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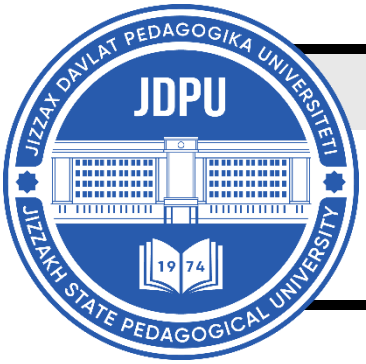

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CONTENT OF SPECIAL PHYSICAL PREPAREDNESS OF HIGHLY QUALIFIED SHORT-DISTANCE RUNNERS

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ABOUT ARTICLE

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Abstract: The article examines ways to improve the efficiency and optimize the training process of highly qualified runners in short-distance running. The results of the study of general and special physical fitness are given. The most effective means and methods of training athletes in short-distance running are identified

Introduction.

In many countries of the world, one of the priority areas is the development of physical culture and sports among the general population (11).

In recent years, the Republic of Uzbekistan has been implementing consistent measures to popularize physical culture and sports, create the necessary conditions for the physical rehabilitation of people with disabilities and ensure the country's worthy performance in the international sports arena (12).

The presented scientific work plays a certain role in fulfilling the tasks set out in the decrees of the President of the Republic of Uzbekistan Sh.M. Mirziyoyev dated October 30, 2020 No. UP-6099 "On measures for the widespread introduction of a healthy lifestyle and the further development of mass sports", in the Resolution of the President of the Republic of Uzbekistan "On the Program for the Development of Sports and Educational Institutions until 2025" dated November 5, 2021 No. PP-5280, as well as other regulatory legal acts on physical education and sports.

The continuous growth of sporting achievements and the ever-increasing competition on

the world stage determine the need for further improvement of the athlete training system. In the conditions of increasing competitive relations in high-performance sports, the most important factor in increasing the effectiveness of athletes' training is the management of their activity program at different stages of training.

Competitive relations accompany sports activities throughout their sports career, encouraging athletes to activities that go beyond some average achievements. Practice shows that a correctly chosen management strategy allows an athlete to fully reveal his personal potential in competitions, mobilize his reserve capabilities.

Modern sports and methodological thought has come to a stable understanding of the priority importance of an individual and differentiated approach in building a training process. However, the development and justification of differentiated pedagogical technologies and individualization of sports training in youth sports, including sprinting, has not yet received widespread application.

It is becoming obvious that there is a need for additional scientific developments that would show appropriate methods of individualization and differentiated methods of training those involved in certain sports at different stages of sports training.

At the same time, it is noted that there is an insufficient number of studies on the justification of a differentiated approach to training sprinters, taking into account the individual characteristics of athletes.

The relevance of this study is due to the ever-increasing intensity of the sports training process and the requirements put forward in connection with this for a strict comprehensive assessment of the individualization of training loads in short-distance running, which leads to the need to search for new opportunities to select justified pedagogical paths that more fully reveal the individuality of those involved with a specific set of characteristics.

Scientists have found that further improvement of sprinting results is possible with the right combination of the following factors:

- selection of talented athletes;
- optimal running technique;
- training process methodology;
- recovery procedures;
- new developments in medicine and pharmacology (8).

The problem of individualization of the training process is of particular relevance in optimizing the training of highly qualified athletes. This issue has clearly not been sufficiently developed, since many researchers point to a significant discrepancy between average group

model characteristics and individual data of highly qualified athletes. The hypothesis of our study was the assumption that an individual and differentiated approach to the selection of means and methods of training athletes, taking into account their predisposition to performance in 100-400 meter running, will contribute to a more successful implementation of their individual characteristics and potential capabilities, and the achievement of high athletic results among highly qualified runners.

The purpose of this work is to determine effective means and methods for improving the general and special physical fitness of highly qualified sprinters in 100, 200 and 400 meter races.

Research objectives:

1. To determine the initial level and dynamics of the results of general and special physical fitness of highly qualified 100-400 meter runners.

2. To study the level of speed endurance of highly qualified sprinters based on the results of 100-400 meter race competitions.

3. Based on the data obtained, substantiate and adjust the methodology for improving speed endurance.

Research results.

