Myofascial release as a means of increasing the power capabilities of powerlifters

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Abstract

Objective of the study was to increase the effectiveness of the training process of beginner powerlifters through the use of myofascial release exercises.

Methods and structure of the study. Beginner powerlifters aged 17-18 took part in the pedagogical experiment. The study was conducted on the basis of the Sports School "Olimp" in the village of Novoagansk. The program of training sessions, in addition to basic strength exercises, included myofascial release exercises to increase the flexibility and elasticity of the leading muscle groups of powerlifters. To determine the effectiveness of the proposed training program, the surveyed contingent analyzed the level of their strength capabilities.

Results and conclusions. The analysis of the obtained results indicates an increase in the strength capabilities of the study group in the control exercises: in the bench press on a horizontal bench, positive statistically significant changes in strength indicators were found by an average of 11 kg ($p < 0.05$), in the squat with a barbell on the shoulders in on average, strength indicators increased by 14 kg, and in the deadlift, powerlifters improved their results by an average of 8 kg, with maximum shifts in strength parameters in the considered exercises by 17 kg ($p < 0.05$).

Thus, the use of myofascial release exercises in the training sessions of beginner powerlifters, in addition to basic exercises (squats with a barbell on the shoulders, bench press, deadlift), myofascial release exercises, is an effective additional means of increasing their strength capabilities.

Keywords: *training process, powerlifters, myofascial release exercises.*

Introduction. Currently, in powerlifting there is a large abundance of methodological materials on the organization of the training process, which often leads to disorientation of those involved and the chaotic construction of training sessions. The proposed methods are mainly aimed at preparing for competitions bypassing all the initial stages. [4]. As before, the question of methodically verified approaches to planning training sessions for beginner powerlifters remains very relevant. In this context, it is important to use, along with basic training exercises, additional means of developing strength parameters, one of which is myofascial release exercises. In sports practice, myofascial release contributes to the recovery and relaxation of muscle groups, reduces overall muscle tone, allows you to maintain the optimal state of the musculoskeletal system and, very importantly, helps to recover faster after training loads [1, 2]. Obviously, the study of the issue of using the above means, in order to further improve the training process in powerlifting, is relevant and requires further research.

Objective of the study was to increase the effectiveness of the training process of beginner powerlifters through the use of myofascial release exercises.

Methods and structure of the study. Based on the data of scientific and methodological literature, a program of training sessions for powerlifters aged 17-18 was developed in the amount of 36 training sessions. The following methodological features formed the basis of the training program: loads with weights exceeding 90% of the maximum limit were excluded; the number of repetitions of one exercise

Comparative analysis of the results in control exercises for beginner powerlifters before and after the experiment

Control exercises	Stages of the experiment		
	before	after	p
Barbell Squats	50,5±12,9	64,75±13,8	<0,05
Bench press	41±11, 6	52±**11,9**	<0,05
Deadlift	62,5±13, 9	70,5±13,9	<0,05

is 2-4, the number of sets in the exercise is 3-4, the rest between sets is in the range from 5 to 6 minutes, the number of sessions per week is 3; for the preparation period 6 training sessions in shock mode with a large load in the range of 82% - 90%; the main emphasis is shifted to work in the range from 75% to 85% of the maximum limit [3, 4].

In order to relieve excessive muscle tension by influencing the fascia of large muscle groups, myofascial release exercises were included in the training process of powerlifters. Performing this group of exercises improves the flexibility and elasticity of the muscles, due to which there is an increase in strength indicators. MFR (myofascial release) is used not only as a method of improving strength abilities, but also as a method of self-massage and relaxation. [5]. In the experimental complex, gymnastic exercises were used to increase the flexibility and elasticity of muscles, as well as the "Roll" and "Ball" equipment, which achieved a greater effect due to pressure and stretching of the overstressed muscle. Below are the main exercises of the complex:

Exercise 1 - latissimus dorsi. Starting position - lying on your side, roll closer to the lower corner of the shoulder blade, hand from the side of the roll on the floor or raised up. Roll the roll up to armpit level.

Exercise 2 - the muscle that straightens the spine. Starting position - emphasis lying on the floor with bent legs, roll at the level of the lumbar spine (just above the iliac crest). Roll the roll up to the level of the lower rib.

Exercise 3 - gluteus maximus. Starting position - emphasis sitting with bent legs, roll at the level of the upper part of the buttocks (just below the iliac crest). Roll the roll slightly down towards the ischium.

