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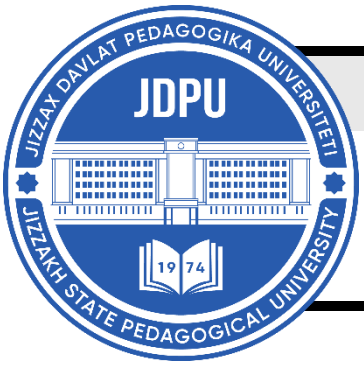

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METHODS OF USING TOOLS TO IMPROVE THE ACCURACY OF PASSING THE BALL INTO THE GAME OF QUALIFIED GIRLS' VOLLEYBALL PLAYERS AND EVALUATION OF THEIR EFFECTIVENESS

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ABOUT ARTICLE

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Abstract: This article analyzes the methods of passing the ball in modern volleyball and their technical characteristics. Various methods of passing the ball, their impact on the effectiveness of the game and technical aspects are analyzed. Also, methods for assessing the accuracy and effectiveness of passing the ball and the possibilities of using them to improve the training of athletes are considered. Based on modern research and international experience, opinions are put forward on the role of various passing methods in the formation of game tactics and their effectiveness. The article presents recommendations for coaches and athletes, as well as scientific approaches to improving passing.

Introduction. Relevance of the topic: The use of special simulators and technical means in modern sports training is one of the important directions for increasing the effectiveness of the training process. Auxiliary equipment (technical means) is also of great benefit in increasing the accuracy of ball throws in volleyball. Special simulators allow you to repeat exercises many times under the same conditions, which increases the stability of movement skills and adaptability to changing conditions. At the same time, such means make it easier to obtain

objective information about the quality of exercise performance - for example, they can immediately measure the accuracy and speed of each ball throw.

Methodology: Auxiliary equipment used in volleyball practice includes: special targets (targets) - target posters of a specified size that are installed in certain zones of the court; height-limiting tape installed above the net (for example, a tape hanging 40–80 cm above the net) - this teaches the ball to be passed on a low trajectory; electronic measuring devices - for measuring the speed of the ball's flight, the height of the trajectory; as well as audio-visual signals - auxiliary means used as a distraction or starting signal during the exercise.

Physical development and physical fitness of female volleyball players at the beginning of the study indicators

Control tests	Groups						Absolute growth	Relative growth difference	t	P
	Control group at the beginning of the experiment (ZARBDOR) n=12			Control group at the end of the experiment (ZARBDOR) n=12						
	$\bar{X}$	σ	V, %	$\bar{X}$	σ	V				
Body length, cm	175.31	4.47	2.55	178.39	4.23	2.37	3.08	1.76	1.73	>0.05
Body weight, kg	71.61	2.55	3.56	73.40	2.48	3.38	1.79	2.50	1.74	>0.05
100 meter dash (sec)	13.84	1.75	12.64	12.64	1.57	12.42	1.20	8.67	1.77	>0.05
Writing with folded hands	36.88	5.03	13.63	40.71	5.49	13.49	3.83	10.39	1.78	>0.05
Standing long jump (cm, m)	214.95	31.41	14.61	243.72	35.28	14.48	28.77	13.38	2.11	<0.05
"Juniper" 92m distance running,	26.69	4.16	15.58	23.62	3.63	15.37	3.07	11.50	1.93	>0.05
3kg. gymnastics throwing a softball, meter	8.82	1.20	13.61	9.72	1.30	13.42	0.90	10.20	1.76	>0.05
Standing high jump (based on	28.38	4.14	14.60	31.48	4.53	14.39	3.10	10.92	1.75	>0.05

Abalakov's method) (m, cm)										

Based on the data, the physical fitness indicators of the control group volleyball players at the beginning and end of the experiment were scientifically and statistically analyzed in detail. At the beginning of the experiment, it was found that the physical development and fitness level of the control group athletes was in a relatively stable state, appropriate for their age. Although positive changes were observed in some indicators at the end of the experiment, most of them did not reach a statistically significant level. This indicates that the traditional training methodology used in the control group had a limited effect on the development of physical qualities.

