsky; Belarusian State University of Physical Culture. - Daq. Sk: BGUFC, 2006. - pp. 49-51.
3. Achilov A.M. "Theory and Methodology of Football." Educational manual. Tashkent, 2021. 200 pages.
4. Bozorov S.R. "Study of the importance of sensitive periods in teaching technical methods to football players in training groups." // Scientific Research in Sports Journal, No. 3/2023: pp. 76-80. (13.00.04. No. 16).
5. Bozorov S.R. "Determining the levels of speed and speed accuracy in football players from training groups." // Scientific Theory Journal on Science-Sport, No. 3/2023: pp. 46-49. (13.00.04. No. 16).
6. Ermolov, Yu.V., "Building the training process of young athletes in sports games" / A.A. Shersyuk, N.P. Filatova, A.Yu. Ermolov, Aseeva, P.S. Strelnikov, Yu.V. Ermolov // International Research Journal. – Yekaterinburg, 2016. No. 7, part 2. pp. 76-78.
7. Igamberdiyev O.R. "Improving the physical fitness of 11-12-year-old students through football training in general education schools." Abstract of Ph.D. dissertation in physical education and sports - Chirchik. 2022. – 58 pages.
8. Lalakov G.S. "Study of the influence of different types of training microcycles in football players aged 16-18." / G.S. Lalakov, V.V. Kozin, A.G. Ushakov // Collection of materials from the All-Russian Scientific-Practical Conference. - Moscow: TVT Division, 2012. pp. 35-42.

9. Nurimov R.I. "Football theory and methodology." Textbook. Under the general editing of R.I. Nurimov. Tashkent: "Scientific and Technical Information - Press Publishing." 2015. - 364 pages.

10. Nurimov R.I. "Improving the training process of football players." Tashkent, 2001.

3rd table

Changes in the speed and speed-strength quality indicators of the control and experimental groups of football players at the beginning, middle, and end of the experiment

Indicators	Control Group				Experimental Group			
	Beginning	Middle	End	Increase	Beginning	Middle	End	Increase
15m sprint from a standing start (s)	2,52±2,43	2,51±0,091	2,50±0,148	0,07±1,3 %	2,53±0,140	2,49±0,121	2,46±0,148	0,24
30m sprint from a standing start (s)	5, 18±0,160	5,17±0,242	5,17±0,236	0,09±1,55 %	5,19±0,046	5,18±0,332	5,17±0,264	0,14 2,34 %
Standing long jump (cm)	181,7±3,98	183±9,0	185±10,6	3±1,05 %	180,4±1,87	184±11,5	194,3±9,9	10 5,26 %
Long jump after 40cm high jump (cm)	176,9±3,91	183±9,0	185±10,6	3±1,05 %	176,0±2,85	179,4±1,87	183±11,5	7 4,36 %
Vertical jump (cm)	39,15±3,66	40,7±3,05	41,1±3,06	2,2±3,2 %	38,05±2,89	41,3±0,5	45,1±5,9	7,7 21,75 %
Triple jump (cm)	5,73±13,4	5,74±21,2	5,75±18,6	2,0±0,35 %	5,77±33,3	5,82±35,4	5,93±32,3	16 20,77 %