

Interrelation of level of physical fitness with indicators of competitive activity at young wrestlers of the Greek-Roman style

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Purpose: to define interrelation of level of physical fitness with indicators of competitive activity at young wrestlers of the Greek-Roman style.

Material & Methods: twenty young wrestlers, age of 12–13 years participated in the researches. The pedagogical testing of level of physical fitness was held, the analysis of competitive activity was carried out, and methods of mathematical statistics were applied.

Results: the strong statistical interrelation between interval of the successful attack in competitive fights and 10 by backward rolls ($r=0,718$) is established; between active maintaining duel meet and speed of performance of 15 throws of the partner by tuck ($r=0,703$).

Conclusions: it is defined that indicators of the general and special high-speed and power endurance are influenced on activity of maintaining duel meets at wrestlers of 12–13 years old; indicators of effectiveness and efficiency of competitive activity are influenced on the level of development of high-speed and power preparedness and dexterity.

Keywords: young wrestlers, correlation, physical fitness, competitive activity.

Introduction

Wrestling is one of the most difficult sports of rather technical-tactical preparedness. Number of experts [1; 3; 7; 16; 20] considers that physical, mental and theoretical training of wrestlers is shown in their technical actions from which extent of improvement both ultimate result of wrestle and success of performance of sportsmen at competitions depends.

The continuous increase of competition on “the international carpet” forces to look for more effective remedies and methods of the training process [6; 9; 12; 13; 15].

All complex problems of improvement of motive skill of sportsmen are naturally displayed in modern technique of technical training of wrestlers. However here, as well as in other sports, there are the characteristic specifics which define finally skill level of sportsmen, therefore already it is important to lay the foundation for technical-tactical arsenal at the stage of the previous basic preparation [5; 8; 11].

Defining the structure and the maintenance of means and methods of training of young wrestlers at stage of the previous basic preparation, it must be kept in mind that the progress of development of technical actions during this period significantly depends on the level of development of different types of endurance, high-speed and power qualities and dexterity [4; 10; 17].

Communication of the research with scientific programs, plans, subjects

The research is executed according to the plan of RW of

Kharkiv State Academy of Physical Culture.

The purpose of the research

To define interrelation of level of physical fitness with indicators of competitive activity at young wrestlers of the Greek-Roman style.

Research tasks:

1. To establish the level of physical fitness and indicators of competitive activity at young wrestlers of the Greek-Roman style.
2. To define the extent of correlation communication between the level of physical fitness and indicators of competitive activity at young wrestlers of the Greek-Roman style.

Material and Methods of the research

20 young sportsmen who are engaged in section on Greco-Roman wrestling of CCYSS No. 9 of Kharkiv participated in the research. The age of the investigated made 12–13 years old, experience of classes by wrestling 3–4 years. The research was carried out in three steps.

The analysis of references was carried out and experience of specialists in questions of physical training of young wrestlers and features of competitive activity in wrestling at the initial stages of sports specialization was generalized at the first stage.

The level of development of physical fitness in tests was de-

fined at the second stage (October in 2016): run on 30 m (s); standing long-jump (sm); the maximum number of pull-ups on cross-piece (number of times); the maximum number of bendings-extensions of hands in emphasis, lying (number of times); raising of trunk, lying on back for 30 s (number of times); hung on the bent hands on cross-piece (s); shuttle run of 3x10 m (s); run on 1000 m (s); 10 forward somersaults (s); 4, 10, 15 throws of the partner by tuck (s). Testing was held on the educational-training classes after careful warm-up.

Testing of technical-tactical preparedness of young wrestlers was held in November and December, 2016, during the competitions (2 competitions). Competitive wrestles of the investigated were fixed on the video camera then the careful analysis of each wrestle was carried out.

The standard methods in practice of wrestling were used for the research of competitive activity of young wrestlers. The following indicators were registered: activity (s); attack interval (s); interval of the successful attack (s); efficiency (%); effectiveness (points) [2; 14; 18; 19].

The data of tests of physical fitness and indicators of competitive activity of young wrestlers were processed with application of methods of mathematical statistics at the third stage.

Research methods: analysis of scientifically-methodical literature, pedagogical observation and testing, analysis of protocols and video records of competitive activity of young wrestlers; methods of mathematical statistics.

Results of the research and their discussion

Results of our research are presented in the table. The correlation analysis of interrelation of the level of development of motor abilities with indicators of competitive activity showed that such indicators of preparedness as muscular strength of hands and back (test of pull-up on cross-piece, respectively – $r=0,549$ and $r=0,523$) and high-speed and power abilities significantly influence on effectiveness and on interval of the successful attack in wrestles (test run 30 m, respectively –

$r=0,549$ and $r=0,553$).

