METHODOLOGY FOR THE DEVELOPMENT OF EXPLOSIVE STRENGTH AND SPEED-STRENGTH TRAINING OF ARMWRESTLERS

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Annotation. One of the most important problems of physical training of athletes in arm wrestling is the problem of finding effective means and methods for developing explosive strength and speed-strength training.

The main strategy in sports training should be the development of the strengths of the athlete's preparedness as the leading condition for achieving high results. In this regard, there is a need to improve the means and methods of training armwrestlers. In this regard, there is a need to improve the means and methods of training armwrestlers. Weights are one of the powerful means of increasing the efficiency of explosive strength development and speed-strength training in armwrestling. Further scientific research related to the improvement of the content and construction of the training process of armwrestlers using weights is necessary and relevant.

Аннотация. Одной из важнейших проблем физической подготовки спортсменов в армрестлинге является проблема поиска эффективных средств и методов развития взрывной силы и скоростно-силовой подготовки.

Основной стратегией в спортивной тренировке должно быть развитие сильных сторон подготовленности спортсмена как ведущего условия достижения им высоких результатов. В связи с этим возникает необходимость в совершенствовании средств и методов тренировки армрестлеров. Одним из мощных средств повышения эффективности развития взрывной силы и скоростно-силовой подготовки в армрестлинге являются отягощения. Дальнейшие научные исследования, связанные с совершенствованием содержания и построения тренировочного процесса армрестлеров с использованием отягощений, является необходимым и актуальным.

Key words: explosive strength, speed-strength training, weights, armwrestler.

Ключевые слова: взрывной сила, скоростно-силовая подготовка, отягощение, армрестлер.

Scientific novelty. Almost no research has been done in this area.

Practical significance. The developed means and methods can be used for the development of explosive strength and speed-strength training of armwrestlers.

Object of study. The process of sports training of armwrestlers.

Subject of study. Methodology for the development of explosive strength and speed-strength training.

Hypothesis. The methodology for the development of explosive strength and speed-strength training of armwrestlers will be effective if:

1. Effective means and methods will be developed to increase the explosive strength and speed-strength training of armwrestlers.
2. The use of weights that simulate the motor modes of sports activities in the training of armwrestlers will significantly enrich the motor potential, increase the physical capabilities of armwrestlers.

Purpose of the study. To develop an effective methodology for the development of explosive strength and speed-strength training of armwrestlers. The following tasks were defined:

1. To study the theoretical foundations for the development of physical qualities in armwrestlers.
2. Determine the level of development of strength training among armwrestlers.
3. To develop means and methods for developing explosive strength and speed-strength training for armwrestlers.
4. Experimentally test the effectiveness of the proposed means and methods for developing explosive strength and speed-strength training.

Methods and organization of the study. The following methods were used during the study:

1. Theoretical analysis and generalization.
2. Poll (conversation, testing).
3. Pedagogical observation.
4. Pedagogical experiment.
5. Statistical processing of the obtained results.

The organization of the study was carried out on the basis of the IC "Antey" from March 2017 to March 2018. At the first stage, a sociological study was conducted, which included a theoretical analysis and generalization of the latest available information, and interviews were conducted on specially prepared survey sheets.

Pedagogical supervision was carried out during the entire training process.

The pedagogical experiment involved young arm wrestlers, who were divided into 2 groups, experimental and control, 12 athletes each. The pedagogical experiment consisted in the fact that the natural nature of the training process of armwrestlers included exercises with weights performed using the "variable-progressive" method of lifting weights (method 1), "conjugated-sequential" increase in load (method 2) and a combination of the first two methods (3 way).

