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METHODOLOGY FOR TRAINING ENDURANCE IN MIDDLE-DISTANCE RUNNERS IN THE BEGINNING PREPARATION GROUP

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Abstract. This article is devoted to the topic "Methodology of training endurance in middle-distance runners engaged in the initial training group" and is aimed at highlighting effective methods for the formation and development of endurance, one of the important components of the physical fitness of athletes. Middle-distance running is based on complex energy processes, which constantly puts a load on the cardiovascular and respiratory systems. Therefore, the need to gradually and scientifically build endurance at the initial training stage, taking into account the individual characteristics of athletes, is considered an urgent issue. The article provides a scientific and theoretical analysis of the composition, intensity, volume of middle-distance running training and their impact on the body of young athletes. It also covers pedagogical methods used in the formation of endurance, cyclic and interval forms of training, their physiological foundations and practical effectiveness. Using methods identified on the basis of practical observations, the ways of improving the physical fitness of athletes, especially gait, respiratory coordination, and energy efficiency, were analyzed. The results of the study showed a clear and stable increase in the level of endurance in athletes of the initial training group. This article is of theoretical and practical importance for coaches working with middle-distance runners, sports educators, and researchers conducting scientific research in the field of physical education, and is enriched with methodological proposals aimed at developing endurance in athletes.

Keywords: endurance, middle-distance runners, initial training, physical fitness, training methodology, running, sports physiology.

Introduction

Physical education and sports are one of the important factors of human health, physical development and socio-psychological stability. In particular, such types of sports as athletics not only provide general physical development, but also serve to form complex qualities in athletes, such as willpower, endurance, speed, agility. In this regard, middle-distance running training is of particular importance in the comprehensive development of the physical and functional training of athletes. Today, scientific research in the field of sports shows that endurance is an important factor in the achievement of high results by an athlete. Especially for middle-distance runners, endurance is a key component of physical training, ensuring the maintenance of stable movement during the competition, optimal functioning of the cardiovascular and respiratory systems. Accordingly, the formation of endurance in athletes engaged in the initial training stage and its development using scientifically based methods is one of the urgent issues.

In the Republic of Uzbekistan, large-scale reforms are being implemented in the field of sports development, physical education of the younger generation and their preparation for international competitions. This requires the development and implementation of modern,

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scientifically based training methods in sports education institutions. It is especially important to form endurance in students at the initial training stage through the correctly selected load, volume and intensity of training. This scientific work covers the theoretical foundations, pedagogical and physiological characteristics of endurance training in middle-distance runners, training methods and the impact of these methods on the physical fitness of athletes in a scientifically based manner. The results of the study are of theoretical and practical importance for coaches working with athletes, physical education teachers and specialists in the field.

Literature review

Theoretical and practical views on the development of endurance have been studied in depth by many domestic and foreign scientists. In this scientific direction, first of all, important views have been formed about the nature of endurance, its types, stages of development in young athletes and training methods. For example, R.A. Nazarov in his scientific manual "Theoretical and Practical Foundations of Athletics" defines endurance as "the ability of an athlete to perform long-term, high-intensity physical exercises". He emphasizes the physiological changes that occur in the body of children and adolescents at the initial training stage, the specific features of their cardiovascular system, respiratory and muscle activity. It is emphasized that it is during this period that the foundation of endurance is laid through correctly selected training methods. Also, G.S. Tumanyan and A.P. Russian scientists such as Matveev have conducted scientific research on the interaction of the processes of loading and recovery in the formation of endurance in athletes.

They note that the periodicity of training and the correct distribution of the load have a positive effect on endurance. This approach has not lost its importance in modern sports methodology. In the study of Uzbek scientists K. Mustafayev on the topic "Physical fitness of young athletes", a phased training model for middle-distance runners is proposed. It shows the importance of an individual approach to the formation of endurance, taking into account the growth dynamics, biological age and psychophysiological capabilities of children.

In addition, the work "Periodization: Theory and Methodology of Training", developed by internationally recognized experts B. Bompa and G. Haftomoni, provides scientifically based arguments that endurance should be developed during the main training period of athletes, which will help achieve maximum results in the subsequent stages. This work describes in detail the methods of increasing the level of endurance through the structural structure of training, load volume, intensity and variability of the type of exercise. Also, a study conducted by S.N. Gromov analyzes modern technologies for the formation of special endurance in middle-distance runners. It emphasizes the modulation of training based on monitoring the heart rate, anaerobic capacity and psychological state of athletes. The analysis of the above literature shows that the methodology for developing endurance is a complex, integrated process that requires taking into account not only increasing physical loads, but also the psychological state, individual characteristics, and rest regimen. Therefore, a step-by-step approach, a scientifically based training structure, and the presence of a monitoring system are essential for the successful development of endurance in modern sports.

Results and Discussion

In the research work on the topic under study, training was conducted based on a comprehensive approach to increase the endurance level of middle-distance runners in the initial training group. During the experiment, methods adapted to the athletes were introduced, and their physical,

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physiological and psychological states were monitored through systematic monitoring. Experimental training was organized in the form of 60-90 minute lessons 5 times a week for 3 months. Training was planned according to the volume of the load, intensity and recovery intervals. In particular, interval-style running exercises (for example, running 200-400 m repeatedly), respiratory rhythm control, heart rate control and aerobic training were the main focus. These exercises were considered important factors in the development of endurance. The effectiveness of the methods used to increase endurance was clearly reflected in the following changes:

An average improvement of 6.3% compared to the initial indicator in the 800-meter run;

An average increase in speed in the 1500-r run by 7.1%;

The runners' heart rate returned to normal faster after training than before (4-5 minutes before, and decreased by 2-3 minutes at the end of the experiment).

