



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

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Abstract

The modern technologies of control and methods, using in training process of running in short distances are shown in this work. The problems in training process of high-qualification runners and also, methodology of their trainings and model characteristics of running in short distances are solved. The main idea of submitted work is improvement technologies training of high-qualification runners in short distances. The work includes researches dynamics of individual results and technologies training of high-qualification runners in one hundred and two hundred meters.

Keywords: Highly qualified female runners, special physical preparedness, research results, running for short distance

Introduction

The adopted and gradually implemented decrees of the head of the country and government decrees have led to the intensive development of both mass and professional sports. This research, to a certain extent, serves to implement the tasks of improving the quality of training of athletes set in the Decree of the President of the Republic of Uzbekistan, signed on March 5, 2018 "On measures to radically improve the system of public administration in the field of physical culture and sports" No. PF - 5368, in the Decree President of the Republic of Uzbekistan "On further improvement of the management system in the field of culture and sports, as well as





other new legal documents on physical culture and sports.

Currently, the ever-increasing severity of competitive competition has a huge impact on the growth of sports results in track and field athletics. Therefore, there is a need to develop the most effective methods and sports-pedagogical technologies for training competitive athletes.

Foreign experts are conducting research aimed at improving the efficiency of the training process and managing the process of sports improvement of sprinters. At different stages of training, sprinters must not only perform a large amount of work of various physiological directions, but also perform loads that correspond to their preparedness and individual characteristics. Nowadays, timely assessment and correction of special physical preparedness, determining the level of effectiveness of training lessons, as well as the dynamics of competitive activity of highly qualified sprinters is an urgent problem in track and field athletics.

Short-distance running is one of the most difficult types, as it makes exceptionally high demands on the athlete's body. To achieve high sports results at this distance, it is necessary to have a well-functioning system for managing the training of athletes, including systematic monitoring and analysis of the results of running technique and the level of development of speed qualities, speed and special endurance. At present, two main directions are distinguished in methodological approaches and in the practice of training sprint masters.

In one of them, the main attention is paid to the use of training means aimed at developing speed-strength qualities, aimed at developing the speed-strength qualities of athletes and their more complete implementation during competitions.

In the second approach, the main emphasis is on the development of special endurance and on the use of special means to increase it. As a rule, the best result in the preparation of sprinters is achieved with a skillful combination of both approaches.

The purpose of this work is to improve the training of highly qualified sprinters on the basis of systematic current and operational control.

Research Objectives

1. Based on the dynamics of the results of the runners of the national team of Uzbekistan, to identify the factors influencing the preparation of highly qualified sprinters.
2. To substantiate the volume and distribution of fixed assets of training sessions in the annual cycle of highly qualified runners in 100 and 200 m.





Research Results

The results of the conducted researches showed that the achievement of normative indicators is associated with the achievement of the level of a given sports result by athletes, primarily on the basis of versatile training. Therefore, the role of science-based control standards of versatile physical preparedness is so significant, which are guidelines for the correct construction of the educational and training process.

One of the main means of monitoring the condition of female athletes should be regular pedagogical tests. The results obtained as a result of observations of highly qualified runners make it possible to accurately control the health status of the athlete and constantly adjust training plans.

So, the development of normative indicators of the special preparedness of sprinters is an urgent task of sports science. Along with the possession of a high level of basic physical qualities, special physical and technical training, it is important for an athlete to effectively realize her functional capabilities and level of preparedness and the ability to rationally distribute her strength in sprinting.

Preparation in the sprint should provide the development of the qualities of speed and strength in the widest range of their combinations. It includes three main areas:

1. In the high-speed direction in training, the problem of increasing the absolute speed of the main exercise (running, jumping) or its individual elements (various movements of the arms, legs, body) and their combinations (run-up, repulsion, jumping combinations) is solved.

2. With the speed-strength direction in training, the problem of increasing muscle strength and speed of movement, that is, power, is solved.

A competitive exercise or its individual elements and their combinations are used without weights or with a small weight in the form of a belt, vest, cuffs in running, jumping, "multi-jumping" from various run-ups. Exercises are performed at a given speed. In these exercises, the greatest power of movements is achieved and their full amplitude is maintained.

