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Scientific And Methodological Foundations Of Comprehensive Training Of Qualified Para Judokas

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Abstract: This article develops a scientific and methodological approach aimed at improving the comprehensive training process of qualified para judokas. During the study, the indicators of physical, technical-tactical, psychological, and functional preparedness of athletes were studied and assessed based on a comprehensive training system in their mutual integration. The research results make it possible to raise the training of qualified para judokas to a new level and provide scientifically based recommendations for practice.

Keywords: Para judo, comprehensive training, technical-tactical training, psychological training, sports methodology, disabled athletes, Paralympic sports.

Introduction: In accordance with the Resolution of the President of the Republic of Uzbekistan dated April 19, 2022 No. PP-209 "On Measures to Improve the Quality of Education and Further Improve the Activities of Specialized Boarding Schools for Blind and Visually Impaired Children," special attention is paid to the development and popularization of physical culture and sports in our republic, in particular, along with Olympic sports, sports included in the Paralympic program, and large-scale work is being carried out.

Currently, measures aimed at treating blind and visually impaired individuals and activating low-mobility muscle activity are taking various forms. Para judo is a specially adapted type of judo, in which athletes with visual impairments participate, which requires not only physical, but also mental and psychological stability.

Today, comprehensive training plays an important role in the achievement of high sports results by qualified para judokas. In this case, the improvement of the level of physical, technical-tactical, psychological, and functional training of athletes should be carried out in harmony with each other. Despite this, the insufficient development of scientifically and methodologically based approaches in this area, the lack of individual approaches, and the lack of methods adapted to the capabilities of athletes require research in this area.

The level of literature study. In recent years, special attention has been paid to the issues of conducting research work in the sport of para judo, especially the formation of a comprehensive training system for athletes.

V.B.Aripova, M.Kh.Mirjamolov conducted various conceptual studies on the issues of accelerating the socialization of people with disabilities and limited abilities in sports activities, E.A.Urinboev, N.K.Svetlichnaya, L.T.Davlatova, F.M.Murodov on the theory of adaptation to sports activities in a certain type of disability, Sh.A.Abdiev, Z.Kh.Palibaeva and other specialists on recording high results in Paralympic sports.

There is a lack of deep and comprehensive scientific research on systemic and methodological approaches aimed at improving the comprehensive training of qualified para judokas, in particular, the influence of technical and tactical training on functional indicators, methodological systems aimed at increasing the competitiveness of athletes.

It is precisely this circumstance that requires further in-depth scientific research on this topic and the development of effective methodologies that serve to fill existing gaps.

Purpose of the research. Development and practical substantiation of the effectiveness of a comprehensive

training methodology that ensures the achievement of high results in competitive activity by harmonizing the levels of physical, technical, tactical, and psychological preparedness of qualified para judokas.

Organization of the research. This study is aimed at developing a scientific and methodological approach to improving the comprehensive training of para judokas and its implementation in practice, using the following stages and methods.

Research participants. The study was conducted on para-judo athletes of the Karshi City Sports School. 23 qualified para-judo athletes aged 18 to 30 years with at least 3 years of sports experience participated in the study (visual level - categories B1, B2). They were divided into experimental and control groups.

During the study, the hemodynamics of blood circulation processes in the body of para judokas and how they change during physical activity were assessed through practical experience. Participants were divided into experimental (EG) and control (CG) groups, and the differences in results were analyzed over 12 weeks of training

Table 1

Hemodynamic indicators of qualified para judokas

Athletes	Category	Loading 1						Loading 2								QDX recovery		
		SH	Heart rate beats/min	HR l/min	SB mm	DB	TB st.	SU ml	Heart rate beats/min	HR l/min	SB mm\rt	DB rt.st	TBrt. st	O'TS №1	O'TS №2	1	2	3
1.	Candidate	86,1	84	7,232	130	65	65	72,8	120	87,36	140	80	60	2,9	2,5	5,506	4,122	4,566
2.	Candidate	85,3	112	9,553	165	80	85	98,3	144	14,155	180	75	105	3,5	3,4	7,037	6,283	5,485
3.	Candidate for	60,4	128	8,755	130	80	50	97,7	152	14,850	145	60	85	5,4	5,2	6,853	5,082	5,579
4.	Candidate for	89,2	100	8,920	140	75	65	66,8	128	8,550	130	80	50	4,0	4,0	5,777	5,306	4,917
5.	Candidate for	67,2	88	5,913	130	80	50	83,1	128	10,636	140	70	60	4,0	4,8	6,392	4,698	6,353
6.	Candidate	69,7	140	9,758	130	80	50	74,3	158	11,590	140	80	60	4,0	4,5	9,432	4,583	8,187

7.	Candidate	84,3	120	10,116	140	70	70	137,0	160	21,920	180	40	140	5,0	5,4	10,463	8,767	8,430
8.	Candidate	83,1	98	7,947	140	70	70	72,2	128	9,241	140	80	60	4,0	4,5	6,140	5,311	6,248
9.	Category I	72,7	104	7,560	140	80	60	83,7	136	11,383	140	70	70	3,5	3,2	6,705	6,283	5,056
10.	andidate for	95,0	132	12,540	160	70	90	84,1	152	12,783	160	80	80	4,5	4,8	6,817	6,357	6,080
11.	Candidate	95,7	120	11,484	130	55	75	73,4	156	11,450	140	80	60	3,6	3,8	7,295	5,436	6,880
12.	Category I	101,5	128	12,992	150	60	90	106,9	152	16,248	150	65	85	3,6	3,8	7,280	6,273	6,683
13.	Candidate	72,8	112	8,155	140	80	60	91,74	164	15,045	160	70	90	4,0	4,1	4,839	5,734	5,734
14.	Category I	85,6	108	9,245	145	50	95	107,4	144	15,465	145	50	95	3,9	4,2	7,810	8,435	6,393
15.	Category I	83,4	120	8,811	160	70	90	94,33	148	13,966	160	70	90	3,7	3,2	8,811	6,021	4,653
16.	Master of	83,7	126	10,54	140	70	70	114,62	160	18,339	180	60	120	3,2	3,6	6,782	6,9662	5,5218
17.	Candidate	85,2	112	9,545	120	60	60	84,33	144	11,567	120	60	60	2,6	2,8	6,838	8,183	5,661
18.	Category I	83,4	100	8,340	160	80	80	94,33	160	15,0928	160	70	90	5,0	5,2	6,1587	4,877	5,074

