Khat and cathinones: from cultural use to drug of abuse

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Abstract

Introduction: Among several communities around Saudi Arabia and East African countries, khat has played a major social role. The identification of cathinone as the main psychoactive compound led to the synthesis of several derivatives.

Objectives: The present work provides a review on khat and synthetic cathinones, concerning their historical background, prevalence, patterns of use, and their physiological and toxicological effects on humans.

Methods: The bibliographic research was concluded using the queries “cathinone” in the PubMed network.

Results/Discussion: In the mid-2000’s, synthetic cathinones emerged in the recreational drug markets as legal alternatives (“legal highs”) to amphetamine, “ecstasy”, or cocaine. Currently, they are sold as ‘bath salts’ or “plant food”. Cathinone derivatives are available online or at “smartshops” and are much more affordable than the traditional illicit drugs. Available as powders, substituted cathinones are self-administered by snorting, oral ingestion, or intravenous injection. They act as central nervous system stimulants through the release of catecholamines and by blocking their reuptake in the central and peripheral nervous system. Nevertheless, considerable differences have been found in the potencies of the different substituted cathinones in vitro. Desired effects reported by users include increased energy, empathy, and improved libido. Cardiovacular (tachycardia, hypertension) and psychiatric/neurological signs/symptoms (agitation, seizures, paranoia, and hallucinations) are the most common adverse effects reported. Severe toxicity signs compatible with excessive serotonin activity, such as hyperthermia, metabolic acidosis, and prolonged rhabdomyolysis, have also been observed. In case of overdose, no specific antidote exists and no curative treatment has been approved by health authorities. Therefore, management of acute toxic effects is mainly extrapolated from experience with cocaine/amphetamines.

Conclusion: Despite their now illegal status in many countries, substituted cathinones continue to be prevalent drugs of abuse. Routine toxicology screens may not detect the presence of these compounds and more specific methods are needed. Additionally, several new derivatives emerge in the recreational legal markets every year.

Supplementary material: Complete presentation available at http://ijcnmh.arc-publishing.org

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