

USE OF INNOVATIVE TECHNOLOGIES IN REGISTRATION AND PROCESSING OF INDICATORS OF SPECIAL EFFICIENCY OF ATHLETES

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Relevance of research: At the initial stage of preparation of the young boxer the extreme importance has achievement of high level of functional preparation, education of the main physical qualities, mastering by equipment of the chosen sport, acquisition of competitive experience [4, 5].

Now many aspects of physical preparation of young boxers are rather deeply studied, however didn't find due and in-depth study questions of education of such physical qualities, as special endurance and high-speed and power opportunities. Special endurance provides to the boxer preservation of the reached level of equipment of performance of attacks and protection, opportunities to avoid mistakes during the drawing blows and movement [1, 2].

High-speed and power opportunities are necessary for the young boxer when carrying out attacking, protective actions and movement on a ring in competitive fight. Similar motive activity is inconceivable without the sufficient force of muscles of hands, feet, a trunk on the basis of which high-speed and power opportunities of the young boxer are formed.

Studying and the analysis of high-speed and power qualities of athletes requires creation of a database and processing of the received results by means of the computer program.

The aim of research: optimization of the training process aimed at the development of specialized qualities of young boxers at the initial stage of preparation.

Methods of research: analysis of scientific and methodical literature, pedagogical supervision. Registration of high-speed and power indicators of boxers was carried out by means of a shock pear (SPUDERG-4) both the computer program developed by authors R.D.Khalmukhamedov and S.S.Tajibayev registering and processing indicators proceeding from a shock pear.

Research problems: to define dynamics of development of special endurance and high-speed and power opportunities of young boxers 11, 12, 13 years at the initial stage of sports preparation.

Research organization: 79 boxers of teenager of 11 years (27), 12 years (24), 13 years (28) sports societies «Locomotive», «Dynamo» and SCYSS-8 of Tashkent took part in inspection. Experience of occupations by young boxing of 11 years (1,5years), 12 years (2 years), 13 (2 years), qualification of athletes respectively: 11 years III youthful category, 12-13 years II youthful category.

Testing was held according to the following scheme: The 3rd round of 2 min. - to quantity and F (force) of blows at boxers was defined special endurance. The assessment of high-speed and power opportunities was determined by total quantity of straight lines and force of blows for 8 sec.

Results of research: For identification of dynamics of special preparation of young boxers 11, 12, 13 years were spent the tests which results are presented in figure 1.

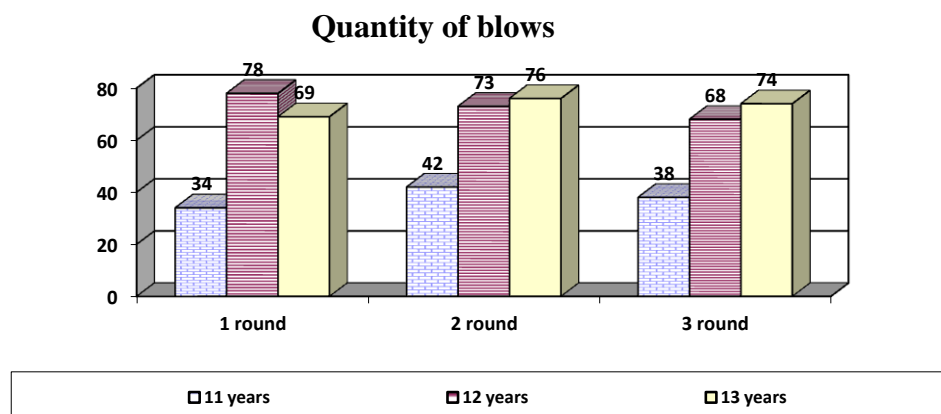


Fig. 1. Dynamics quantity of blows for 3 rounds at boxers of teenagers.

