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METHODOLOGY FOR DEVELOPMENT OF SPECIAL PHYSICAL QUALITIES OF 10–12-YEAR-OLD VOLLEYBALL PLAYERS

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Annotation
This paper presents and experimentally tested the methodology for the development of special physical qualities of volleyball players aged 10-12 years, as well as the results obtained during the pedagogical experiment.it contains material reflecting new practice data and the results of scientific research that reveal the issues of physical fitness of volleyball athletes aged 10-12.
Key words: physical fitness, volleyball athletes, physical qualities, means and methods of training.

МЕТОДИКА РАЗВИТИЯ СПЕЦИАЛЬНЫХ ФИЗИЧЕСКИХ КАЧЕСТВ ВОЛЕЙБОЛИСТОВ 10-12ЛЕТ

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АННОТАЦИЯ
В данной работе представлена и экспериментально апробирована методика развития специальных физических качеств волейболистов 10-12 лет а также результаты, полученные в ходе проведения педагогического эксперимента.Содержится материал, отражающий новые данные практики и результаты научных исследований, которые раскрывают вопросы физической подготовки спортсменов-волейболистов10-12 лет
Ключевые слова: физическая подготовка, спортсмены-волейболисты, физические качества, средства и методы тренировки.

Introduction

Relevance. The search for the most accessible means that increase physical activity, studying their influence and significance in modern society, and introducing them into everyday life is one of the areas of research by scientists and specialists in the field of physical culture and sports [1,2,3].

Volleyball is the most accessible, therefore, mass means of physical development and health promotion for the general population; volleyball is practiced in all regions of the country. This game is popular among people of different ages, from children to the elderly. The high level of sports results in modern volleyball

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requires athletes not only to have comprehensive physical training, but also to effectively master special physical qualities.

Special physical training is aimed at increasing functionality, developing special physical qualities necessary for playing volleyball, better and faster mastery of technical techniques.[5].

The main means of special physical training are competitive volleyball exercises, as well as special exercises that are similar in their motor structure and the nature of neuromuscular efforts to the movements of a specialized exercise. With the help of such exercises, technical techniques are improved and special physical qualities are developed.

The purpose of the work is to study the methodology for developing special physical qualities of volleyball players aged 10-12 years

Objectives of this work:

1. Analyze the state of the problem in the psychological and pedagogical literature: anatomical and physiological features of the development of children 10-12 years old.

2. Consider and select control exercises used to assess the special physical qualities of volleyball players aged 10-12 years.

3. Determine the level of special physical training of 10-12 year old volleyball players.

Object of study: educational and training process of volleyball players aged 10-12 years.

Subject of research: methodology for the development of special physical qualities of volleyball players aged 10-12 years.

The working hypothesis assumes that the method of developing physical qualities is effective in training volleyball players 10-12 years old.

Research methods: analysis of scientific and methodological literature, control tests, pedagogical experiment, methods of mathematical statistics (Student's t-test).

Characteristics of research methods

The following research methods were used in the work:

1. Theoretical analysis of scientific, methodological and special literature

2 Pedagogical observation

3.Testing

4. Pedagogical experiment;

5. Methods of mathematical statistics.

Theoretical analysis of scientific, methodological and specialized literature. Carried out throughout the study. The solution to these issues at the theoretical level is carried out by studying the literature on: theory and methodology of physical education and sports, education of physical qualities, age-related physiology.

Pedagogical observation is a systematic analysis and assessment of an individual method of organizing the educational process of volleyball players aged 10-12 years without the intervention of a researcher during this process. Such observation has a specific object of study, the presence of specific techniques for recording phenomena and facts (conventional notations for recordings, etc.) and, of course, verification of the observation results.

3. Testing. The experiment used control exercises to measure the level of technical training of young volleyball players aged 10-12 years.

1. Jump up

A bar with a centimeter scale is attached to the shield. On the platform under the shield, a square of 50\50 cm is drawn with chalk (from the projection of the shield into the depth of the platform). Previously, the height of the subject with his arm extended upward (Pcm) is measured on a scale marked in centimeters.

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Then the subject performs a standing jump, trying to make a mark on the bar as high as possible with the practiced fingers of his right and left hand. When performing a jump and landing, the subject must be within the drawn square. The height of the mark made by the test subject above the level of the platform is recorded (in cm), and the height of the jump is assessed by the best result over three attempts.

2. Standing long jump. (Lyakh. V.I)

The measurement is carried out according to generally accepted rules for calculating the length of a jump. For greater measurement accuracy, the heel edge of the sole is rubbed with chalk. The best result over two attempts is taken into account.

3. Shuttle run 3x10. (V.I. Lyakh)

The subject on the command "March!" runs as quickly as possible from one line to another, crossing them with his feet, and so on 3 times. The result is the task execution time with an accuracy of 0.1 s.

4. Pedagogical experiment. A pedagogical experiment creates an opportunity to reproduce the phenomena being studied. This is the main research method. Its value lies in the fact that the conditions under which this or that research is studied are created by the experimenter. Or they can, therefore, be repeated many times, partially or completely changed. This will allow for a deeper and more comprehensive understanding of the phenomenon being studied.

5. Methods of mathematical statistics. It is widely used for processing data obtained during research, their logical and mathematical analysis to obtain secondary results, i.e. factors and conclusions arising from the interpretation of processed primary information.

