

# ASSESSMENT OF THE IMPORTANCE OF TRAINING IN THE DEVELOPMENT OF STRENGTH AND QUICK-STRENGTH QUALITIES OF SKILLED WRESTLERS

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## Abstract

Special exercises are used to develop the strength and quick-power qualities of skilled wrestlers. In this article, the universal dynamographic stand (UDS) was used in monitoring quality development. The obtained data allow us to determine the parameters of the development of strength and quick-strength qualities among qualified wrestlers.

**Keywords:** wrestling, strength and quick-strength exercises, set of exercises.

## Introduction

The most urgent problem in the process of training skilled wrestlers is the development of physical qualities that contribute to the increase in the level of technical and tactical training. It is known that increasing the level of development of physical qualities, formation of skill and skill actions are created during periods of intense transition. Currently, the issue of improving the methodology of strength and quick-strength exercises of 15-17-year-old qualified wrestlers is one of the most urgent issues. Systematic training exercises for the training of qualified wrestlers help to achieve an optimal ratio of mental and physical loads, strengthen the health of wrestlers, and increase their physical activity and level. From this point of view, scientific research and the development of new methods and techniques aimed at the rapid development of physical qualities and increasing the level of physical fitness of qualified wrestlers are of great importance.

## Literature review

Physical training, preparation for successful passing of control standards, as well as participation in sports competitions, are aimed at increasing the effectiveness of the results. The activity of the physiological systems will become stronger and the intensity of physical loads will be intensified, and the basic skills and competencies will be formed in the process of training and training of qualified wrestlers.

Among the modern scientific research, issues of developing the quality of strength and quick strength of qualified wrestlers occupy a great place. The methodology of training skilled wrestlers with strength and speed is one of the necessary links of the training management system. This problem was widely studied in the research of foreign scientists: A.A. Novikova, Zatsiorsky V.M., Matveev L.P., G.S. Tumanyana, Platonov V.N., Verkhoshansky Yu.V. Among local scientists, the researches of FAKerimov, OVGoncharova should be noted. It should be noted that the level of development of issues related to strength and speed-strength training of qualified athletes in various sports is very different. In particular, we can see that the issues of strength and quick-strength training methodology have not yet been resolved at



the stage of improving the sport of 15-17-year-old qualified wrestlers of various weight categories in wrestling [1-5].

Training of wrestlers, for example, improvement of tactical and technical actions, resistance to confounding factors in the process of competition, training methods, etc. [6-9].

One of the most important reasons for complicating the management of the training process in wrestling is the inability to truly assess the current level of strength and quick-strength training of wrestlers of different weight categories during the stage of improving the sport.

## Methodology

**The purpose of the study.** To study the effect of a special set of exercises for the development of strength and quick-power ability in the training of 15-17-year-old skilled wrestlers.

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

The study notes the following characteristics of the level of development of strength and quick-strength indicators [7]:

Maximum, voluntary muscle strength in po- isometric mode (MPS);

F<sub>max</sub> (kg) - the maximum value of the explosive force of the muscles in the explosive isometric mode (MVVU).

t<sub>max</sub> is the time to reach the maximum explosive force in the isometric mode.

J is the coefficient describing the explosive power of muscles in isometric mode, explosive power is the ability to use large values in the shortest time. When evaluating explosive power, you can use the quickness-power-power index:

$$J = F_{max} / t_{max} \text{ (kg / s);} \quad (1)$$

Q – (initial force) is a characteristic of the muscle's ability to rapidly develop a workforce at the initial time of tension. The coefficient describing the strength of the initial muscles in the isometric mode was determined by the following formula:

$$Q = 0,5 F_{max} / t_{max} \text{ (kg / s);} \quad (2)$$

where 0.5 F<sub>max</sub> is half of the maximum value of the explosive force (kg);

t<sub>1</sub> is the time to reach the initial force (s).

