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TECHNOLOGICAL MANAGEMENT OF THE TRAINING PROCESS FOR PREPARING YOUNG CHILDREN FOR MIDDLE- AND LONG-DISTANCE RUNNING

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Annotation: This article analyzes the methods of organizing and managing the training process of middle- and long-distance runners, as well as the athlete's endurance characteristics. It highlights the possibilities of managing the training process of runners using modern technologies, including load monitoring, functional state analysis, and improving training efficiency. The article discusses biometric analysis, digital tracking, measurement of running technique, modeling of training loads, and methods of predicting sports performance. The results of this research can be applied in planning sports training and optimizing athletes' preparation for competitions.

Keywords: middle distance, long distance, technological management, training process, preschool education, general education school, running technique, athlete, physical preparation, cardiovascular system, special endurance, energy expenditure, sports training, sports performance.

In recent years, our country has seen significant progress and tangible results in creating opportunities for the population—especially the younger generation, who are the heirs of the future—to regularly engage in physical education and mass sports. At the same time, there is a need to implement concrete programs in the field of physical education and sports that help strengthen public health, to widely involve young people in sports, to select talented athletes from among them, to form national teams with skilled athletes capable of achieving high results, and to create additional conditions for coaches.

In order to shape a physically healthy, well-rounded individual with a high level of culture, it is necessary to define priority directions aimed at improving the knowledge and skills of the population in physical education and sports, as well as to introduce innovative forms and methods into the process of selecting talented athletes. Currently, extensive efforts are being made to create modern conditions that meet today's requirements, to organize sports training at a high level, to manage and plan training processes, and to identify and select talented, promising athletes and guide them through long-term preparation stages.

The fundamental development of the field of physical education and sports requires managing and organizing the training of talented and promising athletes at the advanced specialization stage of long-term preparation on the basis of new modern technologies, with a focus on selecting athletes gifted in various sports. The Resolution of the President of the Republic of Uzbekistan No. PQ-2821 of March 9, 2017, "On the preparation of Uzbek athletes for the XXXII Olympic Games and the XVI Paralympic Games to be held in 2020 in Tokyo (Japan)", the Presidential Decree No. PF-5924 of January 24, 2020, "On measures for further improving and popularizing physical education and sports in the Republic of Uzbekistan", as well as the Resolution of the Cabinet of Ministers No. 118 of February 13, 2019, "On approving the concept for developing physical education and mass sports in the Republic of Uzbekistan for 2019–2023", along with other normative–legal documents related to this field, all serve to support the effective implementation of the tasks set before us.

Middle-distance (800–1500 m) and long-distance (3000 m and above) running events require athletes to possess high levels of aerobic and anaerobic capacity, technical preparedness, and a

disciplined training process. In modern sports, the effective management of training is carried out using digital technologies, biometric devices, big data analysis, and load monitoring. This approach enables an in-depth study of the athlete's individual characteristics and the creation of an optimal load regimen.

Physical education and sports are important factors in strengthening human health and developing the functional capabilities of the body. In particular, long-distance running in athletics requires a high level of endurance from the athlete's body. Endurance is the athlete's ability to withstand prolonged physical exertion, perform exercises without stopping, and resist fatigue. In long-distance running, endurance directly influences sports performance. Therefore, studying, shaping, and developing the athlete's endurance level holds special significance in sports physiology, pedagogy, and theory.

The concept of endurance refers to the body's ability to withstand heavy physical and psychological loads for an extended period. In athletes, it manifests in the following forms:

General endurance — a fundamental physical quality required in all sports. This type of endurance is directly related to the efficient functioning of the cardiovascular and respiratory systems.

Special endurance — specific to a particular sport. For example, in long-distance running, it includes maintaining running speed for a long time, avoiding a decrease in speed in the final stages, and properly distributing energy expenditure.

It has been emphasized that the special endurance of middle- and long-distance runners largely depends on the body's ability to maintain a balance between oxygen demand and its consumption over a prolonged period. During long and ultra-long distance running, it is important that oxygen consumption, heart rate, and minute blood volume remain at a consistent level for an extended time. Despite this relative stability, fatigue gradually increases, and the athlete completes the distance with pronounced signs of exhaustion.

There are many reasons for this, but one of the main causes is the temporary weakening of the activity of the central nervous system tissues in the brain, which regulate running. Naturally, if an athlete starts running at a pace beyond their capacity, fatigue occurs more quickly, forcing them to slow down or stop. In this situation, the oxygen demand exceeds expected consumption. Not only the muscles, but also the brain tissues fail to receive sufficient oxygen. As a result, the athlete's work capacity decreases, and the intended performance outcome is not achieved.

