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AT THE INITIAL PREPARATION STAGE PHYSICAL QUALITIES OF JUDGES CO-DEVELOPMENT AND MAIN TECHNIQUES FORMATION METHODS

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Abstract
The article presents an experimental methodology for using specialized mobile games in the development of physical qualities and the formation of technical and tactical skills of young female judokas aged 9-12.

Keywords: Judo, female judokas, initial training stage, physical qualities, strength, speed-strength training, endurance, flexibility, coordination, technical training.

Introduction

In the world, not only are serious changes taking place in the system of training highly qualified athletes, but also large-scale scientific research is being conducted on the study and improvement of the stages of development of physical qualities, the selection of talented judokas, the planning and control of training loads, and the influence of physical and psychophysiological loads on the body of girls and adolescents engaged in judo. The intensification of the competitive process in the sport of judo, as well as the effective training of young female judokas, requires scientists and coaches in the field to form methods for determining the dependence of modern means and methods on physical qualities

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and technical movements. System of specialized games, classification class of technical movements, and algorithm of integral training in the development of indicators of physical and technical preparedness of female judokas at the initial training stage.

This dissertation research, to a certain extent, serves the fulfillment of the tasks stipulated in the Decree of the President of the Republic of Uzbekistan No. UP-5368 dated March 5, 2018 "On Measures for the Fundamental Improvement of the System of State Management in the Field of Physical Culture and Sports," the Resolution of the President of the Republic of Uzbekistan No. PP-336 dated July 29, 2022 "On Measures for the Further Development of Olympic Wrestling Types," the Resolution of the President of the Republic of Uzbekistan No. PP-5281 dated November 5, 2021 "On the Preparation of Athletes of Uzbekistan for the XXXIII Summer Olympic and XVII Paralympic Games 2024 in Paris (France)," the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 122 dated March 4, 2020 "On Measures for Further Improvement of the System of Selection of Athletes for National Teams in Sports," as well as in a number of regulatory legal documents adopted in this area.

Purpose of the study:

Increasing the effectiveness of motor training of female judokas based on the combined development of basic elements of physical qualities and technical movements.

Research Methods

The study used theoretical analysis and generalization of scientific and methodological literature, questionnaires, methods of anthropometric research, methods such as assessment of physical fitness, pedagogical experiment, and mathematical-statistical analysis of research results were used.

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Results of the experiment and its discussion

Differentiation of active games for the combined development of basic technical elements and physical qualities in judo, traditionally used in the training process of young female judokas, was carried out by qualified coaches in the field of judo. In our study, the ratio of specialized games aimed at teaching movements and developing physical qualities was 35% and 65%, respectively. Specialized games aimed at mastering motor skills and teaching basic judo techniques were conducted in the first half of the main part of the training, after "traditional" technical tasks. The developed experimental methodology included 7 training modules, which are a system of specialized games with a strictly regulated number of repetitions, rest breaks, organization of control, and monitoring of the dynamics of development. The dynamics of indicators of weight-height characteristics indicates that at the end of the formative pedagogical experiment, there was no significant increase in the indicators of height (2.0±0.1 and 3.3±0.2 cm) and body mass (2.3±0.2 and 2.6±0.3 kg) in young female judokas of the control and experimental groups (P>0.05) (see Table 1).

Table 1 Dynamics of anthropometric indicators of female judokas aged 9-12 years in the control and experimental groups during the formative pedagogical experiment

Indicators	Control group (n=12)		Experimental group (n=12)	
	At the beginning of the study	At the end of the study	At the beginning of the study	At the end of the study
Body length (cm)	139,2±1,40	141,2±3,14	140,0±3,21	143,3±4,3
Body weight (kg)	35,3±0,82	37,6 ±1,62	36,2 ±1,56	38,8±2,16
PMA, at rest (cm)	66,2 ±1,54	67,83±2,29	65,90 ±1,33	71,20 ±1,21
BMI	18,3 ±0,38	18,9 ±0,62	18,4 ±1,41	19,4±1,52

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The obtained data allow us to emphasize that the body length and mass of a young athlete change in accordance with the rate of physical development of the body, and a slight change is observed under the influence of the training process. The use of specialized outdoor games at the initial training stage contributed to the emergence of positive statistically significant changes ($P<0.01$) in the complex of all examined indicators of physical fitness, as well as technical preparedness of young female judokas (see Table 2).