According to the analysis of anthropometric indicators, body length increased from 175.31 cm to 178.39 cm, and the absolute increase was 3.08 cm. However, the calculated t value was 1.73, which indicated that this change was not statistically significant at the P>0.05 level. This increase is mainly explained by the biological maturation of athletes and the effect of training is not sufficiently expressed. Body weight increased from 71.61 kg to 73.40 kg. Although the absolute increase was 1.79 kg , the results of t=1.74 and P>0.05 indicate that this change is of a random nature. Therefore, the increase in muscle mass or changes in body composition did not occur sufficiently due to training.

In the 100-meter sprint test, which assesses speed qualities, the result improved from 13.84 seconds to 12.64 seconds. The absolute improvement was 1.20 seconds, and the relative increase difference was 8.67%. However, the fact that t=1.77 and P>0.05 indicates that this change is not statistically significant. This indicates that special exercises aimed at developing speed qualities were not used sufficiently. In the handstand push-up test, the result increased from 36.88 times to 40.71 times. Although the absolute increase was 3.83 units, and the relative increase was 10.39%, the results of t=1.78 and P>0.05 indicate that there is no significant difference in this indicator either. This indicates that the development of upper body muscle strength was limited. In the standing long jump test, the results increased from 214.95 cm to 243.72 cm, with an absolute increase of 28.77 cm. The results of t=2.11 and P<0.05 for this indicator indicate a statistically significant positive change. However, this increase is much lower than the results in the experimental group, indicating that the effectiveness of the training is limited.

The time in the 92-meter sprint test, which assesses agility and coordination, decreased from 26.69 seconds to 23.62 seconds. Although the absolute improvement was 3.07 seconds

and the relative difference in increase was 11.50%, the results of t=1.93 and P>0.05 indicate that this change is not reliable.

In the 3 kg gymnastic ball throwing test, the result increased from 8.82 meters to 9.72 meters. The absolute increase was 0.90 meters, and the relative increase was 10.20%. However, t=1.76 and P>0.05 indicate that there is no statistically significant difference in this indicator either. In the standing high jump test (Abalakov method), the result increased from 28.38 cm to 31.48 cm. Although the absolute increase was 3.10 cm, and the relative increase difference was 10.92%, the results of t=1.75 and P>0.05 confirm that this change is not statistically significant.

In general, although absolute and relative increases were noted in most control tests b during the experiment in the control group, most of them did not reach a statistically significant level. Only in the standing long jump test was a significant positive change detected (P<0.05). This indicates that the traditional training methodology is insufficient for the comprehensive and effective development of the physical qualities of female volleyball players and indirectly confirms the superiority of the developed special set of exercises.

Physical development and physical fitness of female volleyball players at the beginning of the study indicators

Control tests	**Groups**						**Absolute growth**	**Relative growth difference**	**t**	**P**
	Experience group at the beginning of the experiment (INTELLIGENT) n=12			**Experience group at the end of the experiment (INTELLIGENT) n=12**						
	$\bar{X}$	σ	V, %	$\bar{X}$	σ	V				
Body length, cm	177.26	4.87	2.75	181.54	4.33	2.39	4.28	2.41	2.28	<0.05
Body weight, kg	72.28	2.53	3.50	74.59	2.42	3.24	2.31	3.20	2.29	<0.05
100 meter dash (sec)	13.63	1.77	12.99	11.71	1.42	12.13	1.92	14.09	2.93	<0.01
Writing with folded hands	37.72	5.27	13.97	44.27	5.80	13.10	6.55	17.36	2.90	<0.01
Standing long jump (cm, m)	212.47	31.79	14.96	272.36	38.53	14.15	59.89	28.19	4.15	<0.001

"Juniper" 92m distance running,	27.56	4.40	15.97	22.81	3.45	15.12	4.75	17.24	2.94	<0.01
3kg. gymnastics throwing a softball, meter	9.16	1.28	13.99	11.25	1.48	13.16	2.09	22.82	3.70	<0.01
Standing high jump (based on Abalakov's method) (m, cm)	27.73	4.15	14.97	33.06	4.67	14.13	5.33	19.22	2.96	<0.01

In the experimental training sessions organized on the basis of a specially developed program, the physical fitness indicators of the female volleyball players of the experimental group (ZIYOKOR, n=12) at the beginning and end of the experiment were analyzed in depth scientifically, theoretically and statistically. The results obtained allow us to substantiate the effectiveness of the developed set of exercises and the methodology for its application.

