



LETTER TO THE EDITOR

A case of flakka-induced aggressive behavior in an adolescent

Omer Kardas¹ , Burcu Kardas² 

¹Diyarbakir Selahaddin Eyyubi State Hospital, Department of Child and Adolescent Psychiatrist, Child and Adolescent Drug Addiction Treatment Center, Diyarbakir - Turkey

²Diyarbakir Health Sciences University Gazi Yasargil Training and Research Hospital, Department of Child and Adolescent Psychiatry, Diyarbakir - Turkey

Dear Editor,

Cathinones are known as aminophenone derivatives that have amphetamine-like effects and are produced by a plant named “Catha edulis” (Kath). This plant is traditionally used in the Arabian Peninsula (1). Synthetic cathinones are new types of psychoactive substances known as bath salts. These substances include mephedrone, methylenedioxypyrovalerone (MDPV), and methylone. Alpha-Pyrrolidinopentiophenone (alpha-PVP), also known as “flakka,” is a synthetic cathinone derivative (2). Flakka is a word of Spanish origin, denoting a beautiful, charming woman. Apart from Flakka, the substance is known as “zombie pill,” “gravel,” and “pebble stone” (3). In this letter, we want to report the fact that the substance “flakka,” frequently referred to in the press with the name “zombie pill,” can also be found in Turkey.

Our case is a 17-year-old male who was admitted to our center in January 2018 with the help of an institution officer from a child support center outside the province. His history of substance abuse revealed that he had started to use volatile substances at the age of 12 years, cannabis at 14 and ecstasy at 15 years of age. It was learned that the longest period of abstinence on his own had lasted two months. He had previously been treated in another substance and alcohol use disorder clinic for 1 month and was referred to a psychiatric ward because of behavioral problems. On admission,

the patient was taking quetiapine 900 mg/day. Nevertheless, zuclopenthixol injections had to be performed intramuscularly 3 times in the last week. He reported that he had received a pill from someone he did not know a week before his admission to the institution. The man said the pill was named “flakka.” It was learned that he lost consciousness and was taken to hospital within about one hour after using the substance. As learned from the institution officer, the patient exhibited meaningless speech and aggression, harmed people around him and attacked the ambulance driver carrying the patient to the hospital, biting off the driver’s ear. Patient was still unaware of his condition when being carried to the hospital. He was admitted to the intensive care unit. He did not remember the incident described above. In his history, he had previously been seen in a psychiatry outpatient clinic once, and went to school up to 6th grade. In his family history, it was learned that his father died of a heart attack. As the patient was coming from an institution, family history and development history could not be obtained sufficiently.

In the mental status examination, he was fully conscious and oriented, though he was distracted and his mood was irritable. He had substance use-related preoccupations. He was motivated to quit substance use. His sleep was regular, and appetite was normal. There was no evidence of perceptual and thought

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Correspondence: Omer Kardas, Diyarbakir Selahaddin Eyyubi State Hospital, Department of Child and Adolescent Psychiatrist, Child and Adolescent Drug Addiction Treatment Center, Diyarbakir - Turkey

Phone: +90 506 889 06 96 **E-mail:** kardasomer@gmail.com

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content disorder. There was no history of medical disease. No substance was detected in his urinalysis. The patient was admitted to our department. Routine biochemical examinations and serology revealed no pathology.

The patient scored 15 on the Beck Depression Inventory (BDI), 40 on the State-Trait Anxiety Inventory (STAI), and 9.5 on the BAPI (Addiction Profile Index) Adolescent Practitioners Scale (4). Fluoxetine 20 mg/day, risperidone 3 mg/day, and quetiapine 100 mg/day were started. It was observed that the patient frequently talked about the substance with other patients, did not participate in activities and did not obey the rules of the inpatient unit.

The patient displayed no aggressive attitude on the ward in contrast to the history of irritability before hospitalization. On the 14th day of hospitalization, the patient stated that he wanted to be discharged. After contacting the staff of the institution, he was discharged in partial remission. On discharge, BDI, STAI, and BAPI adolescent practitioner scores were 9, 28, and 7.5, respectively. The patient did not attend meetings in the outpatient clinic. It was learned that his general state was fine when we talked over the telephone with an institution officer.

