

Research Journal of Pharmaceutical, Biological and Chemical Sciences

The Influence Of Sport On The Functioning Of Internal Organs.

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ABSTRACT

The state of human health directly depends on his physical activity. In today's computerized world, people's physical activity is rapidly declining, even when compared with the past decade. Humanity no longer needs to expend energy in order to obtain food, to protect themselves from enemies, wild animals and cold. Now people get to work by transport, are mostly sedentary. As a result, the musculoskeletal skeleton is greatly weakened, its functional ability is lost, leading to disruption of the stable operation of all internal organs and systems. Over time, diseases of the respiratory, cardiovascular and musculoskeletal systems appear. A person becomes more susceptible to stress and neurosis, he becomes depressed and ceases to enjoy life. Technical progress has affected all areas of activity. This led to a reduction in the share of physical labor and a decrease in the physical activity of a person in his work activity. This situation adversely affects the functional abilities of the person, weakens the human musculoskeletal system, and has internal reserves of physical capacity. The way out of this situation is regular physical education and sports allows you to compensate for the lack of movement, increase energy costs. In addition, in the realities of modernity, it is sports and physical education that become the only available ways of manifestation of physical activity of a person, allowing to fill the natural need of each person for a certain amount of stress and movement.

Keywords: physical activity, sport, internal organs, physiology, muscular activity.

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INTRODUCTION

The state of human health depends on his physical activity [1, 2]. In today's computerized world, people's physical activity is rapidly declining, even when compared with the past decade [3,4]. Humanity no longer needs to expend energy in order to obtain food, to protect itself from enemies, wild animals and cold weather [5,6]. Now people get to work by transport, are mostly sedentary [7,8]. As a result, the musculoskeletal skeleton is greatly weakened, its functional ability is lost, leading to disruption of the stable operation of all internal organs and systems [9,10]. Over time, during hypodynamia, diseases of the respiratory, cardiovascular and musculoskeletal systems appear [11,12]. A person becomes more susceptible to stress and neurosis, he becomes depressed and ceases to enjoy life [13,14].

The only way to maintain the body in an active state in these conditions remains only physical education and sports. They are sufficiently able to meet the human need for regular loads and movement, having a beneficial effect on general health [15,16].

Given the importance of physical activity to maintain the viability of a person at work, the goal has been set: to consider the effect of exercise on the human body.

It is noticed that physical activity has a positive effect on the musculoskeletal system. In the process of training, muscle mass increases, muscles grow, bones become more protected and able to withstand increased power loads. Exercises at the gym, jogging, swimming are all ways to saturate muscles with oxygen [17]. New capillaries are formed, which deliver blood to the muscles [18]. Over time, even the chemical composition of the muscle tissue, contributing to protein synthesis and improvement of metabolic processes, changes in muscle tissue. Thus, sports protect the human body from osteochondrosis, arthrosis, osteoporosis [19,20].

Regular exercise is an impetus for the activation of the nervous system. Exercising is aimed at training agility, speed and improved coordination. The brain receives signals from stimuli, such as various kinds of physical exertion, and begins to develop a sequence of maximum efficient actions to achieve the desired result. Nervous processes begin to occur with greater speed, developing the system as a whole [21,22].

Physical culture helps to improve the functioning of the heart and blood vessels. In the same way as the muscular frame, the heart and blood vessels in the process of regular training noticeably strengthen, become more enduring [23]. With sufficient stress, the heart has to pump blood volumes exceeding the usual up to 2-3 times, since the muscle tissue needs a good blood supply [24,25]. The heart of a person who regularly exercises is much easier to adapt to exertion, and then with the same ease returns to a calm state [26].

Regular exercise increases the activity of immunity. It is proved that with constant physical exertion in humans, the composition of the blood changes to a functionally beneficial side: the concentration of red blood cells and lymphocytes increases. The main task of the latter is the destruction of microbes and viruses that enter the blood [27].

Muscular activity, including sports, increases metabolism in the human body. This makes it necessary to increase the consumption of food and water, with the result that the whole digestive system becomes more active. In the gastrointestinal tract increases secretion, improves peristalsis (movement caused by muscle contraction) of the stomach and intestines, absorption and absorption of nutrients, as well as the work of the excretion organs. Exercise strengthens the abdomen a person who plays a large role in the activity of the intestine [28,29].

During sports, blood from the internal organs flows to the working muscles. The activity of the digestive glands at this time decreases and increases only 30-60 minutes after the end of the lesson. Athletes should remember this and not eat food immediately after a workout, but 45-60 minutes later [30,31].

As a result of playing sports, the work of the digestive organs is improved, appetite is increased, the activity of digestive glands is stimulated. All this helps to improve the activity of the digestive organs and protects against the development of various diseases [32].

The organs of excretion include the sweat glands of the skin, lungs, intestines, and kidneys. They relieve the body of the formed unwanted substances and, thus, play an important role in the life of the body [33,34].

Sports enhance metabolism, which causes the appearance of an increased amount of carbon dioxide, urea, uric acid, which are removed from the body [18]. Slags are excreted in different ways: through the sweat glands of the skin - with sweat, through the kidneys - with urine, through the lungs - with exhaled air [35].

During jogging, swimming, training in the gym there is an improvement in the transport of oxygen to the muscles, which leads to the blood capillaries that are at rest and to the subsequent formation of new vessels. Receipt of a large amount of oxygen changes the chemical composition of muscle tissue - the concentration of energetic substances increases, and metabolic processes, including protein synthesis, begin to flow faster, new muscle cells are formed. Strengthening the musculoskeletal system reduces the risk of osteochondrosis, osteoporosis, atherosclerosis, arthrosis, herniated intervertebral discs [34].

