© Eurasian Journal of Sport Science 2024; 1(2): 155-157
https://eajss.uz

Stability of some parameters of aiming accuracy of punches in qualifying boxers to the influence of rotational load

Eshpulatov Sardor Sobirjonovich[1]

[1]Uzbekistan state university of physical education and sport, Chirchik, Uzbekistan

Abstract

Purpose:

Methods: analysis of educational and methodological literature, pedagogical testing, pedagogical observation, pedagogical experiment, methods of mathematical statistics.

*Results:*Testing of boxers on the background of the aftereffect of 10-fold rotation of the body in the posture of torso tilt forward at 90° allowed to trace a sharp decrease in the studied parameters of impact actions for 15 s. both in 'light' and 'heavy' boxers. In particular, in 'light' boxers the volume of blows at the beginning of the TG decreased to 35.8±3.22 times, at the end of the TG - to 37.3±3.45 times. The power of punches decreased to 5002.7±142.4 kg and 5058.5±145.7kg respectively. Stroke accuracy decreased to 53.7±4.23 and 55.2±4.35%.

Conlcusion: from 44,7±4,41 to 46,4 times; force of blows - from 5513,8±207,7 kg to 5565,3±211,6 kg with the difference of increase on 51,5 kg; accuracy of blows - from 67,2±5,67 to 70,7±6,48% with the difference of increase of accuracy of blows on 3,5%. The volume of punches both before and after UTH was greater in boxers of 'light' weight: by 1.1 and 2.5 times respectively. Strength of punches prevailed in boxers of 'heavier' weight: by 108.5 and 095.6 kg. The accuracy of punches was higher in 'light' boxers by 0.9 and 1.8%.

Keywords: boxers, volume, power and accuracy of punches, vestibular analyser, stability, rotational loading, training group(TG).

Introduction

In recent years, scientists-specialists of the theory and methodology of sport have begun to focus on the problems of developing the stability of the developed technique, coordination and accuracy of movements to the impact of disruptive factors of endogenous and exogenous origin, among which angular accelerations of rotational orientation are particularly emphasised [V.I.Lyakh, 2006, p.133-142 ; L.D.Nazarenko, 2015, pp.99-101; A.A.Djumok, A.A.Pavlova, 2018, pp.45-48; A.S.Nazarenko, N.Sh.Khasnutdinov, 2026, pp.157-160; A.S.Nazarenko, A.S.Chinkin, 2015, pp.19-23; F.A.Pulatov, 2020, pp.5-27].

Within the framework of the discussed topic, the results of a number of studies conducted with the involvement of boxers are extremely important, on the basis of which the authors put forward some very important opinions. Thus, according to A.V.Bolshakov [2021, pp.76-81], a highly developed stability of balance to the impact of diverse accelerations with elements of sharp turns and rotations is extremely important for maintaining the efficiency of motor actions and accuracy of blows during long fights. V.A.Klimachev [2000, p.3-23] on the basis of his research comes to the conclusion that the structure of dexterity or the coordination of movement of a boxer, which are developed for the effective performance of technical actions, can have a pronounced negative effect of vestibulokinetic loads associated with angular accelerations with elements of different planar rotations and turns.

Therefore, the author has developed an individualised methodology for improving technical fitness of boxers against the background of vestibulokinetic loads. Liu Yong Qian [2015, p.14-21], studying young boxers of 11-13 years old using Romberg and A.I.Yarotsky tests, designed to assess the stability of balance preservation, puts forward an unambiguous conclusion that only highly developed stability of static and dynamic balance preservation can ensure the accuracy of differentiation of coordination signs of target actions, including punches. F.A.Gagin [2018, p.8-16] believes that the speed and accuracy of punches in boxers during intensive fights can be preserved if they are worked out at the level of high resistance to the impact of various disruptive factors.

It is suggested that even a short-term vestibulokinetic load in the form of rapid body rotation can lead not only to a decrease in the accuracy of punches in boxing, but can also have a negative impact on the volume and force parameters of these punches.

To study the validity of this assumption, our study is devoted, where qualified boxing

students of the Uzbek State University of Physical Culture and Sport were involved.

Volume, force and aiming accuracy of blows for 15 s. in boxers in conditions of relative rest and against the background of the aftereffect of 10-fold rotation of the body in the posture of torso tilt forward at 90° were determined using 'Hardware-software complex - SNR-20', consisting of a computer, crate LTR-U-1, dynamometric platform, bag, where 5 zones for making accurate blows (№ FAP 20200324, S.S.Tazhibaev et al.). Testing was carried out at different functional states of boxers: at rest without load and against the background of the aftereffect of 10-fold rotation of the body in the posture of torso tilt at 90°. Qualified student boxers of the most 'mass' weight categories were involved in the testing: 60-63.5 kg - n=17x3=51 and 67-71 kg - n=19x3=57.