Pedagogical research was conducted according to the developed research program, which makes it possible to comprehensively study the activities of coaches and athletes 200 and 400 m runners involved in the study group. When studying the completed volume of work, the method of open and continuous observation was used. For this, 25 athletes were covered, including: 2 masters of sports, 8 candidates for master of sports.

At the first stage, scientific and methodological literature on the specified problem was analyzed. A generalization of theoretical data on the speed endurance of short-distance runners was carried out.

At the second stage, data from competitions of 100, 200 and 400 meter runners were studied. A methodology for training the speed endurance of short-distance runners of various qualifications was determined.

At the third stage, based on the dynamics of the obtained data, the influence of training on the results of the competitions was studied. The obtained data were generalized and systematized, conclusions were drawn on the basis of them for the work done, and practical recommendations were given to coaches on the further use of the methodology for increasing the level of speed endurance.

Table 1.

Summary table of individual results dynamics in running

Last name First name	View	A year of research			
		2021	2022	2023	2024
Results in 100 and 200 meters					
Zhalolitdin Khamrakulov MS	100	10,40	10,73	10,70	10,73
	200	20,72	20,78	20,75	21,60
	SKV	***0,48***	***1,68***	***1,75***	***0,54***
Saidaliev Doston, MS	100	11,80	11,30	10,90	10,58
	200	23,90	22,80	22,52	21,48
	SKV	***0,7***	***0,6***	***1,12***	***0,72***
Khabib Sokhibnazarov CMS	100	10.72	10.92	10.97	10.92
	200	22.67	22.23	21.89	22.23
	SKV	***1,63***	***0,79***	***0,45***	***0,79***
Sunnat Ismailov CMS	100	10.89	10,77	10,75	11.63
	200	23.41	22.67	22,45	22.78
	SKV	***2,03***	***1.53***	***1,35***	***0,57***
Oscar Kuchmuradov CMS	100	11.14	10,97	10,84	10.84
	200	22.80	22,67	22,30	22.40
	SKV	***0,92***	***1,03***	***1,02***	***1,12***
Khudoshukur Karimov, CMS	100	11,15	10,95	10,84	10,90
	200	23,40	22,42	22,05	22,07
	SKV	***1,5***	***0,92***	***0,77***	***0,67***
Jahongir Sobirzhonov CMS	100	11,02	11.08	11,54	11,02
	200	22,43	22.89	23.02	22,43
	SKV	***1,79***	***1,03***	***0,46***	***1,79***
Donier Akhmedov CMS	100	11,34	11,26	11,27	11.35
	200	23,10	22,80	22,74	24.07
	SKV	***0,82***	***0,68***	***0,6***	***1,77***
Egor Melnik CMS	100	11.93	11.42	10.95	11.93
	200	24.59	23,17	22.59	24.59
	SKV	***1,13***	***0,73***	***1,09***	***1,13***
Sanatjeong Tuiboev CMS	100	11,89	11,93	12,14	11,89
	200	24.30	24.60	25.13	24.30
	SKV	***0,92***	***1,14***	***1,25***	***0,92***

The means and methods used in the training of highly qualified short-distance runners differ in the direction of the training effect. The greatest significance for improving athletic performance in sprinting is the use of alactate anaerobic means. The relative share of the use of these means depends on the skill level of the athletes: the higher the level of training of the sprinters, the higher the share.

One of the most promising areas in the special training of highly qualified athletes is the use of non-traditional means (training devices) in the training process, based on the widespread use of the achievements of scientific and technological progress.

The use of training units allows us to significantly expand the range of means and methods for special physical and technical training of short-distance runners. However, many questions arise regarding the methodology of their use - at what stage, with what intensity, in what quantity, with what rest intervals. To address the issue of the possibilities and conditions for using the "facilitated leading" simulator at the preparatory stage of the training process, several combinations of the main components of training loads (lengths of training segments, speed of their running, duration of rest pauses between attempts) were developed, which affect the development of speed capabilities and special (tempo, sprint) endurance of a 200-meter runner.

Insufficient attention is paid to substantiating the effectiveness of means for developing special endurance in 400-meter runners in scientific literature. There are not enough recommendations for planning the training process in the annual cycle, and this complicates the work of coaches working with athletes and reduces the quality of their training.