1 method - "variable-progressive" method of lifting weights in the range from 60% to 80% of the maximum, with 4 sets per lesson and 4-5 repetitions in one set;
Method 2 - "conjugated-sequential" increase in load when lifting weights in the range from 80% to 100% of the maximum, with 4 approaches in a lesson and 1-3 repetitions in one approach;
Method 3 - an equal combination of the first two methods.
Having processed the obtained data mathematically, we considered the features of the influence of these three variants of strength training on the development of explosive strength in the process of sports training of armwrestlers.
1. The performance of weightlifting exercises based on the "variable-progressive" technique contributes to the development of explosive strength, which is manifested in the conditions of overcoming great external resistance from the opponent and at the same time increasing the level of starting muscle strength.
2. Performing weightlifting exercises based on "conjugated-successive" increase in load contributes to the development of explosive strength, especially when starting on the table if the opponent is very tense during the starting position.
3. Performing weightlifting exercises according to the third integral option contributes to the development of explosive strength in the special strength training of armwrestlers, as an alternative method of load planning.
To test the effectiveness of the above options for strength training, an experiment was conducted in which armwrestlers aged 16-20 took part.
The volume of load when performing exercises with weights of an intense nature increased from 10% to 15% of the time of the session. In the future, the volume of the load of strength training increased from 20% to 30% of the time of the lesson.
The results of a preliminary study of explosive strength development methods based on intense weights in the training process of armwrestlers made it possible to conclude that this strength training is effective if the training potential of the means introduced into training increases consistently and variably.
Prolonged use of the same load values is inefficient.
Initial test results. Strength training was assessed according to the control and pedagogical tests in lifting the bar for biceps and lifting the bar for the forearm. The first control and pedagogical tests made it possible to determine the initial results in these exercises. For arm wrestlers aged 16-20 years, the average figure in lifting the bar for biceps in the experimental group was 55.5 kg, and in the control group of peers 52.5 kg. In lifting the barbell on the forearm in the experimental group of arm wrestlers, the result was 52.4 kg, and in the control group 50.6 kg.
Testing of the general and special physical fitness of armwrestlers was carried out using those exercises that are traditionally used in armwrestling.

Consider the results of monitoring the effectiveness of using various options for explosive strength training in the training process:

1. Variable-progressive method.

The following combinations of loads in special strength training gave a positive cumulative effect:

- barbell weight variation in one exercise: maximum - within 1-2 microcycles; 60.65.70.65.75% of 70
- barbell weight variation in one exercise: maximum from 2 to 3 microcycles; 60.80.70.75% of 65.75.60.70.80 of combination
- barbell weight variation in one exercise: maximum - up to 3 microcycles.

2. Conjugate-sequential method. The following loads in special strength training gave a positive cumulative effect:

- a combination of barbell weight in one exercise: 80, 90, 95, 100% of the maximum - within 1-2 microcycles;
- a combination of barbell weight in one exercise: 80x2 sets, 90x1 set, 100% of the maximum one set - from 2 to 3 microcycles;
- a combination of barbell weight in one exercise: 80x2 sets, 85x1 set, 90% of the maximum 1 set - up to 3 microcycles.

3. Integral method - a combination of variable-progressive and conjugate-sequential method. The following combinations of loads in special strength training gave a positive cumulative effect:

- barbell weight variation in one exercise: 60, 70, 65, 75% of the maximum + a combination of barbell weight in one exercise: 80x2 sets, 85x1 set, 90% of the maximum 1 set - up to 2 microcycles;
- barbell weight variation in one exercise: 70, 60, 80, 75% of the maximum + barbell weight combination in one exercise: 80x2 sets, 90x1 set, 100% of the maximum one set - 2-3 microcycles;
- barbell weight variation in one exercise: 65, 75, 70, 80% of the maximum + barbell weight combination in one exercise: 80, 85, 95, 100% of the maximum - 1-2 microcycles.

These methods of strength training made it possible to provide a predominant increase in the strength potential of the muscles and improve the athlete's ability to realize their explosive and speed-strength qualities. Moreover, the positive effect of this technique in the training of young armwrestlers was observed only if the duration of the use of each of the means was at least one mesocycle. Based on the research, it is possible to recommend a variation of three methods of special strength training.

Conclusion.

1. The steady growth of the strength abilities of young armwrestlers will be ensured only with the constant diversity and variability of the educational and training process.

The positive development of explosive strength in the preparatory period for arm wrestlers aged 14-16 is ensured under the condition of a gradual increase in the volume of strength training.

2. A significant increase in the strength capabilities of adolescents aged 14-16 is achieved if the following methods are used:

- "variable-progressive" (weights from 60% to 80% of the maximum, 4 sets in a lesson and 3-4 repetitions in one set), which allows to achieve a more pronounced effect in the training of young armwrestlers when performing the following motor actions: initial starting position, fighting technique in a hook.
- "conjugated-sequential" (weights from 80% to 100% of the maximum, 4 sets in a lesson and 1-3 repetitions in one set), which allows young arm wrestlers to achieve the greatest effect when performing motor actions: the beginning of movement from the initial starting position with strong tension of the opponent.

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