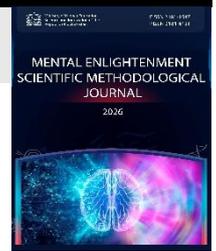


**MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**IMPROVING THE PHYSICAL FITNESS OF FOOTBALL PLAYERS IN SPORTS
AND HEALTH-ORIENTED GROUPS****Azamjon Mukhtarovich Makhmudov***Doctor of Pedagogical Sciences (DSc), Associate Professor**Uzbek National Institute of Musical Art named after Yunus Rajabi**E-mail: prof.makhmudov@gmail.com**Tashkent, Uzbekistan***ABOUT ARTICLE**

Key words: football, physical training, speed, football player, experiment, second, jump, running.

Abstract: This article presents data on improving the physical fitness of 16-year-old football players by optimizing the training load volume and norms during the general preparatory stage of the preparatory period.

Received: 27.02.26**Accepted:** 01.03.26**Published:** 03.03.26**Introduction**

Today, football as a sport is developing rapidly worldwide. In football teams across the world, advanced modern technologies are being actively introduced into the training process of players. This necessitates the implementation of systematic measures aimed at preparing competitive football players capable of achieving high results in various international competitions. In our country as well, measures are being taken to continuously optimize training tools by applying innovative technologies in the preparation of football players of different age categories. Special attention is paid to the preparation of football players who meet modern requirements within the framework of decisions and decrees issued by the Head of State.

Methodology

It is no secret that when observing international-level matches, signs of fatigue among our football players become noticeable toward the final minutes of the game. This highlights the necessity for coaches to regularly monitor and improve the physical fitness of football players using advanced technologies, making this issue a crucial factor in modern training practice [1].

Purpose of the Study

To improve the physical fitness of 16-year-old football academy players.

Objectives of the Study

- To develop proposals and recommendations for improving the physical fitness of football players based on the study of scientific and methodological literature.
- To assess the physical fitness of 16-year-old football players using modern tests and to implement tools aimed at improving it.

Results and discussions

A study was conducted to test the physical fitness of 16-year-old football players training at the Tashkent Football Academy. The results obtained were reflected as follows. The following tests were conducted for the teams: 30-meter sprint, 50-meter sprint, standing long jump, standing triple jump, 400-meter run, 7×50-meter run, Yo-Yo test, strength, flexibility, 30-meter sprint with the ball, long-distance kicking of the ball, two-handed throw-in distance, and dribbling the ball five times over a 30-meter distance.

Before the experiment, the average team result in the 30-meter sprint was 4.6 seconds, the standing long jump was 221 cm, and the standing five-step jump was 11.3 meters. The 400-meter run result was 72 seconds, the 7×50-meter run was 67 seconds, the Yo-Yo test result was 960 meters, strength was 88 kg, flexibility was 8 cm, long-distance kicking was 72 cm, two-handed throw-in distance was 17 meters, and dribbling the ball five times over 30 meters took 20 seconds.

Table 1

Test indicators of physical and technical actions of 15-year-old goalkeepers before and after the study (X)

Test standards	Stage	At the begin	At the end	X %
15 m sprint	EG	2.73±0.07	2.61±0.02	4.59
	CG	2.65±0.09	2.65±0.08	–
30 m sprint	EG	4.46±0.12	4.39±0.09	1.59
	CG	4.46±0.12	4.42±0.12	0.90

Test standards	Stage	At the begin	At the end	X %
Standing long jump	EG	221±0.09	231±0.07	4.52
	CG	225±0.09	226±0.08	0.44
Triple jump	EG	620±0.10	648±0.09	4.51
	CG	624±0.07	623±0.06	0.16
300 m run	EG	72±0.08	78±0.06	8.33
	CG	72±0.06	73±0.05	1.38
Long-distance kick (m)	EG	54±0.12	59±0.09	9.25
	CG	53±0.11	54±0.10	1.88
Two-handed throw-in (m)	EG	24±0.14	27±0.08	12.5
	CG	25±0.14	26±0.09	4

The obtained test results indicate that the physical fitness of the selected football players does not meet international standards. This necessitated the correct determination and optimization of training processes, tools, and load volumes, as well as the introduction of modern tools and methods using advanced technologies.

Therefore, during the general preparatory microcycle of the preparatory period, tools aimed specifically at developing physical fitness were implemented. The number of hours allocated to physical training within the total preparation time was relatively increased. In total, four microcycles were implemented throughout the general preparatory stage: the initial microcycle lasted 10 days, while the subsequent three microcycles lasted 14 days each.

During these microcycles, the following methods were used to improve physical fitness: continuous method, fartlek method, and interval method. Emphasis was placed on developing speed, endurance, and strength qualities, which are considered sensitive developmental periods for 16-year-old football players. Specialists and coaches note that special attention should be paid to the development of these qualities at this age [2,3,4].

Traditionally, during the general preparatory stage, physical fitness development involves long-distance running, strength training with barbells, and running tests over various distances. However, based on modern sources, contemporary football training centers now include specialized cycling ergometers and swimming pools to develop endurance. Accordingly, experiments were conducted using prolonged movement in water and variable-load training on cycling ergometers, as well as tools aimed at improving neuromuscular coordination through strength development [5,6,7].

A total of 20 football players participated in the experiment, and the repeated results showed improvements: the 30-meter sprint improved from 4.6 to 4.5 seconds, the 50-meter sprint improved from 8.3 to 8.1 seconds, the standing long jump improved by 6 cm (to 227 cm), the 400-meter run improved from 72 to 68 seconds, and the Yo-Yo test improved by 60 meters (to 1000 meters). Flexibility remained unchanged. The five-time 30-meter dribbling test improved by two seconds.

Conclusion

In conclusion, when training 16-year-old football players, it is essential to consider sensitive developmental periods and place particular emphasis on speed, endurance, and strength qualities. Increasing the volume of training hours dedicated to these qualities, applying them in various formats, optimizing series and repetitions, and organizing high-intensity training zones during the initial stages of preparation were shown to be effective. Considering that 16-year-old football players are transitioning to the stage of elite sports mastery, training programs should be closely aligned with professional football training methodologies, which has been proven to yield significant results.

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