Abstract

The issue of pharmaceutical accumulation in the environment is a pressing concern today. Annually, the consumption and misuse of pharmaceuticals increase, with a significant portion ultimately being discharged into wastewater. Unfortunately, wastewater treatment processes often prove inadequate in effectively removing these substances, as they were not originally designed for this purpose. Consequently, pharmaceuticals gradually infiltrate water systems, resulting in heightened pollution of surface water, groundwater, and even drinking water sources. Due to insufficient legislation, there is a need for stricter monitoring and elimination of pharmaceutical substances containing.

This master's thesis investigates the presence of pharmaceuticals and some metabolites in wastewater samples using an accredited method at ALS Czech Republic laboratory. It compares the input and output concentrations of drugs in wastewater treatment plants of varying sizes and assesses the efficacy of their removal. Additionally, it contrasts municipal sewage treatment plants serving communities with hospital wastewater treatment plants.

Key words: *LC-MS, pharmaceuticals, metabolites, wastewaters, environment*