

THE IMPORTANCE OF ENVIRONMENTAL PROTECTION IN TEACHING  
BIOETHICS TO MEDICAL UNIVERSITY STUDENTS

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ABSTRACT

A healthy generation, a healthy spirit, and a healthy environment, although distinct in their essence, are interconnected concepts that serve as foundations for one another. Health encompasses not only spiritual well-being, not only material and physical health, but also natural health, as well as their harmonious combination.

**Key words:** Nature conservation, higher education.

When we declare that unfavorable environmental conditions cause various diseases in the world, we often forget that we ourselves are, to some extent, responsible for this. Ecological errors committed on a global scale affect every component of the environment, including humans. Every person of sound mind has come to understand and accept that the cleaner the natural environment is, and the closer the air, surface and groundwater, soil, flora and fauna are to their natural state, the stronger and more stable human health will be. After all, nature itself never destroys the protective ozone layer, does not produce freons, and does not lead to desertification or soil salinization.

All ecological components and ecosystems of the Earth also develop in interconnection with each other. Since these evolutionary connections are in a certain equilibrium, external human influence continuously affects their stability over a certain period of time. As a result, the impact on ecological components gradually decreases, natural and biological norms begin to break down, the bioproductivity of the ecosystem suffers, and restoring nature to its former state becomes extremely difficult and requires human intervention. Timely and urgent assistance can prevent disruptions in nature, for which a person needs to study and observe the dimensional and ecological norms of environmental components.

The ozone layer surrounding the Earth reaches its maximum size in spring - 446 Dobson units. 1 Dobson unit, i.e., 1 DU = 0.001 cm (at normal temperature and pressure), and the average annual norm of the ozone layer in the ozonosphere is 300 DU or 3 mm thick under normal conditions. It is known that the ozone layer protects all living things from harmful solar radiation. If the ozone layer decreases by only 5%, the incidence of skin cancer among people exceeds its natural ecological norm by 10%. Consequently, even a "minor amount," that is, an extremely small amount of an ecological component, also has its place

and function in the biosphere. If such a small amount of ozone becomes depleted or exceeds its natural limits, it will certainly lead to serious ecological crises.

In the Japanese city of Minamata, 50 thousand people live. In 1953, a mysterious disease appeared there. A patient suffering from this disease loses consciousness after two weeks, as well as the ability to speak and hear. Of those infected, 43 have died, and the remaining 73 have not fully recovered. Only in 1959 was the history of this mysterious disease fully revealed. It turned out that mercury waste from the Minamata factory was being discharged into rivers and lakes. Mercury accumulated in fish bodies entered the human body and gradually had a negative impact on it. For this reason, the disease was named "Minamata disease." Each kilogram of fish caught off the shores of Minamata contained up to 50 mg of mercury. According to Swedish scientists, the permissible content of mercury in the wet body weight of fish is 0.5 mg. The Japanese, when determining the permissible amount, calculate it for the dry weight of the fish. If raw fish contains 10 mg of mercury per 1 kg of body weight, the human body begins to be poisoned. In 1965, Minamata disease was also observed among the population living along the Agano River.

It is widely known that dozens of diseases similar to Minamata disease, as well as diseases emerging and anticipated in Central Asia due to the Aral Sea tragedy, and the aforementioned cases, occur solely due to human disruption of the ecological environment or uncontrolled emissions and malfunctions of various industrial enterprises.

Based on the above considerations, the following conclusions can be drawn:

- It is necessary to establish natural and ecological standards and indicators for environmental components throughout the region;
- The criterion for human impact on nature must conform to the norm in relation to environmental components, as exceeding this norm disrupts the ecological balance;
- Minamata disease, fluorosis, melanoma, carcinoma, methemoglobinemia, and other diseases serve as indicators of environmental hazards;
- Students must be ecologically literate; although environmental dangers are global in nature, their elimination begins with improving the ecological situation in local and regional territories.

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