When processing the results obtained, the following indicators were calculated:

a. Indicators of the arithmetic mean X

In our work, we used a formula to calculate the arithmetic mean for each group separately

$$\overline{X} = \frac{\sum x_i}{n}$$

where X_i is the value of an individual measurement; n – total number of measurements in the group.

b. Variance according to the formula

$$S^2 = \frac{\sum\left(\overline{X} - Xi\right)^2}{n-1}$$

c. The formula for calculating the standard error of the arithmetic mean (m) using the formula

d. To assess the reliability of differences in average indicators, we used

Student's t test

$$\mathbf{m = \frac{\delta}{\sqrt{n-1}}}$$

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$$t_{\delta} = \frac{\left|\overline{x} - \overline{y}\right|}{\sqrt{\frac{s_X^2}{n} + \frac{s_Y^2}{n}}}$$

Where n is the sample size,
$\sum -$ sum,
x, y - experimental data
Sx, Sy -variances.

Using methods of statistical processing of experimental data, hypotheses associated with the experiment are directly tested, proven or disproved.

Organization of the study

The study was conducted on the basis of general educational school No. 25 in Chirchik. The study involved volleyball players aged 10-12 years old, involved in the volleyball section. The sample of this group of subjects consisted of 20 volleyball players, who were divided into 2 subgroups: control - 10 people and experimental - 10 people. The study consisted of stages II.

Stage I (October 2022): determination of the initial (initial) level of special physical training of volleyball players (10-12 years old).

Stage II (December 2022): identification of differences in the special physical training of volleyball players (10-12 years old), comparison of the obtained data with the initial (initial) indicators.

III (March 2023) stage - analysis of research results

Determination of the level of technical training of children of primary school age was carried out using control exercises, the implementation of which demonstrates the level of proficiency in volleyball techniques.

Pedagogical control tests (testing) were used for the purpose of:

a) determination of the initial (initial) level of special physical training of volleyball players 10-12 years old;

b) tracking the difference in the development of special physical training of volleyball players 10-12 years old

To determine the reliability of differences between the series of indicators of the control and experimental groups, the method of determining Student's t - test was used.

Research results and discussion

According to the results of the average data on jumping up at the beginning of the experiment, the result in the control group was 20 cm, in the experimental group - 21 cm. At the end of the experiment, the result in the control group was 22 cm, in the experimental group - 24 cm.

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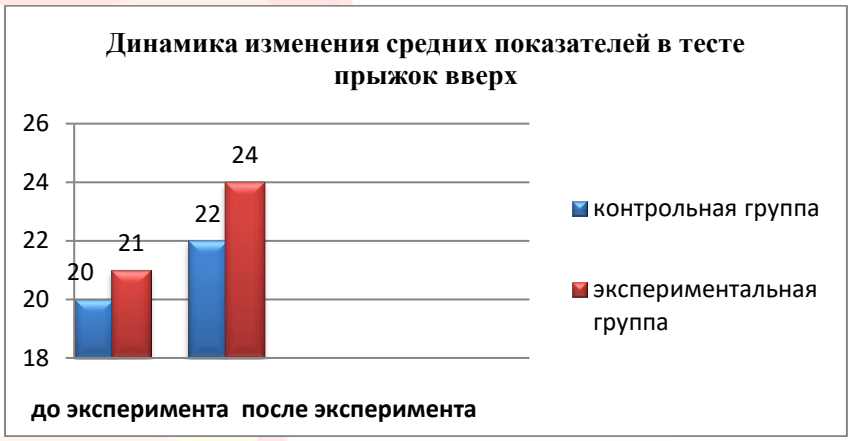

In the control and experimental groups, testing of physical fitness showed: 1. According to the results of average data in standing long jumps at the beginning of the experiment, in the control group the result was 170m, in the experimental group - 174m. At the end of the experiment, the result in the control group was 172m, in the experimental group - 179m.

Using a 3*10m shuttle run, the control group at the beginning of the experiment had an indicator of 8.9s, and the experimental group - 9.25s. At the end of the experiment, the control group had an indicator of -

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9.49 s, and in the experimental group - 9.74 s.

According to the study data, it is clear that at the beginning of the experiment the reliability of the differences is small; by the end of the experiment, the indicators in the experimental group changed significantly. This suggests that the technique effectively influences the development of special physical qualities of 10-12 year old volleyball players

Conclusions

1. A study of the literature on the topic of the work allowed us to draw the following conclusions:

- The age period from 10 to 12 years is characterized by rapid development of physical qualities and is extremely favorable for the targeted practice of various sports. From the point of view of sports training, this age is decisive. It is during this period that the greatest increase in the development of speed, strength, agility is achieved, the foundations of technique and tactics are laid, and a sports character is formed. It is known that the age of 10-12 years is characterized by a high degree of sensitivity in relation to training influences aimed at developing physical qualities.

2. Control exercises were considered to assess the level of special physical qualities in the training of volleyball players:

- Jump up
- Standing long jump (cm)
-Shuttle run 3*10(sec)

3. Thus, in the course of the study, we came to the conclusion that the use of methods for developing special physical qualities in the educational and training process, together with the implementation of technical elements of volleyball, increases the overall base of motor abilities of athletes, contributing to more effective implementation of the basic technical elements of volleyball. Therefore, there is reason to consider the proposed method effective.

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