ISSN: 2181-3906 2025

International scientific journal
«MODERN SCIENCE AND RESEARCH»
VOLUME 4 / ISSUE 4 / UIF:8.2 / MODERNSCIENCE.UZ

DEVELOPMENT AND FORMATION OF THEORETICAL METHODOLOGY OF THE TECHNIQUE OF TRAINING YOUNG ATHLETES TO RUN OVER BARS

Utepov Makhmud Daurkhanovich

Teacher of the Department of Theory and Methodology

physical culture of Karakalpak state university.

https://doi.org/10.5281/zenodo.15334035

Abstract. *The results in hurdling of local athletes lag behind their foreign competitors. There are reasons for lagging behind, the training regime of young athletes, the period of the exercise approach, the use of repeated running trainers, a specific distance on the standard placement of barriers. The main mistakes in barrier-breaking techniques are related to preparation for repulsion and a close approach and techniques.*

Keywords: *teenager, barrier, running, qualified, competition, technique, theory, methodology.*

РАЗРАБОТКА И ФОРМИРОВАНИЕ ТЕОРЕТИЧЕСКОЙ МЕТОДИКИ МЕТОДИКИ ПОДГОТОВКИ ЮНЫХ СПОРТСМЕНОВ К БЕГУ ЧЕРЕЗ ПЛАНКИ

Аннотация. *Результаты в барьерном беге отечественных спортсменов отстают от зарубежных конкурентов. Причины отставания: режим подготовки юных спортсменов, период подхода к упражнению, использование повторных беговых тренажеров, определенная дистанция на стандартной расстановке барьеров. Основные ошибки в методике преодоления барьеров связаны с подготовкой к отталкиванию и близким подходом и приемами.*

Ключевые слова: *подросток, барьер, бег, квалифицированный, соревнование, методика, теория, методика.*

Relevance. Hurdling is an athletic exercise representing sprinting with overcoming obstacles, where precise calculation, high coordination and rhythm are combined with flexibility, speed, strength and endurance.

Barrier running requires a certain fitness of the athlete's musculoskeletal system, sufficient strength, speed, and joint mobility, taking into account the specifics of running various distances. This is one of the prerequisites for learning the technique of the species.

Exercises that develop muscle groups that are directly involved in hurdling include exercises that promote the development of the muscles of the anterior and posterior surfaces of

the thigh, shin, foot, and trunk. It is especially necessary to highlight exercises that increase the degree of mobility in the hip joints. The lack of mobility in the joints leads to many errors in technique. The development of the strength of the muscles surrounding the hip joint, on which the magnitude of the amplitude of movements and the power of efforts to overcome barriers depend, is also part of the special training of a hurdler. The means of such training are special conditioning exercises that can be performed on the spot and in motion, with and without barriers.

The object of the research. is the process of technical training of young athletes at the initial training stage. There was a determination of the lag in the results of qualified teenage athletes in hurdling

The subject of the study. is special preparatory exercises with the introduction of national types in the training process of the hurdlers of the training group. To study the technique of hurdling and the main mistakes of athletes in barrier-breaking techniques.

Conduct pedagogical supervision of training

The purpose of the study. is to reveal the specifics of the selection and application of exercises for training young athletes in hurdling techniques and to experimentally evaluate the effectiveness of using national jumps in training hurdlers. Research methods: mathematical and statistical analysis, video analysis of competitive activity, pedagogical analysis of training sessions. Their research was also based on the opinion of experts working with hurdlers. The study included the competitive results of athletes and participants.

In order to identify the individual mistakes of young athletes in hurdling techniques, a video recording of the start and starting acceleration in the warm-up was conducted immediately before the start. During the warm-up, athletes are in a state of pre-start excitement, and this activates their actions to some extent.

The results and their discussion. The experimental exercise technique can be performed in all parts of the training session. In our experiment, the exercise technique was used in the main part of the training session. In the experimental group, the set of exercises we developed was used in each training session.

Экспериментальную технику выполнения упражнений можно выполнять на всех этапах тренировки. В нашем эксперименте техника выполнения упражнений использовалась в основной части тренировки. В экспериментальной группе разработанный нами комплекс упражнений использовался на каждой тренировке.

Excessive deflection of the shoulders back when placing the foot on the push-off. The goal of quickly straightening the body before overcoming the first barrier is understood literally by many young athletes, especially against the background of an exorbitant increase in the length of steps in the starting range. Thus, already at the 3rd-4th acceleration step, athletes often (in 57.1% of cases) assume a running position in which there is practically no forward tilt of the torso, and when preparing for a push-off, it often even has negative values due to subjective feelings of insufficient speed gained in the run-up to successfully overcome the barrier.