In this paper, we present a case who had shown severe aggressive behaviors and required intensive care. Case reports are found in the literature related to this subject. In Turkey, no case reports regarding the use of synthetic cathinones are available. "Flakka" is widely used in America, where it is even reported as an epidemic (5). Synthetic cathinones are serotonergic, dopaminergic, sympathomimetic and hallucinogenic agents. Neuropsychiatric symptoms such as agitation, paranoia, psychosis, delirium, and serotonin syndrome were observed. In addition, hypertension, tachycardia, mydriasis, hyperthermia, and diaphoresis symptoms were found (6). In our case, loss of consciousness after agitation and aggression was reported. Because the patient was in delirium, he was initially admitted to the intensive care unit. It has been reported that in addition to delirium, synthetic cathinones may cause death by rhabdomyolysis, multiorgan failure, or cardiopulmonary arrest (7). The knowledge that the patient used synthetic cathinone was based on the patient's self-report and the institution officials' statements. However, it is not known whether the patient underwent toxicological analysis following the use of the substance. Synthetic cathinones cannot be detected by routine toxicological analyses. However, they can be detected within 48 to 72 hours of use with new

techniques. Since these techniques are very expensive, it is not possible to have them available in every hospital (8). The patient had previously used stimulants and cannabis, but did not show homicidal behaviors after using these substances. Homicidal behavior, the necessity of hospitalization after substance use, and intense irritability lasting for a few weeks after discharge support the possibility that the patient had used synthetic cathinone. In the literature, a young adult who had catatonia after using synthetic bath salt has been reported. In addition, the patient reported aggressive behavior and auditory hallucinations and delusions (9). However, it has been reported that psychotic symptoms are accompanied by aggressive behaviors in an adolescent case (5). In our case, no psychotic signs were found. In both cases in the literature, there was no need for intensive care as in our case. In this note, it is intended to draw attention to the fact that the substance "flakka," which we heard frequently mentioned in the press under the name "zombie pill," can also be seen in Turkey.

REFERENCES

1. Al-Hebshi NN, Skaug N. Khat (*Catha edulis*): an updated review. *Addict Biol* 2005; 10:299-307.
2. Ackerman M. Flakka becoming more popular than cocaine in South Florida. *The Fix*, June 15, 2015. and online at: <https://www.thefix.com/content/flakka-becoming-more-popular-cocaine-south-florida>. Accessed May 23, 2019.
3. Katselou M, Papoutsis I, Nikolaou P, Spiliopoulou C, Athanaselis S. α -PVP ("flakka"): a new synthetic cathinone invades the drug arena. *Forensic Toxicol* 2016; 34:41-50.
4. Development of the Addiction Profile Index Adolescent Form (BAPI-E). Ogel K, Karadayi G, Senyuva G, Hatipoğlu S. *Bulletin of Clinical Psychopharmacology* 2012;22(Suppl. 1):S109. *Bulletin of Clinical Psychopharmacology* 2012; 22(Suppl. 1):S109
5. Crespi, C. Flakka-induced prolonged psychosis. *Case Rep Psychiatry* 2016; 3460849.
6. C. Chai, "What you need to know about flakka, the latest drug causing erratic behaviour" *Global News*, April 16, 2015. <https://globalnews.ca/news/1942263/what-you-need-to-know-about-flakka-the-latest-drug-causing-erratic-behaviour/>. Accessed May 23, 2019.
7. Durham, M. Ivory wave: the next mephedrone? *Emerg Med J* 2011; 28:1059-1060.
8. Aldemir E. All we know about synthetic cathinones: In Evren C. (editor). *Manual for the Diagnosis and Treatment in Substance Use Disorder*. Istanbul. Yerkure Tanitim ve Yayincilik Hizmetleri A.S.,2018,. (Turkish)
9. Richman E, Skoller NJ, Fokum B, Burke BA, Hickerson CA, Cotes RO. α -Pyrrolidinopentiophenone ("Flakka") Catalyzing Catatonia: A Case Report and Literature Review. *J Addict Med* 2018; 12:336-338.