According to the test results, the indicators of strength, speed-strength capabilities, endurance, coordination, and flexibility in the wrestlers of the experimental group were significantly higher than in the control group. The greatest increase occurred in the following indicators: in the strength capabilities group in the following tests - flexion and extension of the arms from the ground - by 19.53% ($P<0.05$), pull-ups on the horizontal bar - by 23.33% ($P<0.01$), throwing the medicine ball (3kg) forward from behind the head - by 24.87% ($P<0.01$), and speed-strength training in the following tests: high jump from a standing position - by 21.2% ($P<0.01$), long jump with a push-off from a standing position on both feet - by 25.72 ($P<0.01$), and pull-ups on the horizontal bar within 20 s - by 24.68% ($P<0.01$). Compared to the control group (which did not use specialized mobile games), in the experimental group, the average indicators in the test of standing on a gymnastic bench for flexibility and bending forward increased by 14.88% ($P<0.05$).

During the pedagogical experiment, it was established that the use of specialized games during the formation of technical skills and the teaching of technical elements allows for the successful mastery and improvement of judo techniques. After the end of the annual training cycle, an examination was conducted to determine the stable formation of the skills and abilities of female judokas in performing the basic elements of standing and standing.

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Table 2 Dynamics of indicators of physical fitness of young female judokas during the study period (n=24)

T/r	Control exercises	Guruh	At the beginning of the study (n=12)		At the end of the study (n=12)		Mutloq o'sish	O'sish % da	t	P
			$\overline{X}$	σ	$\overline{X}$	σ				
Strength qualities										
1	Bending arms while leaning on the ground write, (times)	SG	14,3	2,81	16,5	3,21	2,2	15,38	2,19	<0,05
		EG	13,7	2,73	18,1	3,46	4,4	32,12	4,23	<0,001
2	Filler (3kg) from behind the head forward throw (m)	SG	4,2	0,78	4,69	0,87	0,49	11,67	1,78	>0,05
		EG	3,9	0,74	4,87	0,88	0,97	24,87	3,57	<0,01
3	Cross-country pull-ups (times)	SG	8,9	1,57	10,1	1,76	1,2	13,48	2,16	<0,05
		EG	9,3	1,67	11,4	1,96	2,17	23,33	3,57	<0,01
Speed-strength qualities										
4	Standing long jump (cm)	SG	155,2	30,43	173,7	33,63	18,5	11,92	1,73	>0,05
		EG	152,4	30,39	191,6	36,64	39,2	25,72	3,49	<0,01
5	From the spot high jump (cm)	SG	45,1	7,96	49,94	8,71	4,84	10,73	1,74	>0,05
		EG	43,3	7,79	52,4	8,96	9,1	21,02	3,25	<0,01
6	20 p. Onboard pull-ups (times)	SG	5	0,93	5,68	1,05	0,68	13,60	2,06	<0,05
		EG	4,7	0,89	5,86	1,06	1,16	24,68	3,56	<0,01
Accuracy										
7	30m run (s)	SG	6,6	1,17	5,95	1,04	0,65	9,85	1,76	>0,05
		EG	6,9	1,24	5,6	0,96	1,3	18,84	3,52	<0,01
Coordination										
8	3x10m shuttle run (s)	SG	9,6	1,79	8,62	1,58	0,98	10,21	1,74	>0,05
		EG	9,3	1,76	7,86	1,43	1,44	15,48	2,69	<0,05
	Flexibility									
9	Standing on a gymnastic bench, forward bend (cm)	SG	4,3	0,85	4,94	0,96	0,64	14,88	2,12	<0,05
		EG	4,5	0,89	5,69	1,09	1,19	26,44	3,58	<0,01
Endurance										
10	1000m run (d, s)	SG	6,42	1,20	5,76	1,06	0,66	10,28	1,75	>0,05
		EG	6,28	1,19	5,3	0,96	0,98	15,61	2,72	<0,05

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Table 3 Expert assessment of the performance of technical actions in standing by female judokas of the experimental (n=12) and control (n=12) groups at the beginning and end of the pedagogical experiment (in %).

