МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

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PHARMACEUTICAL POLLUTION IN UKRAINE

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Introduction. As the population of our planet continues to grow, so does the need for adequate medical supplies, including chemical-based medicines and care products. Their significant therapeutic effect does not go unnoticed in our lives, similar to the consequences of their use in the form of contamination of water systems and soils do not go unnoticed. Medical waste makes up only 3-5% of the total amount of waste, but it is generally considered the most dangerous. They may contain dangerous infectious bacteria that can cause entire epidemics in the population.

The aim of the work. In 2022 a national report on the state of the natural environment in Ukraine in 2020 was published by the Ministry of Environmental Protection and Natural Resources of Ukraine. According to the data, a total of 5,159.47 million cubic meters were dumped in Ukraine in 2020. The main polluting components of wastewater are ammonium nitrogen - 25.2 tons; biochemical consumption of oxygen– 161.6 tons; suspended substances - 33.2 tons; iron - 278.4 kg; petroleum products – 77.3 kg; nitrates – 11.55 tons; nitrites - 0.2 tons; synthetic detergents – 135.6 kg; phosphates - 3318.8 kg; chemical oxygen consumption - 51.5 tons.

Materials and methods. The main part of the waste is produced by pharmaceutical companies and healthcare institutions. By neglecting the rules of disposal, each of the manufacturers and consumers of medicinal products are responsible for increasing the level of environmental pollution due to their type of activity.

Results. Another reason for the increase of the level of sewage and soil pollution is incomplete metabolism of medicinal products by human and animal organisms. Like humans, domestic animals do not break down the drugs they eat. Instead, they excrete the parts that remain undigested. These drugs and hormones were used to keep the animals from getting sick, and they can stimulate their growth and prevent them from getting injured. Unfortunately, some of these drugs and hormones end up in waterways and groundwater, which contribute to the pollution of the environment. Pharmaceutical pollution has the greatest impact on the organisms of the water ecosystem and wildlife and the work of the sewage process. Studies have shown that chemicals and substances that behave similarly to estrogen can alter male fish's sexual characteristics and alter their ratios. These chemicals can be found in birth control pills and post-menopausal hormone treatments. Moreover, wastes from pharmaceutical enterprises can contribute to the increase in the level of antibiotic resistance. High level of antibiotics in water can lead to the development of resistant bacteria, which will reduce the effectiveness of drugs and ultimately create a global threat of pharmaceutical pollution not only to the environment but also to human health.

Conclusions. Ways to solve the problem can be the correct disposal of drugs, stricter legal requirements, and additional research on the impact of pharmaceutical waste on the environment. More research is desperately needed to assess the potential human effects of pharmaceutical pollution. It will also address the best methods for removing the compounds at treatment plants in a way that is not dangerous to the environment in general. If a significant long-term risk to public health is identified, more aggressive efforts can then be taken to control the problem as required.

Only an integrated approach in this issue will help to reduce the risks of environmental pollution and improve the standard of living for humans and animals.

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STUDY OF THE TOXIC INFLUENCE OF CERTAIN MEDICINAL PLANTS ON THE ORGANISM OF RATS

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Introduction. An important characteristic in the process of a potential drug research in addition to the therapeutic properties examitation is studying the index LD50, which characterizes