



## MAIN ASPECTS OF THE METHOD OF THE TRAINING PROCESS OF STUDENTS-HURDLERS

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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

### Relevance

The growing role of sports in the conditions of building an independent Republic of Uzbekistan sets the task for sports science to find new, more rational ways of its development, improve the system of training athletes that can provide faster growth rates of sports and technical results for Uzbek athletes compared to foreign athletes. The high level of modern achievements in track and field athletics and, in particular, in hurdles, fierce rivalry in competitions require the development of new forms and methods of training.





Hurdles is one of the most complex technical types of athletics that places high demands on the physical and technical preparation of the athlete. The combination of sprinter speed, jumping ability, flexibility, high coordination of movements will enable the athlete to achieve high results at this distance.

Sports training aimed at achieving high results in women's hurdles is a multifaceted process of physical education. A large number of scientific works are devoted to hurdles. Achieving high results in modern sports is impossible without special physical training. The manifestation of motor abilities and muscle strength are characteristic of any sports specialization, including hurdles. An important role is given to the development of speed-strength qualities.

Hurdling can serve as a generalized model of many sports - after all, it places high demands on the complex and simultaneous manifestation of all physical qualities and technical and tactical skills. (M.I.Stepanova, M.V.Stepanova, 2013).

The research of literary sources and generalization of the experience of sports training of girls specializing in hurdles indicate unresolved issues of managing the training process for the development of speed-strength qualities. In the light of modern requirements, one of the first places is the problem of building sports training and the structure of training loads of female hurdlers. (Eremenko I.A., 1996).

The specificity of hurdles places high demands on the manifestation of speed-strength abilities, especially at the moment of overcoming barriers. In the last decade, N.N. Vdovina (2007) researched the issues of managing the speed-strength training of women who specialize in hurdles. M. Stepanova, V. Stepanov (2013) researched the training of highly qualified 400 m runners.

However, at present the problem of competitive training and evaluation of the competitive activity of female runners in the 100 and 400 meters hurdles is poorly understood.

The purpose of this work is to improve the training of female 100 and 400 m hurdlers with different qualifications, eliminate the shortcomings of the training process and improve the level of sports qualifications of female hurdlers in Uzbekistan.

### **Research Objectives**

1. Analysis of scientific and methodological literature on the preparation for competitions and competitive activity of 100-meter hurdlers.
2. To research the dynamics of general and special physical preparedness of female hurdler students of the Uzbek State University of Physical Culture and Sports and identify the best hurdlers.
3. Determine the main factors influencing the result in the 100 meters hurdles.





In our work, we put forward the following working hypothesis: it was assumed that a comparative analysis of the versatile training of female athletes in training sessions and in the process of competitive activity would make it possible to identify shortcomings and timely correct the methodology for training female hurdler students.

**Scientific novelty.** The data of the comparative analysis of the versatile training of female athletes in training sessions and in the process of competitive activity of girls in the 100m hurdles were obtained and an adjustment was made to the methodology for training female hurdlers.

**Practical significance.** The results of the research allow optimizing the process of long-term training of female hurdlers, the established values for determining the general and special preparedness of female athletes make it possible to quickly manage the course of training, make timely adjustments to its course and predict sports achievements with greater accuracy. The effectiveness of control over the state of general and special preparedness of female athletes at various stages of training has been proven.

## **Research Methods**

1. Analysis of scientific and methodological literature.
2. Pedagogical observations
3. Pedagogical research
4. Pedagogical testing.
5. Analysis of the summary protocols of competitions in the 100 and 400 m hurdles.
6. Analysis of educational and methodological documentation of trainers
7. Mathematical and statistical processing of research results.

