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STUDYING THE FUNCTIONAL STATE OF THE RESPIRATORY ORGANS OF SCHOOL CHILDREN DURING PHYSICAL EDUCATION CLASSES

G.S.Saylobidinova

Namangan state pedagogical institute, master's student

[Email: gulshodasaylobidinova@gmail.com](mailto:gulshodasaylobidinova@gmail.com)

Annotation: *this article explores the study and enhancement of the functional state of the respiratory system in schoolchildren during physical education lessons. The research results indicate that breathing exercises and physical activities positively impact students' respiratory systems. Methods for improving the functional state of the respiratory organs, including specialized breathing exercises, breathing rhythm control, and optimal physical loads, are discussed. This approach contributes not only to the improvement of the respiratory system but also to the overall physical development of students.*

Keywords: *physical education, respiratory organs, functional state, schoolchildren, physical exercises, breathing exercises, breathing rhythm, vital lung capacity, diagnostic methods, physical development.*

Аннотация: *в статье рассматривается исследование и развитие функционального состояния органов дыхания у школьников в процессе уроков физической культуры. Результаты исследования показали положительное влияние дыхательных упражнений и физических нагрузок на дыхательную систему учащихся. Обсуждаются методы улучшения функционального состояния органов дыхания с использованием специальных дыхательных упражнений, контроля ритма дыхания и оптимальных физических нагрузок. Представленный подход способствует не только улучшению работы дыхательной системы, но и общему физическому развитию учащихся.*

Ключевые слова: *Физическая культура, органы дыхания, функциональное состояние, школьники, физические упражнения, дыхательные упражнения, ритм дыхания, жизненная ёмкость лёгких, диагностические методы, физическое развитие.*

Introduction

The respiratory system plays a crucial role in ensuring the proper functioning of the body by facilitating the exchange of oxygen and carbon dioxide. For schoolchildren, the functional state of the respiratory system is especially important as it directly affects physical performance and overall health. Improving the functional state of the respiratory system can contribute to better physical development, endurance, and well-being. Physical education classes are an effective means of enhancing the respiratory system's efficiency. These classes involve various exercises that promote better oxygen delivery and waste elimination, ultimately contributing to the improvement of respiratory health. This article explores the role of physical education in enhancing the respiratory system of

schoolchildren, focusing on the physiological impact of physical exercises, particularly aerobic and anaerobic exercises, as well as specific breathing techniques.

A presidential decree issued on April 5, 2023, "Measures to improve physical education and health care in school education," emphasizes the importance of physical education in promoting overall health and well-being. This decree also highlights the need to incorporate specific exercises aimed at improving the respiratory system within the school curriculum [1].

Main Body. Physiological Characteristics of the Respiratory System. The respiratory system is responsible for the exchange of gases between the body and the environment. It includes the airways, lungs, and diaphragm, which work together to ensure the intake of oxygen and the expulsion of carbon dioxide. The efficiency of the respiratory system depends on factors such as lung capacity, the flexibility of the diaphragm, and the rate of breathing. For schoolchildren, developing a strong and efficient respiratory system is crucial for overall physical development. Physical exercises, especially aerobic activities, significantly contribute to improving the depth and efficiency of the breath, increasing oxygen intake, and enhancing overall respiratory health.

Physical Education and the Respiratory System. Physical education classes offer a variety of exercises that positively impact the respiratory system. Aerobic exercises such as running, swimming, and cycling help to increase lung capacity, improve the efficiency of oxygen transport, and regulate breathing patterns. These exercises also stimulate the production of red blood cells, which are responsible for transporting oxygen throughout the body. Anaerobic exercises, which focus on strength and power, enhance respiratory endurance by improving the ability of the lungs to sustain higher levels of physical exertion. Breathing exercises, specifically designed to strengthen the diaphragm and increase lung volume, are essential for improving breathing techniques and boosting respiratory function. Regular participation in physical education classes helps schoolchildren build respiratory strength and increase overall endurance, thereby improving their physical health and performance [2].

Developing the Respiratory System in School Physical Education Classes. Incorporating respiratory exercises into physical education lessons is essential for the development of the respiratory system in schoolchildren. Aerobic exercises such as running and swimming help to improve the efficiency of the respiratory system by increasing the depth of breathing and improving lung capacity.

Types of Exercises and Their Physiological Impact on Respiratory Function

Exercise Type	Purpose	Physiological Impact
Running (aerobic)	Improve respiratory efficiency	Enhances oxygen delivery and regulates breathing patterns
Swimming (aerobic)	Improve breathing and lung capacity	Increases lung volume and improves respiratory function
Breathing Exercises	Strengthen breathing techniques	Increases diaphragm strength, improves air exchange in the lungs
Anaerobic Exercises	Enhance respiratory endurance	Increases the ability to maintain high-intensity activity for longer periods

Conclusion

Physical education plays a significant role in improving the functional state of the respiratory system of schoolchildren. The respiratory system's proper functioning is vital for physical health and performance. Aerobic and anaerobic exercises, along with breathing techniques, help to enhance lung capacity, increase oxygen intake, and improve endurance. Regular physical activity not only benefits the respiratory system but also contributes to overall physical and mental well-being. By integrating exercises aimed at developing the respiratory system into the physical education curriculum, educators can foster better health outcomes and enhance the overall physical development of schoolchildren.

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www.ajeruz.com, info@ajeruz.com, +998950457172