Improvement of physical training of young weightlifters in microcycles at the initial stage

UDC 796.88

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Received by the editorial office on 30.01.2024

Abstract

Objective of the study was to increase the efficiency of physical training of young weightlifters in microcycles at the initial stage with the predominant use of the circular training method.

Methods and structure of the study. Classes in the control group were held in accordance with the approved program of initial training in weightlifting for 2023-2024, and in the experimental group, mainly using exercises using the circuit training method.

Results and conclusions. Wave-like alternation and gradual increase in load from cycle to cycle and from session to session within a cycle formed the basis of training for young athletes from the experimental group, which ultimately contributed to an increase in the level of physical fitness. Thus, the presented method and means of circular training in theoretical significance can be recommended for inclusion in the general base of the training system in weightlifting for the development of training plans for physical training at the initial stage in order to increase the effectiveness of training in microcycles of young weightlifters.

Keywords: *physical training, circuit training method, microcycle, young weightlifters.*

Introduction. Weightlifting is an Olympic sport, the basis of competitive activity of which is the motor actions of lifting a barbell above the head (jerk and push). Due to the technical complexity of the two main weightlifting exercises, unlike other strength sports, in weightlifting it is important not only the optimal manifestation of strength abilities, but also flexibility, speed, coordination and special endurance. It is also important to note that the effectiveness of competitive activity of weightlifters directly depends on the expedient construction of the training process and the content of the training system, especially at the initial stage, where the foundation of sportsmanship is laid [3].

It was found that at the initial stage, in most cases, predominantly game and repeated methods are used, the use of which does not always have a versatile effect on the body and a pronounced training effect in those involved, which is the reason for the insufficient physical preparedness of young weightlifters before enrolling in the stage of sports specialization [2, 5].

In this aspect, the need to improve traditional forms of physical training of weightlifters at the initial stage becomes a pressing issue. One of the most promising ways to improve physical abilities in microcycles seems to be the inclusion in the training program of young weightlifters of exercises using the circuit training method, which solves the problem of achieving high performance and increasing the functional state due to a complex and versatile effect on the athletes' body.

Objective of the study was to increase the efficiency of physical training of young weightlifters in microcycles at the initial stage with the predominant use of the circular training method.

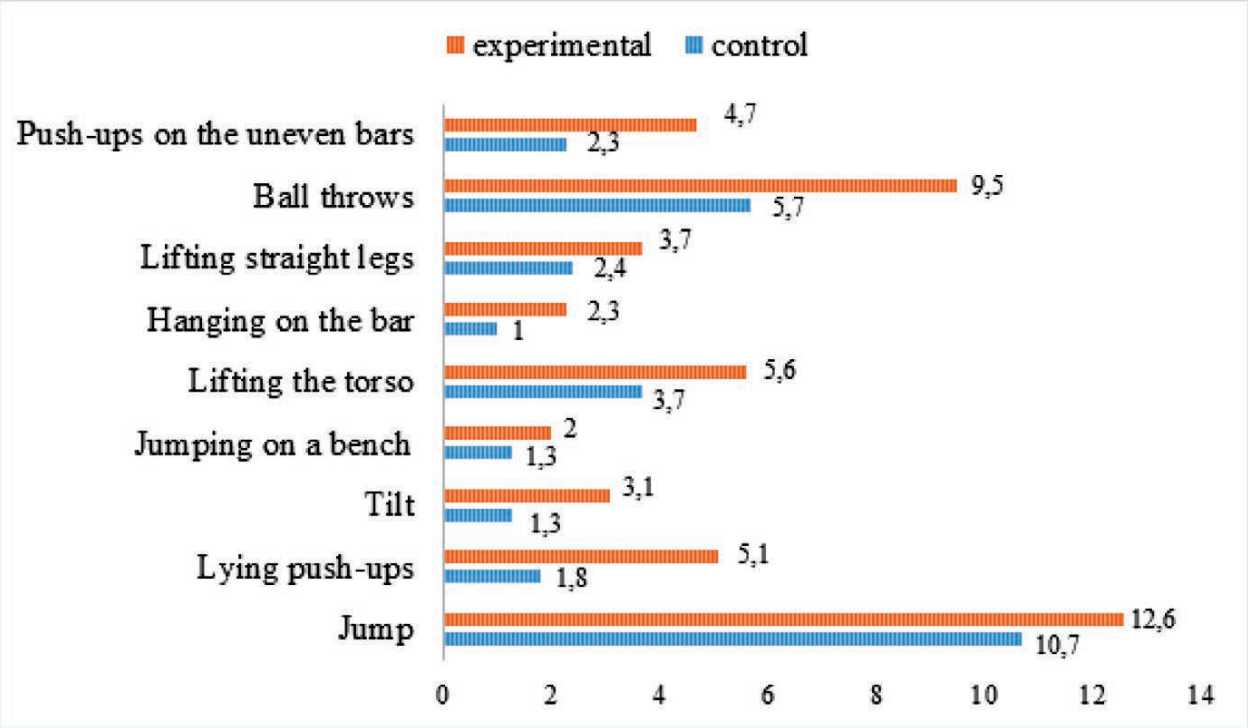
Methods and structure of the study. The experimental study was carried out at the Vishnevskaya secondary school No. 2 in the village of Mokry Batai, Rostov region, as part of additional education in the period from September 2023 to February 2024. 12 young weightlifters aged 11-12 years of primary training groups took part in the pedagogical experiment. The number of students was 6 boys in the control and experimental groups, respectively.

