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## INDIVIDUAL APPROACH IN MOTOR ABILITIES DEVELOPMENT FOR 9-11 YEAR OLD FEMALE VOLLEYBALL PLAYERS

*In modern life, playing sports, including volleyball, are considered as a form of ball sport included in the world system of sports competitions. Volleyball, is widely represented in the Olympic Games program, and also in professional sports. The goal of every volleyball is to move the ball to a specific location on the opponent's playground and prevent it from falling to your playground. In this time, each team member is responsible for her link, and also insures team members. As the game unfolds volleyball make it possible for movement co-ordination, force, speed, endurance and flexibility. The purpose of the article is methodology improvement of motor abilities development for 9-11 year old female volleyball players at the stage of initial training. The research was performed at the Children's and Youth Sports School of volleyball, Zaporizhzhia. It was attended by 40 girls aged from 9 to 11, who were divided into control (CG n=20) and experimental (EG n=20) groups. All girls were classified in the main medical group. The improvement methodology included such parts as: general physical training, special physical training, technical and tactical training, block of theoretical knowledge and games of physical skill. The analysis of the ball scoring after the experiment showed that the data from the control group and the experimental group were ranked at a mark of 2 to 5 points in almost all tests. But the performance of the experimental group turned out to be more intense. The positive influence of the improvement methodology has been stated. The efficiency of the given methodology has been proved by the obtained data.*

**Key words:** stage of initial training, improvement methodology, young athletes

**Шуба Л.В., Шуба В.В. Індивідуальний підхід розвитку рухових здібностей у волейболісток 9-11 років.**  
*У сучасному житті ігрові види спорту, в тому числі волейбол, розглядають як форму спортивних ігор, включених у світову систему спортивних змагань. Волейбол, широко представлений у програмі Олімпійських ігор, і також у професійному спорті. Мета кожного розіграного м'яча у волейболі полягає в тому, щоб перемістити м'яч в певне місце спортивного майданчика суперників і не допустити цього у відношенні себе. При цьому кожен учасник команди відповідальний за свою ланку, і також підстраховує членів команди. Під час гри у волейбол створюються можливості для прояву спритності, сили, швидкості, витривалості та гнучкості. Мета статті – удосконалити методику розвитку рухових здібностей волейболісток 9-11 років на етапі початкової підготовки. Дослідження проводилось у дитячо-юнацькій спортивній школі з волейболу, м. Запоріжжя. У ньому прийняло участь 40 дівчат віком від 9 до 11, які були поділені на контрольну (КГ=20) та експериментальну (ЕГ=20) групи. Всі дівчата були віднесені до основної медичної групи. Удосконалена методика включила в себе: загальну фізичну підготовку, спеціальну фізичну підготовку, технічно-тактичну підготовку, блок теоретичних знань, рухливі ігри. Аналіз бальної оцінки показників після експерименту продемонстрував, що дані контрольної та експериментальної груп розташувалися на відмітці від 2 до 5 балів майже всіх тестах. Але показники експериментальної групи виявились вищими. Зазначено позитивний вплив удосконаленої методики. Отримані дані свідчать про ефективність розробленої методики.*

**Ключові слова:** етап початкової підготовки, удосконалена методика, юні спортсмени.

**Articulation of issue and literature route.** The high level of modern sport requires a more in-depth individual approach. Based on complex approach, the study of abilities and capabilities of young athletes – the development of which will best contribute to achieving high sports results [5, 8, 11].

The problem of sports talent is closely related to issues of early sports orientation. Considering the fact that the growing organism under the influence of the external environment and in accordance with the laws of genetics has its own, unique, individual development. The questions about early sports orientation and selection should be based on age peculiarities, the formation of sports capability, taking into account the laws of sports improvement [2, 6, 8].

The main motor actions of volleyball players are fast movements, various jumps, ball reception. Completion of these maneuvers are associated with a defined risk and requires from players to have courage and self-control. All actions are characterized by variability during the game. During the training, volleyball players have to master a whole system of motor abilities, which consist of different technical and tactical actions. The complexity of the game is that the arsenal of techniques have to be used in different combinations and conditions. It requires from the player accuracy and differentiation of movements, fast switching from one action form to another, which are completely diverse in rhythm, speed and character [4, 9, 10, 12].

A large number of scientific works are devoted to the problems of volleyball players' training, in particular to increase the level of physical fitness [6, 7, 10, 12]; increasing the level of technical and tactical training [3, 4, 9, 13]. In some scientific works [2, 5, 11] early orientation is positively considered in dealing with problems of harmonious physical training, however, they do not have defensible training programs aimed at achieving the appropriate level of physical abilities development. Immediacy of the problem conditioned by the need scientific research in that direction.

**The purpose of the article is** methodology improvement of motor abilities development for 9-11 year old female volleyball players at the stage of initial training.

