

Surplus Consumption of Medical and Illicit Drugs among Patients in Opioid Replacement Therapy

Laura M. Huppertz¹, Maurice Wilde¹, Rüdiger Gellert², Bjoern Moosmann¹ and Volker Auwärter

¹ Institute of Forensic Medicine, Forensic Toxicology, Medical Center - University of Freiburg, Germany

² Addiction Medical Center, Freiburg, Germany

Institute of Forensic Medicine
Forensic Toxicology



INTRODUCTION

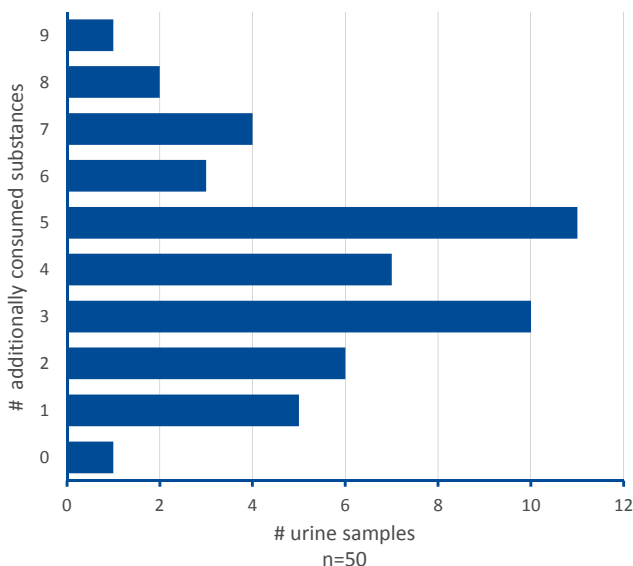
Opioid replacement therapy (ORT) is acknowledged as beneficial treatment for heroin dependency, as it reduces health risks and prevents criminal behavior. Though surplus consumption of psychoactive substances, in addition to the maintenance and concomitant medication in ORT, violates the rules of most programmes, co-use of drugs in substitution therapy is quite common. It can be assumed that the majority of deaths among drug users in ORT results from mixed toxicity of illicitly taken drugs and ORT medication. A large variety of substances is being misused in this context. To evaluate the local situation and the prevalence of new psychoactive substances (NPS) among patients in ORT in the Freiburg region, 50 consecutively sent in urine samples obtained from patients participating in a substitution program (methadone 37; buprenorphine 9; morphine 2; n.a. 2) positive for opioids by immunoassay were analyzed for a wide range of substance classes except THC.

METHODS

All analyses were performed according to standard operation procedures. Urine samples were screened by LC-QToF-MS and positive findings were confirmed by LC-MS/MS. Additionally, all samples were analyzed for synthetic cannabinoids (SC), designer stimulants, opioids, and benzodiazepines. Analysis results were compared to the known medication and only surplus consumption is reported in the results section.

RESULTS

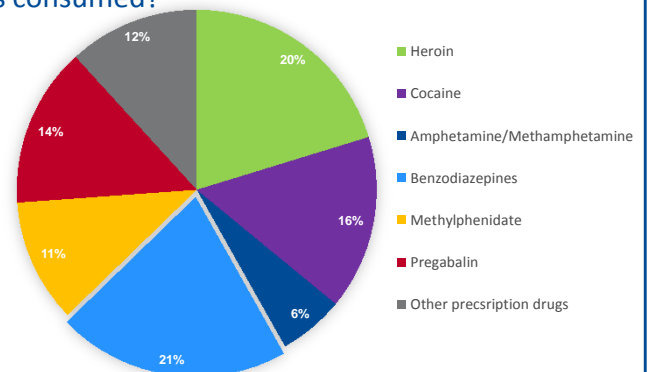
How many substances were consumed additionally?



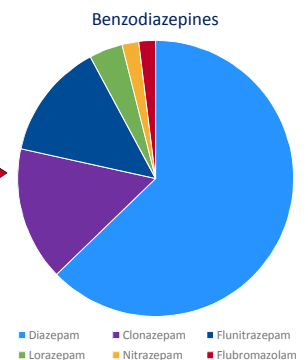
In 49 cases surplus consumption of at least one additional drug was found

- 1 to 9 additional drugs per sample
- mean 5 drugs
- median 4 drugs

What was consumed?



- Morphine was detected in 36 samples of which 31 were also positive for 6-acetylmorphine
- Other opioids were detected in 5 samples
- Benzodiazepines represent the most frequently abused compound class
- Other drugs: doxepin (5), trimipramine (3), bupropion (2), zopiclone (1).
- Neither SCs were detected – probably due to cannabis consumption being tolerated – nor designer stimulants.



CONCLUSIONS

An unexpected high number of different drugs was detected. Although sedative drugs dominate, a large number of patients also co-used stimulants. Notably, benzodiazepines were even consumed additionally when prescribed as concomitant medication. Regarding other medical drugs methylphenidate and pregabalin are highly prevalent among the investigated sample collective. Although NPS do not seem relevant in the presented study – except one confirmed finding of the designer benzodiazepine flubromazolam – analysis for these should not be neglected as they may play a role among ORT patients in other settings. Based on these results, addiction centers in general may reconsider testing procedures for surplus consumption. The widely-used pretest systems usually only detect classic drugs leading to underestimation of surplus consumption.