Tests to control physical qualities included: standing long jump with a push with two legs, lifting the body from a supine position, hanging on a high bar with bent arms at the elbow joint 90 degrees, bending forward from a standing position, jumping on a gymnastic bench, bending and extension of arms while lying on the floor, raising and lowering straight legs from a supine position, throwing a medicine ball against a wall, bending and extending arms on parallel bars.

Classes in the control group were held in accordance with the approved program of initial training in weightlifting for 2023-2024, and in the experimental group, mainly using exercises using the circuit training method.

Results of the study and discussion. Weekly training cycles were compiled at each stage of preparation of the training cycle and varied depending on the training objectives, which gave us the opportunity to more accurately determine the content of each training session, use various means and correctly alternate physical activity. Cyclicity was determined by the regular repetition of classes with a certain focus over several weeks. Wave-like alternation and gradual increase in load from cycle to cycle and from session to session within the cycle formed the basis of training for young athletes from the experimental group (Table 1).

When implementing this microcycle, the individual characteristics of the participants in the experimental group, established based on the results of passing physical fitness tests at the beginning of the experiment, were taken into account. Solving the tasks and goals of each training session in the microcycle, we selected physical exercises mainly developing strength,



Dynamics of growth of average results in groups

Table 1. Weekly training microcycle of the experimental group of weightlifters at the initial stage

Types of training	Days of the week					
	No. 1 Tuesday	Load size	No. 2 Thursday	Load size	No. 3 Saturday	Load size
Speed-strength training	+	Average	+	Small	+	Average
Strength training	+	Average	+	Average	+	Average
Development of strength endurance			+	Large	+	Average
Development of flexibility	+	Small				
Increased aerobic capacity	+	Large	+	Small		
Complex (speed and aerobic capabilities)			+	Small	+	Small

Table 2. Test results at the beginning of the experiment

Test	Unit	Average value		Difference, %
		Control	Experimental	
Standing long jump	cm	129,6±4,8	130,6±3,8	0,8
Flexion and extension of the arms while lying down	Number of times	11,8±1,7	11,9±1,7	0,1
Incline	Number of times	4,3±1,2	3,9±1,7	9,4
Jumping on a gymnastic bench	Number of times in 10 s	5,3±1,3	5,5±1,5	3,7
Raising the body from a supine position	Number of times in 30 s	21,1 ±3,9	22,0±3,6	4,1
Hanging on the bar at a 90 degree angle at the elbow joint	C	7,1±1,4	7,8±1,5	9,0
Raising and lowering straight legs from a supine position	Number of times in 30 s	16,6±0,9	17,2±1,7	3,4
Throwing a 2kg medicine ball against a wall	Number of times in 40 s	23,9±2,7	23,1±2,4	3,3
Bending and extending arms on parallel bars	Number of times	16,0±1,5	16,5±1,4	3,0

speed and strength qualities in young weightlifters, which are the most significant in this sport.

At the beginning of the experiment in September 2023, a comprehensive assessment of indicators of the development of physical qualities in both groups was carried out using nine physical fitness tests (Table 2).

According to the test results obtained, the initial data on the level of physical fitness of young weightlifters in the control and experimental groups did not have significant differences. Testing was carried out on an open sports ground during the daytime.

At the end of the pedagogical experiment, after the implementation and use in the training process of the experimental group of the compiled sets of exercises performed by the circular training method, with the aim of a comprehensive impact on the motor qualities of weightlifters and a subsequent increase in physical indicators in comparison with the control group, we re-tested similar tests in end of February 2024. The results of repeated testing for the level of physical fitness after the experiment showed a significant superiority of the experimental group over the control group in almost all indicators presented in the figure.

Conclusions. In weightlifting, at the initial stage of preparation, the foundation is laid for further mastery of sportsmanship and achievement of the highest results, and therefore the main task of the training process of young athletes is comprehensive, integrated physical development, where the effectiveness of the competitive activity of weightlifters directly depends on the expedient construction of the training process and the content of the training system.

In the presented research work, the predominant use of the circular method in microcycles of training during weightlifting classes in initial training groups proved its effectiveness, which ultimately contributed to an increase in the level of physical fitness of young weightlifters from the experimental group.

Thus, the presented method and means of circular training in theoretical significance can be recommended for inclusion in the general base of the training system in weightlifting for the development of training plans for physical training at the initial stage in order to increase the effectiveness of training in microcycles of young weightlifters.

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