**Presentation of the main study material.**

The research was performed at the Children's and Youth Sports School of volleyball, Zaporizhia. It was attended by 40 girls aged from 9 to 11, who were divided into control (CG n=20) and experimental (EG n=20) groups. All girls were classified in the main medical group.

The stage of initial training (phase of initial sports specialization) is the "foundation" for sports activities of a young volleyball players. The main task at this stage is providing comprehensive physical preparedness of athletes; subsequent mastering rational sports technique among players; creation of favorable preconditions for achieving the best results [2, 6, 11].

The system of various sports training is the most important part of the athletes training. Parameters and ratios of this work are shown in Table 1 and are mandatory in the system of planning and controlling sports training.

Table 1.

Percentage distribution of sports training types for young volleyball players at the stage of initial training

Training sections	Initial stage of training	
	Control group	Experimental group
General physical training (%)	57-62	50-56
Special physical training (%)	18-22	23-27
Technical and tactical training (%)	-	до 3
Block of theoretical knowledge (%)	10	10
Games of physical skill (%)	7-9	10-14

General physical training. In this training, there are exercises that are focused on maximum buildup of the female body for the training process; the exercises are not repetitive.

Special physical training. This part describes multifaceted process, that represents great amount of specially selected techniques and methods focused on the female athletes development and provides necessary preparation for the achievement of the maximum results in sport activities.

Technical and tactical training. This part is designed for acquisition and improvement of technical and tactical knowledge, skills and competences as well as tactical thinking of female volleyball players.

Block of theoretical knowledge. The selected themes reflect major and minor aspects of volleyball training that are urgent for female players and can contributed to motivation development of the chosen kind of sport.

Games of physical skill. The games are specially chosen to simulate game situations for the improvement of sports activity among female players.

In conjunction with the changed ratio of the sports training types at the stage of initial training, the training process was corrected every month taking into account the individual characteristics of each young athlete.

This approach is based on increasing the amount of training loads dynamics with a slight growth of training general intensity. Although, the intensity of exercises grows, the degree of its increase is limited in a narrower range than the increase in total volume.

It should be noted that the governing factor in the physical abilities development is consideration of sensitive periods for physical abilities and comprehensive approach at physical training among the children in control and experimental groups.

Competently organized physical training process for children of experimental group is aimed at all-round and simultaneously proportional development of motor abilities.

At the beginning and at the end of the research, all girls met the control standards [1, 14], which allowed determining the level of physical qualities development and level of physical preparedness:

1. Do sit-ups for 1 minute (number of times) - testing abdominal muscle strength abilities.
2. Floor dips (number of times) - testing strength abilities of the muscles of the hands. The test result is the number of error-free flexion and extension of the arms in one attempt.
3. Standing long jumps (cm) - develops such qualities as strength, speed, learn to navigate in space, concentrate efforts (testing of speed-strength abilities).
4. Hoop the medicine ball (cm) – testing of speed-strength abilities. The competitor gets behind the line to the wall, bends his hands in his elbows and squeezes the ball into his chest. After that, he pushes it forward as far as possible. The distance of the flying ball is measured up to 10 cm.
5. Rope-climb (m) – testing of the arms and shoulders strength.
6. Upward jump off both feet (cm) – testing of speed-strength abilities.
7. Angled position (cm) – testing of flexibility. The test result is a mark on the perpendicular marking in centimeters, to which the participant reached with his fingertips in the best of two attempts.
8. Shuttle run 4x9m (seconds) – testing of coordination ability. The result was determined by the better of the two samples. The result of the test is the time from the start to the moment when the test participant put the second dice in the starting circle.

9. Ten "Eights" (Kopylov test) (amount of repetition) – testing of coordination ability. The test participant acquires the starting position of the body tilt forward, holding the ball in one hand. With the command "Start" as quickly as possible, the ball makes an imaginary eight between legs at the knee level. At the same time the ball is transferred from hand to hand. Time of execution of ten "Eight", registered up to 0,1 seconds

10. Dash the medicine ball (m) – testing of speed-strength abilities. The competitor gets behind the line to the wall, bends his hands in his elbows and squeezes the ball into his chest. After that, he pushes it forward as far as possible. The distance of the flying ball is measured up to 10 cm.

For added convenience for young athletes to understand the growth of their results, we took into account their age and developed a 5-point system. The results for all of our tests have been adopted this system. We also used the coefficient of variation in order to know how much the sample is homogeneous.

For the initial training stage there is no periodization of the training process, which means that in the annual cycle there are no training periods, and control competitions are conducted on the current material without any purposeful preparation for them. Taking into account the control and experimental groups in which the girls are equally divided, we demonstrate the results of the research in Table 2.