**Organization and conduct of research.** The research involved 16 athletes: 1 master of sports of international class, 2 masters of sports, 1 candidate master of sports, 5 owners of the first category, 7 owners of the second category. The collection of material was carried out: a generalization of the best practices of building a training process in the annual cycles of long-term training of female hurdlers of various qualifications, on the basis of which the parameters of the volumes of training loads in 100 and 400 m hurdlers were identified. The research involved 100 and 400 m hurdles runners who had previously been trained by the honored coach Arzumanov G.G., as well as other coaches Manko N.V., Kazakova G.M.

The results of our research are consistent with the data of Professor Vyacheslav Stepanov (2012) in that the following features stand out in the individual planning of the physical and technical training of highly qualified hurdlers. In the long-term





training of female athletes, the central problem is the planning of training loads. At each of the stages of long-term training, training loads must comply with two fundamental provisions: on the one hand, they must be adequate to the age characteristics of athletes, and on the other hand, they must be focused on the level characteristic of higher sportsmanship.

At the same time, the role of an athlete - to more accurately fix, formulate sensations in training tasks and competitive elements unknown so far - is paramount. Only an experienced and thinking athlete capable of such an accurate diagnosis of his condition can become an extra-class athlete.

The role of the coach is to carefully compare, analyze these signals and reasonably, but confidently adjust their plans according to them.

It has been established that the construction of the pedagogical process in accordance with the objective content of the goal of sports improvement, which is determined not only by the prospect of achieving a certain level in hurdles, but also by planning the levels of a complex of factors, leads to increase in the reliability of the training process management and to increase in its effectiveness (H Asanova, L.V. Smurygina, 2014).

The main goal of sports training of 100 m hurdlers runners in the competitive period is to achieve high sports results.

The main tasks of training:

1. Improving the special physical and technical qualities of hurdlers (in the complex).
2. Implementation of the achieved motor potential in sports competitions.

During the period of highest competitive preparedness, the main attention of runners is focused on participation in the main competitions of the season and training starts. At training sessions, competitive training is mainly aimed at improving the technical skills of athletes. High requirements for the versatile physical and technical readiness of hurdlers determine at the initial stages of training (preliminary training and initial specialization) the need to create a base for general physical development, mastering the skills and abilities to overcome various obstacles, and to correctly perform various motor tasks.

Practice shows that female students studying hurdling master the technique of hurdling not so much under the influence of special training - demonstration, story, preparatory and special exercises, but as a result of adaptive actions during the exercise in the specific conditions of a holistic hurdle situation - the optimal height of barriers, distance and etc.

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skills and abilities to overcome various obstacles, and correctly perform the developed motor tasks. At the initial stages of training, runners need to master the technique of hurdlers.

The stages of preliminary training and initial specialization are favorable (the young age of the athletes also contributes to this) for the development of speed, flexibility, agility, therefore, training exercises that develop these qualities are mainly used in the preparation of young hurdlers. At these stages, physical qualities are best developed separately; while the development of one has a positive effect on the growth of others. For example, the development of strength and speed of movements contributes to a more effective manifestation of special endurance, better and faster mastering the basics of hurdlers technique.

At the subsequent stages of training hurdlers, the effectiveness of such (analytical) development of physical qualities decreases, but the role of the complex development of hurdlers' motor abilities increases noticeably.

The annual training cycle for 100m and 400m hurdlers is based on the principle of two-peak planning.

It includes winter and summer competitive periods, each of which is preceded by a preparatory period. Each period of preparation consists of a number of stages at which specific tasks are solved and which are characterized by a strictly defined orientation of the training process at the stage of sports improvement.

Preparatory periods include general (basic and developmental) and special stages. The sequence of solving the main tasks of training is as follows: general (basic) stage - The development of power and speed-strength qualities; special stage - the development of speed and special endurance.

At all stages of the preparatory period, work is carried out on general physical preparedness and an increase in the level of physical preparedness, the formation of effective hurdles technique and the improvement of the technical skills of female athletes. Therefore, at various stages of the preparatory period, specific training means are introduced into the scheme of the weekly training cycle, namely: at the general (developing) stage - sprinting on the move and from the start, hurdling (6-7) segments; at a special stage - running with barriers (10-12) on segments.