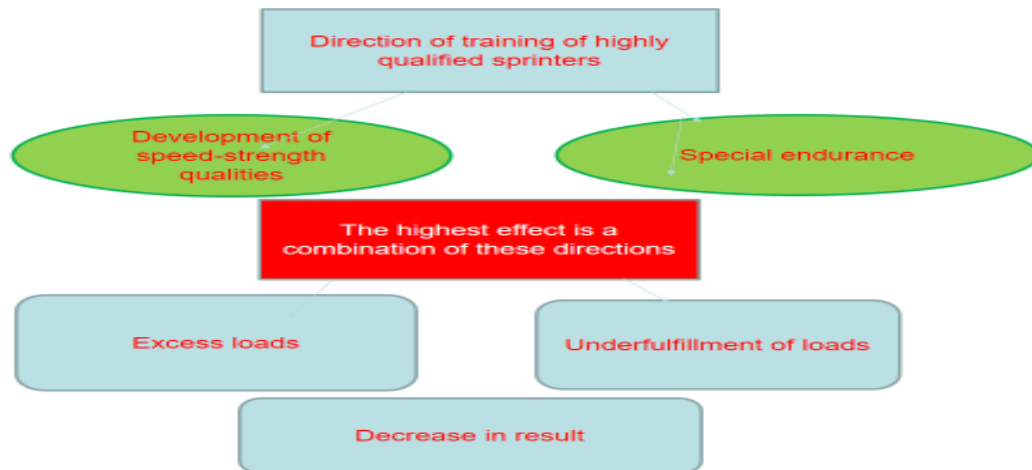
3. With the power direction in training, the problem of developing the strength of the muscles involved in the performance of the main exercise is solved. The weight of the burden or resistance is from 60% to the maximum. In these exercises, the greatest indicators of absolute muscle strength are achieved, which is facilitated by the manifestation of volitional qualities by athletes. The division into the described directions is conditional, adopted for simplicity, clarity and accuracy of presentation.

4. Researches have shown that the dependence of the result in sprinting on the level of development of individual motor abilities is not constant, it changes with age and with an increase in sportsmanship. In addition, with the growth of sprinters' qualifications,





the number of components on which the result depends is changing. So, if for sprinters of the II-III categories the result in running for 100 meters depends on the maximum speed, the speed of running at the last 5 meters of the distance and on the distance necessary to achieve the maximum running speed, then for athletes of the I category and candidates for master of sports - only from the first two components.



Pic. 1 Areas of training for highly qualified sprinters

For girls who specialize in sprinting, with the growth of skill, the speed of starting acceleration, maximum speed, average speed of running along the distance and at the finish line increase. However, candidates for master of sports –master of sports athletes, to a greater extent, increase the speed of running at the start and finish sections, which indicates an increase in the role of speed-strength abilities (especially maximum and explosive strength), as well as speed endurance.

Our research of the means of running training, carried out on the basis of a researching of the diaries of female athletes in the 100-200 m run, showed that an increase in speed endurance and sports results is ensured primarily by an increase in the contribution of running in the zone of maximum and submaximal power.

All training lessons were built on the basis of versatile and special physical training in order to develop basic physical qualities in running 100-400 meters and especially speed endurance.

The volume of the training load was taken into account using two parameters - mileage (km) and the number of segment repetitions.

So, the volume of running with an intensity of 80-90% of the maximum speed in the group of athletes of candidates for the master of sports - I category is 6.6% of the total volume, and among the masters of sports - 14.8%. The volume of running with an intensity of 90-100% in these groups is 5.3% and 9.1%, respectively.



The share of training work performed in difficult and light conditions for the training of qualified and highly qualified athletes occupies a very small share in the total volume of training facilities, which is 0.8-2.2% of the running training facilities.

Researches have shown that timely correction of physical preparedness deficiencies among highly qualified runners is a necessary condition for increasing the level of sportsmanship, as well as its retention for many years of performance in competitions. The analysis of training plans and diaries of highly qualified sprinters made it possible to identify general directions in the organization of the load, to consider the scheme for distributing training means over small (weekly) training cycles.

Comparative characteristics of indicators of speed-strength preparedness could reveal disadvantages in the training process among young female runners.

Comparing the results of the leading runners with the previously shown results in the national team and the model characteristics recommended by the leading sprint coaches, we notice that the athletes lag behind in all indicators of speed-strength preparedness.

