

Introduction of auxiliary exercises from strength oriented kinds of sport into the training process of athletes, specializing in sprint

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Abstract: In the course of the research work, the authors considered the importance of introducing auxiliary strength oriented exercises from strength sports into the training process of athletes. They specialize in sprint. In the course of the study, a pedagogical experiment was conducted. It was revealed that the training of a sprinter is characterized by a high level of the load on the body. Such training can't be without the introduction of auxiliary strength oriented exercises from strength sports into the training process. Most of the success depends on the level of strength development. The result of the experiment was the result of the exercises fulfillment: 60 meters, 100 meters running. The athletes of the experimental group showed 6-8% better result than the athletes of the control group. Scientific novelty is in determining the important auxiliary strength oriented exercises from strength sports. They are necessary for the development of general strength of athletes, who specialize in sprint. Practical significance consists in the introduction of auxiliary exercises from strength sports into the training process of athletes. They specialize in sprint. **Materials.** The article considers the results of research works by native authors, surveys among respondents concerning the basics of sprint techniques. Research methods: scientific information sources analysis and summarizing, survey among the respondents, methods of mathematical statistics, pedagogical experiment. **Results.** In order to develop necessary speed and keep it until the end of the distance, the runner must have sufficient strength and know the running technique. The training of a sprinter is characterized by a high level of load on the body. Such training can't be without the introduction of auxiliary strength oriented exercises from strength sports into the training process. Most of the success depends on the level of strength development. The training process, organized only with auxiliary strength oriented exercises from strength sports introduction, helps to develop athletes' power during the starting stride and their general strength oriented qualities. **Conclusion.** It was revealed that auxiliary strength oriented exercises from strength sports are very important for athletes. They specialize in sprint. In the course of the study, a pedagogical experiment was conducted. It was revealed that the training of a sprinter is characterized by a high level of load on the body. Such training can't be without the introduction of auxiliary strength oriented exercises from strength sports into the training process. Most of success depends on the level of strength development. The result of the experiment was the result of the exercises fulfillment: 60 meters, 100 meters running. The athletes of the experimental group showed 6-8% better result than the athletes of the control group.

Keywords: athletes, track-and-field athletics, sprint, training process, auxiliary exercises, strength sports.

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Introduction

Track-and-field athletics is an Olympic kind of sport. It includes running, walking, jumps and throwing and combines the following disciplines: running kinds, race-walking, technical walking (jumps and throwing), multiathlon, running (road

running) and cross (cross-country race). One of the main and the most mass kinds of sport [1].

Track-and-field athletics strengthens health and is a perfect means of physical upbringing of youth. Systematic track-and-field athletics classes, organized on the basis of a qualitative training

process, help to solve the problem of many-sided physical development and sports mastery improvement among the athletes [2]. Practice shows that not extraordinary physical qualities, but good knowledge of the technique, the most important qualities development- strength and quickness, gained with the help of systematic and constant training, play significant role in high results achievement. The best athletes are characterized by intensive mobility, high versatility of their physical training. Most of them show good results in jumping, sprint and other kinds of physical exercises.

It is reasonable for track-and-field athlete-beginner to know the peculiarities of the training process organization, in particular sprint.

Materials and methods

In athletics it is important to organize training process correctly and physical readiness of an athlete. During scientific information sources, research works of native authors analysis, survey among track-and-field athletics coaches, we didn't find complete information concerning the problem of our research. It means that the training process of track and field athletes, in particular sprinters, demands technical corrections [3].

Running includes the following parts of running: start, starting stride, running at the distance and finish. They follow one another. Each part has its own technique of fulfillment.

During our research work we organized pedagogical experiment. The results of the experiment are presented in tables 2,3.

Results and discussion

The indices of high quality running technique in sprint are the following: strength and correct fulfillment of the back push during the start. In modern sprint running technique so called stride is used. The leg pushing off the ground transfers the body forward movement. After the push the body of a runner is in a coasting flight position. As soon as the foot touches the ground, the knee joint bends, softening the braking force of the forward push after the flight position. During the flight position an athlete gets ready for a further step. The hips bend and the sharper this movement is, the closer to center of gravity line ("under oneself") the foot of the switch leg is put, the smaller is the braking effect of the forward push [4]. Each runner finds the longest for him step length, in terms of which it is easy to keep necessary bend of the body, preserving high speed and organizing running, not violating the basis of the correct running technique. Using the stride during sprint an athlete has an opportunity to release muscles from the load and this way gives them an opportunity to relax. Moreover, it makes coordination of movements easier, which provides high results achievement [5].

