The starting tug is the most important element of the starting technique in mas-wrestling

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Abstract

Objective of the study was to assess the power of the start and the starting tug of mas-wrestlers, taking into account the structure and content of the starting actions.

Methods and structure of the study. A video-computer analysis and tensoanalysis of the execution of the phase and structure of the technical element of the start in mas-wrestling by highly qualified athletes were carried out, the selection of the most effective elements of the start technique based on the data obtained was carried out. The starting position and thrust of the mas-wrestler, starting fixation (pressure) and starting tug when performing a power start were considered.

Results and conclusions. Highly qualified athletes in mas-wrestling surpass qualified mas-wrestlers in terms of space-time and speed-strength parameters studied in the work. The revealed parameters of the features of the phase structure of the starting thrust can be recommended as a guideline and used as one of the criteria for assessing physical fitness for the requirements of this sport.

Keywords: *mas-wrestling, start, starting tug, mas-wrestlers, mas wrestler thrust, power start, technique, force.*

Introduction. In many sports, one of the moments of competitive success is the effectiveness of the construction and implementation of starting actions.

In mas-wrestling, the starting action is an important technical element of wrestling tactics, which provides the dominant condition for achieving high sports results. As practice shows, winning at the start due to the starting spurt in mas-wrestling gives more advantages in using a variety of technical and tactical actions, which allows you to achieve a quick victory in a duel. Which, in turn, allows you to maintain strength for the next fight and the athlete's further performance in competitions.

With the change in the rules of the competition, the start time is strictly regulated, after the "Olor" command, no more than 30 seconds should pass before the "Belam" command (attention). from the "Attention" command to the starting signal, the long stay of the athlete in a state of readiness for the start is excluded between "Belam" and "Che" should be approximately 1-1.5 s.

Today, according to the start technique in mas-wrestling, athletes and coaches do not have experimentally substantiated structural characteristics of all phases and elements of the start technique. Data on spatial, temporal, power and other parameters have not been sufficiently studied. All this leads to the fact that already in the initial period of training, the process of mastering the start technique takes place without specific recommendations and instructions from the coach. The development of an experimentally substantiated system of model characteristics intended for training and improving the launch technique is an urgent and important task.

Also, one key point in the start technique is the fixation of the starting position, where effective means and methods in the training process of mas-wrestlers, which contribute to the improvement of the starting jerk, have also not been sufficiently de-

veloped. In general, large volumes of strength training in the microcycles of the training process (at all stages and periods of training) do not leave time for the initial training of mas-wrestlers. The lack of proper attention to the starting movements leads to the fact that during training, athletes perform competitive traction not from the start from the board, but standing up, which is not inherent in a competitive exercise, which sometimes leads to microtraumas [1, 2].

Recent studies of starting positions have shown that currently 3 starting positions are practiced in mas-wrestling, which correspond to the biomechanical requirements arising from the tasks of the start, and mas-wrestlers are also divided according to the technical and tactical features of wrestling [4].

From the foregoing, it follows that increasing the efficiency of the start will improve the performance of the athlete in the competition. Achieving the variability and reliability of the start and the starting jerk is a system-forming factor in the technical training of mas-wrestlers of various qualifications.

In this study, we characterize the starting activity of mas-wrestlers, clarify the optimal strength of individual components and the start as a whole, and also offer a number of recommendations to improve the efficiency of the start [5].

Objective of the study was to assess the power of the start and the starting tug of mas-wrestlers, taking into account the structure and content of the starting actions.

Methods and structure of the study. The experiment was carried out in 2022 at the State Budgetary Institution of the Republic of Sakha (Yakutia) of the Republican Center for National Sports named after V. Manchaara, Yakutsk, in which 10 qualified and 10 highly qualified mas-wrestlers took part. Video filming complied with all biomechanical requirements. To obtain reliable information about the kinematic structure of the elements of the technique for performing the start and starting jerks in the mas-wrestler deadlift. To conduct the thrust force of the mas-wrestler, the starting pressure and the starting jerk, the “Device for assessing traction in mas-wrestling” [3] was used.

