

## THE ROLE OF STUDYING HUMAN ECOLOGY IN THE TRAINING OF FUTURE DOCTORS

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**Abstract:** The study of issues of medical ecology for the formation of the worldview and clinical thinking of a modern doctor seems extremely important. In everyday work, doctors increasingly deal with blurred, vaguely defined clinical conditions of the human body, the formation of which largely depends on various environmental factors. The quality of atmospheric air largely determines the health status of the population and is an active etiological factor in the development of diseases, primarily in children, the elderly, as well as people suffering from chronic diseases of the respiratory system and cardiovascular system.

**Key words:** ecology, medical ecology, environmental factors, functional pathology, atmospheric air, clinical manifestations, environment, diagnostics.

### РОЛЬ ИЗУЧЕНИЯ ЭКОЛОГИИ ЧЕЛОВЕКА В ПОДГОТОВКЕ БУДУЩИХ ВРАЧЕЙ

**Аннотация:** Изучение вопросов медицинской экологии для формирования мировоззрения и клинического мышления современного врача представляется чрезвычайно важным. В повседневной работе врачи все чаще сталкиваются с размытыми, нечетко определенными клиническими состояниями организма человека, формирование которых во многом зависит от различных факторов внешней среды. Качество атмосферного воздуха во многом определяет состояние здоровья населения и является активным этиологическим фактором развития заболеваний, прежде всего у детей, пожилых людей, а также людей, страдающих хроническими заболеваниями органов дыхания и сердечно-сосудистой системы.

**Ключевые слова:** экология, медицинская экология, факторы внешней среды, функциональная патология, атмосферный воздух, клинические проявления, окружающая среда, диагностика.

### INTRODUCTION

The study of issues of medical ecology for the formation of the worldview and clinical thinking of a modern doctor seems extremely important. Over the past 50 years, the nature of many diseases of the human body has changed significantly, which can be seen in the example of diseases of internal organs and the nervous system. In everyday work, doctors increasingly deal with blurred, vaguely defined clinical conditions of the human body, the formation of which largely depends on various environmental factors.

One of the most common pathologies at a young age has become the so-called “functional pathology”, called in medical terminology autonomic dysfunction syndrome (AVS). The abundance of nonspecific clinical manifestations (sleep disturbance, fatigue, decreased mental performance, headaches, etc.) in the absence of “organic” (structural) changes often confuses the doctor, since the traditional treatment paradigm usually does not correspond to the data of functional studies. However, it is knowledge of the characteristics of the environment (living conditions, quality of drinking water and atmospheric air) that will help the doctor find the optimal solution for correcting SVD.

Ecology is a biological science that studies the relationships of living organisms and their systems with each other and with the environment. Ecology emerged as an independent biological discipline only at the beginning of the 20th century, along with physiology, genetics and other disciplines. The field of its study covers supraorganismal systems: individuals, populations, communities, ecosystems (biogeocenosis, biomes, biosphere). Today ecology is developing at the intersection of biology, chemistry, physics and social sciences and is a complex scientific discipline.

### **MAIN PART**

Medical ecology is a branch of ecology that studies the cause-and-effect relationships between the quality of the environment and human health.

The quality of atmospheric air largely determines the health status of the population and is an active etiological factor in the development of diseases, primarily in children, the elderly, as well as people suffering from chronic diseases of the respiratory system and cardiovascular system.

Dry atmospheric air contains 20.95% oxygen, 78.09% nitrogen, 0.03% carbon dioxide. In addition, the composition of atmospheric air includes inert gases, hydrogen, ozone, nitrogen oxides, methane, water vapor, etc. In addition to permanent components, the atmosphere contains various impurities of natural origin, as well as those coming as a result of human economic activity.

Atmospheric air pollution causes the emergence and development of various forms of diseases among the population, accounting for up to 50% of all environmentally caused diseases. At the same time, there is a clear connection between the level of air pollution and the degree of health disorder. This problem is especially acute in industrialized cities. The set of priority forms of environmentally dependent diseases is determined by the complex impact of all atmospheric air pollutants and, as a rule, does not have pronounced specificity, which greatly complicates their diagnosis.

The atmospheric air of modern cities contains hundreds of chemical substances of organic and inorganic nature, coming from numerous sources, usually of anthropogenic origin.

At the same time, it is necessary to take into account that each urban area has its own specific set of pollutants, determined by the type of industry in this territory, contained in the atmospheric air in concentrations that are often tens or more times higher than the maximum permissible concentrations (MPC). Each of these substances has a specific effect on the human body.

Therefore, the range of diseases due to air pollution is extremely diverse: respiratory diseases (including bronchial asthma), diseases of the cardiovascular system and gastrointestinal tract, diseases of the blood and hematopoietic organs, diseases of the skin, nervous system, endocrine diseases (including diabetes), neoplasms, allergic diseases, congenital anomalies, complications of pregnancy and childbirth, etc.

If the diagnosis of a particular disease as such may not pose a serious problem for the attending physician, then establishing a causal relationship between the occurrence and development of this disease and the effect of specific chemical air pollutants is an extremely difficult task, especially in the conditions of a large city with a diversified industry and developed motor transport. Knowledge about the nature of the effect of atmospheric pollution on humans can provide some assistance in this important issue.

### **CONCLUSION**

Thus, human ecology becomes the main content, the core of global ecology, and the increasingly complex environmental situation from year to year is the main reason for the increase

in morbidity in the population, which determines the features of environmental education in medical universities. Students' study of biological markers that cause health deviations from the norm, determination of the dependence of various forms of diseases on environmental factors form the basis of the educational process.

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