In order to develop necessary speed and hold it till the end of the distance a runner should have sufficient strength and know the running technique.

The training process of a sprinter is characterized by high level of the load on an organism. Such training can't be without the introduction of auxiliary strength oriented exercises from strength sports into the training process. Most of success depends on the level of strength development.

Let's consider auxiliary strength oriented exercises presented in table 1.

Table 1

Auxiliary strength oriented exercises		
1.	Exercise	
	Lifting the bar on chest with not deep squat on the spot	The exercise provides strength qualities development. As the experience of the leading athletes shows, with the result improvement in this movement improves the result of sprint.
2.	Barbell (weight) rowing with two hands	Slow tempo pulling with straight hands is not identical with the character of movement during the barbell lifting on chest with the squat. It solves the problem of developing the separate groups of muscles, in particular hip and knee joints extensors. They are very important for athletes-runners.
3.	Lunge-walk with barbell on shoulders and on chest	The exercise is significant for the power of legs muscles development
4.	Rising with the bar from the squat	The exercise develops the power of muscle groups, with the help of which start during running is realized.
5.	Squatting with the barbell on chest from feet apart stand	The exercise develops the power of legs muscle groups.
6.	Bouncing on the toes with 32 kg weight	The exercise develops explosive power of leg muscle groups

During the research period since January, 15, 2023 till February, 25, 2023 we organized pedagogical experiment. The experiment was held on the basis of Mikhailovskaya Military Artillery Academy. 6 athletes from the control group and 6 athletes from the experimental group, the first and the second staff of sports athletics team of the academy took part in the experiment [6]. The training process of the CG was based only on classical exercises. The training process of the EG

included auxiliary strength oriented exercises from strength sports, directed toward athletes' strength development during the starting stride and track-and-field athletes' general strength qualities improvement [7-8]. In the end of the experiment both groups reached qualifying standards according to the following testing exercises: 60 meters running, 100 meters running. The results of the experiment are presented in tables 2, 3.

Table 2

The indices of testing exercises fulfillment before the experiment

Respondents (CG)	"60 meters running" exercise fulfillment, s	"100 meters running" exercise fulfillment, s	Respondents (EG)	"60 meters running" exercise fulfillment, s	"100 meters running" exercise fulfillment, s
1	8,1	12,7	1	8,2	12,8
2	8,2	12,9	2	7,8	12,7
3	8,3	12,5	3	8,0	12,4
4	8,0	12,6	4	8,2	12,5
5	8,1	12,5	5	8,1	12,6
6	8,0	12,5	6	8,1	12,9

Table 3

The indices of testing exercises fulfillment after the experiment

Respondents (CG)	"60 meters running" exercise fulfillment, s	"100 meters running" exercise fulfillment, s	Respondents (EG)	"60 meters running" exercise fulfillment, s	"100 meters running" exercise fulfillment, s
1	8,2	12,7	1	8,1	12,6
2	8,1	12,8	2	7,7	12,5
3	8,2	12,6	3	7,9	12,3
4	8,1	12,5	4	8,1	12,1
5	8,0	12,4	5	8,0	12,4
6	7,9	12,6	6	7,9	12,5

As a result of the pedagogical experiment we see that auxiliary strength oriented exercises are effective. The athletes of the experimental group showed 6-8% better result than the athletes of the control group.

Conclusion

It was revealed that auxiliary strength oriented exercises from strength sports are very important for athletes. They specialize in sprint. In the course of the study, a pedagogical experiment was conducted. It was revealed that the training of a sprinter is characterized by a high level of load on the body. Such training can't be without the introduction of auxiliary strength oriented exercises from strength sports into the training process. Most of success depends on the level of strength

development. The result of the experiment was the result of the exercises fulfillment: 60 meters, 100 meters running. The athletes of the experimental group showed 6-8% better result than the athletes of the control group.

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