DYNAMICS OF MORPHOFUNCTIONAL DEVELOPMENT IN YOUNG SCHOOLCHILDREN

Besedina Kristina Alexandrovna

Student, Belgorod State University, Russia, Belgorod

One of the main problems of our time is the problem of improving the health of schoolchildren. The practical part of the work was carried out at the Bekhteevskaya Secondary School in the Korochansky district. The following methods of scientific research were used: theoretical - an analysis of psychological and pedagogical literature was carried out, the method of analogies and a generalization of psychological and pedagogical experience; empirical: survey, testing, formative experiment, methods of qualitative and quantitative processing, descriptive statistics.

Two groups were formed: experimental (eg) and control (kg). The experimental group included 17 students, the control group included 25 people. The experimental group performed a given set of circuit training and was familiarized with the tasks and conditions of the experiment. As a result of the studies, an increase in length, body weight and chest girth during the school year was established in the experimental group of schoolchildren by 3.0%, 5.1% and 2.9%, in the control group - by 2.4%, 3.6 % and 1.7%, respectively. In terms of body length, boys in the experimental group had higher indicators by the end of the school year than in the control group by 3.65% ($p \leq 0.05$).

Indicators of body weight and chest circumference by the end of the year increased both in the experimental group and in the control group, while no significant differences between groups were registered in these indicators among the subjects.

In the spring, compared to the autumn, an increase in hand muscle strength was recorded in both the control group and the experimental group of boys. In the control group, the increase in this indicator was 8.81%, in the experimental group – 17.80% ($p \leq 0.05$). In the spring, the indicator of hand muscle strength in the experimental group of subjects was 13.40% higher than in the control group ($p \leq 0.05$).

In spring, compared to autumn, an increase in the index of muscle strength of the hand was recorded both in the control group and in the experimental group of boys. In the control group, the increase in this indicator was 1.69%, in the experimental group – 11.29% ($p \leq 0.05$). In the spring, the hand muscle strength index in the experimental group of subjects was 15.0% higher than in the control group ($p \leq 0.05$).

At the end of the study, compared to the beginning, an increase in lung capacity was observed in the control group by 7.85%, in the experimental group by 10.47%.

The indicator characterizing the value of the vital index among boys in the experimental group during the study period increased by an average of 4.8%, while in the control group it increased by only 1.6%. The values of the vital index in the experimental group of boys were higher than in the control group by 8.33% ($p \leq 0.05$) in the fall and by 11.79% ($p \leq 0.05$) in the spring, respectively.

The duration of the Stange and Genchi hypoxic tests by the end of the school year compared to background data in the experimental group increased by 13.6% ($p \leq 0.05$) and 23.4% ($p \leq 0.05$), while in the control group the increase of these indicators was only 4.4% and 0.6%, respectively.

The values of heart rate at rest in boys of the control and experimental groups at the end of the study were lower by 0.34% and 4.38% compared to the beginning of the experimental part of the

work, but no significant differences in this indicator were recorded. In the experimental group, the value of the Skibinsky circulatory-respiratory coefficient in the spring became 33.88% higher compared to the fall ($p \leq 0.05$). In the autumn period, the value of CRCR in boys of the experimental group was 27.97% ($p \leq 0.05$) higher than in boys from the control group, in the spring season - by 49.39% ($p \leq 0.05$), respectively. The values of heart rate in boys in the control and experimental groups during exercise at the end of the study were lower by 2.03% and 5.42% ($p \leq 0.05$) compared to the beginning of the experimental part of the work, but in the control group the difference was not significant .

In the autumn period, the value of heart rate during exercise in boys of the experimental group was 9.24% ($p \leq 0.05$) lower than in boys from the control group, in the spring season - by 13.15% ($p \leq 0.05$). 05) respectively.

At the end of the study, compared to the beginning, an increase in the indicator of physical performance in the experimental group of boys was observed by 11.11% ($p \leq 0.05$). In the control group, the value of this indicator remained virtually unchanged by the end of the experiment. The values of the indicator of physical performance in the experimental group of boys were higher than in the control in the fall by 20.54% ($p \leq 0.05$), in the spring – by 28.21% ($p \leq 0.05$), respectively.

Thus, for boys in the experimental group, with cyclic organization of physical education lessons, up to five hours a week over the course of 4-5 weeks, compared to the traditional organization, muscle strength, functional capabilities of the cardiorespiratory system and physical performance increased significantly. With traditional classes held three times for one hour a week, the studied indicators of physical health among schoolchildren in the control group did not change significantly during the school year.

References:

1. Aizman, R.I. Health of participants in the educational process as a criterion for the effectiveness of health-saving activities in the education system / R.I. Aizman // Domestic and foreign pedagogy. – 2020. – No. 5. – P. 72-82.

2. Aizman R.I. Selected lectures on age-related physiology and school hygiene / comp. R.I. Aizman, V.M. Shirigova Textbook - Novosibirsk: Sibirsk. Univ. Publishing house, 2002. – 133 p.

3. Alferova T.V. Age-related features of adaptation of blood circulation to local muscle activity / Human Physiology, 1983. – T.9, No. 3. – pp. 428-434 p.

4. Alferova T.V. Ontogenetic features of the development of the processes of fatigue and restoration of human performance after dosed muscular activity: Abstract of thesis. diss. Ph.D. honey. Sci. – Sverdlovsk, 1974. – 21 p.

5. Aleksandrova N.P., Isaev G.G. Mechanisms of involvement of pharyngeal muscles in compensatory reactions of the respiratory system to inspiratory resistive load // Russian Physiol. magazine them. THEM. Sechenov. T. 87, No. 10, 2001. – P. 1422-1431.

6. Analysis and assessment of children’s health / A.Z. Lichtshangoff, V.K. Yuryev, V.V. Yuryev, A.S. Simakhodsky // Health and education: Materials of the All-Russian scientific and practical seminar, 2020. – 123 p.

7. Andreeva, O.V. Features of functional reserves of health of students of secondary schools in the metropolis / O.V. Andreeva, K.G. Gurevich, A.D. Fesyun // Kuban Scientific Medical Bulletin. – 2019. – No. 3. – P. 10-15.

8. Ashmarin, G.A. Theory and methodology of pedagogical research in physical education: Textbook - M.: Academy, 2020. - 287 p.