Such component of power preparedness as power endurance (test of bending and extension of hands in emphasis, lying) has average statistical interrelation with indicators of activity of conducting fight ($r=0,524$) and interval of attack ($r=0,647$).

Results of the research showed that efficiency of technique and effectiveness have average statistical interrelation from times of performance of 10 forward somersaults, respectively – ($r=0,648$) and ($r=0,672$) and shuttle run of 3x10 m, respectively – ($r=0,527$) and ($r=0,505$). Thus, the development of coordination abilities of sportsmen significantly influence on efficiency and effectiveness of competitive activity of young wrestlers of 12–13 years old.

The research of interrelation of the level of development of motor abilities with indicators of competitive activity showed that influence of the level of development of endurance on efficiency of competitive activity of young wrestlers is not really big at this age. Results of the research showed strong statistical interrelation of activity of actions in wrestles with special high-speed and power endurance (performance of 15 throws of the partner by tuck on speed – $r=0,703$, average statistical interrelation with static power endurance (hung on the bent hands on cross-piece) – $r=0,675$ and with dynamic power endurance (bending and extension of hands in emphasis, lying) – $r=0,524$). The powerful statistical interrelation between interval of the successful attack with coordination abilities is also recorded (test of 10 forward somersaults – $r=0,647$). Mainly weak statistical interrelation is found in other tests.

Conclusions

1. Results of testing of physical fitness of young wrestlers indicate that young sportsmen try to use strengths of preparedness in competitive activity first of all. So, young men who have advantage in power component of preparedness try to be more active in wrestles, imposing to rivals rigid manner of fight. They often applied such tactical actions as stiff, stamping, shaking of the rival to his removal from balance and ex-

Table
Interrelation of physical fitness and indicators of competitive activity of young wrestlers (n=20)

№	Indicators	Activity	Interval of attack	Interval of the successful attack	Efficiency	Effectiveness
1	Run on 30 m	0,248	0,193	0,553	0,472	0,514
2	Standing long-jump	0,231	0,257	0,306	0,401	0,222
3	Pull-ups on cross-piece	0,234	0,307	0,523	0,418	0,549
4	Bendings-extensions of hands in emphasis lying	0,524	0,647	0,217	0,162	0,202
5	raising of trunk, Lying on back for 30 s	0,181	0,233	0,345	0,273	0,343
6	Hung on the bent hands on cross-piece	0,675	0,424	0,277	0,312	0,307
7	Shuttle run of 3x10 m	0,129	0,215	0,489	0,527	0,505
8	Run on 1000 m	0,343	0,322	0,186	0,143	0,137
9	10 forward somersaults, s	0,176	0,233	0,718	0,648	0,672
10	4 throws by tuck	0,305	0,327	0,287	0,323	0,315
11	10 throws by tuck	0,489	0,408	0,305	0,314	0,289
12	15 throws by tuck	0,703	0,476	0,290	0,356	0,311

haustion of energy resources in their duel meets.

Young wrestlers, in who coordination abilities are well developed, carry out competitive wrestles in the game style, applying such tactical actions as expectation, advancing, and repeated attack. Activity in duel meets at them is not really high, but if they do attempt to perform the technique, then this operation will be instant and unexpected for the rival.

Sportsmen who have advantage in endurance in wrestles showed high intensity, often won with the minimum advantage, showed the greatest effectiveness at the end of fights.

2. It is established that the progress of competitive activity and the development of technical actions at the stage of the previous basic preparation significantly depends on the level of development of different types of endurance, high-speed and power qualities and dexterity.

3. It is certain that activity of maintaining duel meets at wrestlers of 12–13 years old is influenced by indicators of the general (bending and extension of hands in emphasis, lying –

$r=0,524$; hung on the bent hands on cross-piece – $r=0,675$) and special (performance of 15 throws of the partner by tuck on speed – $r=0,703$) high-speed and power endurance. The level of development of coordination abilities influence on indicators of efficiency and effectiveness of competitive activity (time of performance of 10 forward somersaults, respectively – ($r=0,648$) and ($r=0,672$) shuttle run of 3x10 m, respectively – ($r=0,527$) and ($r=0,505$)).

The average statistical interrelation with dynamic power endurance has interval of attack (bending and extension of hands in emphasis, lying – $r=0,647$). Such indicators of preparedness as muscular strength of hands and back (test of pull-up on cross-piece – $r=0,523$), high-speed and power abilities (test run 30 m – $r=0,553$) and coordination abilities (time of performance of 10 forward somersaults – $r=0,718$) influence on interval of the successful attack.

Prospects of the subsequent researches consist in finding of correlation dependence between indicators of competitive activity and psychophysiological characteristics at young wrestlers of the Greek-Roman style.

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