Cannabis Use Disorder in Adolescence

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KEYWORDS

• Cannabis • Marijuana • Abuse • Dependence • Adolescent • Teenager
• Cannabis use disorder

KEY POINTS

- Cannabis use in the adolescent population poses a significant threat of addiction potential resulting in altered neurodevelopment.
- There are multiple mechanisms of treatment of cannabis use disorder including behavioral therapy management and emerging data on treatment via pharmacotherapy.
- Recognizing the diagnostic criteria for cannabis use disorder (according to DSM-5), cannabis withdrawal syndrome, and mitigating factors that influence adolescent engagement in cannabis use allows for comprehensive assessment and management in the adolescent population.

INTRODUCTION

According to statistics collected by the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Behavioral Health Statistics and Quality, and National Survey on Drug Use and Health (NSDUH) 2014, cannabis remains the illicit drug substance that individuals most commonly abuse and/or develop dependence on within the age group 12 to 17 years old.[1,2] The illicit drug marijuana is derived from the cannabis sativa, indica, hybrid species, and/or ruderalis plants, which contain the psychoactive substance delta-9-tetrahydrocannabinol (THC). Throughout the body are cannabinoid receptors, CB1 and CB2, which are activated by endogenous cannabinoids. Cannabinoid receptors are located in the central nervous system (basal ganglia, hippocampus, cerebellum, and cortex) and systemically (immune cells and spleen). The mechanism of action of marijuana is the result of cannabis ligand binding to CB1 and CB2 receptors, resulting in psychoactive intoxication and other systemic effects in the peripheral tissue.

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CLINICAL PRESENTATION AND DIAGNOSIS

According to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) cannabis intoxication, withdrawal, and use disorder are categorized by meeting specific diagnostic criteria.[3,4]

Cannabis intoxication occurs with recent use of cannabis and a diverse array of behavioral changes including impaired motor coordination, euphoria, anxiety, sensation of slowed time, and paranoia.[3] According to the DSM-5, to meet diagnostic criteria the patient is required to experience at least two of the following within a 2-hour period of using cannabis: conjunctival injection, increased appetite, dry mouth, and tachycardia; also, these signs and symptoms cannot be better explained by another general medical condition, substance intoxication, and/or mental health illness.

Cannabis withdrawal occurs as a result of multiple variables and is further discussed later.[3] The following signs and symptoms must be present to meet the diagnostic criteria for cannabis withdrawal according to the DSM-5. First, cessation of frequent and prolonged cannabis usage that is daily over the period of several months. Second, the exhibition/endorsement of three or more of the following signs and symptoms over the course of approximately 1 week:

1. Irritability, anger, or depression
2. Nervousness or anxiety
3. Sleep difficulty (ie, insomnia, disturbing dreams)
4. Decreased appetite or weight loss
5. Restlessness
6. Depressed mood
7. At least one physical symptom causing discomfort (ie, abdominal pain, shakiness/tremors, sweating, fever, chills, headache)

Third, the aforementioned psychological and/or physical symptoms must cause significant impairment to social, occupation, and/or other significant areas of life functioning. The signs and symptoms cannot be the result of withdrawal and/or intoxication from any other substance, general medical condition, and/or mental health illness.

According to DSM-5, cannabis use disorder is the significant impairment/distress in multiple areas of functionality and also development of tolerance and withdrawal to the drug over a 12-month period.[3]

- The development of a problematic behavior as consequence of the persistent use and/or increasing amounts of cannabis use
- Continued desire for the drug and failed attempts to decrease or control the use of the drug
- An excessive amount of the individual's time is spent involved in activities to obtain the drug
- Persistent use of cannabis negatively impacting the individual's ability to attend to roles at work, school, or home
- Persistent use of cannabis despite repeated social/interpersonal issues that are made worse by the continued use of cannabis
- Persistent use of cannabis in physically hazardous conditions
- Persistent use of cannabis despite the identification of a physical and/or psychological issue that was most likely secondary to cannabis use and/or exacerbated cannabis use
- Tolerance