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Author:

By Paul Malaos

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Drugs in the sewers

SURVEY REVEALS HEROIN, COCAINE AND ECSTASY IN WASTE WATERS

By **Paul Malaos**

A first-of-its-kind study in Cyprus has revealed that our waste waters contain traces of 21 illegal drugs including cocaine, heroine and ecstasy.

The sewage analysis survey conducted recently by the International Water Research Centre Nireas and the Laboratory of Environmental Engineering GAIA of the University of Cyprus has also shown that, despite previous notions, illegal drug use on the island is at similar levels with most other EU countries.

"This is pioneering research for Cyprus that has only been carried out in around 15 other countries worldwide," said the research group's leader, Assistant Professor Despo Fatta Kassinou.

She explained that site-specific waste water analysis is a relatively new science that involves testing sewage water to determine whether it is safe to reuse once treated. However, it also produces an accurate picture of the types and quantities of drugs used by residents in specific areas.

The research group analysed sewage at treatment plants in two cities in Cyprus which it has chosen not to name.

According to Kassinou the concentrations of narcotics found in waste water are not at levels high enough to be dangerous to human health.

Their presence in water, however, is large enough to have long-term ill effects on the environment if the water was left untreated.

Other narcotics found in the waste water included, benzoylecgonine norbenzoylecgonine, codeine, norcodeine, ketamine, methadone, morphine and normorphine, detected at levels between three nanograms and 4.5 micrograms to the litre.

Kassinou explained that the aim of the survey was to evaluate the quality of our wastewater after treatment in order to determine the most effective methods for processing sewage water so that it can be reused in the environment.

"This is the first attempt of this kind of research in Cyprus which identifies the presence of narcotics in sewage water," said Kassinou.

"Our study has shown that while many of these substances exist in the sewage they are purified to satisfactory levels at treatment plants."

She added that the concentration of several narcotic substances in processed sewage waters was extremely low and in some cases undetectable.

"We could not identify traces of LSD or any cannabinoids but this may be because they have metabolised, said Kassinou.

In comparison to other countries where drug sewage analy-

sis has also been conducted, Kassinou said narcotics in our wastewaters were at generally similar levels.

"In some cases and for certain narcotics they were below average levels."

Site-specific waste water analysis is currently being used in Spain, France, UK, Italy and the US to help drug monitoring agencies keep an eye on the spread of dangerous narcotics and to evaluate effective drug policies.

Head of the Cyprus National Monitoring Centre for Drugs and Drug Addiction (EKTEPN), Neoklis Georgiades described the university's survey as a potentially useful tool for better evaluating such policies on a local level.

"This is a very interesting study and would be even more effective if it was conducted on a regular basis, which is something we are examining," said Georgiades.

He added that while sewage analysis is not a drug fighting tool on its own it can be used together with other areas of research to develop new prevention methods and strengthen existing ones.

"Most importantly it provides a truly objective and unbiased estimate of illegal drug consumption," said Georgiades. "It is also commonly believed that drug use in Cyprus is much lower than in other countries

but according to this data we are at similar levels, which is something we suspected."

He added that as the research is considered to be reasonably accurate it has the potential to be used to identify the extent of the drug problem on an island-wide basis or for specific areas.

"Inaccurate responses are common in surveys of drug abuse but sewage does not lie," he said.

Authorities in other countries are using sewage analysis to study drug use in cities and towns in real time and to help answer questions, such as where are the best locations to build methadone clinics. Another question is whether drug arrests are reducing consumption in specific areas.

Drugs Squad (YKAN) spokesman Stelios Sergides confirmed that the police force in Cyprus would be monitoring the outcome of the study to identify any potential opportunities.

"We are aware that several pilot studies into raw sewage analysis have been conducted abroad and have given clues to illegal drug use," said Sergides.

"We consider it very positive that this type of research is now being carried out in Cyprus and recognise that it may have potential as an effective drug monitoring tool."



POTENTIAL: Head of the Cyprus National Monitoring Centre for Drugs and Drug Addiction (EKTEPN), Neoklis Georgiades



SAFE:
Concentrations of narcotics are not at levels high enough to be dangerous for human health



NEW: A pioneering research study has revealed traces of 21 illegal narcotics in sewage waters