G - acceleration force - the ability of the muscles to quickly build working forces under conditions of initial contraction. The coefficient describing the accelerating muscle strength in the isometric mode is determined by the following formula:

$$G = F_{max} - P_0 / t_{max} - t_1 \text{ (kg / s);} \quad (3)$$

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"Program for the analysis of strength indicators of athletes" was implemented using a specially developed computer program.

## Results and discussion

As a result of the analysis, it was found that at the beginning of the pedagogical experiment, qualified wrestlers from the experimental groups did not observe significant statistical differences between the studied parameters (P>0.05), although we observed higher mean values among the skilled wrestlers of the control group in two indicators (J and G).

P<sub>0</sub>-144.5±4.5 data obtained among qualified wrestlers of the experimental group;



$F_{\max}$ -126.6±4.2;

J-170.6±28.9;

Q227.3±34.5;

G-159.5±11.4,

as well as among skilled wrestlers in Po's control group

$P_o$ -142.2±4.9;

$F_{\max}$ -127.2±4.1;

J-178.2±29.1;

Q-224.2±22.5;

G-165.2±21.5

shows that at the beginning of the pedagogical experiment, among the skilled wrestlers, the experimental groups had the same physical fitness.

Comparative statistical analysis of the studied parameters in the experimental groups revealed the following values. During the experiment, a significant increase in  $P_o$  values was found in the skilled wrestlers of the experienced group.

$P_o$ -144.5±4.5; 158.5±4.5;

$F_{\max}$  - 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 are observed in  $P_o$ , J and G indicators at the level of significance  $P < 0.05$ . Comparative statistical analysis of the studied parameters between skilled wrestlers of the control group revealed the following  $P_o$  values-

142.2±4.9;

144.7±4.55  $F_{\max}$  - 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 quick-strength readiness of the experimental groups. As a result of the pedagogical experiment we conducted between skilled wrestlers of experimental groups, the following statistically significant differences

$> -158.5 \pm 4.5$ ;  $144.7 \pm 4.55$ ;

$F_{\max}$  -  $138.7 \pm 4.24$ ;

$128.2 \pm 5.01$ ; J -;

$217 \pm 26.2$ ;

$202.2 \pm 36.3$ ;

Q -  $286.1 \pm 24.1$ ;

$243.8 \pm 44.7$ ;

G -  $179.6 \pm 21.6$ ;

$174.4 \pm 36.2$ .



There were some changes in all parameters and statistically significant differences were observed in four out of 5 indicators, which (80%), except Po and Q indicators  $P < 0.01$  and J and G indicators, Statistically significant differences at the level of significance  $<0.05$  [10].

In order to check 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 simultaneously observed the wrestlers of the experimental and control groups. In the control group, during the pedagogical experiment, training sessions were held accordingly

Thus, the statistical analysis of the material obtained in the pedagogical experiment testifies to the advantage of the methodology developed for the development of strength and quick-power qualities among skilled wrestlers with the help of the selected exercises. We found that the developed methodology, which helps to improve strength and quick-strength qualities, showed a significant advantage over the traditional system of training among skilled wrestlers of the experimental group. The results of the research showed that the main training program should be supplemented with special physical exercises, which help to increase the efficiency of the training and education process and are the most effective means of increasing the strength and quick-strength training of qualified people.

### Conclusions

Conducted by us Research has revealed a methodology that allows determining the dynamics of strength and speed-strength indicators among skilled wrestlers. During the experiment, a significant increase in the indicators of the dynamics of strength and quick-strength indicators was found among skilled wrestlers. Significant statistical differences at the level of  $P < 0.05$  were observed for Po, Q, J and G among the skilled wrestlers of the experimental group. During the experiment, a slight increase in the studied parameters was found in the control group. However, there were no significant statistical differences in Po, F max, J, Q and G indices between the skilled wrestlers of the control group. ( $P > 0.05$ ). Also, the results showed that the combination of the basic training program with the help of additional special physical exercises helps to increase the efficiency of the educational and training process of qualified wrestlers and is an effective means of increasing their technical and tactical training level.

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