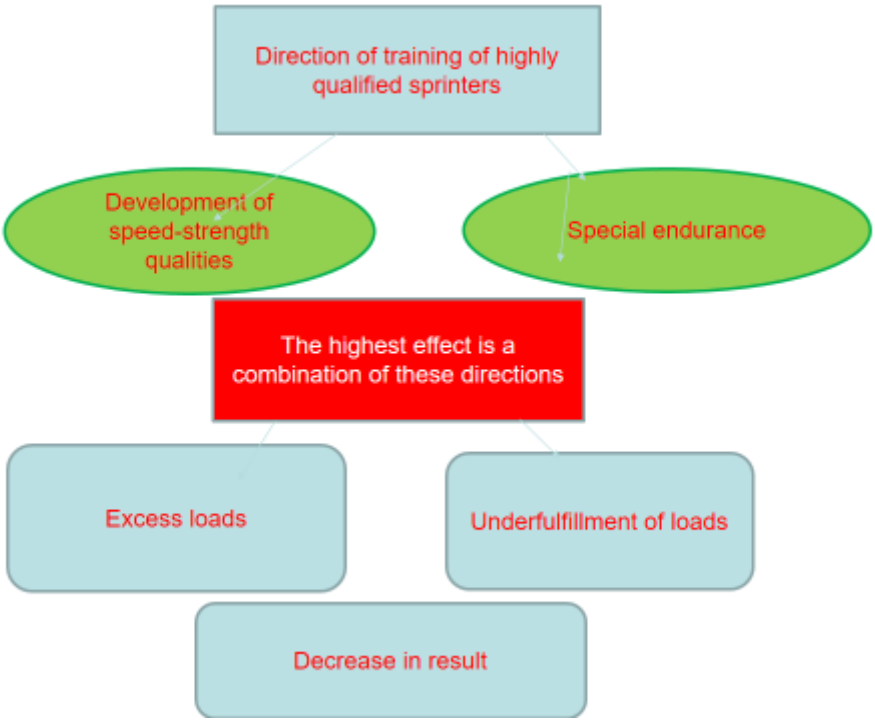
It is known that to develop endurance in the zone of submaximal power exercises, which includes 400 m running, it is advisable to use a wide range of means, with a duration of work from 20 to 120 seconds. These means are the most rational and contribute to the development of aerobic-anaerobic mechanisms of energy supply. The integrated use of running equipment, including distances from 300 to 600 m, aimed at developing special endurance, in parallel with the use of speed-strength training exercises in relation to 400 m running will optimally contribute to achieving high results in runners.

The effectiveness of the variable impact method, which provides for optimal alternation of exercises in which resistances greater or lesser than competitive and competitive ones are overcome with constant intensity, has been demonstrated in sports with an acyclic nature of activity.

A study of scientific and methodological literature shows that one of the most effective ways to increase the intensification of special physical training can be the variable impact method, which provides for optimal alternation of exercises that contribute to the accentuated development of the main components of special physical qualities. However, in the process of special physical training of short-distance runners, this method has not received the proper scientific and methodological justification.

Our studies have shown that the use of significant amounts of running performed at maximum and near-maximum speed, special jumping exercises, and barbell exercises close to the indicators typical of the stage of top achievements in the control group training sessions leads to an increase in the athletic performance of sprinters. However, the magnitude of this

increase is not higher than that of the experimental group athletes who used high-intensity loads in smaller volumes, which was compensated for by an increase in the number of running exercises performed at moderate intensity and means of versatile training.



Pic. 1 Types of training for highly qualified sprinters

Of great importance in substantiating the optimal distribution of time and effort in training athletes, compiling and developing a training plan that clearly defines the content and sequence of all coaching actions is quantitative information on the contribution of each factor and the achievement of results at all levels of training.

Individual pedagogical correction of running technique, carried out taking into account the main technical error of the athlete and his morphological data, indicates the possibility of obtaining targeted shifts in the time and power structures of movements, which, according to the pedagogical experiment, is accompanied by an improvement in the result in sprinting.