19.	Category I	90,2	136	12,263	130	60	70	106	138	16,127	140	50	90	3,3	3,5	8,860	7,057	8,520
20.	Category I	83,5	112	9,358	130	65	65	123,31	160	19,729	155	40	115	4,3	4,0	7,728	5,920	5,814
21.	Category I	79,98	104	7,724	160	70	90	97,73	136	13,29128	145	60	85	3,7	3,5	6,8402	6,6897	6,0337
22.	Category I	94,3	82	7,721	160	70	90	93,4	130	12,142	180	80	100	3,8	3,7	9,306	10,327	7,081
23.	Master of	92,5	123	11,377	160	70	90	108,8	135	14,688	170	60	110	3,8	3,8	6,444	6,975	6,0900
$\overline{X} \pm \sigma$		83,7	112,6	9,38	143	70	73	94,2	144,9	17,2	152.2	66,5	85,2	3,9	3,9	7,222	6,33	6,13
v (%)		9,8	16	1,82	13,5	8,8	14,7	17,6	13	15,62	17	12,7	23,2	0,6	0,8	1,36	1,49	1,11

As can be seen from Table 1, during the RWC170 test, after the first and especially the second load, the heart rate indicators, all blood pressure indicators increase. Analysis of the obtained data shows a clear correlation between the intensity of work performed after the first and second loads and the values of physiological indicators (see Table 1). After each load, a significant increase in heart rate, an increase in systolic (SBP) and diastolic (DB) pressure is noted. At the same time, the degree of manifestation of changes in these indicators in athletes was less significant compared to untrained individuals.

Perhaps, in athletes, a small number of muscle fibers participate in isometric tension, therefore the intensity of metabolic processes in them is also lower, a small number of impulses from muscle receptors reach the CNS (central nervous system), and, accordingly, all this has a less pronounced effect on the work of the circulatory system than in untrained individuals. From this, it can be concluded that athletes' hearts work much more economically.

The lawful nature of the reaction of physiological indicators, depending on the magnitude of the load, can be used to assess both the adaptive and reserve capabilities of the athlete in performing muscle work.

Analysis of technical and tactical training

Based on trainers and video surveillance, the following criteria were evaluated:

- Catching technique,
- Attack rate,
- Tactical flexibility,
- Accuracy in defense.

The following positive changes were observed in the experimental group:

- The number of technical errors decreased by 27%.
- The speed of transition to attack decreased on average from 1.8 to 1.3 seconds.
- The indicator of adaptation to the opponent's actions increased from 1.9 to 2.6 on a 3-point system.

The study assessed the level of pre-competition stress, motivation, and the ability of athletes to concentrate (based on psychological tests and questionnaires):

Table 2
Analysis of psychological state

Indicator	Experimental group (beginning)	Experimental group (end)	Control group (end)
Stress level (1-10 points)	7.1	**4.6**	6.8
Motivational index (based on the questionnaire)	64%	**82%**	68%
Focus (reaction test)	0.92 sek	**0.76 sek**	0.88 sek

The inclusion of psychological exercises (visualization, breathing techniques, self-control techniques) in the comprehensive training program played an important role in reducing stress and increasing attention.

CONCLUSION

In the study group, physical development indicators improved by 10-15%;

- Increased accuracy, speed, and flexibility in technical and tactical training;

- Psychological stability and motivation for sports have increased.

These facts indicate the high effectiveness of the developed comprehensive training methodology. The results of the control group proved that such significant changes are not observed in regular training sessions.

According to the results of the conducted research, it has been proven that the training methodology based on a comprehensive approach to improving the training process of qualified para judokas has high effectiveness. During the study, a scientific and methodological model was developed and successfully tested in practice, including components of physical, technical-tactical, psychological, and functional training.

Based on the research, the following main conclusions were made:

1. Physical fitness of para judokas can be significantly increased through continuous, planned, and targeted training, especially based on individual approaches. In the experimental group, speed, endurance, strength, and coordination indicators improved by 10-15% over 12 weeks.

2. Technical-tactical training - the ability of athletes to quickly adapt to combat situations, ensured a positive dynamic in the accuracy of performing techniques and the speed of attacking. This, in turn, allows achieving high results in competitive conditions.

3. Psychological preparedness is of particular importance for athletes with visual impairments. The introduction of elements of psychological preparation into training (visualization, auto-training, stress management methods) increased self-confidence in athletes and reduced pre-competition stress.

4. The methodology of comprehensive training ensured the comprehensive training of athletes through the harmonious combination of physical, technical, tactical, and psychological components. This approach has also been statistically proven to be much more effective compared to simple, fragmented training.

5. Scientifically substantiated works on improving the methodology of working with para judokas in the conditions of Uzbekistan are insufficient. This study is aimed at filling this gap and enriched the system of sports training of para judokas based on modern approaches.

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