Table 2

Table of test results before and after the research of CG and EG% girls

Tests Points	1		2		3		4		5														
	CG		EG		CG		EG		CG		EG												
	Before	after	before	after	before	after	before	after	before	after	before	after											
1. Do sit-ups for 1 minute	1	-	1	-	3	1	29	8	5	4	5	1	2	1	32	9	3	-	1	5	-	2	7
2. Floor dips	8	-	9	-	3	7	33	2	4	6	5	5	2	6	19	5	2	-	8	-	1	7	
3. Standing long jumps	6	-	6	-	2	1	28	5	6	4	6	3	4	4	20	5	2	-	2	-	3	2	
4. Hoop the medicine ball	9	-	9	-	3	2	34	1	4	4	4	3	1	3	26	1	3	-	1	-	2	3	
5. Rope-climb	1	-	9	-	2	1	32	1	5	3	5	3	7	25	5	3	-	2	-	2	9		
6. Upward jump off both feet	1	-	1	-	2	1	23	6	6	3	5	2	-	26	-	3	-	2	-	3	2		
7. Angled position	2	-	2	-	4	8	43	1	4	4	4	3	1	24	1	3	-	2	-	3	5		
8. Shuttle run 4x9m	5	-	5	-	3	1	28	1	5	4	5	3	9	22	9	2	-	1	-	2	6		
9. Ten "Eights" (Kopylov test)	6	-	6	-	1	3	12	2	7	1	6	2	1	19	1	3	1	2	2	3	4		
10. Dash the medicine ball	1	-	1	-	1	7	16	4	6	5	6	4	1	20	1	3	-	1	-	2	5		

In our study, we got the results translated into points. But to research the homogeneity of the group, we used the coefficient of variation.

The obtained data show that the groups are more homogeneous in terms of tests: "Do sit-ups for 1 minute" (V – 6,12% CG, V- 6,74% EG), "Standing long jumps" (V – 5,18 % CG, V – 6,02% EG), "Upward jump off both feet" (V – 7,32% CG, V – 7,89% EG), "Angled position" (V – 3,92% CG, V – 3,84% EG), "Shuttle run 4x9m" (V – 8,63% of CG, V – 8,80% EG), "Ten "Eights" (Kopylov test)" (V – 4,15% of CG, V – 4,09% EG).

For tests: "Floor dips" (V - 12,41% of CG, V – 12,77% of EG), "Hoop the medicine ball" (V – 11,31% of CG, V – 11,09% of EG), "Rope-climb" (V – 14,22% CG, V – 14,56% EG), "Dash the medicine ball" (V – 15,87% CG, V – 15,43% EG) – the variations in the results of measurements were average.

At the ball analysis of the indicators for the experiment, we note that all the data of the control and experimental groups are located on the mark from 1 to 4 points. But data was more focused on scores from 2 to 4, and the percentage was almost the same.

When analyzing the score after the experiment, we note that the data has changed: the control group and the experimental group are located on the mark from 2 to 5 points in almost all tests. But the performance of the experimental group turned out to be more intense. It was analyzed the percentage increase in the motor abilities development.

Consequently: "Do sit-ups for 1 minute" – improvement of results occurred: CG – by 6,28% and EG – 11,57%; "Floor dips": CG – by 4,22% and EG – 9,14%; "Standing long jumps": CG – 8,11% and EG – 14,63%; "Hoop the medicine ball": CG – by 5,18% and EG – 13,27%; "Rope-climb": CG – 4,36% and EG – 11,34%; "Upward jump off both feet": CG – 6,37% and EG – by 12,03%; "Angled position": CG – 7,16% and EG – 16,57%; "Shuttle run 4x9m": CG – 5,17% and EG – 9,01%; "Ten "Eights" (Kopylov test) ": CG – 7,19% and EG – 16,32%; "Dash the medicine ball": CG – 6,64% and EG – 10,88%.

Analyzing the above, it was noted that the method developed is effective and has the right to exist.

**Conclusion.** There was analyzed the circumstance of the existing methodologies and means of physical training development for 9-11 year old female volleyball players. Taking into account the analysis of scientific literature, the methodology of physical abilities development was improved.

The improved methodology included such parts as: general physical training, special physical training, technical and tactical training, block of theoretical knowledge and games of physical skill. The analysis of the score system after the experiment showed that the data from the control group and the experimental group were ranked at a mark of 2 to 5 points in almost all tests. But the performance of the experimental group turned out to be more intense.

The highest increase was in the tests: "Angled position": CG – 7,16% and EG – 16,57%; "Upward jump off both feet": CG – 8,11% and EG – 14,63%; "Ten "Eights" (Kopylov test) ": CG – 7,19% and EG – 16,32%. The increase in these tests confirmed the positivity of the improved methodology.

These tests most clearly show that the improved methodology is indeed positive and can be used during training sessions for 9-11 year old female volleyball players.

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