Performing an early shin lashing when attacking a barrier. The figure shows the position of the swing leg at the beginning of the attack, which, in our opinion, most characterizes the difference in technique between a high-class hurdler and an all-around "average hand". The passage of the heel of the swing leg below the knee of the supporting leg indicates a loss in horizontal running speed already in preparation for the attack and an increase in vertical forces in pushing off and subsequent landing. This error is also present in 71.4% of cases.;

In 85.7% of cases, athletes demonstrate early withdrawal from the kick leg after pushing off onto the barrier, thereby increasing the flight path and reducing the activity of removing the kick leg when performing a descent from the barrier. For strong athletes, this may be a consequence of repulsion close to the barrier, as well as a consequence of insufficient flexibility in the hip joint. As a result, these athletes stop the movement of the thrust leg when descending from the barrier, which eventually leads to a passive landing and loss of horizontal speed.

The second point that was considered in the course of the study is the rhythm of the inter-barrier segments. Statistics show that the running of highly skilled hurdlers is characterized by an increase in the average running speed up to the 4th inter-barrier segment. The indicators obtained during the analysis of the video are presented in Table 1.

Table 1

Indicators of hurdling parameters obtained during the analysis championship

Participant	Start Barriers	Start Barriers				Total Difference	Total Difference
		1–2- j	2–3- j	3–4- j	4–5- j		
Co-in	2,58	1,36	1,28	1,38	1,46	7,69	1,10
Ig-v	2,66	1,15	1,11	1,23	1,23	8,66	1,28
Tsy-y	2,48	1,38	1,15	1,27	1,37	8,91	1,34
Mao	2,44	1,13	1,09	1,06	1,04	7,96	1,05

Ag-v	2,55	1,22	1,18	1,24	1,27	9,00	1,51
Iv-v	2,72	1,25	1,19	1,27	1,43	9,30	1,69
Zhi-v	2,56	1,23	1,25	1,23	1,38	8,85	1,56

As can be seen from Table 1, most of the participants in the race have a fading running rhythm, that is, from barrier to barrier, the time of the inter-barrier segments increases. This indicates an inability to maintain running speed due to mistakes in hurdling technique and, most importantly, due to an unformed rhythm of steps between barriers. An effective inter-barrier rhythm is ensured by the ratio of the lengths of steps on each inter-barrier segment, as well as the optimal distance to the obstacle when performing repulsion and descent from the barrier.

All experts note these parameters as important for evaluating the technique of overcoming obstacles in hurdling.

A higher pass over the first obstacle and a passive landing are a consequence of the noted errors. Naturally, this has a negative effect on the next steps, because in a short barrier sprint it is impossible to correct mistakes made at the beginning of the race.

Pedagogical observations of the training of a number of young athletes have shown that when preparing for hurdling in training, athletes chose the repeated method as the main method, which allows them to stabilize movements and connections between them, but not to improve them, that is, the logic of their training is to stabilize the quality of movements, not to improve them. It is understandable that it is easier to fix slower movements than fast ones. Thus, the technical conditions are being fixed, allowing you to run a lot, but slowly.

In the course of the study, the criteria of technique in the 60 m hurdles for athletes were determined based on the difference in the results of the 60 m hurdles and without (Table 2).

These criteria were applied to evaluate the all-around hurdling technique at the Winter Championships (n=8), the Russian Winter Championships (n=18) and (for comparison) at the 2022 World Indoor Championships in Belgrade (n=10).

Table 2

Levels of 60 m hurdling technique in adolescents compared with the indicators of "smooth" 60 m running

Level of technology Difference	Level of technology Difference	Число		
		Championship (n=8)	Championship (n=18)	World Cup (n=10)

Very high	< 0,90	0	0	0
Tall	0,91–1,00	0	4	1
Good	1,00–1,09	1	0	2
Average	1,10–1,19	0	5	4
Bad	1,20–1,29	1	3	1
Very bad	> 1,30	6	6	2

An analysis of the performance indicators at the Russian Winter All-around Championship showed the following:

– the difference in the results of the 60 m hurdles and without hurdles for the all-around athletes in the top ten according to the results of the barrier performance averaged 1.15± 0.19 s.

However, in only 40% of cases, the hurdling technique was demonstrated, which can be assessed as "high" and "very high" (a difference of 1.00 seconds or less);

– the difference in the results of the 60 m hurdles and without among the all-around athletes in the second ten according to the results of their performance in the hurdles averaged 1.44 ± 0.32 seconds, that is, these athletes demonstrated below-average technique.

Experts who have worked with high-level all-around athletes point out that hurdling requires constant attention. In their opinion, the following conditions must be met in order to improve in this form.

Daily inclusion of barrier exercises in the warm-up helps to improve hip joint mobility and elasticity of the musculoskeletal system. As warm-up exercises, we can recommend "barrier seds", turns in hurdling, and imitation exercises performed in this position for the arms and thrusting legs. It is also useful to walk through low barriers below the standard for each step of the mill, which allows you to combine the work of the pushing leg with active interaction with the support.

