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Dynamics of Physical Indicators and Sports-Technical Preparedness Female Volleyball Players

Key words: *dynamics of these indicator, preparedness of female volleyball players, performance, physical fitness, systematic pedagogical control*

Annotation: *the most effective form of organizing volleyball lessons at the university is the creation of specialized groups. One of the main forms of organization of physical education in higher education, the monitoring of pedagogical influences deserves special attention, in particular through monitoring and assessing the level of physical and sports-technical preparedness of volleyball have beengiven by this article. The article has explained the data from experimental studies of the level and dynamics of these indicators of the preparedness of female volleyball players during the experiment.*

Physical training is the process of developing motor abilities and maintaining them at a level that ensures the growth of sports results. A high level of physical fitness allows you to effectively use the available motor potential and is a necessary prerequisite for achieving high and stable sports results (1, 2).

The great importance for the organization of the training process in volleyball is the control over the level of all types of players' training, because without a systematic pedagogical control it is inconceivable to increase the level of physical fitness and develop individual physical qualities.

The sporting result in volleyball is determined by a number of fundamental parameters, the most important of which is the level of development of basic and special physical qualities (3, 4).

Analysis of the tests offered to assess the physical fitness of athletes at various stages of sports training in their chosen sport showed that control exercises describing the level of development of basic qualities (speed capabilities, strength, speed-strength qualities) are common to most sports. endurance). Trainers use a variety of tests based on their preferences and organizational features. Even in the programs for sports schools and sections, unified complexes of control exercises are not given, which allow to compare the obtained results with the data of other researchers (5,6).

The complex of control exercises used in the work allowed to determine the level of physical fitness development and the dynamics of the indicators of speed, strength, endurance and speed-power abilities, due to the results of pedagogical influences. The selected control exercises took into account the specifics of the game actions in volleyball. So, to determine the level of speed development, the shortest distance was chosen - a 30 m run; to control the dynamics of the

speed-power abilities of the belt of the upper extremities - throw a ram ball from the "standing" position; coordination - determined by the results of shuttle running 9x3x6x3x9 m.

According to the conditions of the pedagogical experiment conducted prior to the start of classes, three groups were formed that differed significantly among themselves in terms of functional and motor readiness. Therefore, the analysis of the results of pedagogical impacts was assessed by the growth of the studied indicators (Table 1).

Subjects of group "A", having a high level of preparedness, reliably increased the results in a ball throw by 1.6 m ($p < 0.05$), for the remaining tests, the differences in performance were not significant. However, they showed a relative increase in the results, which is 2.6% in the run for 1000 m, 5.8% - for the number of lifts of the body from the prone position 2.1% for the run at 30 m and 5.1% for jumping up from the spot.

The subjects in group "B" significantly increased their performance in jumping up from a standstill (by 4.3 cm) and running 1,000 meters (0.78 minutes) ($p < 0.05$). In the os tal control tests, positive dynamics was also noted. The time at the 30-meter distance decreased by 0.2 s or 3.9%, the throw distance of the ramball increased by 2.5 m, which amounted to 10.9%, the number of body rises from the prone position in 1 minute increased by 0, 8 times or 2.6%.

With the growth of fitness in girls with a low level of preparedness, there was also an increase in indicators of overall physical fitness. Statistically significant changes occurred as a result of a jump up from a stand (4.7 cm) and a shuttle run (0.5 s). The intensity of the increase in performance in 30 m running, ramming ball throw, jumping up from the spot and shuttle running among students of the group "C" was higher than that of the volleyball players of the groups "A" and "B" of a higher level of preparedness.

Systematic studies during the school year on the program, with the predominant use of volleyball, lead to the fact that the value of a number of parameters of physical fitness begins to change quite significantly, with the highest increase in physical fitness indicators noted for girls with low levels development of motor abilities.

The obtained results allowed to conclude that the assessment of the results of testing the basic and special motor qualities should be differentiated depending on the individual characteristics of the athlete, as well as on the level of her sportsmanship. The absolute values of the test results can be used as reference points for the development of certain physical qualities, but not as criteria for the construction of the training process. In order to manage the training process with a greater degree of efficiency, it is advisable to determine not only the initial level of their preparedness, but also the rate of its growth.

Analysis of the results of re-testing of female volleyball students indicates a significant increase in general and special physical fitness. The tendency of shifts towards increasing results confirms the effectiveness of the proposed method, since in the studied age period the development of the motor abilities of girls occurs under the influence of special directed means and methods.

Table 1

Dynamics of physical fitness indicators of female volleyball students during a pedagogical experiment