T/r	Methods groups	Group	Investigation at the beginning		Investigation finally		Absolute growth	Growth in %	t	P
			$\bar{X}$	σ	$\bar{X}$	σ				
1	Hikite-taoshi.Pull to the ground	SG	2,68	0,53	3,07	0,6	0,39	14,55	2,07	<0,05
		EG	2,53	0,505	3,19	0,61	0,66	26,09	3,54	<0,01
2	Seoi-otoshi. Deployment from under the arm to the ground with a grip on the shoulder	SG	2,87	0,536	3,21	0,59	0,34	11,85	1,81	>0,05
		EG	2,76	0,523	3,26	0,59	0,5	18,12	2,69	<0,05
3	Morote-gari. Two-sleeve punch	SG	3,53	0,626	3,91	0,68	0,38	10,76	1,74	>0,05
		EG	3,66	0,657	4,29	0,737	0,63	17,21	2,71	<0,05
4	Ko-uchi-gari. Two-handed instep throw	SG	2,48	0,49	2,84	0,55	0,36	14,52	2,07	<0,05
		EG	2,59	0,517	3,27	0,626	0,68	26,25	3,55	<0,01
5	Kata-guruma. Hand-to-shoulder throw	SG	2,67	0,5	2,98	0,55	0,31	11,61	1,77	>0,05
		EG	2,58	0,49	3,22	0,583	0,64	24,81	3,57	<0,01
6	Seoi-otoshi Kneeling over the shoulder, holding the arm with both hands	SG	2,74	0,484	3,09	0,54	0,35	12,77	2,05	<0,05
		EG	2,87	0,516	3,54	0,607	0,67	23,34	3,57	<0,01
7	Koshi-guruma Throw over the waist with hands and neck joined	SG	2,83	0,56	3,17	0,62	0,34	12,01	1,73	>0,05
		EG	3	0,598	3,58	0,684	0,58	19,33	2,71	<0,05
8	Harai-goshi Diving throws with an external grip on the neck and thigh	SG	2,68	0,475	2,97	0,52	0,29	10,82	1,75	>0,05
		EG	2,53	0,455	2,96	0,507	0,43	17,00	2,68	<0,05
9	Ura- Throw over the chest holding the arm from above and waist	SG	2,57	0,51	2,95	0,57	0,38	14,79	2,11	<0,05
		EG	2,44	0,487	3,08	0,59	0,64	26,23	3,55	<0,01
	Average indicator	SG					**0,35**	**12,63**		
		EG					**0,60**	**22,04**		

The results of this study are presented in Table 3. Expert assessment of the technique of performing technical actions in the experiment revealed the superiority of the experimental group over the control group. The average

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increase in the grade in the experimental group is higher than in the control group in standing by 9.4% and in the parterre by 11.5%.

Thus, during the pedagogical experiment, it was established that the use of specialized games in the period of formation and improvement of technical skills contributes to the successful mastery and improvement of judo techniques.

The effectiveness of the proposed method can be judged by the results of competitive matches of wrestlers of the control and experimental groups according to the circuit system.

Conclusion

At the initial stage of training, the process of joint development of physical qualities and the formation of basic techniques of female judokas requires an interconnected, complex, and systematic approach. Research and practical observations show that the combination of elements of general physical training (strength, speed, endurance, agility, and flexibility) with special judo exercises provides high effectiveness. The results of the conducted formative pedagogical experiment showed that the integration of specialized mobile games into the training process ensures high effectiveness in the comprehensive improvement of the physical and technical preparedness of female judokas. The indicators of the experimental group showed a reliable advantage in all the main physical qualities compared to the control group.

The method, developed on the basis of pedagogical experience and based on specialized outdoor games, allows for the effective formation and improvement of the physical qualities and technical skills of female judokas at the initial stage of training. This approach, along with increasing sports results, also enhances the emotional and motivational effectiveness of the training process.

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World Bulletin of Physical Education and Sports Science (WBPESS)
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https://worldbulletin.org/index.php/2

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