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DEVELOPMENT OF GENERAL PHYSICAL FITNESS AMONG STUDENT FOOTBALL PLAYERS

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Abstract:
This study examines methodological approaches for enhancing the general physical fitness and health status of student football players studying in higher education institutions. The research focuses on the application of active games and specialized physical exercises as effective tools for improving the functional capacity and physical qualities of football players. Age-specific characteristics, health conditions, and the physiological readiness of young athletes are taken into account when determining training loads and recovery strategies.

The study proposes scientifically grounded mechanisms for balancing aerobic and anaerobic workloads, as well as improving strength, speed, endurance, agility, and flexibility among football players. The results demonstrate that the systematic integration of specialized exercises and active games into the training process significantly contributes to the comprehensive physical development, functional stability, and overall health improvement of student athletes.

Keywords: physical education, health improvement, specialized exercises, motor preparation, physical qualities, student football players, active games, training methodology, endurance, speed-strength development.

Introduction. In recent years, increasing attention has been given to the development of physical culture and sports in the Republic of Uzbekistan. The creation of favorable conditions for engaging youth in sports, strengthening their health, and promoting a healthy lifestyle has become one of the priorities of national policy. Football, as one of the most popular sports worldwide, occupies a special place in the system of sports education and youth development.

Modern football requires athletes to demonstrate a high level of physical preparedness, technical proficiency, and tactical awareness. Therefore, monitoring the individual abilities of young players, assessing their physical development indicators, and organizing systematic analysis based on these indicators are essential components of modern sports training. Effective diagnostic methods allow coaches to evaluate the level of football-specific skills and determine appropriate training strategies.

A significant step in the development of football in Uzbekistan was the adoption of the Presidential Decree **PF-5887 of December 4, 2019**, entitled “On Measures to Bring Football Development in Uzbekistan to a Completely New Level.” This decree emphasizes the need to create favorable conditions for preparing talented young football players capable of joining youth national teams and strengthening professional football clubs.

Additionally, several regulatory documents support the development of football and physical culture, including the Presidential Decree **PF-5924 of January 24, 2020** on improving and popularizing physical education and sports, and the Resolution of the Cabinet of Ministers **No.118 (February 13, 2019)** concerning the concept for the development of physical culture and mass

sports. These documents highlight the importance of establishing football clubs in higher education institutions and strengthening their training infrastructure.

In this context, the development of effective training methodologies aimed at improving the general physical fitness of student football players becomes particularly important. Scientific research indicates that the successful performance of football players depends largely on the proper organization of training processes and the rational use of physical exercises designed to develop specific motor abilities.

Methods. The research is based on theoretical analysis of scientific literature, pedagogical observation, and methodological evaluation of training practices used in football clubs within higher education institutions.

The training process was structured according to several stages of athletic preparation, each with specific objectives and training loads.

General Preparation Stage

The primary aim of the general preparation phase is to improve the overall physical fitness level of athletes and develop fundamental motor qualities. During this stage, particular attention is given to:

- increasing functional capabilities of the cardiovascular and respiratory systems
- improving general endurance
- developing muscular strength, flexibility, and coordination
- restoring and refining previously acquired technical skills

Training sessions at this stage include a large volume of exercises aimed at endurance development, such as continuous running, circuit training, and low-intensity aerobic exercises.

To enhance aerobic endurance, athletes perform cross-country running for **10–15 minutes** at the end of training sessions with a heart rate of approximately **150 beats per minute**. These exercises improve oxygen consumption efficiency and promote faster removal of lactic acid accumulated during training.

Development of Aerobic Capacity

Aerobic training is conducted regularly during the early stages of preparation. Continuous running with heart rate levels between **140–160 beats per minute** is commonly used to stimulate cardiovascular adaptation and improve endurance capacity.

Gradually, the frequency of endurance training sessions is reduced while maintaining the achieved fitness level through supportive training loads.

Special Physical Preparation Stage

At the stage of specialized preparation, the focus shifts toward the development of sport-specific physical qualities. The training program includes:

- speed-strength exercises
- tactical and technical drills performed at full field dimensions
- special endurance training
- coordination-intensive exercises

Aerobic-anaerobic loads are introduced with heart rate values reaching **150–175 beats per minute**. Both specific and non-specific exercises are used, and the coordination complexity of movements gradually increases.

Speed and Strength Training

To improve speed endurance, repeated sprint exercises are used. Athletes perform **15–30 meter runs** with short recovery intervals of **15–30 seconds**. A single training session may include **30–40 repetitions** organized into **6–8 sets**.

Strength training methods include:

- exercises with external resistance
- partner resistance drills
- bodyweight training
- weighted balls and dumbbells
- running exercises on sand or uneven terrain

These methods contribute to the development of muscular power and overall strength required for football performance.

Results. The results of the study indicate that the physical fitness of football players depends primarily on the effective development of endurance and speed-strength qualities.

The aerobic component of endurance is considered the leading factor determining the physical readiness of football players. Approximately 70–80% of the energy expenditure during a football match is supplied by aerobic metabolic processes. High aerobic endurance allows players to maintain stable performance levels and recover quickly during the game.

Important physiological indicators influencing aerobic endurance include:

- maximal oxygen uptake (VO_2max)
- anaerobic threshold
- cardiovascular system efficiency

The second most significant component of physical fitness is anaerobic endurance, which becomes particularly important during high-intensity game situations such as pressing, fast counterattacks, and short-distance sprints.

Anaerobic activity leads to rapid lactate accumulation; however, well-trained athletes demonstrate improved recovery mechanisms that allow repeated high-intensity efforts throughout the match.

Another important factor affecting performance is the stability of technical skills under fatigue and disruptive conditions. Players with higher levels of physical preparedness maintain better control of technical actions even under intense competitive pressure.

Discussion. The findings confirm that a well-structured training program combining general physical preparation, specialized exercises, and active games plays a crucial role in improving the physical fitness of student football players.

Active games serve as an effective pedagogical tool because they simultaneously develop physical qualities, enhance coordination, and promote social interaction among players. They also create a motivating training environment that supports psychological engagement.

Special physical exercises contribute to strengthening muscular systems, improving functional capacity, and enhancing sport-specific skills. Gradual progression of training loads ensures safe adaptation of the body to increased physical demands.

Recovery and health-promotion strategies also play a vital role in maintaining athletes' performance. Adequate rest, training in natural environments, and hardening procedures help strengthen the immune system and accelerate recovery processes.

Modern sports science technologies significantly improve the effectiveness of training monitoring. These include:

- GPS-based tracking systems for analyzing running loads
- accelerometers for movement analysis
- HRV monitoring to evaluate autonomic nervous system status
- lactate testing for determining optimal training intensity
- RPE scales for assessing subjective fatigue levels

The integration of these technologies allows coaches to individualize training programs and optimize performance outcomes.

Conclusion. In conclusion, the establishment of football clubs within higher education institutions creates a favorable environment for the systematic development of student football players. The effectiveness of the training process can be significantly increased through the proper organization and structural integration of the annual training cycle.

The implementation of well-planned training sessions, microcycles, mesocycles, and specialized training modules enables coaches to take into account the functional capacities, physiological characteristics, and individual abilities of athletes. The inclusion of football-specific exercises together with active games in training sessions contributes to the improvement of physical fitness, technical stability, and the overall health condition of student football players.

Furthermore, the application of scientifically grounded training methods plays an important role not only in improving sports performance but also in ensuring the comprehensive physical, functional, and personal development of student athletes. Such an approach enhances the quality of football training in higher education institutions and supports the preparation of competitive players for professional and national football systems.

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