ISSN: 0975-8585

Research Journal of Pharmaceutical, Biological and Chemical Sciences

The Physiological Reaction Of The Body Of Adolescents To The Classroom.

Makhov AS, and Medvedev IN*.

Russian State Social University, st. V. Pika, 4, Moscow, Russia, 129226.

ABSTRACT

Of great interest is the range of changes in various indicators of the physical development of adolescents on the specialized effects of motor activity. Systematic, well-organized training usually leads to an improvement in the functions of the cardiovascular system in adolescents, improves the response to muscular work, expands their functionality. In low-adolescents, there is a greater increase in heart rate. A more pronounced reaction is observed in terms of arterial blood pressure. In trained adolescents, these shifts are much weaker and more likely recovery occurs. At all stages of adolescence, rowing has a positive effect on the formation and improvement of a growing organism, and also solves the tasks of recovery and physical improvement in a single complex. Rowing, as an element of a healthy lifestyle, is becoming an important component that characterizes the development of society in modern conditions. Preserving and strengthening the health of the nation becomes a significant factor in the ideological, social, cultural, economic and defense policies of any society. It is currently one of the main tasks of any state. In the process of academic rowing, excellent health is formed, a strong and hardened body, and a strong will. It is a good basis for the intellectual development of man. Purposeful training process with systematic complex use of rowing contributes to the achievement of high physical excellence, good athletic performance and competitive success.

Keywords: sport, physical activity, rowing, physical condition, adolescents.

Corresponding author

ISSN: 0975-8585

INTRODUCTION

The physiological indicators of the human body are very dynamic during its ontogenesis and can often change within acceptable limits in response to external and internal factors [1, 2]. Regular feasible physical exertion can have a sufficiently strong stimulating effect on various aspects of the development of the organism [3, 4]. Of great interest is the elucidation of the peculiarities of the influence of various types of physical stress on the body, especially at a young age [5, 6]. In view of the fact that among the means of physical education of adolescents and young men academic rowing occupies a prominent place, much attention is now paid to it. It has been firmly established that properly organized classes in rowing in combination with other means of physical education should contribute to improving the health of children and adolescents; harmonious physical development; the development of physical, moral and volitional qualities; fostering organizational, physical, and sanitary-hygienic skills [7, 8].

Exercises regularly used to improve metabolism, strengthen the nervous, cardiovascular and respiratory systems, as well as the formation of correct posture [9, 10].

The question of the range of changes in various indicators of the physical development of adolescents in different age periods in connection with the specialized influence of motor activity and the environment is of great interest [11, 12]. Systematic, well-organized training usually leads to improved functions of the cardiovascular system, improves the response to muscular work, and expands the functionality of school-age children [13]. In low-trained there is a greater increase in heart rate and a greater increase in the systolic index [14]. A more pronounced reaction is observed in terms of arterial blood pressure. In trained adolescents, these shifts are much smaller and more likely recovery occurs. In this regard, the goal is set in the work: to consider the effect of academic rowing on the body of adolescents.

Under the influence of enhanced muscle activity in the skeleton, significant changes occur. The condition of the skeleton is influenced by other factors associated with sports: the characteristic position of the body (in rowers) with the correct dosing of loads is usually favorable [15, 16].

Under the influence of enhanced muscle activity, reflex dilatation of blood vessels occurs, nutrition of the working organ improves, first of all, muscles, and then nearby organs, in particular, the bone with all its components (periosteum, compact layer, spongy substance, bone marrow cavity, cartilage, covering articular bone surfaces) [17, 18]. In the future, these changes stabilize, but the skeletal rearrangement occurs throughout the entire training process. When active sports activities cease, adaptive bone changes remain for quite a long time [19, 20].

Changes in the skeleton under the influence of academic rowing relate to the chemical composition of bones, their internal structure, growth and ossification processes [21, 22]. Bones that carry a greater load are richer in calcium salts than bones that carry a smaller load. On radiographs, the bones of athletes have a clearer pattern than the bones of non-athletes, which is explained by greater ossification of the bone tissue, better saturation with its mineral salts [23].