At the beginning of the study, it was found that the level of physical development and training of the athletes in the experimental group was age-appropriate and relatively uniform. At the end of the experiment, as a result of the systematic and goal-oriented introduction of a specially designed set of exercises into the training process, reliable positive changes were noted in almost all control tests.

Analysis of anthropometric indicators shows that the average value of body length increased from 177.26 cm to 181.54 cm. The absolute increase was 4.28 cm, the relative increase was 2.41%, with statistical significance at $t=2.28$ and $P<0.05$. These changes are, on the one hand, associated with the biological maturation of athletes and age-specific growth processes, and on the other hand, are explained by the positive effect of regular physical activity and strength training on the musculoskeletal system.

The absolute increase in body weight of 2.31 kg ($P<0.05$) indicates that the athletes are associated with an increase in muscle mass and an optimal redistribution of adipose tissue. This indicates an increase in the level of general physical fitness and creates an important physiological basis for the effective performance of strength-speed movements specific to volleyball.

The improvement in the 100-meter dash test, which characterizes the qualities of speed, from 13.63 seconds to 11.71 seconds ($P<0.01$) indicates the high effectiveness of the complex of exercises aimed at developing speed, reactivity and excitability of the neuromuscular apparatus during training. The increase in speed indicators is of great importance for volleyball

players in terms of starting speed, movement along the court and the rapid performance of defensive and offensive tasks.

In the hand-held push-up test, which reflects strength training, the absolute increase was 6.55 units, and the relative increase was 17.36%, which was found to be significant at t=2.90 and P<0.01. This result indicates a significant increase in upper body muscle strength, especially in the functional capabilities of muscle groups involved in kicking, passing, and blocking.

A very significant absolute increase of 59.89 cm was recorded in the standing long jump test, which assesses explosive strength and quick-power qualities (P<0.001). This indicator indicates a high level of development of leg muscle strength, elasticity and neuromuscular coordination during the experiment. These qualities are crucial for jump height, attack and blocking efficiency in volleyball.

The 4.75-second reduction in time (P<0.01) in the 92-meter "fir-shaped" sprint test, which measures agility and coordination, indicates a significant improvement in the athletes' ability to quickly switch movements, change direction, and adapt to complex game situations. This confirms the effective use of special coordination exercises during training.

An absolute increase of 2.09 meters (P<0.01) was observed in the 3 kg gymnastic ball throw test, which assesses upper body strength and coordination. This result indicates an increase in the strength and range of motion of the muscles involved in striking movements, which directly affects the power and accuracy of ball entry and attack shots.

The increase in the standing high jump (Abalakov method) by 5.33 cm (P<0.01) confirms the significant development of the athletes' jumping ability and vertical explosive power. This increases the effectiveness of the attacking and blocking processes, which are important for volleyball players .

Conclusion. It can be noted that the absolute and relative increases in all indicators recorded during the experiment in the experimental group were statistically reliable, and the developed set of exercises comprehensively improved the anthropometric development, general and special physical fitness of female volleyball players. This, in turn, creates a solid scientific and practical basis for increasing the accuracy of ball entry into the game, game efficiency and competitive results.

The results of the study showed that the technique of putting the ball into play in volleyball is of decisive importance in starting the team's offensive activity, and its accurate and stable execution increases the chances of disrupting the opponent's defense system and scoring points. The theoretical and methodological analyses presented in Chapter IV confirmed that

teaching the technique of putting the ball into play in separate phases (preparatory and main phases), stable formation of movements in each phase, and targeted correction of erroneous elements are important conditions for increasing the accuracy of putting the ball into play. In particular, giving the ball a forward rotation in the throwing phase was substantiated as a decisive factor in increasing the effectiveness of putting the ball into play.

One of the important aspects of the developed methodology is to improve the accuracy of the ball throw not only technically, but also inextricably linked to physical, functional and tactical preparation. The study proposed a set of special exercises aimed at developing the muscle groups involved in the ball throw (shoulder, wrist, muscles involved in body rotation). Such exercises served to increase the power of the ball throw, improve coordination of movements and ensure stability.

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