At the stage of development of the sports form, the volume of special training means is greater than at the stage of the highest competitive preparedness. This is due to the specifics of the goals and objectives of training and the participation of hurdlers in competitions at different stages of the competitive period.



When planning the annual training cycle for female runners for 100 and 400 m hurdlers, it is necessary to follow to the methodological principle of consistency in solving the main tasks of training at various stages.

According to this principle, appropriate emphasis is placed on the development of certain physical qualities of hurdlers.

1. The development of speed, strength and general endurance (working capacity of a general nature) of athletes - at the general stages of the preparatory period.
2. Special stages of the preparatory period: the development of speed - running speed, speed-strength qualities and special endurance.
3. Competitive period: improvement of special physical qualities in the structure of a competitive exercise.

At the same time, practically at all stages of the preparatory and competitive periods, training work is carried out to increase the level of athletic preparedness of female hurdlers, improve their technical skills, form and improve the rational rhythm of hurdling.

These parameters of training work with hurdles at the initial stage of specialization provide a high degree of mastering the school of hurdling, a sufficient level of technical readiness and, most importantly, the necessary physical base for increasing the volume of training work and achieving high sports results on this basis.

Table 1. The content of special work with barriers of female students runners for 100 and 400 meters at the stage of initial specialization

Preparation cycle	At the beginning of the specialization stage	At the end of the specialization stage
Week	40-45 hurdles, of which 12-15 hurdles overcame in the rhythm of the 400 m run	50-60 hurdles, of which 25-30 hurdles in 400m rhythm
Month	140-160 hurdles, 45-55 of them in the rhythm of the 400m run	200-220 hurdles, of which 200-110 in 400m rhythm
Year	1200-1500 hurdles, 400-500 of them in the rhythm of the 400m run	1800-2000 hurdles, 700-800 of them in 400m rhythm
Number of competitions	3-4	8-10

Special training work at the stage of initial specialization sufficiently forms a strong interest in 400-meter running among beginner hurdlers, provides a high degree of mastery of the school of hurdling, development of the necessary physical qualities of hurdlers and their technical preparedness. Together, this creates a "physical and technical" base for further sports improvement..



According to the protocols of the competition for girls in the 100 m hurdles, a summary table of the best results of the hurdlers in the year was compiled. As can be seen from table 3.1. in the 60 m 100 m hurdles among the girls participating in this event, there are very few "clean" 100 m hurdlers at present. Among them are Kibalnikova Valentina, Davlyatyarova Laylo, Anvarova Saida. Other athletes compete in this event when there is no competition in their main event 400m hurdles or heptathlon.

During the period of highest competitive preparedness, the main attention of runners is focused on participation in the main competitions of the season and training starts. Among a large number of factors that determine the level of achievement in the 100 m hurdles, there are factors that have the greatest impact on the growth of sportsmanship of female runners..

The solution to this problem is possible on the basis of accurate measurements and quantitative processing of the obtained materials. In this regard, it is of considerable interest to compare (analyze) the results in the 100-meter hurdles and 400-meter races on the one hand and the results of the 400-meter race with hurdles, on the other hand (dependence "speed - time").

Table 2. Best individual results by year for 100m hurdlers

№	Full name	2015	2016	2017	2018	2019
1	Kibalnikova Valentina	14.50	14.20	13.23	-	13.50
2	Asanova Natalia	13.87	-	-	15.10	14.15
4	Asanova Irina	14.32	15.20	15.01	14.70	14.95
5	Voronina Ekaterina	16.20	16.12	15.47	15.10	15.30
6	(heptathlon)	17.15	16.51	16.23	15.27	15.42
7	Davlyatyarova Laylo	17.80	16.37	16.30	15.70	15.42

Knowledge of this relationship enables coaches and athletes to predict with a high degree of accuracy the result that an athlete can show at any moment of the training process.