Due to the hot climate in our country, the southern regions differ from the eastern regions by 3–5 degrees. Therefore, when organizing training sessions, it is necessary to maintain 10–20 minutes of active preparation. This is because sunrise and sunset times also vary between the Fergana, Andijan, and Namangan regions and cities such as Surkhandarya, Kashkadarya, Nukus, Khorezm, and Bukhara.

Today, when planning sports training, it is necessary not only to consider the preparatory components but also to develop new training programs aimed at ensuring athletes are thoroughly prepared for major competitions, such as world championships and cup events.

During the preparation period, trained long-distance runners undergo 5–6 training sessions per week. The exercises performed during this time are extremely important for achieving sports success during the competition period.

The preparation period is divided into three stages: autumn-winter (October–December) preparatory stage, winter (January–March) competition stage, and spring (February, April, May) preparatory stage. In the first stage, emphasis is placed on general physical preparation and mastering technical fundamentals, while in the subsequent stages, more attention is given to specialized training.

Achieving high results in long-distance running in athletics depends largely on the athlete's technical and tactical skills, which is self-evident. However, the distribution of the main training loads for athletes in these sports is directly related to their functional state. It is determined by the cardiovascular system, respiratory organs, lung vital capacity, and physiological capabilities. The speed and performance in long-distance running are not only based on technical and tactical mastery but, importantly, also on the athlete's functional readiness. Therefore, it is essential to consider the physiological value of training loads and functional capabilities when planning and distributing the training process.

Specific Features of Long-Distance Running

Long-distance running (marathon, half-marathon, 5000 m or 10,000 m races) requires a high level of cardiovascular and respiratory system activity, psychological stability, and muscular strength and endurance reserves. During a long-distance run, the athlete must properly manage their pace and distribute energy expenditure rationally. In this process, the athlete's level of oxygen supply, heart rate, glycogen reserves, and lactate accumulation play a crucial role.

Running technique is characterized by the following:

The biological balance of stride length and frequency;

Stability of body posture;

Rhythm of arm movements;

Regularity of breathing.

Technological management in sports is a systematic approach aimed at determining and optimizing an athlete's load, functional state, recovery process, and technique quality using digital tools. It consists of the following components:

Monitoring – recording indicators such as heart rate, lactate level, running speed, and stride length in real time.

Analysis – evaluating the athlete's condition based on the collected data.

Planning – developing an individualized training program.

Control – reassessing the effectiveness of training.

The following deficiencies in an athlete's running technique often recur:

- Violation of stride symmetry;
- Excessive knee lift;
- Prolongation of the heel strike phase;
- Asymmetry of arm movements.

In a program developed based on the athletes' physiological state, each training session of the preparation microcycles includes jumping exercises and specified running intensities. These training methods enable athletes to achieve high sports performance.

We monitored the functional indicators of track and field athletes using a tachometer and the Polar Team 2 device. According to the data, the functional indicators of the experimental and control group athletes were recorded as follows. Sabriddin Qoziyev performed exercises during

the introductory and preparatory parts of the training session. He completed the main load of the training for 1 hour and 18 minutes and carried out concluding exercises for 6 minutes. During the session, he participated in five intensity zones.

- In the first intensity zone, he worked for 16 minutes, performing 13.1% of the total load.
- In the second intensity zone, he worked for 52 minutes and 1 second, completing 42.1% of the total load.
- In the third intensity zone, he worked for 35 minutes, completing 28.7% of the total load.
- In the fourth intensity zone, he worked for 18 minutes, completing 14.6% of the total load.
- In the fifth (maximum) intensity zone, he worked for 2 minutes and 35 seconds, completing 2.1% of the total load. In this zone, his maximum heart rate reached 188 beats per minute, while his minimum heart rate was 124 beats per minute.

During this training session, the athlete expended 1302 kcal of energy. If Sabriddin Qoziyev's incorrect running technique leads to excessive energy expenditure, it is recommended to use tools and methods aimed at developing speed endurance and special endurance

In conclusion, it can be stated that using a technological management system in the training of middle- and long-distance runners significantly increases the effectiveness of the training process. Digital monitoring, biometric analysis, load modeling, and 3D technique analysis allow athletes to be trained with an individualized approach, ensuring consistent improvement in sports performance. The use of these technologies in educational institutions during every athletics training session demonstrates its practical effectiveness in enhancing training efficiency and preparing athletes capable of achieving high results.

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