Organization of the training process of short distance runners at the stage of initial sports specialization

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Abstract

Objective of the study was to determine the main aspects of the organization of the training process of sprint runners in the People's Republic of China and the Republic of Belarus at the stage of initial sports specialization.

Methods and structure of the study. The data of a survey of coaches from Belarus and China who conduct training sessions with young sprinters are presented. Approaches were established for building year-round training of young sprinters, using different means in the structural units of the macrocycle and the main tests that coaches use to assess the preparedness of runners, the time spent on training effects of maximum intensity within the lesson and microcycle, etc.

The level of special preparedness of young sprinters aged 12-13 years of the two countries was assessed and the correlation between the experimental characteristics and the sports result in the 100m race was determined. Variants of individual planning of year-round training of young sprinters from the Republic of Belarus and China were subjected to statistical analysis.

Results and conclusions. Analysis of the results of the questionnaire survey made it possible to identify both general trends in the implementation of the approach to training young sprinters in the two countries, as well as certain differences. The difference in the level of special preparedness of young sprinters aged 12-13 and the parameters of the main training means in the annual cycle among young runners from Belarus and China is presented. The use by Belarusian coaches of the experience of training athletes in China can be a potential reserve for modernizing the existing system of training sprinters in the country.

Keywords: *young runners, sprint, analysis, questioning, annual cycle, load distribution, testing, organization.*

Introduction. The modern sprinter training system includes numerous means and methods of directed influence on the growth of his speed abilities, organized within the framework of individual structural units of the annual training cycle [1, 3, 4, 5, 7]. The literature concerning the training of young sprinters presents various aspects of increasing the level of development of motor qualities at the stages of long-term improvement of athletes, but at the same time there are very few works in which the construction of the educational and training process of young sprinters would be united by a common methodological line.

Recently in Belarus there has been a significant backlog of sports results in athletics from world achievements. This also applies to sprinting. For example, the record of the Republic of Belarus in the men's 100m run is 10.27 s and was set back in 1994 (for comparison, the record of the People's Republic of China (PRC) is 9.83 s, the world record is 9.58 s). Based on the foregoing, an urgent problem for Belarusian specialists is to improve the quality of training of young sprinters. Higher achievements of PRC runners are currently due not only to the level of results at the beginning of the sports path, but also, which is especially important, the influence of the sports training system that has developed in recent years.

There are objective prerequisites for using the Chinese experience of long-term training of sprinters to improve the system of organizing the training process with young Belarusian sprinters at the stage of initial sports specialization.

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the Republic of Belarus at the stage of initial sports specialization.

Methods and structure of the study. The data of a survey of coaches from Belarus (n=25) and China (n=27) who conduct training sessions with young sprinters are presented. Respondents were asked to express their opinion on 16 questions contained in the developed questionnaire. The practical implementation of the approach was established for organizing year-round training of young sprinters, using means of various directions in the structural units of the macrocycle and the main tests that coaches use to assess the preparedness of runners, the time spent on training effects of maximum intensity within the lesson and microcycle, etc.

The level of special preparedness of young sprinters aged 12-13 years of the two countries (n=65) was assessed and the correlation between the experimental characteristics and the sports result in the 100-meter run was determined. Variants of individual planning of year-round training were subjected to statistical analysis for 27 young sprinters from Belarus and 25 sprinters from China.

Results of the study and their discussion. When comparing the data of questionnaire surveys, a certain commonality of approaches in the work of specialists from both countries in the organization of sports training for young sprinters was revealed. So, according to coaches, the priority focus of training sessions at the stage of initial sports specialization is the proportional development of motor abilities and the need to bring up the lagging qualities of the wards to the optimal level. At the same time, the implementation of the approach to building an educational and training process with young sprinters is implemented, in most cases, on their personal practical experience. Coaches believe that at the age of 12-13 it is still too early to use the two-cycle planning of the annual training cycle, and the macrocycle should consist of preparatory, competitive and transitional periods. Unfortunately, additional indicators that the specialists of the two countries overlook when organizing the training of young athletes are taking into account the individual characteristics and health status of the latter; the motivational component, study and living conditions are not taken into account much.

Despite the large number of similar opinions among specialists from the Republic of Belarus and China, significant differences were also revealed. Thus, a number of respondents in China (63%) suggest starting specialized training in sprint at the age of 14, while 48% of Belarusian coaches noted that specialized training for speed running should start at the age of 12-13. Regular pedagogical testing of young sprinters in the annual cycle of training is considered necessary by 74% of coaches in China, who evaluate the motor abilities of students three to four times a year, against 52% of Belarusian specialists who test their wards once or twice a year.

The greatest differences are observed in the organization of the annual training cycle of young runners and its structural components. Most Chinese coaches believe that in the preparatory period, attention should be paid to games and relay races, as well as general physical training, and in the competitive period, in their opinion, the amount of running aimed at increasing speed endurance should prevail, and then maximum speed. In the preparatory period, much attention in Belarus is paid to running with submaximal speed and games (including outdoor games) or running at different speeds is used in combination with general developmental exercises. At the same time, speed-strength and strength exercises alternate with running at submaximal speed, which is considered undesirable [3, 7], and in the competitive period in the Republic of Belarus they mainly practice running at maximum speed, sports games and jumping exercises.

In training with young sprinters, Chinese specialists use more speed-strength means. Some of them (52%) believe that such funds should be used throughout the entire annual training cycle, and a certain percentage (37%) prefers to use them only in the preparatory period. Most of the interviewed Belarusian coaches (74%) believe that it is necessary to practice means of speed-strength orientation throughout the year.

