

Microextraction Techniques for Drugs of Abuse in the Forensic Perspective: A Review [†]

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Abstract: Drug abuse is a worldwide issue that has led to many health issues, and in severe cases, death owing to overdose and misuse for suicides and homicides. The abuse of drugs has also led to various long-term physical and psychological health complications. The abuse of drugs, especially for recreational purposes, has been on the rise, and the profile of drug abuse worldwide has been found to increase in different population groups such as teenagers and adolescents. In this review, a few of the relevant forensic drug cases that have occurred in the past decade are discussed. Biological sample testing has become a critical component in the detection and treatment of drug abuse and in medico-legal analyses of post-mortem samples. Additionally, non-biological samples such as pharmaceuticals are also screened routinely in forensic laboratories. Therefore, from the forensic perspective, it becomes important to review the various analytical techniques that can be used to isolate these drugs from samples collected from the crime scene. Microextraction techniques for the isolation of various groups of drugs are gaining popularity because of their many advantages over traditional techniques such as solvent extraction and solid-phase extraction. In the present work, such microextraction techniques for isolating four main categories of drugs of abuse, namely, stimulants, narcotics, tranquilizers, and hallucinogens from biological and non-biological samples matrices have been reviewed.

Keywords: drug of abuse; microextraction techniques; viscera; pharmaceuticals; forensic cases.

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Conflicts of Interest

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