Changes in the internal composition of the bone under the influence of sports are expressed, in particular, in the thickening of its compact substance. Moreover, the thickening is usually greater in those bones, on which the load falls. But a change of a compact substance can also occur without its thickening, that is, without changing the diameter of the bone. However, due to the thickening of the compact substance, the bone marrow cavity is reduced. With large statistical loads, it decreases almost to full overgrowth [24].

Spongy bone also undergoes certain changes. Under the influence of increased stress on the bone, the spongy crossbar becomes thicker, larger, the cells between them are larger (in older age, the cells also become larger, but the crossbars are thinner) [25, 26].

Under the influence of academic rowing in adolescents, the reserve capacity of breathing increases: more oxygen is used from a liter of ventilated air, the oxygen-transport function of the blood circulation increases, the oxygen capacity of the blood increases, increasing tissue respiration, which stimulates the ability to continue physical exercise [27]. In the process of systematic sports training, young athletes improve the neurohumoral regulation of respiration during muscular work, provide better coordination of the work of

breathing when performing exercises with both muscular and other functional systems of the body; there has been an increase in the economization of the respiratory system both in conditions of rest and during standard physical activities [28]. Such an orientation changes in the respiratory function indicates the expansion of the body. Under the influence of training, the vital capacity of the lungs can increase by 30%. It also increases under the influence of special breathing exercises [29, 30].

Since rowing classes cause an increase in the body's need for oxygen, in adolescents the vital capacity of the lungs increases and chest mobility improves. In addition, the complete smoothing of the lungs eliminates stagnation in them, the accumulation of mucus and sputum, that is, serves to prevent possible diseases [31, 32]. Lungs during systematic studies of rowing increase in volume, breathing becomes more rare and deep, which is of great importance for ventilation of the lungs [33].

The average indicators of growth and development, as well as some functional indicators of the rowers are significantly higher than those of their peers who are not involved in sports: the body length of young men 16-17 years old is 5.7 - 6 cm longer, 8-8 , 5 kg, and the chest circumference by 2.5-5 cm, the force of compression of the hand - by 4.5-5.7 kg, the vital capacity of the lungs - by 0.5-1.4 liters [34, 35].

Under the influence of academic rowing, the harmonious development of all parts of the central nervous system occurs. At the same time, it is important that the rowing classes are systematic, diverse and not overworked. Signals from the sense organs and skeletal muscles come to the higher nervous system. The cerebral cortex processes a huge flow of information and provides precise regulation of the body's activity [36, 37].

In addition, rowing lessons have a beneficial effect on the development, mobility and balance of nervous processes. They evoke positive emotions, vigor, create a good mood. Therefore, it becomes clear why a person who has come to know the “taste” of physical exercises and sports, seeks to regularly engage them.

Classes of rowing contribute to the good functioning of the digestive organs, helping the digestion and assimilation of food, stimulate the liver and kidneys, improve the endocrine glands: thyroid, sex, adrenal glands, which play a huge role in the growth of the young organism [38,39].

Constant training of the circulatory system leads to its functional improvement. In addition, during work, the blood that does not circulate through the vessels in a calm state is included in the bloodstream. The involvement in the blood circulation of a large mass of blood not only trains the heart and blood vessels, but also stimulates blood formation [40,41].

CONCLUSION

At all stages of adolescence, rowing has a positive effect on the formation and improvement of the growing organism, and also successfully solves the problems of recovery and physical improvement. Rowing as an element of a healthy lifestyle becomes an important component characterizing the development of adolescents in modern conditions. Preserving and strengthening the health of the nation is becoming a significant factor in the ideological, social, cultural, economic and defense policy of the society and is currently one of the main tasks of any state. Excellent health, strong and tempered body, and strong will among adolescents who regularly engage in rowing are a good basis for solving these social problems. Purposeful training process in the framework of rowing helps adolescents to achieve high physical excellence, great athletic performance and competitive success.

REFERENCES

[1] Zavalishina SYu. (2018) Functional Activity Of Anticoagulant System In Calves During Early Ontogeny. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 837-843.
[2] Zavalishina SYu. (2018) Functional Properties Of Fibrinolysis In Calves Of The First Year Of Life. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 870-876.
[3] Zavalishina SYu. (2018) Physiological Features Of Coagulation In Calves Of Plant Nutrition. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 899-904.

