and oxycodone were more associated with drug dependence and withdrawal. Benzodiazepines, antidepressants, antihistamines, recreational drugs (e.g., cocaine and alcohol, etc.), and several new psychoactive substances, e.g., mitragynine and cathinones, were the most commonly reported concomitant drugs.
Conclusions: Pharmacovigilance databases confirmed previous data on the abuse and dependence of prescription opioids and should be considered a resource for monitoring and preventing such issues. Psychiatrists and clinicians prescribing opioids should be aware of their misuse and dependence liability and effects that may accompany their use.

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Detection of ADB-4en-PINACA Metabolite, 2-Methylmethcathinone and 3-Methylmethcathinone in Authentic Urine Samples

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Introduction: In Singapore, new psychoactive substances (NPS) continued to be prevalent with synthetic cannabinoids (SC), synthetic cathinones and mitragynine being detected. In early 2023, ADB-4enPINACA metabolite and the positional isomers of 4-methylmethcathinone (4-MMC), i.e., 2-MMC and 3-MMC were detected in drug users' urine samples. To the best of our knowledge, ADB-4en-PINACA metabolite was the first time being identified in authentic urine sample.
Methods: 0.5 mL of urine samples were incubated with β-glucuronidase enzyme and extracted. The extracted samples were screened using LC-Orbitrap MS method followed by confirmation using LC-QToF MS method.
Results: ADB-4en-PINACA dihydrodiol metabolite was detected in two authentic urine samples, which was consistent to the result of the metabolic study.1 The identity was confirmed with the reference standard in both HRMS methods. Other SC metabolites such as MDMB-4en-PINACA metabolites, ADBBUTINACA metabolite and/or ADB-PINACA metabolite were also detected in the samples. In addition, 2-MMC and 3-MMC were recently detected in a few drug users' urine samples. Using the sensitive and selective LC-QToF method, the three positional isomers of methylmethcathinone were chromatography separated and specifically identified with the reference standards.
Conclusions: New NPS constantly enters the drug market with structural diversity and rapid development of the new derivatives, therefore, NPS continues to pose challenge for the drug detection in urine testing. The laboratory applies various techniques to comprehensively identify the new NPS and their positional isomers to cater for the rapid change.

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New Psychoactive Substance Consumption Within the UK Homeless Population

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Introduction: The last few years have seen the emergence of new psychoactive substance among the homeless population, specifically synthetic cannabinoid receptor agonists. The purpose of this study is to investigate the knowledge and experiences of new psychoactive substances amongst users from the homeless population.
Methods: An explanatory research design was applied using a semi-structured questionnaire with the focus on gaining insights on the prevalence, motivations, and effects. Participants were recruited through convenience sampling from support organizations and charities UK-wide. Descriptive statistics and logistic regression were applied to analyze the data obtained from participant surveys.
Results: A total of 105 participants met the inclusion criteria and were in the age range of 18 to 64 years old. Almost 70% consumed new psychoactive substance products, which "Spice" was the most prevalent substance. Homeless users had consumed new psychoactive substance to escape reality and to self-treat themselves and stopped consumption due to the adverse effects. Adverse events were reported from the majority of the participants and led to more than 20% of the participants requiring medical treatment following hospitalization.
Conclusions: Findings from this study can contribute to the development of guidelines and policies that specifically address the needs of the homeless population who use new psychoactive substances.

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5HT2A Receptors are Involved in the Pharmaco-Toxicological Effects of the Synthetic Cannabinoids JWH-018 and 5F-PB22: in Vivo Studies in Mice

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Introduction: Since their first appearance on the illicit drugs market, Synthetic Cannabinoids (SCs) have been frequently detected in biological samples from patients involved in several intoxication and death cases. To date, their serious adverse effects have been primarily related to their action as potent agonist of CB1 cannabinoid receptors. However, evidence concerning the potential interaction between SCs and serotoninergic neurotransmission system has emerged. Thus, this study aims to evaluate the involvement of 5HT2A receptors in the effects provoked by these substances.
Methods: The effects induced by acute systemic administration of 1-pentyl-3-(1-naphthoyl)indole (JWH-018; 1 mg/kg) and quinolin-8-yl 1-pentyfluoro-1H-indole-3-8-carboxylate (5F-PB22; 1 mg/kg) on sensorimotor (visual, acoustic and tactile) responses, pain threshold (acute mechanical and thermal nociception), core temperature, breath rate and motor performance (stepping activity), as well as their interaction with the selective 5HT2A receptors antagonist MDL100907 (0.1 mg/kg), have been evaluated in CD-1 male mice.
Results: The present results pointed out that both substances deeply alter sensorimotor responses, nociceptive threshold, core temperature, breath rate and motor activity in mice. Noteworthy, pretreatment with MDL100907 at least partially prevented sensorimotor disruption, as well as antinociceptive and hypothermic effects.
Conclusions: This study states the relevance of serotoninergic 5HT2A mechanisms on pharmaco-toxicological effects induced by SCs, suggesting the potential risk of increased susceptibility for psychotic-like symptoms also related to mental disorders.

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Synthetic Cannabinoids Use among Inmates in an English Prison

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Introduction: The use of synthetic cannabinoids (SC) is major public-health problem in UK prisons, and between 2015 – 2022, SCs were implicated in around half of all non-natural deaths among UK prisoners. Although the global use of SCs is highly concentrated within this pop-