Exercise 4 - the middle and small gluteal muscles. Starting position - emphasis lying on your side (for relief, support on the forearm is possible), the supporting leg is bent, roll just below the iliac crest. Roll the roll down to the hip joint.

In addition, in the training complex, in addition to basic exercises, such as: squats with a barbell on the shoulders; bench press lying on a horizontal bench; deadlift, additional exercises similar to them in the anatomy of movement were used. For example, basic squats were combined with the leg press exercise on the block simulator [2]. Control measurements of the power capabilities of powerlifters were carried out by performing basic exercises: squatting with a barbell on their shoulders, bench press lying on a horizontal bench and deadlift. A total of 10 athletes from the sports school "Olimp" in the village of Novoagansk, who were trained according to the training plan using MFR complexes, were tested.

Results of the study and their discussion. The dynamics of power parameters of beginner powerlifters in control exercises before and after experimental training sessions with the inclusion of myofascial release exercises is shown in Figures 1-3.

The analysis of the results obtained indicates an increase in the strength capabilities of the studied contingent in the control exercises (see table).

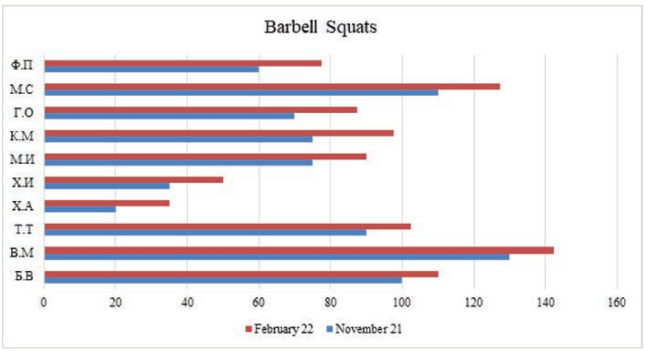

Figure 1. *The dynamics of the results of athletes training with the use of MFR exercises*

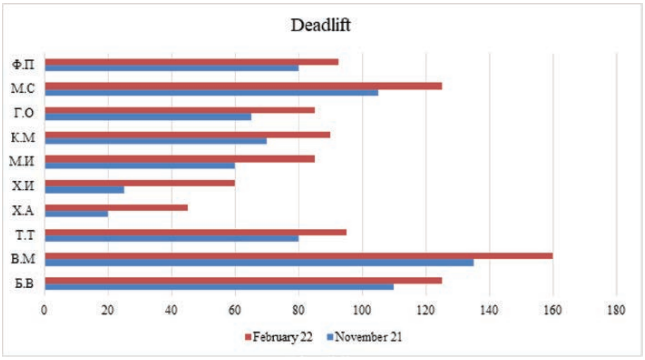

Figure 2. *The dynamics of the results of athletes training with the use of MFR exercises*

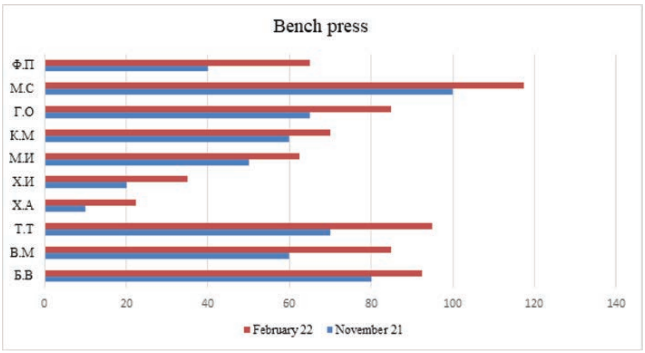

Figure 3. *The dynamics of the results of athletes training with the use of MFR exercises*

In the control exercise, bench press on a horizontal bench (Figure 3), we can note the most pronounced positive shifts in strength parameters over the study period, namely, the indicators from November 2021 to February 2022 increased by an average of 11 kg ($p < 0,05$), and some athletes were able to improve their performance by 15 kg. In such exercises as the squat with a barbell on the shoulders, on average, strength indicators increased by 14 kg, and in the deadlift, powerlifters improved their results by an average of 8 kg, with the maximum shifts in strength parameters in the exercises under consideration by 17 kg. Moreover, these indicators have undergone positive changes at a statistically significant level ($p < 0.05$).

Conclusions. Thus, according to the results of the study, it can be concluded that the use of beginner powerlifters in training sessions, in addition to basic exercises, myofascial release exercises, contributes to an increase in the strength capabilities of this contingent, as evidenced by significant changes in strength indicators in control exercises.

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