Enable hurdling at least 2 times a week. The first day may be devoted to practicing the start and starting acceleration (barrier 1-3), the second to re-run 4-6 barriers (in preparation for the winter season) and 6-8 barriers in preparation for the summer season.

Inclusion of barrier walking and simulated exercises twice a week on the spot and with advancing with high standard barriers. These exercises are well combined with local pumping of the muscles responsible for maintaining running posture, as well as exercises aimed at maintaining and developing flexibility.

Conclusion. It is recommended that coaches test specific coordination abilities both during sports selection and before the start of the main training period to identify the weaknesses and strengths of each athlete's training and their subsequent correction.

The hurdling technique of most young athletes is below average. Of the participants in the race, only one showed a good level of mastery of hurdling techniques and two showed an average level.

The developed methodology for the development of specific coordination abilities contributes to the further formation, consolidation and improvement of these skills, which is also confirmed by the results of the experiment. The results increased in all tests. Accordingly, the experimental exercise technique is effective.

The main mistakes of qualified athletes in barrier-breaking techniques are related to excessive preparation for pushing off and a close approach to the obstacle.

Pedagogical monitoring of athletes' training has shown that in most cases there is no use of tools aimed at improving the parameters of hurdling technique. The main means of training in hurdling for most athletes is to re-run the competition distance on a standard barrier layout, which leads to a decrease in progress in athletic performance.

Progress in hurdling results among athletes over the age of 20 is quite possible and is primarily associated with improving the elements of obstacle overcoming techniques and improving the rhythm of running between barriers.

REFERENCES

1. Bar'ernyj beg [Barrier run]: manual / V.V. Mekhrikadze [et al.]. Minsk: Publishing House of BSUPC, 2013. 66 p.
2. Volkov V.V. Legkoatleticheskoe desyatibor'e [Athletics decathlon]. M.: Physical culture and sport, 1967. 88 p.
3. Iskra Ya. Sovremennaya trenirovka v bar'ernom bege [Modern training in hur- dling]: a method. edition. M., 2014. 88 p.
4. Karasev A.V., Chereneva L.A. Sprinterskij i bar'ernyj beg [Sprint and hurdling]: textbook. allowance. M.: Paleotype, 2013. 12 p.
5. Legkaya atletika [Athletics]: a textbook for in-t nat. culture / ed. N.G. Ozolina,
6. V.I. Voronkina, Yu.N. Primakov: 4th ed., additional, revised. M.: FiS, 1989. P. 334–373.
7. Makaruk B. Vliyanie preodoleniya mini-bar'erov raznoj vysoty na kinematiku

sprinterskogo bega [Influence of overcoming mini-barriers of different heights on the kine- matics of sprinting] // Teoriya i praktika fizicheskoj kul'tury [Theory and practice of physical culture]. 2021. No. 5. P. 18–20.

8. Mironov D.L., Egorov V.N., Popov E.M. Analiz effektivnosti razlichnyh podho- dov k skorostno-silovoj podgotovke yunyh legkoatletov-sprinterov [Analysis of the effective-ness of various approaches to speed-strength training of young sprinters] // Izvestiya Tul'skogo gosudarstvennogo universiteta. Fizicheskaya kul'tura. Sport [Bulletin of Tula State University. Physical Culture. Sport]. 2016. Iss. 4. P. 132–138.
9. Ogandzhanov A.L., Cyplenkova E.S. Kontrol' tekhnicheskoj podgotovlennosti kvalificirovannyh desyatiborcev v bar'ernom bege [Control of technical readiness of qualified decathletes in hurdling] // Izvestiya Tul'skogo gosudarstvennogo universiteta. Fizicheskaya kul'tura. Sport [Bulletin of Tula State University. Physical Culture. Sport]. 2020. Iss. 3. P. 111–118.
10. Stolyar L.M., Stolyar K.E. Metodika obucheniya dvigatel'nym dejstviyam na model'noj osnove racional'no-ritmovoj struktury dvizhenij (na primere bega s bar'erami) [Methods of teaching motor actions on the model basis of the rational-rhythmic structure of movements (on the example of hurdling)] // Culture of health saving in the innovative space of the new school: coll. materials of the International scientific-practical. conf. Shuya: Pub- lishing house of ShSPU, 2012. P. 224–227.
11. Cybulevskij N.S., Samojlov G.V. Osobennosti dinamiki sorevnovatel'nyh re- zul'tatov sil'nejshih molodyh desyatiborcev Rossii i mira [Peculiarities of dynamics of com-petitive results of the strongest young decathletes of Russia and the world] // Actual problems of theory and practice of physical culture, sports and tourism: sat. materials of the IX All- Russia. scientific-practical conf. young scientists, graduate students, undergraduates and stu- dents from the international. participation, dedicated Year of science and technology. Kazan: Publishing House of PGAFKST, 2021. P. 647–649.