The importance of assessing the change in the condition of a young athlete under the influence of training influences of various directions was noted only by 16% of Belarusian and 11% of Chinese coaches. Taking into account the dynamics of physiological indicators in the process of training sessions is also underestimated by the coaches of both countries. There are opportunities to eliminate these shortcomings, as the coaches noted that insufficient attention is paid to individualization during the training process with young sprinters.

I would especially like to emphasize the fact that only 12% of the surveyed specialists of the Republic of Belarus and 11% of the China use various methodological recommendations and developments. At the same time, without increasing one's knowledge in the field of organizing the training of sprinters, solving the issues of developing their physical abilities and improving technical skills, it is difficult to hope for an increase in the sports results of their wards.

For a more specific diagnosis of the difference in the level of special preparedness of young sprinters 12-13 years old in Belarus and China, the statistical significance of the differences in the average indicators recorded in the athletes of the two countries

Table 1. *Difference of average values ($\overline{X}$), assessment of its statistical significance (p) and correlation relationship (r) of experimental indicators with sports results in young sprinters from China and Belarus*

Indicators	China		Belarus		Difference	p
	$\bar{x}$	r	$\bar{x}$	r		
100 m run, s	13,1	–	14,1	–	1,0	<0,05
Running 20 m on the move, s	2,5	0,42	2,9	0,73	0,4	>0,05
Running 30 meters from the start, s	4,5	0,47	4,9	0,83	0,4	>0,05
Running 60 meters from the start, s	8,1	0,56	8,8	0,89	0,7	<0,05
Standing long jump, m	2,29	0,77	1,98	0,68	0,31	>0,05
Triple jump from a place, m	6,64	0,76	6,13	0,52	0,51	>0,05
Shot throw with two hands from the bottom forward (3 kg), m	8,95	0,83	8,10	0,41	0,85	<0,05

Note: Running results are hand-timed.

was assessed and the correlation between the experimental characteristics and the sports result in the 100-meter run was determined (Table 1).

It can be seen that athletes of this age in China in all analyzed characteristics show better results than representatives of Belarus. At

At the same time, statistical significance ($p<0.05$) of differences between the results of youngathletes of the two countries is achieved only by the average running time for 60 and 100 meters from the start. If Chinese runners have the highest correlation of 100 m run results with speed-strength characteristics, then Belarusian young sprinters have the highest correlation with running tests.

An analysis of the practical experience of organizing training for sprinters aged 12-13 in China and Belarus made it possible to evaluate the parameters of training means and record differences in the volume of both running of one direction or another, and means of strength and general physical training between young sprinters of the two countries (Table 2).

Attention is drawn to the greater variability in relation to the analyzed means of training among the runners of the Republic of Belarus, compared with their peers from the PRC. Young athletes of Belarus at this age also outperform their peers from China in terms of the annual volume of running at maximum speed. At the same time, numerous studies to identify the effectiveness of methods for developing speed in children have shown that it is inappropriate to prematurely focus on highly specialized speed training [2, 5, 6].

It was revealed that young athletes in China perform a greater amount of running exercises at a speed of up to 80% (by 20.3%), prevail in cross-country running (by 50.0%), long jumping exercises (by 35.6%), games (by 26.3%),

strength (by 51.0%) and general developmental exercises (by 48.9%). All the above differences in the amount of load are statistically significant ($p<0.05$).

Thus, judging by the results obtained, coaches in China at the stage of initial sports specialization focus on speed-strength and general physical training. In Belarus, the emphasis is more directly on the use of speed running.

Conclusions. The results of the obtained material made it possible to determine the main aspects of building the training process of young sprinters of the two countries. A number of shortcomings were also identified, the elimination of which, in our opinion, would help their pupils achieve better results. Thus, coaches should pay more attention to testing, use

Table 2. *Annual volumes of basic training equipment for sprinters aged 12-13 in China and Belarus ($\bar{X} \pm \sigma$)*

Training tools	China	Belarus	Difference	%
Running up to 80 m (at a speed of 96-100%), km	6,9±1,4	8,8±2,6	**–1,9**	21,6
Running up to 80 m (at a speed of 91-96%), km	7,6±1,4	9,4±2,8	**–1,8**	19,1
Running 100-300 m (at a speed of 91-100%), km	19,9±1,6	24,1±4,1	–4,2	17,4
Running over 300 m (at a speed of less than 80%), km	46,7±8,1	34,5±9,9	**12,2**	26,1
Cross running, watch	28,0±5,9	19,0±6,1	**14,0**	50,0
Various strength exercises	33,7±7,6	19,5±6,7	**17,2**	51,0
Short jumps, number of rebounds	2650±590	2200±470	450	16,9
Long jump exercises, km	7,3±0,8	4,7±0,9	**2,6**	35,6
Games and game exercises, hours	95±9,6	70±11,9	**25**	26,3
General developmental exercises, hours	78,5±8,6	40,0±7,3	**38,5**	48,9

Note: Differences in bold face reach statistically significant differences for the 5% significance level.

the data obtained more widely in the individual planning of the loads of the wards, and strive to improve their level of pedagogical skills.

At the same time, the use of the scientific and practical experience available in the PRC in training sprinters will allow Belarusian coaches to transform it into an increase in the sports achievements of sprinters of the Republic of Belarus.

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