[4] Zavalishina SYu. (2018) Functional Activity Of Thrombocytes In Newborn Calves. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 919-924.
[5] Zavalishina SYu. (2018) Functioning Of Platelets In Milk And Vegetable Nutrition Calves. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 943-949.
[6] Zavalishina SYu. (2018) Deficiency Of Iron As A Cause Of Dysfunction In Calves And Piglets. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 978-983.
[7] Zavalishina SYu. (2018) Functional Properties Of Hemocoagulation In Calves Of Dairy Nutrition. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) :1016-1022.
[8] Zavalishina SYu. (2018) Physiology Of Vascular Hemostasis In Newborn Calves. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 1037-1044.
[9] Zavalishina SYu. (2018) Functional Properties Of Anticoagulation And Fibrinolysis In Calves Of Plant Nutrition. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 1082-1087.
[10] Zavalishina SYu. (2018) Functional Antiaggregatory Properties Of Blood Vessels In Calves During Transition From Dairy To Plant Type Of Nutrition. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 1110-1116.
[11] Zavalishina SYu. (2018) Physiological Features Of Vascular Hemostasis In Calves Of Dairy-Vegetative Food. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 1137-1143.
[12] Zavalishina SYu. (2018) Functional Features Of Platelets In Newborn Calves With Iron Deficiency. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 1153-1158.
[13] Zavalishina SYu. (2018) Functional Activity Of Plasma Hemostasis In Neonatal Calves With Iron Deficiency, Who Received Ferroglucin And Glycopin. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 1186-1191.
[14] Bikbulatova AA, Matraeva LV, Erokhin SG, Makeeva DR, Karplyuk AV. (2018) Methodical Foundations Of Carrying Out Competitions Of Professional Skill Among People With Disabilities. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 243-247.
[15] Vorobyeva NV, Mal GS, Skripleva EV, Skriplev AV, Skoblikova TV. (2018) The Combined Impact Of Amlodipin And Regular Physical Exercises On Platelet And Inflammatory Markers In Patients With Arterial Hypertension. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4) : 1186-1192.
[16] Maksimov VI, Zavalishina SYu, Parakhnevich AV, Klimova EN, Garbart NA, Zabolotnaya AA, Kovalev YuI, Nikiforova TYu, Sizoreva EI. (2018) Physiological Dynamics Of Microrheological Characteristics Of Erythrocytes In Piglets During The Phase Of Milk Nutrition. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 454-459.
[17] Tkacheva ES, Zavalishina SYu. (2018) Physiological Features Of Platelet Aggregation In Newborn Piglets. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 36-42.
[18] Bikbulatova AA, Pochinok NB, Matraeva LV, Erokhin SG, Makeeva DR, Karplyuk AV.(2018) Formation Of International Practice Of Holding Competitions Of Professional Skills Among Professionals With Disabilities. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 296-302.
[19] Bikbulatova AA, Pochinok NB, Matraeva LV, Erokhin SG, Makeeva DR, Karplyuk AV.(2018) The Russian Historical Aspect Of The Development Of The International Federation Of Abilimpix. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) :329-335.
[20] Bikbulatova AA, Pochinok NB, Soldatov AA, Matraeva LV, Erokhin SG. (2018) Organization Of International Competitions Of Professional Skill Among People With Disabilities. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 379-387.
[21] Maksimov VI, Zavalishina SYu, Parakhnevich AV, Klimova EN, Garbart NA, Zabolotnaya AA, Kovalev YuI, Nikiforova TYu, Sizoreva EI. (2018) Functional Activity Of The Blood Coagulation System Against The Background Of The Influence Of Krezacin And Gamavit In Newborn Piglets WhoUnderwent Acute Hypoxia. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 2037-2042.
[22] Tkacheva ES, Zavalishina SYu. (2018) Physiological Aspects Of Platelet Aggregation In Piglets Of Milk Nutrition. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 74-80.
[23] Tkacheva ES, Zavalishina SYu. (2018) Physiology Of Platelet Hemostasis In Piglets During The Phase Of Newborns. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 1912-1918.
[24] Skoryatina IA, Zavalishina SYu. (2017) Ability to aggregation of basic regular blood elements of patients with hypertension anddyslipidemia receiving non-medication andsimvastatin. Bali Medical Journal. 6(3):514-520. DOI:10.15562/bmj.v6i3.553.

