

DRUGS IN THE WATER

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I have recently read interesting information in one the American journal. I started gathering different articles on this topic, I think about this problem, which is connected with water supplies in big cities.

A group of scientists paid attention to the widespread problem of pharmaceutical chemicals in potable water supplies of millions Americans, but nobody knows how to react. Despite of scientist's anxiety the government has not established any safety limits for pharmaceutical drugs in drinking water, because sedatives can influence on people and it helps to safe Americans from depression and suicide. In my opinion government should deside this problem.

The American Water Works Association, a trade group representing thousands of water utilities, seemed to suggest that the problem is the testing data, not the water. The public doesn't know how to interpret the information about water. Today's advanced technology has allowed scientists to detect more substances at lower levels than ever before. Other scientists say there was no research demonstrating "an impact on human health" in public water supplies.

But why did not researchers think about nature and all living organisms? To my mind it is a very serious problem, so as such intervention in nature life can become global problem and destroy New York's biome.

But how are all these drugs getting in the water? Some researchers say that people use different salves, than take a shower and flush them into sewage system. Residues of drugs and hormones naturally derived from the human body and get into wastewater.

Other researchers say about blame of chemical industry. Sewage treatment plants are meant to remove familiar kinds of pollutants, and do not remove pharmaceuticals from wastewater. In some places, [treated sewage water is reused directly for drinkable water](#) after several filtration processes, although none of the systems effectively remove pharmaceuticals. As for bottled water, it may come from a tap, rather than from mountain river. The bottled water isn't tested for the presence of drugs. Eventually people drink water with medicative effect. But is it really medicative?

I don't think people want to take shower, do wet cleaning or wash by water, which consists of medicines. It has taste and smell. Some people have allergy on any components. It can destroy water balance. Water is used for domestic and public purposes. Usually water consuming is different in residential and industrial areas. In residential areas it's greater than at plants, factories and commercial places. People use water for bathing children. Children's skin is very delicate and sensitive, and such water can cause diseases. Such water represents a significant danger to humans and animals. Unfortunately this accident isn't a first.

15 years ago in municipal water supply in Berlin, scientists discovered mapping acid, which is used in the manufacture of drugs that reduce cholesterol. This is the first time that it was officially announced. There were traces of drugs in the water of cities. Also Swedish researchers have discovered in India in 2007, very high concentrations of antibiotics and other drugs in the sewage of pharmaceutical manufacturers. There were tested about 1500 fish in 50 lakes and rivers of Great Britain. At least a third of these fish acquired feminine attributes. These fish have changed their sex and turned into females. UK rivers are full of female hormone estrogen contraceptives. It is a very serious ecological problem. All

environmentalists should fight with such problem, because people eat fish and can get from it different diseases.

Chemicals in the water supply can cause of diseases in genetically vulnerable people. Experts from the University of Idaho in the United States made such conclusion. The study showed that even very low levels of chemicals caused by mental disorders. Psychotropic drugs are widely used in modern medicine.

Drugs in potable water are a reality of our time. Since the 1990s, water pollution pharmaceuticals become a serious environmental problem. Although the concentration of drugs is small, but their long-term impact on the flora and fauna have harmful effects.

Unfortunately, pharmaceutical industry doesn't hurry to solve this problem. The first step in dealing with pharmaceutical pollution, I am as a future environmental engineer can recommend using domestic treatment system of water from drugs. In pharmaceutical industry and medicine it is important to use the principles of green chemistry. Pharmaceutical industry should be a subject of drug ecology, the subject of which is process of chemical synthesis of drugs, nanomedicines, storage, use and disposal. Drug ecology is part of medical ecology.

In my opinion, if you do not take serious action, the harm caused by drugs can surpass their favor. We must clean water. The presence of small doses of drugs in the environment can lead to environmental disaster with unpredictable consequences.

When the water is contaminated with drugs, then humanity would have to produce pure water from the earth.

To prevent environmental catastrophe chemical pharmaceutical of the XXI century must have a new direction in environmental science – ecology of drugs. It is time for hard work chemists and environmentalists. Time does not wait!

Modern scientists know methods for disposal of medicines. They are burning, high temperature treatment with access or no access oxygen, or disposed of at landfills. But they have one disadvantage. Pollution is highly toxic compounds: oxides of carbon, sulfur, phosphorus, arsenic, selenium, phosgene, cyanogen, dioxins and other compounds. Air pollution is highly toxic compounds : oxides of carbon, sulfur, phosphorus, arsenic, selenium, phosgene, cyanogen, dioxins and other compounds. Thermal utilization is a very expensive disposal process.

Environmentally safe methods of disposing are achieved by successive operations of electrolytic and electrochemical degradation substandard medicines blocked by alkali hydrolysis in the hydrolyzer with saturated alkali solution with oxygen and air electrochemical treatment of the hydrolyzate obtained in electrolysis with insoluble and soluble electrodes, respectively.

Foreign countries have developed environmentally friendly forms for individual classes of drugs. Currently used in the world for more than 30 drugs, genetically engineered, and more than 200 are in various stages of clinical trials. According to experts of the U.S. Congress, biotechnology will change the way people live in the XXI century.

Ecology of our planet needs more attention to solve difficult environmental problems. The future of Earth depends not only on academics and scientists, but on all people. On this stage of my life, I am a student. I want to become an environmental engineer. I understand my responsibility, because my main aim is to save the environment. We must stop destruction of our planet, so as all environmental problems lead to problems with our health. It is our duty to protect our planet.

Yet now we have discovered that our planet is under threat and, to make matters worse, it's all our faults. Swimming in the sea or drinking a cool glass of water on a hot day may soon become a thing of the past. Factories are polluting our rivers and lakes with dangerous chemicals. Oil tankers are releasing thick, black oil into our oceans. Consequently, sea life is threatened with extinction.