A cross-sectional emergency department survey of novel psychoactive substance prevalence☆

Keywords:
Novel psychoactive substances
Cannabinoids
Stimulants
Hallucinogens
California

From Spice and Bath Salts to Flakka and Krokodil, novel psychoactive substances (NPS) have captured the attention of people worldwide in recent years. Although medical and lay literature point to a rise in NPS, its prevalence within the United States is largely unknown because new compounds are rapidly developed and modified, making them difficult to describe and nearly impossible to detect [1]. We studied the prevalence of novel psychoactive substance knowledge and use in an academic urban emergency department at a level I trauma center in Fresno, CA.

A self-administered survey was provided to 100 randomly selected patients awaiting care in the emergency department over the 1-week period of January 31 to February 6, 2015. Study participants were English-speaking, literate adults (age 18 and greater) who were not mentally altered or too ill to participate. These patients were then administered an anonymous survey that was divided into three sections according to drug class (synthetic cannabinoids, stimulants [including synthetic cathinones], and hallucinogens), each of which addressed the participant's familiarity with the substance, her or his acquaintances' use of the substance, and her or his use of the substance. This study was approved by our local Institutional Review Board.

Compared to the stimulants and hallucinogens, cannabinoids were the most prevalent novel psychoactive substance in this community with 42% of participants having heard of these substances (31% for stimulants and 24% for hallucinogens), 22% having friends or acquaintances who used them (17% for stimulants and 13% for hallucinogens), and 19% having personally used them (10% for stimulants and 9% for hallucinogens). Cannabinoids, like stimulants and hallucinogens, first appeared in the consciousness of a substantial number of participants (14 out of 42, 33%) within the last 2 to 5 years, and many consumers (8 out of 19, 53%) had used in the last year. Unlike the population who uses stimulants and hallucinogens, no one who uses cannabinoids admitted to seeking medical attention after taking these substances.

This study demonstrates that the use and knowledge of novel psychoactive substances is prevalent within the patient population of an emergency department located in the Central Valley of California. Interestingly, the use of NPS among our study participants is higher than in populations that usually have greater rates of substance use compared to the general population. For instance, a field-based survey of 1740 nightclub patrons in New York City observed that 8.2% of the population reported use of synthetic cannabinoids and 1.1% reported use of mephedrone [2], whereas an Internet survey of 2349 students at a large university in the southeastern United States found 1.1% of the population reported use of Bath Salts [3]. The different results of these studies may be attributed to the nebulous classification of NPS. Our study questioned participants about their familiarity with general drug classes (i.e., cannabinoids, stimulants, and hallucinogens) and specific drug names, whereas prior studies used only specific drug names (e.g., Spice and K2 as well as mephedrone, meph, or Bath Salts), which may have led to an underestimation of actual usage since new NPS are constantly appearing on the market and their street names are always changing.

Despite providing an interesting snapshot of consumption in one urban center, it may not be generalizable to other local communities. Thus, future research should be conducted over numerous time periods in multiple centers across the country to ascertain true NPS prevalence.

☆ No authors have any conflicts of interest, this manuscript has not been presented at any meetings and this work did not receive any external funding.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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http://dx.doi.org/10.1016/j.ajem.2017.04.057

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