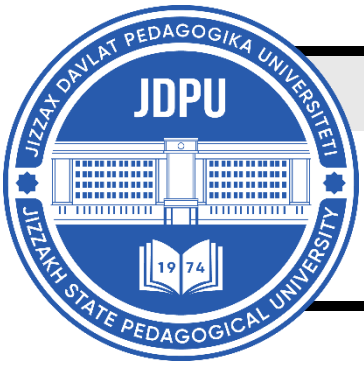
DOI: https://doi.org/10.37547/mesmj-V6-I3-08 Pages: 62-70

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



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IMPROVEMENT OF TECHNICAL AND TACTICAL INDICATORS OF JUDO ATHLETES THROUGH CIRCUIT TRAINING

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ABOUT ARTICLE

Key words: circuit training, technical and tactical training, complexes, intensity, growth.

Received: 16.05.25
Accepted: 18.05.25
Published: 20.05.25

Abstract: This article examines the issue of technical and tactical training of qualified judo athletes. A technology for improving technical and tactical actions through circuit training is proposed.

Introduction. The issue of improving the quality of sports training in wrestling is being studied by many modern researchers. Scientists claim that in competitive matches, wrestlers must demonstrate a combination of physical qualities while performing specific movements (technical techniques) in the shortest possible time [1]. Therefore, in addition to physical and functional capabilities, it is necessary to develop the quickness of thinking and the speed of performing technical actions [2].

Relevance of the Study

This underscores the importance of the theoretical and methodological justification of a pedagogical concept aimed at improving the level of technical and tactical training of qualified judo athletes.

Purpose of the Study

To develop, theoretically and experimentally substantiate the effectiveness of a circuit training methodology as one of the conditions for improving the technical and tactical training of qualified judo athletes.

Object of the Study

The educational and training process of qualified judo athletes.

Subject of the Study

Improvement of the technical and tactical training of judo athletes using the circuit training method.

Research Tasks:

1. To explore the potential of the circuit training method in the process of technical and tactical training of qualified judo athletes.

2. To develop a methodology for improving the technical and tactical training of qualified judo athletes through the circuit training method and experimentally determine its effectiveness.

Research Methods:

Analysis of scientific and methodological literature, control tests (testing), pedagogical experiment, circuit training, and methods of mathematical data processing.

Introduction. An important problem in the process of training qualified judokas is the development of physical qualities that contribute to an increase in the level of technical and tactical training. Currently, the issue of improving the methodology of strength and speed-strength exercises for qualified judokas aged 15-17 is one of the most urgent issues. As is known, increasing the level of development of physical qualities, the formation of skills and skilled movements are created during periods of intense transition. In this regard, this is connected with the development of new methods and techniques and methods aimed at the rapid development of physical qualities and increasing the level of physical fitness of qualified judokas.

Systematic training exercises for the preparation of qualified judokas contribute to the optimal ratio of mental and physical loads, strengthening the health of judokas, increasing their physical activity, level.

Physical training is aimed at preparing for the successful passing of control standards, as well as increasing the effectiveness of the results of participation in sports competitions. The activity of physiological systems becomes stronger and the main skills and abilities are formed in the process of organizing the training and training process in the process of training qualified judokas [1, 3, 5].

The relevance of the chosen direction of the dissertation work is determined by the lack of scientifically based recommendations on the strength and speed-power qualities of qualified judokas of 15-17 years old in various weight categories at the stage of improving sports. Among modern scientific research works, the issues of developing the strength and speed-power qualities of qualified judokas occupy a large place. The methodology for training qualified judokas with strength and speed-power is one of the necessary links in the training management system. This problem is widely studied in the studies of foreign scientists: A.A. Novikova, Zatsiorsky V.M., Matveev L.P., G.S. Tumanyana, Platonov V.N., Verkhoshansky Yu.V.

Among local scientists, it is worth noting the research of F.A. Kerimov, O.V. Goncharova. it should be noted that the level of development of issues related to the strength and speed-strength training of qualified athletes in various sports is very diverse (2,3,4,7,8,14,16,20). In particular, we can see that the issues of strength and speed-strength training methods for qualified 15-17-year-old judoists of various weight categories in wrestling have not yet been resolved (1,17,18). Training wrestlers, for example, improving tactical and technical movements, counteracting confounding factors in the process of competitiveness, training methods, etc. (3,7,8,20). The inability to truly assess the current level of strength and speed-strength training of judoists of various weight categories at the stage of sports improvement is one of the most important reasons that complicate the management of the training process in wrestling.