Tests	Until the experiment. $\bar{X} \pm m$	After the experiment $\bar{X} \pm m$	t	P
Group «A»				
Running 30 m (s)	4,8 ±0,1	4,7 ±0,2	0,447	>0,05
Jumping up from the place (sm)	53,6 ±1,2	56,4 ±1,4	1,519	>0,05
Throwing the ball (m)	13,8 ±0,7	15,4 ±0,3	2,101	<0,05
Running 1000 m (min)	4.32 ±0,1	4.24 ± 0,2	0,358	>0,05
Shuttlerunning 9x3x6x3x9m (s)	8,4 ± 0,2	8,3 ± 0,2	0,354	>0,05
Raising the body from a prone position (number of times in one minutes)	31,6 ±1,2	33,5 ±1,2	1,120	>0,05
Group «B»				
Running 30 m (s)	5,2 ±0,2	5,0 ± 0,2	0,707	>0,05
Jumping up from the place (sm)	48,6 ±1,5	52,9 ±1,3	2,166	<0,05
Throwing the ball (m)	10,4 ±1,2	11,6 ±0,9	1,667	>0,05
Running 1000 m (min)	5.01 ±0,2	4.32 ± 0,2	2,104	<0,05
Shuttlerunning 9x3x6x3x9m (s)	9,1 ±0,3	8,7 ± 0,3	0,943	>0,05
Raising the body from a prone position (number of times in one minutes)	29,8 ±1,4	30,6 ±1,6	0,376	>0,05
Group «C»				
Running 30 m (s)	5,4 ±0,2	5,1 ±0,1	1,342	>0,05
Jumping up from the place (sm)	43,9 ±1,6	48,6 ±1,5	2,143	<0,05
Throwing the ball (m)	9,2 ± 1,6	12,8 ±1,4	0,564	>0,05
Running 1000 m (min)	5.25 ± 0,3	5.05 ± 0,2	0,555	>0,05
Shuttlerunning 9x3x6x3x9m (s)	9,3 ± 0,3	8,8 ± 0,2	1,387	∅),05
Raising the body from a prone position (number of times in one minutes)	23,7 ± 1,2	24,1 ± 1,6	0,200	>0,05

The main indicator of the skill of the volleyball players is the level of technical preparedness, the study of which provides the key to the rational construction of a long-term training process.

For the successful construction of many years of preparation, objective indicators are necessary, which should be oriented when planning the training process, as well as in assessing its effectiveness. The establishment of criteria for the level of preparedness throughout the long-

term process in quantitative terms makes it possible to better manage the process of preparing volleyball players. To account for the technical and tactical readiness of female volleyball students, the following activities were conducted:

- Observations on those involved in the process of training sessions;
- check the performance of individual techniques of the game;
- compliance with established control standards;
- systematic analysis of the game activities of female volleyball players.

Analysis of the results of testing technical preparedness of female students engaged in volleyball showed that in group “A” there was a significant improvement in the number of successful passes of the ball from above with two hands (0.9 times) and attacking blows (0.7 times) ($p < 0.01$), the expert assessment of play activity increased from 4.4 to 4.7 points ($p < 0.05$) (Table 2).

Table 2

Dynamics of indicators of technical preparedness of female volleyball students during a pedagogical experiment

Tests	Until the pedagogical experiment	After the pedagogical experiment	t	P
Group «A»				
Inning, 10 attempts(number of times)	7,6 ±0,4	8,2 ±0,3	1,200	>0,05
Passingtheball, 10 attempts(number of times)	6,2 ±0,2	7,1 ±0,2	3,182	<0,01
Attacking shots, 10 attempts(number of times)	5,8 ±0,2	6,5 ±0,1	3,130	<0,01
Blocking, 10 attempts(number of times)	5,8 ±0,3	6,4 ±0,2	1,664	>0,05
Expert assessment (score)	4,4 ±0,1	4,7 ±0,1	2,121	<0,05
Group «B»				
Inning, 10 attempts(number of times)	6,1 ±0,4	7,0 ±0,2	2,012	<0,05
Passingtheball, 10 attempts(number of times)	5,3 ±0,3	6,1 ±0,2	2,219	<0,05
Attacking shots, 10 attempts(number of times)	3,9 ±0,3	4,6 ±0,3	1,650	>0,05
Blocking, 10 attempts(number of times)	4,2 ±0,2	4,5 ±0,2	1,061	>0,05
Expert assessment (score)	3,4 ±0,1	3,9 ±0,2	2,236	<0,05
Group «C»				
Inning, 10 attempts(number of times)	4,3 ±0,8	6,2 ±0,4	2,124	<0,05
Passingtheball, 10 attempts(number of times)	4,1 ±0,4	5,3 ±0,3	2,400	<0,05
Attacking shots, 10 attempts(number of times)	3,3 ±0,3	4,2 ±0,1	2,846	<0,05
Blocking, 10 attempts(number of times)	3,1 ±0,2	3,6 ±0,2	1,768	>0,05
Expert assessment (score)	2,2 ±0,1	3,1 ±0,1	6,364	<0,001

In the group of volleyball players of medium readiness there was a significant increase in all studied techniques. Thus, the successful number of innings increased by 0.9 times, the ball passes from above with two hands - by 0.8 times, the attacking shots - by 0.7 times, the blocking - by 0.3 times, the expert assessment of the game activity increased by 0.5 point.

Students of the group "C" reliably improved the results in the performance of innings (by 1.9 times), the ball passes from above with two hands (by 1.2 times), the attacking shots (by 1.1 times), the assessment of playing activity increased by 0.9 times ($p < 0.05$). The relative increase in technical preparedness indicators in group "C" was the highest and during the first year of classes was practically compared to the initial level of preparedness of students of group "B".¹¹) These studies indicate that regular volleyball lessons during the school year led to a significant improvement in the results of tests that characterize the level of sports and technical readiness of female students.

Thus, for the effective management of the pedagogical process of physical education in the university, it is advisable to regularly test the basic motor skills and determine not only the initial level of preparedness of students, but also the growth rates. Control tests should be carried out in such a way as to reveal, first of all, lagging physical qualities and correct the learning process in a timely manner.

Properly organized selection of female students in typological groups and volleyball teams, taking into account the individual features involved in the optimal organization of the training process, the desire of female students to achieve high sports skills contribute to the fact that the student volleyball successfully fulfills the tasks set before him.

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