The formation of new conditioned reflexes, fixed and formed in a certain sequence, accelerates. The body begins to adapt to increasing loads, exercise becomes much easier and more efficient, and less effort is applied. An increase in the speed of nerve processes leads to the fact that the brain reacts faster to external stimuli and makes the right decisions [33].

During training, the organs function more intensively, and the muscles, under the influence of loads, require an increased blood supply. The vessels and the heart begin to pump more oxygenated blood, the volume of which per minute rises to 10-20 liters, instead of 5 liters. The active circulatory system of the people with circulatory system adapts to the loads faster and recovers after each workout.

Against the background of regular physical activity improves the work of the respiratory system. This is achieved as a result of the increasing need of organs and tissues for oxygen. Due to this, the depth and intensity of breathing increases. Against the background of the absence of loads, the volume of oxygen passing through the respiratory organs in 60 seconds is 8 liters, and during swimming, running, training in the gym increases to 100 liters, that is, the lung capacity increases [30].

CONCLUSION

Technical progress has affected all areas of activity. This led to a reduction in the share of manual labor and a decrease in a person's physical activity in everyday and work activities. This situation adversely affects the functional abilities of the person, weakens the human musculoskeletal system, and has internal reserves of physical capacity. The way out of this situation is regular physical education and sports allows you to compensate for the lack of movement, increase energy costs. In addition, in the realities of modernity, it is sports and physical education that become the only available ways of manifestation of physical activity of a person, allowing to fill the natural need of each person for a certain amount of stress and movement.

REFERENCES

- [1] 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.
- [2] Bepalov 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.
- [3] 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.
- [4] 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.

- [5] 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.
- [6] Vatnikov YuA, Zavalishina SYu, Seleznev SB, Kulikov EV, Notina EA, Rystsova EO, Petrov AK, Kochneva MV, Glagoleva TI. (2018) Orderly muscle activity in elimination of erythrocytes microrheological abnormalities in rats with experimentally developed obesity. *Bali Medical Journal*. 7(3) : 698-705. DOI:10.15562/bmj.v7i3.739.
- [7] Skoryatina IA, Zavalishina SYu. (2017) Ability to aggregation of basic regular blood elements of patients with hypertension and dyslipidemia receiving non-medication and simvastatin. *Bali Medical Journal*. 6(3):514-520. DOI:10.15562/bmj.v6i3.553.
- [8] 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.
- [9] 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.
- [10] 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.
- [11] Maloletko AN, Yudina TN. (2017) (Un)Making Europe: Capitalism, Solidarities, Subjectivities. *Contemporary problems of social work*. 3 (3-11) : 4-5.
- [12] 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.
- [13] 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.
- [14] 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.
- [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] 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.
- [17] 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.
- [18] Alifirov AI, Mikhaylova IV. (2018) Physical Education Of Highly Qualified Chess Players. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(4) : 1725-1730.
- [19] 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.
- [20] Makurina ON, Zaitsev VV, Kolesnikov AV, Sokol OV, Sadykhova AV. (2018) Aging changes' inhibition of hemostasis and blood rheological features on the background of antioxidant liposomal preparation "Lipovitam-Beta" application. *Bali Medical Journal*. 7(1): 114-119. DOI:10.15562/bmj.v7i1.626
- [21] Zavalishina SYu, Vatnikov YuA, Kubatbekov TS, Kulikov EV, Nikishov AA, Drukovsky SG, Khomenets NG, Zaykova EYu, Aleshin MV, Dinchenko OI, Glagoleva TI. (2018) Diagnostics of erythrocytes' early microrheological abnormalities in rats with experimentally developed obesity. *Bali Medical Journal*. 7(2): 436-441. DOI:10.15562/bmj.v7i2.740
- [22] Makhova AV. (2018) Physiology Of The Hypothalamus In The Human Body. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 478-484.

- [23] Maksimov VI, Zavalishina SYu, Parakhnevich AV, Klimova EN, Garbart NA, Zabolotnaya AA, Kovalev Yul, 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 Who Underwent Acute Hypoxia. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 2037-2042.
- [24] Maksimov VI, Zavalishina SYu, Parakhnevich AV, Klimova EN, Garbart NA, Zabolotnaya AA, Kovalev Yul, 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.
- [25] 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.
- [26] 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.
- [27] 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.
- [28] Zavalishina SYu. (2018) Physiological Mechanisms Of Hemostasis In Living Organisms. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 629-634.
- [29] Zavalishina SYu. (2018) Functional Properties Of Anticoagulant And Fibrinolytic Activity Of Blood Plasma In Calves In The Phase Of Milk Nutrition. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 659-664.
- [30] Zavalishina SYu. (2018) Physiological Dynamics Of The Blood Coagulation System Activity In Calves During The Phase Of Dairy Nutrition. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 680-685.
- [31] Zavalishina SYu. (2018) Functional Activity Of The Blood Clotting System In Calves During The Phase Of Milk And Vegetable Nutrition. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 720-725.
- [32] Zavalishina SYu. (2018) Anti-Coagulant And Fibrinolytic Activity Of Blood Plasma In Healthy Calves Of Dairy-Vegetative Nutrition. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 753-758.
- [33] Bikbulatova AA. (2018) Technology Implementation Of Competitions Of Professional Skill. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 407-419.
- [34] Bikbulatova AA, Kartoshkin SA, Pochinok NB. (2018) Schemes Of Competitions Of Professional Skills Among People With Disabilities In Russia. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*. 9(5) : 357-362.
- [35] 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.