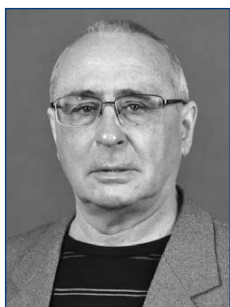




Physical abilities of students with different years of volleyball training

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Abstract

Objective of the study was to trace the changes in the physical fitness of university students during their lessons in the volleyball section.

Methods and structure of the study. Thirty-two clinically healthy male university students were examined. Standard tests were used with calculation of Student's criterion on their results.

Results and conclusions. Students who started volleyball training initially had low physical abilities. As the length of volleyball training increased, the students improved the results of all applied tests. After 9 months of training, volleyball players had the highest results in all physical ability tests. Regular long-term training in the volleyball section provides an opportunity to obtain significant progress in the level of physical abilities of students, stimulating the reserves of their internal organs, which contributes to the growth of their intellectual potential. The achieved effects contribute to increasing the efficiency of their learning process at the university and thus improve the quality of training of future professionals of their work, capable of long-term fruitful labor.

Keywords: volleyball, sports, physical activity, boys, students, physical activity, sectional training.

Introduction. The necessary component of the student's life during the university is a sport that can develop his physical and strong-willed qualities [1, 2]. Group playing sports remain attractive to young people and therefore are considered as the most effective in relation to the physical development of those involved [3]. In addition, an increase in mental potential noted under these conditions is an important basis for achieving greater effective youth training at the university [4]. This circumstance reinforces the opinion on the need for regular physical training of students who are studying at a university, especially in full-time undergraduate [5].

Modern coaches note the need to continue the development of training schemes in game sports with their mandatory regularity and continuity [6]. Their high effectiveness is recognized in terms of physical

improvement even without participating in competitions of any level [7].

The presence of systematic loads for the young organism acts as a powerful stimulating effect on all body systems [8]. They can have a very pronounced effect on the bone-muscular system, nervous system, heart and blood vessels [9]. At the same time, the influence of such training on the youthful organism of students who expressed a desire to regularly train in the volleyball sections at a time free from the educational process requires clarification.

Objective of the study was to analyze the changes in the physical fitness levels of university students participating in volleyball classes.

Methods and structure of the study. To implement the study, 32 clinically healthy male university students ($19,2 \pm 0,32$ years old) of full-time educa-



Physical fitness of volleyball students

The terms of accounting for parameters	Test results, M±m				
	Speed test, since	General endurance test, beats/min	Balance test, sec	Strength endurance test, sec	Joint mobility and flexibility test
Initial, n = 32	33,2±2,16	134,4±3,49++	8,26±0,63	74,7±1,68	46,5±0,92
After 3 months, n = 32	34,6±1,12	129,8±4,05++	7,62±0,72+	83,8±1,52	49,3±1,01
After 6 months, n = 32	33,4±2,26	115,2±1,52*	7,06±0,58*	94,5±2,02**	55,6±0,87*
After 9 months, n = 32	36,7±2,05*	104,6±1,23**	6,87±0,61**	103,6±1,31**	61,3±0,7**

Note: The reliability of the dynamics of indicators in comparison with the outcome is *-p < 0,05; **-p < 0,01.

tion at the beginning of their second or third year, who had not previously been involved in sports, who started regular volleyball training three times a week in the specialized section and attended it at least until the end of the academic year, that is, for nine months. During the sports training, the students were under the dynamic control of the researchers and underwent a set of tests of their physical abilities initially, after three months, after six months and after nine months of classes in the section. These tests were used to evaluate the development of dynamic balance (performing turns on a gym bench), speed (running with a high hip), general endurance (the Kersch test), strength endurance of the abdominal and leg muscles, joint mobility and spinal flexibility. All the results found have been processed using the Student's criterion.

Results of the study and discussion. The testing carried out in the work was summarized in the form of a table.

At the beginning of the study, the students' overall endurance was low, as shown by the results of the Kersch step test. However, after three months of volleyball training, their endurance increased by 3,5%. After six months, it increased further by 16,7%, and nine months later, it had increased by a total of 28,5% (p<0,01).

Initially, the speed characteristics of the students were low (33,2±2,16 times), but after three months of training, the speed test score increased by 3,0%. After six months, the increase was 6,6%, and after nine months, it reached 10,5% (p<0,01).

During regular training, we noticed a gradual improvement in dynamic balance. The indicator for this test increased by 8,4% after three months in the volleyball class, 16,9% after six months, and 20,2% after nine months.

The initially low level of strength endurance development (74,7 ± 1,68 seconds) gradually increased during training. After three months of training, it increased by 12,2%, and after six months, it increased by an additional 26,5%. After nine months, it exceeded the initial level by 38,6%, which confirms the development of boys' physical parameters (p < 0,01).

Volleyball training has proven to be effective in developing mobility and flexibility. At the time of testing, these parameters exceeded the initial levels by 6%, 13%, and 32%, respectively, confirming the development of motor abilities (11).

During the observation period, all students who participated in volleyball activities noted not only a general improvement in strength, but also an increased immunity with a significant reduction in colds. In addition, there was an improvement in academic performance, with a higher percentage of "good" and "excellent" grades compared to the control group. The volleyball players also reported a significant increase in interest in their future professional pursuits, indicating an intensification of intellectual development among young men.

Conclusions. Regular physical activity during sports exercises all the physical capabilities of the body. It was possible to identify a gradual increase in the indicators of physical fitness, who occupied the volleyball of the studios. The data obtained give reason to recommend that students have to study at the university in the university in the volleyball section in order to generally physical strengthening, toning the nervous system and the intensification of preparation for future professional activities.

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