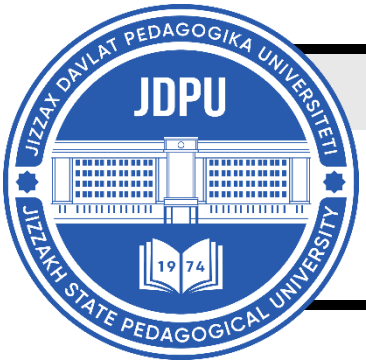
DOI: https://doi.org/10.37547/mesmj-V6-I7-26 Pages: 202-206

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



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SPECIAL TRAINING EQUIPMENT AND METHODOLOGY FOR IMPROVING SPECIFIC PHYSICAL PREPARATION OF F33 AND F34 CLASSIFICATION PARA SHOT PUT THROWERS

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ABOUT ARTICLE

Key words: classification, shot put, throwing, para-athletes, physical quality of strength.

Received: 10.11.25
Accepted: 11.11.25
Published: 13.12.25

Abstract: This article provides information about a new training device created to enhance the strength and physical qualities of para-nuclear throwers in the F33 and F34 classifications, as well as the methodology for its application.

Introduction. Today, in order to improve sports results, a number of scientific and practical works are being carried out by many of our scientists in order to organize training based on innovative ideas and foreign experience. In our country and abroad, simulators, electronic textbooks, automated technologies, and equipment have been created and are currently being used to improve the technical, tactical, psychological, and physical preparedness of para-athletes in sports training, as well as to improve sports results.

Research objective: Improvement of the strength and physical qualities of para-nuclear throwers of the F33 and F34 classification.

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Creation of a new training simulator and development of a methodology.

The most pleasing thing is that the use and effective use of new equipment in the field of physical culture and sports is reflected in the scientific research of scientists in the field, especially the presence of new equipment that determines and develops the most necessary strength and physical abilities of para-nuclear throwers in pre-competition training has a positive effect on achieving high sports performance. The creation of new equipment in the field of para-sports opens up new opportunities for coaches and para-athletes. However, the process of creating and using new equipment in the field of physical culture and sports in our republic is very slow.

The process of creating specialized equipment takes a lot of time;

Insufficient qualifications of specialists in the field.

Insufficient knowledge of programming specialists in the field of sports.

Insufficient software and hardware for the creation and manufacture of sports equipment.

Coaches' preference to use outdated methods.

The fact that para-athletes have many nosologies, from this point of view, the program for determining and increasing the level of explosive power of highly qualified para-nuclear throwers, as well as the use of new innovative technologies and special equipment in the effective use of pre-competition training processes, serves as a guide in fulfilling the tasks set for our research.

Taking these problems into account, a new device for determining and developing the level of physical qualities of explosive strength using new equipment was created and tested in practice. Tasks of the newly created training equipment:

1. Determination of special strength capabilities of highly qualified para-nuclear throwers;

2. Determination of the explosive capability of highly qualified para-nuclear throwers;

3. Determination of the speed-strength of highly qualified para-nuclear throwers;

4. Development of physical fitness of para-athletes for competitions;

5. Improvement of speed-strength, explosive strength, maximum strength qualities using new equipment;

6. Finding the optimal angle in degrees for para throwers;

7. Creation of methodological recommendations based on data collected using new equipment.

This new equipment is designed specifically for para-nuclear throwers, where, as we know, explosive power and optimal angular degrees are the key to high sports results. Therefore, we tried to find a solution to these problems using the new equipment.

We will explain each function of the new equipment, as we know that strength is very important for para shot put athletes. First of all, to develop it, it's necessary to know the current level of physical strength qualities. This equipment is essential for this purpose. When para-athletes pull on a special handle, the device simultaneously calculates and displays speed-strength, explosive strength, and maximum strength indicators electronically on the monitor. This equipment can be used not only by para throwers but also by athletes in other para sports. It helps to develop speed-strength, explosive, and maximum strength qualities. The new equipment can also be used as a training device. Additionally, it can be easily used in both outdoor and indoor facilities.

Based on the goal of our research, a pedagogical experiment was conducted to substantiate the effectiveness of the developed training methodology for improving the special physical training of highly qualified para-nuclear throwers.

A total of 20 respondents participated in the study: they were divided into two groups: control (10 people) and experimental (10 people). The number of children in both groups was the same. The students of the control group continued their sports training as usual. The experimental group was conducted according to the methodology developed and proposed by us.

Statistical analysis at the beginning and at the end of the study of F33 and F34 classification nuclear throwers (TG=10)

X	TB	TO	TB	TO
	34,99	42,8	32,02	40,06
Σ	6,52	8,10	8,12	7,98
V, %	18,63	18,92	25,35	19,92
A/F	7,8		8,0	
N/F	22,32		25,11	
T	2,38		2,23	
P	<0,05		<0,05	

The presented table shows the results of hand strength indicators of the experimental group at the beginning and end of the study. A total of 10 respondents participated in the experiment. Statistical analysis showed that the average value (X) at the beginning of the right-hand study averaged 34.99, and at the end of the study this indicator increased to 42.8. The left hand reached 32.02 at the beginning of the study and 40.06 at the end. These indicators indicate a significant increase in the average strength (or motor function) in both arms. That is, during these sessions, general development was observed in all participants.

The standard deviation (σ) in the right hand at the beginning of the study was 6.52, at the end - 8.10, and in the left hand at the beginning of the study - 8.12, at the end - 7.98. Dispersion (σ) on the right arm increased - this means that there were different individual responses to training. Some participants achieved strong growth, while others achieved relatively less. For the left hand, σ decreased slightly, i.e., the results between the participants were stable and close. The coefficient of variation (V%) was determined in the right hand at the beginning of the study - 18.63%, at the end of the study - 18.92%, and in the left hand at the beginning of the study - 25.35%, at the end - 19.92%. On the right hand, the degree of variation practically did not change (18.63 - 18.92%), which indicates the preservation of variability. On the left hand, the variation was significantly reduced (25.35 - 19.92%), which means that the results within the group increased uniformly and steadily. According to Student's t-test, the difference between the initial and final results for both hands is statistically significant (p <

0.05). This means that the changes are not accidental, but real development resulting from training. The average indicators for both hands clearly increased. Stability and single development were observed on the left hand (σ and V% decreased). On the right hand, due to the fact that some participants achieved strong growth, σ increased. Differences based on the t-criterion and p-value have been scientifically proven.

Conclusion. A new training device and methodology for its use, created to improve the strength and physical qualities of para-nuclear throwers of the F33 and F34 classification, have been implemented in practice and positive results have been achieved. The physical training and strength qualities of para-nuclear throwers have changed for the better.

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