Table 1. Stability indices of volume, force and accuracy of aimed punches in 15 s in skilled boxers to the effects of rotational loading

Weighting categories and variance of study results	Impact testing performance		
	Volume of blows (number of punches)	Force of punches (kg)	Stroke accuracy (%)
At rest without exertion			
60-63,5 kg	47,5±4,73	5405,3±189,8	69,8±6,12
n=17x3=51	48,9±4,88	5469,7±195,5	72,5±6,73
67-71 kg	44,7±4,41	5513,8±207,7	67,2±5,67
n=19x3=57	46,4±4,57	5565,3±211,6	70,7±6,48
Difference established at the end of the TG	<1,4	<64,4	<2,7
	<1,7	<51,5	<3,5
Difference in weight categories	>1,1	>108,5	>0,9
	>2,5	>095,6	>1,8
10-fold rotation of the body in a 90° forward bending posture			
60-63,5 kg	35,8±3,22	5002,7±142,4	53,7±4,23
	37,3±3,45	5058,5±145,7	55,2±4,35
67-71 kg	33,2±2,78	5113,9±179,8	48,4±3,15
	34,9±3,03	5146,7±188,5	49,8±3,21
variance set at the end of the TG	<1,5	<55,8	<1,5
	<1,7	<32,8	<1,4
Difference in performance in weight categories	>2,6	<111,2	>5,3
	>2,4	<88,2	>5,4
Difference between resting and post-load values: 60-63.5 kg	>11,7	>402,6	>16,1
	>11,6	>411,2	>17,3
67-71 kg	>11,5	>399,9	>18,8
	>11,5	>418,6	>20,9

Note: *-in the denominator - at the beginning of the training year; -in the numerator - at the end of the training year.*

Results and discussion

The results of the study showed that at rest without load, the total average volume of blows per 15 s. in boxers of weight category 60-63 kg at the beginning of TG was 47.5±4.73 times, and by the end of the completion of TG this value increased by only 1.4 times and it averaged 48.9±4.88 times. The strength of punches in boxers of this weight category before the be-

ginning of the TG was 5405,3±189,8 kg, and by the end of the TG it increased to 5469,7±195,5 kg or the difference of increase in strength was 64,4 kg. The accuracy of punches 69.8±6.12% and 72.5±6.73% respectively, where the difference of increase in punch accuracy is 2.7%.

At boxers of weight category 67-71 kg the listed indicators for the period of one TG increased: volume of blows - from 44,7±4,41 to 46,4 times; force of blows - from 5513,8±207,7 kg to 5565,3±211,6 kg with the difference of increase on 51,5 kg; accuracy of blows - from 67,2±5,67 to 70,7±6,48% with the difference of increase of accuracy of blows on 3,5%. The volume of punches both before and after TG was greater in boxers of 'light' weight: by 1.1 and 2.5 times respectively. Strength of punches prevailed in boxers of 'heavier' weight: by 108.5 and 095.6 kg. The accuracy of punches was higher in 'light' boxers by 0.9 and 1.8%.

Conclusion

In 'heavy' boxers these indices also decreased and were: 33,2±2,78 and 34,9±3,03; 5113,9±179,8 and 5146,7±188,5; 48,4±3,15 and 49,8±3,21 - respectively.

From the given data we can see that even the shortest rotational load used in boxers of both weight categories led to a sharp decrease in the volume, force and aiming accuracy of blows for 15s. and such a consequence allows us to put forward a version about insufficient development of stability of vestibular analyser reaction in the examined boxers to the influence of multidirectional and multiplanar angular accelerations.

References

Lyakh V.I. *Coordination abilities: diagnostics and developm*ent. - M.:TVT Divizion, - 290 pp.

Djumok A.A., Pavlova A.A. (2018) *Features of statokinetic stability of athletes of game sports*. J.: Uchenye zapiski Universitet P.F.Lesgaft, -No.6 (160), P.45-48.

Nazarenko A.S., Hasnutdinov N.Sh.(2018) *Regulation of body balance on the background of vestibular irritation in football players*. J.: Uchenye zapiski P.F.Lesgaft University, -No.1 (131), P.157-160.

Nazarenko L.D. (2015) *The concept of classification of motor coordination*. Zh.:TiPFK, 2015, -#3, P.99-101.

Nazarenko A.S., Chinkin A.S. (2015) *Physiological mechanisms of regulation of static body balance in athletes of different specialisations.* Zh.: Science and sport: modern tendencies. №2. Kazan, P.19-23.

AUTHOR BIOGRAPHY:



Sardor Sobirjonovich ESHPULATOV

Employment
Researcher at Uzbekistan state university of physical education and sports

Degree
MD

Research interests
Boxing, Physical education and sport, Theory of physical education, Analyzing of sport competitions

E-mail:
efektivmedia95@gmail.com