Comparison of the average running speeds at a distance of 100 m hurdlers when meeting the standards of the master of sports shows that they are almost the same.

Table 3. Comparative results of female hurdlers in sprint

Control exercises	Candidate for master of sports Asanova Irina	Master of sports Kibalnikova Valentina	Master of sports of international class Asanova Natalia
60 m	7,90	7,30	7,15
100 m	12,40	12,10	11,90
200 m	26,40	26,10	24,40



In the process of educating the endurance of female hurdlers, it is necessary to solve a number of tasks for the comprehensive development of the functional properties of the body, which determine the general endurance and special types of endurance. Strength training of female hurdlers should be carried out in the direction of both increasing strength capabilities and improving the ability to effectively implement them in the process of competitive activity - endurance running.

The following model characteristics can serve as guidelines in the preparation of qualified 400-meter hurdlers at the stage of sports improvement: body length 172-175 cm, body weight 58-64 kg; results in running: 400 m hurdlers 55.0-56.0 sec, 400 m 52.0-53.0, 200 m run 23.0-23.6, 100 m run 11.5-11.8; intermediate results in the 400 m hurdlers run: the first 200 m - 24.5-25.5, the second 200 m - 27.0-28.0 sec; the difference in results: between the running time for 400 m hurdlers and 400 m 3.0-3.5 seconds, between the time for running 200 m in the first half of the hurdling distance -3.0-4.0.

Table 4. Indicators in jumping exercises of female hurdlers

Control exercises	Candidate for master of sports Asanova Irina	Master of sports Kibalnikova Valentina	Master of sports of international class Asanova Natalia
Long jump from a place (cm)	250	255	280
Long jump from running (cm)	540	560	580
Triple Jump (cm)	720	760	790
Jump up from a place (cm)	43,0	43,0	48,0

The analysis of the conducted researches showed that until now the optimal volumes of the load of running training facilities that correspond to certain qualification standards and planned results are unknown, a large number of diverse methods are used, which for the most part are not scientifically substantiated.

With the improvement of sports qualification, the difference between the best and worst time for overcoming barrier segments decreases. So for masters of sports this difference was 0.70 seconds, for candidates for master of sports it was 1.78, for first-class athletes it was 0.79 seconds. So, athletes must run the entire distance evenly without significant fluctuations in speed. And therefore, the best performance in 400-meter hurdles is ensured not only by the high speed of overcoming the first hurdles, but also by maintaining this speed throughout the entire distance.

Currently, the methodology of individual training in hurdling is not sufficiently developed. In the practice of coaching, it is necessary to systematically take into account some of the individual characteristics of female athletes. Research has confirmed that individual data, reflecting the characteristics of the physical





development and physical preparedness of female athletes, should be compared in each individual case with the so-called “model characteristics” currently accepted in the planning of the training process.

The presence of conflicting recommendations on the issues of control over speed-strength preparedness is apparently explained by the fact that pedagogical criteria for assessing motor qualities, manifested in the types of athletics, have not been clearly defined yet.

## Conclusions

1. Analysis of the scientific and methodological literature showed that the growth of achievements in the 100 and 400 m hurdles is associated with the constant improvement of the physical and technical preparedness of female athletes. The authors do not have a common opinion about the rationality of hurdling and running training for female hurdlers of the highest categories. The recommended plans for training work do not take into account the level of preparedness of hurdlers and the sequence of increasing the volume of the main means of training with increasing the skill of athletes.
2. One of the ways to optimize the competitive activity of female hurdlers and methods of training female 100 and 400-meter hurdlers is to plan a sports result in a reasonable way and to achieve that level of development of technical and physical preparedness of female athletes, factors that provide the intended result.
3. The most effective means of speed-strength training of female hurdlers were revealed. These include: exercises with a barbell, stuffed balls, jumping exercises and high-speed running of segments of the distance. The most rational sequence of load distribution and means of speed-strength training of female hurdlers in the annual cycle of training has been determined.

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