Correction and optimization of the training process of runners in the experimental group was carried out due to factors of a dual nature: firstly, on the basis of preliminary specialization forecast data and, secondly, on the basis of individual deficiencies in connection with the predicted specialization.

As for the sprinters in the control groups, they and their coaches also received comprehensive information on the possibility of preferential running specialization. But these athletes trained without a differentiated approach to the choice of means and methods, that is, according to the currently generally accepted method of training sprinters.

It was in the differentiated approach that determined the choice of training means, as well as their volume and intensity, on the one hand, and in the integral approach to the training process without taking into account the predisposition to one of the sprint distances, on the other hand, that the experimental factor of our study lay.

Comparing individual and average group indicators characterizing the levels of development of various aspects of the preparedness of student sprinters in the control and experimental groups, we can judge the degree of effectiveness of the differentiated training method used in the experimental group.

Table 1 shows groups differentiated by the focus of training in short-distance running.

Table 2.

Dynamics of physical fitness of runners during the pedagogical experiment

Control exercises	Groups	Initial data	Final data
30 m on the move (sec)	A	3,15	2,85
	B	3,10	3,00
	C	3,18	2,90
30 m from a low start(sec)	A	4,15	3,90
	B	4,05	4,00
	C	4,20	3,95
100 m(sec)	A	11,35	10,80
	B	11,20	11,10
	C	11,40	10,85
150 m(sec)	A	17,30	16,60
	B	17,20	16,60
	C	17,40	16,10
200 m(sec)	A	23,20	22,40
	B	23,10	22,50
	C	23,30	21,90
300 m(sec)	A	38,50	37Ю00
	B	38,30	36,50
	C	38,40	35,50
Standing triple jump(meter)	A	8,20	8,90
	B	8,35	8,80
	C	8,00	8,90
Standing quintuple jump (meter)	A	12,50	14,60
	B	12,65	14,40
	C	12,30	14,70
Standing ten-fold jump(meter)	A	26,40	29,00
	B	26,50	29,20
	C	26,60	29,50

It was found that the use of near-maximum intensity running in short segments contributes to a significant increase in the athletic performance in 100 m running, but does not have a significant effect on the development of special endurance in 150, 200 and 300 m

running. In Group B, athletes who used long-segment running in training showed reliable differences in the results of 100, 150, 200 and 300 running at the end of the experiment, as well as a reliable increase in the results of the quintuple jump. No changes in the speeds of 30 m running from a running start and 3 m from a low start were observed. In all likelihood, the shifts in 100 m running occur due to improved neuromuscular coordination or some components of sprint running technique. Improvement in results in 200 m running occurred, apparently, due to an increase in the endurance of runners. Thus, it can be assumed that the use of running on long segments at a speed of 75-85% of the maximum increases the overall fitness of the sprinter, develops special endurance well, but has little effect on the development of speed qualities.

The most informative test for determining the level of development of a 200 m runner's special endurance is the time he shows on the 150 and 300 m segments.

Thus, for the first time in the work:

- the main directions of the differentiated approach to training short-distance runners were defined;

- the individual characteristics of short-distance runners were determined and, taking them into account, training planning documents were developed.

- a differentiated training method was developed taking into account the individual motor experience and speed-strength fitness indicators of short-distance runners.

The results of the study made it possible to identify differences in physical development, physical and sports-technical fitness, to establish the psychophysiological characteristics of athletes specializing in 100, 200 and 400 meter running. Based on the experimental data, the differentiated training method for sprinters was improved depending on their individual characteristics and predisposition to performance at distances of 100, 200 and 400 meters.

Conclusions:

1. Analysis of personal coaching experience and literary sources showed that the means and methods currently existing in sports practice and recommended in specialized literature are not always effective enough to achieve international-level results.

2. It has been established that the use of the methodology for developing speed endurance in groups for the sports improvement of sprinters is quite effective. Therefore, there is a need for further development, implementation and control of an individual methodology for developing special endurance for this category of short-distance runners.

3. The study found that one of the reasons for the decline in athletic performance in 100, 200 and 400 m running is the loss of speed in the last meters of the distance, which indicates a

low level of development of sprint and special endurance, so it is necessary to use specialized loads in the training process to develop special endurance, taking into account the individual characteristics of athletes.

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