



THE IMPORTANCE OF PHYSIOLOGY IN THE TRAINING OF FUTURE PHYSICAL EDUCATION TEACHERS

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Abstract

The article discusses in detail the importance of the science of physiology, the tasks, knowledge, and requirements that are fundamental to the study of exercise physiology in future physical education teachers.

Keywords: Physiology, science, applied, theoretical, physical properties,, cytology, histology, Biochemistry, Biophysics, fistula, cardiovascular system, respiratory system, muscle.

Introduction

SPORTCHI TALABALARNI O'QITISHDA FIZIOLOGIYA FANINI AHAMIYATI

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Annotatsiya

Maqolada fiziologiya fanining ahamiyati, bo'lajak jismoniy tarbiya o'qituvchilarida jismoniy mashqlar fiziologiyasini o'rganishda asosiy bo'lgan vazifalar, bilim va talablar batafsil yoritilgan.

Kalit so'zlar: fiziologiya, fan, amaliy, nazariy, jismoniy mahqlar, , sitologiya, gistologiya, biokimyo, biofizika, fistula, yurak-qon tomir tizimi, nafas olish tizimi, mushak.



Introduction

Exercise physiology is a special section of the course of human physiology, which determines the changes in the functions of the body under the influence of physical work and sports activities and measures to increase the efficiency of their control mechanisms. Exercise physiology is a practical educational subject and also a scientific-theoretical subject [1]. This subject is studied in all higher and secondary physical education institutions, in the physical education faculties of pedagogical institutes, in some universities and medical institutes. In teaching this subject, materials from scientific research conducted in scientific research institutes, laboratories and departments are used. The subject of exercise physiology consists of two sections, the first is called general exercise physiology and this section studies the physiological foundations of the body's adaptation to physical loads and its reserve capabilities, functional changes occurring in the body during sports activities, the athlete's physical working capacity, the physiological foundations of fatigue and recovery processes. The second section is the physiology of specific physical exercises, which studies the types of physical exercises, the laws and mechanisms of the formation and development of movement qualities and movement skills, the changes in the athlete's physical labor capacity in specific environmental conditions, and the physiological characteristics of physical training of children and women [2].

Physiology of physical exercises is a special section of the course of human physiology, a science that determines the changes in the functions of the organism under the influence of physical work and sports activities and measures to increase the efficiency of their control mechanisms.

Physiology (Greek physis - nature and logy) - the science that studies organisms and their parts, systems, organs, tissues and vital activity. Depending on the object of study, it is divided into the physiology of humans, animals and plants. Physiology is inextricably linked to anatomy, cytology, histology, biochemistry, and biophysics, and is considered the theoretical foundation of psychology, medicine, and veterinary sciences [3].

Physiology is an experimental science, and physiological studies are conducted using acute (vivisection, isolated organs, perfusion methods) or chronic



experiments (conditioned reflex method, fistula, transplantation, insertion of electrodes, and other methods).

The initial data in the field of physiology are associated with medicine and have been known since ancient times. The works of Hippocrates report on the ratio of liquid, liquid and solid substances in the body. Aristotle writes about the functions of a number of internal organs in his work "On the Parts of Animals". Great importance is attached to physiology in the works of Galen. In particular, he provides information about the general function of the nervous system, heart, and other organs. During the Renaissance, the anatomical structure of various systems of organisms, and later their physiological function, began to be intensively studied (the works of A. Visali, M. Malpighi, and others) [4].

In modern physiology, much attention is paid to the study of the mechanism of mental activity of humans and animals. In solving this problem, a detailed study of the function of the cerebral hemispheres, the study of the subtle neuronal mechanisms of conditioned reflexes are of great importance. Currently, research is also being conducted on the mechanism of sleep, emotional and experimental neuroses. The data obtained in studying the reception, transmission and processing of information by various sensory systems help to understand the mechanism of speech formation, its understanding, and the differentiation of seen images and heard sound signals. The creation of models that simulate the memory function of the brain has become one of the latest achievements of modern physiology [5].

Many scientists in Uzbekistan have contributed to research in the field of physiology, including A.Yu. Yunusov, B.O. Toshmuhamedov, I.V. Danilov, A.I. Israel, A.S. Shatalina, Z.T. Tursunov, and others. Basic research in the field of physiology is focused on the problems of the organism's adaptation to extremely adverse conditions, the mechanisms of the influence of hypodynamics (low activity), hyperdynamics (high activity) in hot climates, pain, malnutrition, and other factors on the digestion of food in the intestine are among the most important studies (K.R. Rahimov, B.Z. Zaripov, Sh. Q. Qurbonov, B.A. Sodiqov, E.S. Mahmudov, and others) [6].



Exercise physiology is of great importance for future physical education teachers, providing not only theoretical knowledge, but also helping to organize lessons in a safe, effective and educationally oriented manner. It includes the following main areas and a number of tasks that can be performed:

- Improving the effectiveness of exercises: understanding complex energy metabolism, muscle and cardiovascular system functions;
- Individualized programs: selecting exercises based on age, level of physical fitness, health status;
- Ensuring training safety: preventing injuries;
- Monitoring and evaluation skills: accurately measuring muscle strength, endurance, speed and cardiorespiratory fitness [7].

Future physical education teachers have the basic knowledge and requirements for studying exercise physiology:

- Basics of anatomy and physiology: knowledge of the cardiovascular system, respiratory system, muscle tone and similar information;
- Training physiology: adaptation processes; fatigue and recovery mechanisms;
- Energy and exercise type: physiological basis of cardio, strength, speed, flexibility programs;
- Supervision and safety: prevention of fever, pain symptoms, guest risks, strain;
- Assessment: pulse measurement and test interpretation;
- Pedagogy and inclusivity: adaptations for students with different needs, ethics and data protection.

Future physical education teachers have the following main tasks in studying exercise physiology:

- Quality and careful planning of the lesson program: creating an age-appropriate exercise or test program;
- Individualized plans: personal exercises that take into account the socio-psychological state;



- Development of a monitoring and evaluation system: setting tests and indicators for the initial and advanced stages;
- Communication with students: explaining physiological processes in simple language, formulating questions with clarity;
- Stress-feedback: use of safety instructions, intermediate breaks, recovery plans during training;
- Practical skills: pulsometry, heart rate monitoring, intensity management, checking exercise technique;
- Recommendations for creating a training program [8];
- Starting point: determining the level of physical fitness of the trainees (simple tests, for example, short cross, stress calculation);
- Correctly determining the load: programs are often divided into three or four levels, gradually increasing, etc.

In conclusion, physiology is a theoretical and practical science, and future physical education teachers gain a lot of information through this science, which serves to organize quality education by applying the knowledge gained in practice.

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