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THE APPLICATION OF SPECIAL PHYSICAL EXERCISES TO IMPROVE THE TEMPO-RHYTHMIC STRUCTURE OF THE RUN UP IN JAVELIN THROWING

The article considers a set of special physical exercises, which is aimed at using them in the training process of javelin throwers at various stages of improvement. In all technical sports, not excluding javelin throwing, special technical training of athletes prevails. The most typical mistakes of the tempo-rhythmic structure in the run up phase during javelin throwing are given, which are allowed to athletes.

Javelin throw is a cyclical discipline of athletics. In order for the effectiveness in javelin throwing to reach the maximum for each athlete, it is necessary to carefully study all aspects of preparedness [2; 3]. This is especially so with regard to technical and physical training in the javelin thrower's training process, which are aimed at developing and further improving the necessary physical qualities of the javelin thrower in accordance with his individual abilities. At the same time, we should not forget about the recovery of the athlete's body after training [1].

The purpose of the study is to identify special physical exercises necessary to improve the tempo-rhythmic structure of the run up in javelin throwing.

Organization and methods of research: analysis of scientific and methodological literature, analysis of sports diaries, video analysis of training processes.

The results of the study and their discussion. Technical training in javelin throwing begins with training in the first phase – the run up. At first sight, it is quite simple, but there are nuances of the following character in it:

- 1) tempo training;
- 2) rhythm training;
- 3) determination of the rational number of steps, in accordance with the level of preparedness, age, qualifications, anthropometric parameters.

The entire period of a sports career, the length of the run up, the number of running steps and their biomechanical parameters are changing due to the growth of the sportsmanship of javelin throwers [4]. At the stage of initial specialization, learning the tempo-rhythm structure begins with setting a run up in accordance with his individual abilities. In the future, as the state of athletic form is acquired, the development of the necessary physical qualities for the javelin thrower is corrected by the rhythm and pace in the run up.

For training, as well as further improvement of the tempo-rhythmic structure of the run-up phase at all stages of the athlete's specialization, the following physical exercises are used in the training process:

- 1) short multi-jumps;
- 2) running up the stairs;
- 3) running accelerations up to 20 m. without a javelin (with an imitation of holding it), as well as with a sport inventory;
- 4) "running into the mark" of the run up with the withdrawal of the javelin into the phase of crossing steps;
- 5) running in the opposite direction without a javelin, with lightweight one and standard weight of the javelin;
- 6) running up to 20 m. downhill without and with a javelin;
- 7) running on the run with weights on the belt (rubber).

In addition to the above-described motor actions of a high-speed type, speed-force exercises are used to cultivate a feel of rhythm and pace in javelin throwing. Let's look at some of them:

- 1) the walking lunges with a barbell on your shoulders;
- 2) jumping out with a kettlebell, a barbell on the shoulders;
- 3) running on the run with a kettlebell;
- 4) torso turns with a barbell on the shoulders;
- 5) running on a run-up holding weights up to 5 kg in bent arms at the elbow joints;
- 6) fast half-squat with a barbell on the shoulders.

The above physical exercises can be modified, supplemented, and also replaced by any other motor actions. They are quite simple in their structure, complexity can arise only in determining the method of physical exercise in the training process, which depends on the stage of preparation, specialization, preparedness of the athlete

Despite the fact that the above complexes are aimed not only at training, but also at improving the run up phase. There are also the most typical mistakes that athletes make. Let's look at some of them:

- 1) running in too slowly in the preliminary part of the run up;
- 2) lack of movement in «high-foot» running steps;
- 3) exceeding the rational run up speed;
- 4) in the preliminary part of the run up, the speed is too high with its further loss in the main part of run up;
- 5) the absence of active pushing of the foot from the surface.

These are just some of the most important technical mistakes in the run up phase. In the process of training, the coach together with the pupil, through video analysis of training, competitive javelin throws, can identify others that are characteristic of this athlete.

Conclusion. Currently, a large amount of research is being conducted in the direction of tempo-rhythmic training of javelin throwers of various qualifications, starting from the stage of initial specialization and ending with the stage of sports improvement. For the correct construction of the training process, trainers need to take into account all functional, physical, biomechanical parameters [2, 3, 4].

The application of the above-described special physical exercises contributes to the strengthening and development of the articular-ligamentous apparatus, develop the speed-strength abilities necessary for javelin throwers [5]. The application of its components can be adjusted, and can also be supplemented with various inventory, equipment, which will contribute to a positive impact for training and improving the tempo-rhythmic structure of the run up.

List of literature used

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