[25] Bikbulatova AA. (2018) Peculiarities of abnormalities of locomotor apparatus of children at preschool age with scoliosis of I-II degree living in Central Russia. Bali Medical Journal. 7(3): 693-697. DOI:10.15562/bmj.v7i3.738.
[26] Bespalov DV, Kharitonov EL, Zavalishina SYu, Mal GS, Makurina ON. (2018) Physiological Basis For The Distribution Of Functions In The Cerebral Cortex. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5): 605-612.
[27] Skorjatina IA (2018) Therapeutic Possibilities Of Rosuvastatin In The Medical Complex In Relation To Disaggregation Vascular Control Over Erythrocytes In Persons With Arterial Hypertension And Dyslipidemia. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(2) : 977-983.
[28] Apanasyuk LA, Soldatov AA. (2017) Socio-Psychological Conditions for Optimizing Intercultural Interaction in the Educational Space of the University. Scientific Notes of Russian State Social University. 16(5-144) : 143-150. doi: 10.17922/2071-5323- 2017-16-5-143-150.
[29] Bikbulatova AA, Andreeva EG. (2018) Achievement of psychological comfort in 5-6-Year-Old children with scoliosis against the background of daily medicinal-prophylactic clothes' wearing for half a year. Bali Medical Journal. 7(3): 706-711. DOI:10.15562/bmj.v7i3.947.
[30] Bikbulatova AA, Andreeva EG. (2018) Restoration Of The Profile Of Bioregulators Of Blood Plasma In People Of Second Adulthood With Osteochondrosis Of The Spine Against The Background Of Daily Wearing Of Medical And Preventive Clothing. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4) : 413-419.
[31] Bikbulatova AA. (2018) Bioregulatory Effects Of The Daily Wearing Of Medical And Preventive Pants On The Body Of Pregnant Women Suffering From Habitual Miscarriages Of The Fetus. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4) : 889-896.
[32] Bikbulatova AA, Karplyuk AV. (2018) Professional And Labor Orientation Of Persons With Disabilities In The Resource Educational And Methodological Center Of The Russian State Social University. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4) : 1648-1655.
[33] Maloletko AN, Yudina TN.(2017) (Un)Making Europe: Capitalism, Solidarities, Subjectivities. Contemporary problems of social work. 3 (3-11) : 4-5.
[34] Glagoleva TI, Zavalishina SYu, Mal GS, Makurina ON, Skorjatina IA. (2018) Physiological Features Of Hemo-coagulation In Sows During Sucking. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4):29-33.
[35] Zavalishina SYu, Makurina ON, Vorobyeva NV, Mal GS, Glagoleva TI. (2018) Physiological Features Of Surface Properties Of The Erythrocyte Membrane In Newborn Piglets. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4):34-38.
[36] Pozdnyakova ML, Soldatov AA. (2017) The Essential and Forms of the Approaches to Control the Documents Execution. Contemporary problems of social work. 3 (1-9): 39-46. doi: 10.17922/2412-5466-2017-3-1-39-46.
[37] Bikbulatova AA, Karplyuk AA, Parshin GN, Dzhafar-Zade DA, Serebryakov AG. (2018) Technique for Measuring Vocational Interests and Inclinations in High-School Students with Disabilities. Psikhologicheskaya nauka i obrazovanie-psychological science and education. 23(2) : 50-58.doi: 10.17759/pse.2018230206.
[38] Makhova AV. (2018) Physiology Of The Hypothalamus In The Human Body. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(5) : 478-484.
[39] Alifirov AI, Mikhaylova IV. (2018) Physical Education Of Highly Qualified Chess Players. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4) : 1725-1730.
[40] Gusarov AV, Kornev AV, Kartashev VP, Nekrasova MV (2018) Effect Of Static Exercises With A Deflection On The Tone Of The Skeletal Musculature Of Middle-Aged Women. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(4) : 1716-1724.
[41] Zhalilov AV, Mironov IS. (2018) Identification Of The Most Significant Shortcomings Of Sports Competitions In Sambo Among People With Hearing Impairment In A Separate Region Of Russia. Research Journal of Pharmaceutical, Biological and Chemical Sciences. 9(3) : 672-677.