During our experiment, the following tasks were set:

1. To determine the dynamics of strength and speed-strength indicators among qualified judoists;

2. To study the effect of a special set of exercises on the level of development of strength and speed-strength training in qualified judoists.

Research methods: a universal dynamographic stand (UDS) was used as an instrumental research method.

Research notes the following characteristics of the level of development of strength and speed-strength indicators (11):

Po- maximal, voluntary muscle strength in isometric mode (MPS);

Fmax (kg) - the maximum value of the explosive force of the muscles in the explosive isometric mode (MVVU).

tmax - time to reach maximum explosive force in isometric mode.

J is a coefficient characterizing the explosive force of muscles in isometric mode, explosive force is the ability to use large values in the shortest possible time. When assessing explosive force, you can use the speed-force-power index: J = Fmax / tmax (kg / s);

Q - initial force - a characteristic of the ability of a muscle to quickly develop working force at the initial moment of tension. The coefficient characterizing the initial muscle force in the isometric mode was determined by the following formula: Q = 0.5 Fmax / tmax (kg / s); where 0.5 Fmah - half the maximum value of the explosive force (kg); t1 - time to reach the initial force (s).

G - accelerating force - the ability of muscles to quickly build working forces under conditions of initiated contraction. The coefficient characterizing the accelerating muscle force in the isometric mode is determined by the following formula: G = Fmax - P0 / tmax - t1 (kg / s);

The registration of movements was carried out using a specially developed computer program "Program for the analysis of strength indicators of athletes", registered in the Intellectual Property Agency under the Ministry of Justice of the Republic of Uzbekistan under No. DGU 09227.

Results

The analysis revealed that at the beginning of the pedagogical experiment, the experienced judokas from the experimental groups did not observe significant statistical differences in the established parameters (P(0.05), although we observe higher average coefficients among the experienced judokas of the control group in two indicators (J and G). The data obtained among the experienced judokas of the experimental group Po-144.5±4.5; Fmax-126.6±4.2; J-170.6±28.9; Q-227.3±34.5; G-159.5±11.4, as well as among the experienced judokas of the control group Po-142.2±4.9; Fmax-127.2±4.1; J-178.2±29.1; Q-224.2±22.5; G165.2±21.5 indicate that at the beginning of the pedagogical experiment, the experienced

judokas of the experimental groups had the same physical had training. Comparative statistical analysis of the parameters organized in the experimental groups revealed the following values. During the experiment, a significant increase in the Po coefficients of the experienced group of qualified judokas was detected: Po-144.5±4.5; 158.5±4.5; Fmax - 126.6±4.2; 138.7±4.24; J-170.6±28.9; 217 ± 26.2; Q - 227 ± 34.05; 286.1 ± 24.1; G - 159.5±11.4; 179.6±21.6. Significant differences in the Po, J and G coefficients at the level of significance P<0.05 were observed. Comparative statistical analysis of the parameters organized among the qualified judokas of the control group revealed the following Po values - 142.2±4.9; 144.7±4.55 Fmax - 127.2±4.1; 128.2±5.01; J-188.2±29.1; 202.2±36.3 Q - 224.2±82.2; 243.8±44.7; G-165.2±21.5; 174.4±36.2 Despite the improved results, no statistically significant differences were found in all parameters at P> 0.05.

At the end of the pedagogical experiment, we conducted a comparative analysis of the parameters of strength and speed-strength training of the experimental groups. As a result of the pedagogical experiment conducted among qualified judokas of the experimental groups, we found the following statistically significant differences (-158.5 ± 4.5; 144.7 ± 4.55; Fmax - 138.7 ± 4.24;

128.2 ± 5.01; J -; 217 ± 26.2; 202.2 ± 36.3; Q - 286.1 ± 24.1; 243.8 ± 44.7; G - 179.6 ± 21.6; 174.4 ± 36.2. Some changes occurred in all parameters, and statistically significant differences were observed in four out of 5 indicators, which is (80%), in addition, the coefficients Po and Q were P <0.01 and the coefficients J and G, Statistically significant differences at the significance level <0.05.

Discussion of the research results.