In our researches, individual indicators of speed-strength preparedness of the best sprinters of the national team of Uzbekistan were researched.

The highest results were noted in 2020 and 2021 for candidate master of sports Drobjeva Raisa and master of sports Solieva Farida shown at International competitions.

So, for example, Farida Solieva showed 11.84 seconds in the 100-meter run, and 25.50 seconds in the 200-meter run, her results in our researches served as model characteristics. In this athlete, all the results of special physical preparedness prevail over the rest of the athletes in our study.

Table 1. Individual indicators of speed-strength preparedness of a 100-meter runner candidate for master of sports

Indicators	Drobjeva Raisa			Growth %
	2019	2020	2021	
30 m from a low start (sec)	3,95	3,90	3,85	2,53
30 m on the move (sec)	3,1	3,0	2,99	3,54
60 m from a low start (sec)	7,30	7,23	7,18	1,64
100 m training (sec)	11,73	11,65	11,56	1,44
100 m competition (auto) (sec)	12,01	11,99	11,89	1,18
150 m (sec)	17,98	17,89	17,85	0,72
200 m competition (sec)	24,54	24,49	24,40	0,57
250 m (sec)	32,67	32,55	32,42	0,76
Long jump from place (m)	2,70	2,77	2,85	5,55
triple jump (m)	8,10	8,10	8,20	1,23
tenth jump (m)	27,0	27,20	27,35	1,29
max barbell squat (kg)	100	100	110	10
half squat with barbell (kg)	130	135	140	7,69
snatch (kg)	50	50	55	10
Barbell cleanup (kg)	70	75	80	14,28
Chest push (kg)	60	70	70	16,66



At the same time, it has been noted the high results at 60 meters from a low start of 6.8 seconds, 150 meters - 16.1 seconds, in the long jump from a place of 3.20 meters, 10th jump, max barbell squat of 140 kg, half squat with barbell 160kg, 90kg barbell cleanup, chest push 100kg.

We have determined that in the training process of female sprinters it is necessary to determine the lagging speed-strength abilities and errors in the performance of the main exercise. After that, simulate the performance of volumes of speed-strength training and individually predict the planned results in the 100 and 200 meters run.

Table 2 Individual indicators of speed-strength preparedness of a 100-meter runner master of sports

Indicators	Farida Solieva			Growth %
	2019	2020	2021	
30 m from a low start (sec)	3,8	3,7	3,6	2,7
30 m on the move (sec)	2,9	2,9	2,8	3,44
60 m from a low start (sec)	6,9	6,8	6,8	1,44
100 m training (sec)	12,12	11,97	11,90	1.81
100 m competition (auto) (sec)	11,98	11,89	11,84	1,16
150 m (sec)	16,3	16,2	16,1	1,22
200 m competition (sec)	25,23	25,18	24,72	2,0
250 m (sec)	29,4	29,3	29,2	0,68
Long jump from place (m)	3,15	3,18	3,20	1,58
triple jump (m)	9,14	9,17	9,20	0,65
tenth jump (m)	29,40	29,60	30	2,04
max barbell squat (kg)	130	130	140	7,69
half squat with barbell (kg)	150	155	160	6,66
snatch (kg)	70	70	80	14,28
Barbell cleanup (kg)	85	90	90	5,88
Chest push (kg)	95	95	100	5,26

The analysis of the conducted researches of the parameters of speed-strength training of the leading female runners of the national team of the Republic of Uzbekistan showed that timely correction of errors in general and special physical preparedness and correction using the means of speed-strength training proposed by us contributed to an increase in the preparedness of qualified sprinters for short distances.

Conclusions

One of the most important links in the problem of managing the training process of sprinters is the research of issues of strength and speed-strength training, determined by the specifics and requirements of speed running.



1. The research of the dynamics of speed in sprint running made it possible to determine the change in its main components at various stages of sports improvement. Based on this, it is possible to choose from a huge mass of training tools and methods used by sprinters, exactly those that are needed at this stage of sports training. We determined that effective exercises for increasing the level of special preparedness are: a) speed-strength exercises of a special characteristic (method of dynamic efforts); b) speed exercises in difficult conditions (running uphill, running on sand, snow, up stairs); c) high-speed exercises with maximum and near-limit speed; d) exercises performed in light conditions (running down an inclined path, running along the markings with a shortened step, running with a change of rhythm, etc.).

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