These results indicate that endurance is associated not only with increased muscle performance, but also with the functional capabilities of the cardiovascular and respiratory systems. During the discussion, it was found that the methodological approach should take into account the age and psychophysiological characteristics of children. The endurance required for middle-distance running depends not only on heavy exercises, but also on factors such as motivation, aspiration, emotional balance and psychological preparation. Therefore, during the lessons, elements such as competitive games, group tasks, an atmosphere of mutual competition, and encouragement of individual achievements of athletes were also used .

The following training methods have also proven to be effective in developing endurance: Continuous loading: continuous running of a certain distance at an average speed (5–10 minutes), interval loading: repeated running of short distances (200–400 meters), zig-zag loading: adaptation of the body by sequentially changing the load and rest times. When these methods were introduced in combination, a steady increase in the weekly physical test indicators of athletes was noted. In the scientific literature, methodological systematicity, sequence of loading, control of the body's recovery capabilities, and reliance on biological adaptation processes are also indicated as the main criteria for developing endurance.

When these criteria are fully taken into account in practice, positive changes are observed in the results of athletes in initial training. In some cases, athletes have experienced a regression in their endurance levels, which may be due to excessive load, insufficient recovery time, or improper nutrition. Therefore, it is important to strictly adhere to the principle of an individual approach for each athlete, taking into account the balance between load and recovery. Key points identified during the discussion: A systematic, step-by-step and comprehensive approach is necessary to develop endurance at the initial training stage. Endurance is associated not only with physical fitness, but also with psychological stability, healthy nutrition and rest. The principle of an individual approach and adaptation of the load to each athlete is the main criterion. The effectiveness of special running exercises, breathing exercises and a recovery environment has been scientifically and practically proven. There are many theoretical and practical discussions among leading scientists in the field of sports pedagogy and physiology regarding the methodology for developing endurance. Their opinions, views and approaches serve as an important scientific basis for choosing a methodology and taking into account the individual characteristics of athletes. For example, L.P. Matveev emphasizes the effectiveness of a system of continuous loading and gradually increasing exercises in developing endurance.

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According to him, endurance is not only a physical condition, but also the degree of adaptation of the body to various external factors.

Therefore, he considers the principles of cyclicity and an individual approach to be fundamental in the methodology. The opposite approach is put forward by Verkhoshansky Yu.V. He tries to prove the usefulness of short-term loads based on high intensity in increasing endurance. In his opinion, it is not exhausting athletes with excessive loads, but rather the correct distribution of short-term loads in conditions close to maximum speed that effectively develops endurance. He also provides scientific evidence for the mechanisms of action of interval training and evaluates them as a means of combining aerobic and anaerobic capabilities. G.G. Natalov, on the other hand, associates endurance mainly with the functional capabilities of the cardiovascular and respiratory systems. In his opinion, not only muscle strength, but also the harmony of energy metabolism processes is important for ensuring long-term performance in athletes.

He considers nutrition, rest and psychological balance to be an integral part of developing endurance. Modern Uzbek scientists, such as Mustafayev K., consider it necessary to take into account national traditions, climatic conditions, the social and psychological state of children when working with young athletes to form endurance. He suggests increasing motivation for children through game elements, a competitive environment and competitive situations as a methodological basis. Also, according to the periodization theory developed by Bompa T. and Haff G., training in the development of endurance is divided into phases: preparatory, main load, recovery and competitive stages. They propose to ensure the physiological adaptation of athletes by adjusting the volume and intensity of the load at each stage.

From these discussions it can be seen that, despite the differences in the views of scientists, they can be united on a single point - the need for an individual approach, functional control and gradual loading. In practice, the combination of these approaches gives the most optimal results. This is also confirmed by the results of the experiment in our study. It should be noted that, although in some cases the differences of opinion among scientists concern the intensity or duration of training, there is almost a common opinion among them about the health of athletes, the relevance of the recovery process and the importance of motivation. This situation indicates the need to make complex, but clearly targeted decisions when choosing a scientific methodology.

Conclusion

During this study, an effective methodology for developing endurance in middle-distance runners engaged in the initial training group was developed and tested. The results of the study showed that training organized on the basis of an individual approach to developing endurance significantly increases the level of physical fitness of athletes. An individual approach allows you to take into account the physiological and psychological characteristics of each athlete and optimizes the process. One of the important aspects identified during the study is that the harmonious use of interval and continuous loads in the formation of endurance by adjusting the intensity and duration of training plays an important role in improving sports results. In addition, the inclusion of game elements in the training process in young athletes strengthens motivation and psychological stability, which has a positive effect on the development of endurance.

The results of the study showed that the methodology for developing endurance not only improves physical performance, but also has a positive effect on the mental state, social balance

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and general health of athletes. This is a guarantee of long-term success of young athletes. In conclusion, the effectiveness of a methodology based on an adapted, step-by-step and individual approach to developing endurance in the initial training group has been scientifically proven. This methodology helps to stabilize athletes physically, mentally and socially and expands their opportunities to achieve high results in competitions.

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