To verify the effectiveness of the developed methodology, a pedagogical experiment is usually organized in which the results of the experimental groups can be compared with the data obtained in the control groups. In this pedagogical experiment, we observed judoists from the experimental and control groups at the same time. In the control group, educational training sessions were conducted accordingly during the pedagogical experiment

Thus, the statistical analysis of the material obtained in the pedagogical experiment indicates the advantages of the developed methodology for developing strength and speed-strength qualities among qualified judoists using the exercises we selected. We found that the developed methodology, which helps to improve strength and speed-power qualities, showed

a significant advantage over the traditional system of training among qualified judokas of the experimental group. The results of the study showed that the main training program should be supplemented with special physical exercises, which help to increase the effectiveness of the training and education process and are the most effective means of increasing the strength and speed-power training of qualified people.

Organization of the Study

From the analysis of literature sources, it is known that the circuit training method is widely used by a broad range of specialists. Properly selected, structured, and adapted sets of tasks, when performed at a given intensity, contribute to improvements in various aspects of sports training.

We selected exercise complexes for circuit training that consisted of technical and tactical combinations. It is important to note that the complex we developed should only be used at stages no lower than the level of sports mastery—that is, with athletes who have a sufficiently high level of physical, functional, and technical-tactical preparation, as well as experience in competitions of various scales.

To conduct the study, control and experimental groups were formed. The control group trained according to the standard requirements of sports schools, while the experimental group followed our methodology.

The study lasted for a six-month macrocycle, which included three mesocycles (two months each). During this time, four variations of circuit training complexes using judo-specific technical and tactical combinations were applied. Each complex consisted of 10 stations—9 of which contained technical-tactical combinations to be performed in a specified intensity zone, and the 10th station served as a rest station.

The following progression of intensity load was planned:

- 1st mesocycle (months 1–2 of the experiment): work in a moderate intensity zone (140–160 bpm) with 3-minute rest intervals;
- 2nd mesocycle (months 3–4 of the experiment): work at submaximal intensity (160–180 bpm) with 5-minute rest intervals;
- 3rd mesocycle (months 5–6 of the experiment): work in the maximal intensity zone (180 bpm and above) with 8-minute recovery intervals.

Before and after the implementation of the experiment, both the control and experimental groups underwent testing in a competitive sparring format, which included tasks from the proposed exercise complexes.

Research Results and Discussion

Table 1

Indicators of Technical and Tactical Performance of Judo Athletes Based on Testing Results Before and After the Pedagogical Experiment

Groups	**KG**			**ЭG**		
Complex	**before**	**after**	**P**	**before**	**after**	**P**
1complex	166,4±1,9	160,2±13,1	P>0,05	169,1±13,8	128,6±13,9	P<0,001.
2complex	172,2±12,9	163,9±14,2	P>0,05	172,6±15,7	132,1±16,2	P<0,001
3complex	170,3±10,9	163,6±12,3	P>0,05	162,9±13,1	151,3±16,2	P<0,001
4complex	177,1±14,2	171,5±14,3	P>0,05	177,9±15,8	135,1±15,7	P<0,001

Conclusion

1. The conducted studies made it possible to determine the dynamics of strength and speed-strength indicators among qualified judoists. Thus, a significant increase in the organized indicators was detected during the experiment. Significant statistical differences were observed in the Po, Q, J and G indices among the qualified judokas of the experimental group at the level of P <0.05.

3. During the experimental period, a slight increase in the organized parameters was detected in the control group. However, there were no significant statistical differences in the Po, F max, J, Q and G indices among the qualified judokas of the control group. (P> 0.05)

4. The results of the study showed that the combination of the main training program with additional special physical exercises helps to increase the effectiveness of the educational and training process of qualified judokas and is an effective means of increasing their technical and tactical training level.

5. The testing of the experimental training methodology for judo athletes proved its pedagogical effectiveness. The improvement in indicators reached statistically significant levels.

6. The use of the circuit method with technical and tactical actions in judo has a positive effect on the speed of tactical decision-making and its technical implementation.

7. At the stages of sports excellence and elite athletic performance, the application of this technology has a positive impact on all aspects of a wrestler's sports training.

8. Based on the obtained data, we recommend using the circuit training method with technical and tactical actions in the sports training of qualified wrestlers to improve competitive results.

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