The assessment of special endurance of young boxers was defined by quantity of the direct struck strokes [3]. Results of the competitive analysis of special preparation of young boxers 11, 12, showed 13 years that in the first round at athletes of 11 years the quantity of blows makes $34 \pm 5,1$; 12 years - $78 \pm 6,2$; 13 years - $69 \pm 8,2$. The comparative analysis of indicators of special endurance of young boxers revealed essential distinctions: boxers have 11-12 years for 129%, 11-13 years for 102%, towards increase, and between the 12-13-year-old - for 13,04% towards reduction.

In the second round indicators of quantity of blows at boxers of juniors of 12 years are 73% higher, than at the 11-year-old. It should be noted that this indicator at 13-year-old boxers is only 4% higher in comparison with 12 - years young men, distinctions are doubtful ($P > 0,05$).

The analysis of results of quantity of blows in the third round showed essential distinctions at athletes of 11-12 years ($P > 0,05$) and 11-13 years ($P < 0,01$). Distinctions in indicators at boxers of 12-13 years make only 8% ($P > 0,05$).

The particular interest represents studying dynamics of F (forces) of blows of young boxers during three rounds. Special endurance of the boxer is interconnected with F (force) of blows. In figure 2 indicators of F (force) of blows of young boxers in 3 rounds are presented.

kg

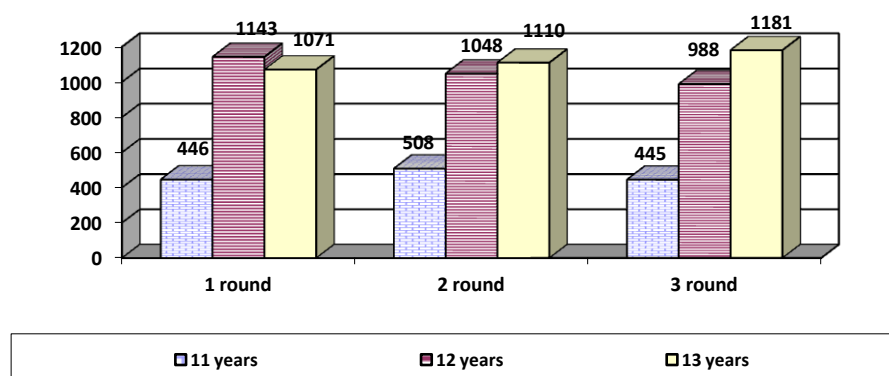


Fig. 2. Dynamics of force of blows of boxers of young boxers in 3 rounds.

The analysis of indicators of F (force of blows) of young boxers in 3 rounds revealed similar dynamics with indicators of quantity of blows. Essential distinctions in the total force of blows in the I round between young boxers 11-12 years ($P<0,01$) and 11-13 years ($P<0,01$) are revealed. In total F (force of blows) in the I round between 12-13-year-old boxers of essential distinctions it isn't revealed. Revealed the dynamics of F (force of blows) at boxers in the first round it is characteristic and for the 2nd and 3rd rounds.

In boxing by one of important qualities ability to differentiate blow force during competitive rounds is [4]. In figure 3 indicators of average F (force) of blows of young boxers in the course of three rounds are presented. The average force of blows of all age groups during three rounds averages from $12,1\pm 1,5$ kg to $15,9\pm 2,1$ kg.

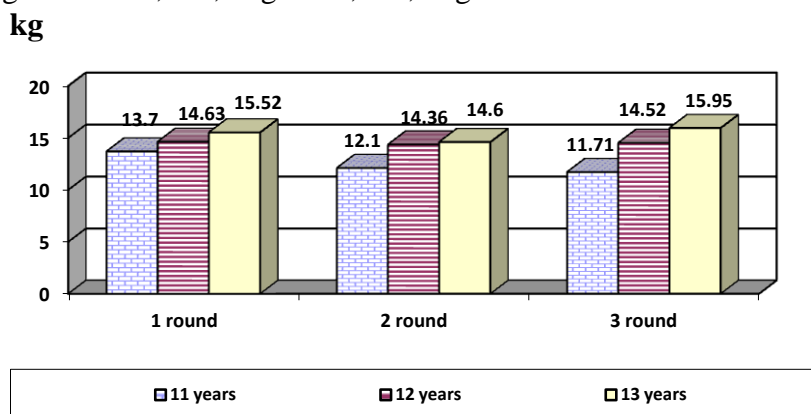


Fig. 3. Dynamics of average force of blows of boxers of young men during 3 rounds.

