

## Development Of Volleyball 12-14-Year-Old Players Speed-Power Qualities Using The Circular Method.

A.A. Lozovoy<sup>12</sup>, G.I. Rybgagin<sup>2</sup>, A.S. Tretyakov<sup>1</sup>, M.A. Lozovaya<sup>1</sup>

Federal State Budgetary Educational Institution of Higher Education "Siberian State University of Science and Technology named after Academician M.F. Reshetnev", Krasnoyarsk, Russia<sup>1</sup>

Federal State Budgetary Educational Institution of Higher Education Krasnoyarsk State Pedagogical University named after V.P. Astafieva, Krasnoyarsk, Russia<sup>2</sup>

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**Abstract:** The article presents a study of 12-14-year-old volleyball players educational and training process using circular method. The purpose of the work was to create a methodology for development of 12-14-year-old children speed-strength qualities using circular method.

During the work on the problem of using the circular method in 12-14-year-old volleyball players training, the following research methods were used: analysis of psychological and pedagogical literature, problem and methodological apparatus formulation, pedagogical observation, experiment program development, experimental work organization and conduct, testing, the experiment results generalization.

The research was carried out during one academic year. The study involved 20 trainees aged 12-14 years.

In the course of the experiment, a technique for applying the circular method was formed, which has proven its effectiveness.

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**Key words:** training, volleyball, circular training, speed-strength capabilities, special exercises, athletes.

Volleyball is one of the widespread and accessible sports games, in this capacity it can act as a tool of improving health and development of physical qualities of secondary school students [2, 3].

The modern level of volleyball development requires development of physical and mental qualities, as well as all types of sports training.

In the training process students are provided with all the conditions for the versatile development of physical and mental qualities by volleyball tools.

Meanwhile, in the volleyball players training, like other athletes training, there are difficulties and disadvantages. The difficulty in solving emerging problems in 12-14-year-old volleyball players training process is due, on the one hand, to the existing sports coaches qualifications, and, on the other hand, to the young athletes individual goals, increase of their interest in practicing the chosen kind of sport.

The modern methods of organizing training for 12-14-year-old volleyball players gained thus far are fragmentary, disordered, and sometimes contradictory.

Circular training is one of sports training methods. This method is used for physical qualities development, including speed-strength, while physical exercises are performed in a flow, sequential complex [1, 5]. The exercises are performed in a circular concept of "stations" [1, 4].

Currently, the specifics and structure of circuit training for children of this age has not been determined. The current problematic situation is also a consequence of the insufficient elaboration of theory and methodology of training young athletes in the conditions of a secondary school.

There is a contradiction between the objectively urgent need to develop a modern methodology for 12-14-year-old volleyball players and the lack of research in this area. In this regard, there is a need to identify ways and mechanisms that increase the effectiveness of training young volleyball players, that is, the system of factors, the use of which increases the effectiveness of all sports training.

Modern volleyball is characterized by athletes' high physical activity. For volleyball, the most important are speed and power qualities. The effective use of circular training, techniques and a large number of tactical combinations over several playing days is based on a high level of physical qualities development.

The current level of volleyball development requires search for unconventional tools and methods of training, which will significantly intensify the training process of athletes at various stages of their training.

At the same time, the process of improving volleyball players playing activity makes high demands on the athletes' speed-power qualities development level.

Based on the foregoing, the purpose of the study was to develop a methodology for the development of 12-14-year-old children speed-strength qualities, using the circular method.

During the work on the problem of using the circular method in 12-14-year-old volleyball players training, the following research methods were used: analysis of psychological and pedagogical literature, problem and methodological apparatus formulation, pedagogical observation, experiment program development, experimental work organization and conduct, testing, the experiment results generalization.

The research was carried out during one academic year. The study involved 20 trainees aged 12-14 years.

The sample was formed on the basis of data analysis on the level of physical and physiological development of the trainees (potential participants in the experiment) and information on their general physical training level.

On the basis of this information, as well as information from class journals on the level of

academic performance in physical culture and journals for registering students' fulfillment of TRP norms, two groups of 10 people were formed with the most similar characteristics:

1. Experimental group - 10 people.

2. Control group - 10 people.

During the course of experiment, a technique for applying the circular method was formed:

1st "station" — movement speed development (10 m leap with 5 sec rest pauses — 20 leaps);

2nd "station" — jumping ability development (leaps to an elevation) — 4 series of 15 jumps in a series with 30-second rest pauses between series;

3rd "station" — body muscles "explosive" strength development;

4th "station" — flexibility development. Repeat the program 4-6 times.

Exercises: spikes over the net for 10-15 minutes (execution intensity — 6-7 spikes per minute).

Blocking in the field of two athletes for 10 minutes (alternate attacking strikes from zones 4 and 2).

Service return by two athletes for 4-5 minutes (after each service return – zone change).

The game 4x4 with the task "not to win the ball" (after attack in each team there is a side-lift according to positioning).

In playing activity process, 12-14-year-old schoolchildren experience positive emotions, are charged with cheerfulness, vigor, show initiative. Thanks to this, volleyball is a tool of not only physical development, but also active recreation.

During trainings, endurance and movements coordination exercises are carried out, which contribute to playing volleyball skills building.

Lesson type: Combined using the circular method of organizing the lesson.

Purpose: increasing the level of participants speed-strength qualities development and building healthy lifestyle.

Training objectives:

Continue studying of self-paced training in order to improve physical fitness.

Conduct cross, general physical and strength training for volleyball, taking into account the individual characteristics of the age (12-14 years).

Teach the technique of the bottom receiving in volleyball.

Develop strength and coordination skills.

Develop independent activity of children in material study.

Procedure: in-line, group, frontal.

Training methods: verbal (explanation), visual (show).

Inventory: stopwatch, whistle, medicine balls, volleyballs, volleyball net.

Venue: school gym.

The effectiveness of the training volleyball players methodology on the basis of circular method was tested by comparing data of primary and repeated diagnostics of volleyball players speed-strength qualities development in experimental and control groups.

Diagnostics results on the Uccelli test in the experimental group showed an increase in the average value of 1.050%, while in the control group the increase was 0.979%.

The results of diagnostics of performing leaps to an optimal height from a standing position by pushing two legs with reaching the mark with both hands in the experimental group increased on average by 1.559, and in the control group by 1.168.

The average value of running leap with one hand reaching the maximum height in the experimental group increased by 1.242%, while in the control it remained at the same level.

The results of jumping over the bar in experimental group (height 75% of the maximum jump height of a volleyball player) with a push of two legs sideways to the bar in average increased by 2.093 times, in the control in the same test the average indicator increased by 1.176 times.

The average ball losses number in the experimental group decreased by 45.26%, and in the control group by only 2.42%

The results of special dexterity assessing in the experimental group increased by 1.590 times, in the control group — by 1.137 times.

As you can see, according to all the tested indicators, the dynamics are better in the experimental group, while the difference in indicators is statistically significant.

Analysis of the performed work showed a positive dynamics of circular training methodology developed in increasing the level of speed-strength readiness in the experimental group and insignificant changes in the control group.

It follows that the purposeful use of the methodology for development of 12-14-year-old children speed-power qualities using the circular method allows improving speed-power readiness indicators and more fully implementing them in competitive activity, increasing its effectiveness.

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