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MONITORING OF ILLICIT DRUGS IN MORAVIA-SILESIA REGION IN MUNICIPAL WASTEWATER TREATMENT PLANTS

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ABSTRACT

The method of sewage epidemiology is used within the project of the Programme Security Research of the Ministry of the Interior of the Czech Republic named "Determination of the amount of illicit drugs and their metabolites in municipal wastewater – a new tool to complement data on drug consumption in the Czech Republic", (DRAGON). The above mentioned project will result in a systematic procedure for defining and estimate of illicit drugs usage by means of the "sewage epidemiology" in the conditions of the Czech Republic especially in Moravia-Silesian region. In September 2014, a sampling campaign in selected agglomerations of the Moravia-Silesian region in the Czech Republic was realized. Samples of municipal wastewater were taken from inlets onto the following municipal wastewater treatment plants (WWTP) - Ostrava, Havířov, Frýdek-Místek, Karviná, Opava, Nový Jičín a Bruntál. The sampling campaign went off as a one-week event (in Ostrava it lasted two weeks) when for the duration of 24 hours the strained samples on the inlets onto individual WWTP were taken. Analytical activities were focused on the following kinds of drugs and their metabolites – amphetamine (AMP), methamphetamine (MAMP), cocaine (COC), opioids and THC. In case of some drugs e.g. ecstasies (MDMA), the results expressed in mg/1,000 inhabitants confirm a weekend regime. The most frequently used drug is THC and MAMP, and vice versa the least frequently used drug from the ones under review is COC and MDMA. The summarizing results also enable to compare particular agglomerations, in which remarkable outcomes were found – e.g. (per 1,000 remove sewage) THC is most used in Bruntál, MAMP in Ostrava and Havířov, the highest amount of cocaine use belongs to Ostrava, while the most used drug in Nový Jičín is MDMA.



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