Essential distinctions in indicators of F (force) of blows in the second round between young boxers at the age of 11-12 years for 78% ($P<0,05$) and 11-13 years for 82% are revealed. Distinctions on studied indicators at age groups of 12-13 years it isn't revealed.

In competitive duels at boxers the importance has the 3rd round as by results of this round the winner is defined. Indicators of force of blows of boxers of three age groups in the third round tend to decrease in comparison with the first round. The revealed tendency of indicators of force of blows of boxers allows to note that special readiness of boxers of these age doesn't meet the requirements, necessary when carrying out competitive duels.

For an assessment of special high-speed and power opportunities of young boxers 11, 12, 13 years were registered quantity and force of direct strokes for 8 sec. (table. 1).

Table 1: Results of testing of high-speed and power preparation of young boxers of 11-13 years in the «8 s» test

Age	Mass of the body	Indicators					
		Quantity of blows $\bar{x} \pm \sigma$	Total force of blows $\bar{x} \pm \sigma$	Work capacity - W	CEE	IEE	IKFR
11 years	$\bar{x} = 30,6$ kg.	$22,33 \pm 0,92$	$250,5 \pm 7,6$	1,02	0,84	0,85	20,05
12 years	$\bar{x} = 36,45$ kg.	$28,99 \pm 0,84$	$337,74 \pm 11,88$	1,15	1,14	1,31	38
13 years	$\bar{x} = 42,33$ kg.	$26,35 \pm 3,30$	$630,35 \pm 1,19$	1,86	0,86	1,59	41,89

The analysis of indicators of high-speed and power readiness of young boxers revealed that at athletes of 11 and 12 years reliable distinctions have quantity of blows ($P < 0,05$), also they are marked out at age groups of 11-13 years with a significance value ($P < 0,05$). However it isn't revealed essential distinctions between age groups 12 and 13 of years in indicators of quantity of blows ($P > 0,05$).

In indicators of total force of blows in «8 c» the test of groups of initial preparation similar dynamics with indicators of quantity of blows at boxers 11, 12, is revealed 13 years.

The received indicators of force, quantity and the tonnage of blows at young boxers in the father-in-law allowed calculating indexes: CEE (coefficient of explosive endurance), IEE (index of explosive endurance), IKFR (index of kreatinfosfatny working capacity). The analysis had indexes of indicators of high-speed and power opportunities of boxers of young men confirmed similarity with dynamics of force and quantity of blows at boxers of young men at the initial stage of sports specialization.

CONCLUSION

Use of the developed monitoring system of high-speed and power qualities of boxers with application of new innovative technologies allowed to supervise and make quickly changes to training process promoting purposeful development of special endurance of boxers on initial preparation stages.

It is revealed that distinctions in indicators of special endurance and high-speed and power opportunities at young boxers 11, 12, 13 years at the initial stage of sports specialization occur at the expense of natural physical development. However it isn't revealed essential distinctions between age groups 12 and 13 of years in studied indicators.

Comparison of the received results with control standards of groups of initial preparation showed that they is reliable below control translated standards for CYSS ($P < 0,05$) that allowed to claim that the traditional technique of preparation in boxing doesn't promote effective development of special preparation of young boxers from positions of education of special qualities of boxers.

Thus, it is possible to note that development of the program of development of special physical preparation, selection of optimum means and methods is necessary for development of basic equipment of boxing within each training occupation. Control of change of special physical preparation has to be carried out by means of the developed new innovative technologies registering and processing the received results.

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