Results of the study and their discussion. It is known that the starting action ensures the occurrence of acceleration of the body's OCM (Overall Center of Mass) in a given direction with the first movement of the athlete.

In mas-wrestling, the initial starting position affects the path of movement of the tug-of-war, the amplitude of the movement of the tug-of-war, the amount of effort developed by the mas-wrestler in dynamic and static-dynamic modes, the degree of involvement of the main muscle groups in the work, the speed of the jerk and the perfection of the technical performance of the mas-wrestler's thrust.

If we talk about the motor action, the thrust of the mas-wrestler is characterized by the simultaneous straightening of the legs in the knee joint and the trunk in the hip joint with straightened arms in a three-support (horizontal direction) or two-support (vertical direction) position, which directly affects the movement of the tug-of-war stick.

The study of competitive activity and the analysis of fights revealed that at this stage of development of mas-wrestling, power start dominates in 60%. Proceeding from this, the manifestation of the strength of the "power start" was studied.

As a result of pedagogical observation, we have identified the main phases of the technique for performing power start starting movements.

The power start of mas-wrestling includes phases that have features and differences between themselves with the possibility of developing strength (power) in the starting thrust.

In our study, we connected the power start with two phases, based on the rules of the competition: the first phase is associated with fixation (static), the second phase with a starting jerk (dynamic).

The first phase is the starting reaction, which is divided into two parts: fixing the time from the moment of the start signal to the start of the movement of the stick, as well as the simultaneous start of the movement of the body.

The effectiveness of the second part of the starting reaction depends on the correct starting posture and the maximum mobilization and concentration.

The second component of the start is the starting (initial) jerk, ending with the achievement of maximum strength.

I would also like to note that the difficulty in performing the starting actions of mas-wrestlers is explained not only by the need to maintain balance by creating a balancing of the body (a common center of mass of the body and system), but also with the difficulty of transferring forces from the support through the outstretched arms, torso, pelvis and

legs of the mas-wrestler, the presence freedom of movement of the tug-of-war stick, arms and torso.

In addition, this is due to the choice of the area of \u200b\u200bsupport on the stop board, based on its work in the conditions of the opponent's movement, when the opponent's quick movement along the stop board creates an unstable support sufficient for the mass wrestler to perform a thrust.

All of the above was the basis for our study.

According to the instructions, the athletes performed a competitive exercise based on the rules of the competition: first, starting preparation (starting pressure), fixation, taking into account the starting jerk and performing the jerk itself after the signal. Athletes chose the starting position taking into account their anthropometric features, that is, as it is convenient for them (crown starting action). Video analysis revealed that 80% of the power starts are done with a "straight back", 15% with a "rounded back balanced", 5% with a "balanced torso flexion".

The results obtained during the structural-phase analysis indicate that, with a total duration of the starting pressure (fixation) at the start, in qualified mas-wrestlers, when performing a "power start" in the first phase, the jerk was 160.9 ± 18.8 kg, in the second phase the starting jerk showed 218.5 ± 16.9 kg, and for highly qualified mas-wrestlers the starting pressure was 164.4 ± 17.7; the starting jerk was 245.3 ± 4.7 kg.

This allows us to state that there are no significant differences between qualified and highly qualified mas-wrestlers in the starting pressure in the first phase, and the difference is noticeable in the starting jerk. This allows us to state that for highly skilled masculine wrestlers, the jerk force depends not only on the force of pull and repulsion, but also on the angle of repulsion, which affects the trajectory of the tug-of-war stick.

Conclusions. Highly qualified athletes in mas-wrestling surpass qualified mas-wrestlers in terms of space-time and speed-strength parameters, studied in this work.

The revealed parameters of the features of the phase structure of the starting thrust can be recommended as a guideline and used as one of the criteria for assessing physical fitness for the requirements of this sport.

Starting thrust should be chosen for each athlete individually. In this case, anthropometric parameters are taken into account: height, weight, length of arms, legs, physique; his physical abilities; speed-strength qualities of an athlete; anatomical and physiological features.

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