

The Growing Epidemic of Adolescent Cannabis Dependency: Perspectives of a Renowned Addiction Treatment Physician and Recovering Young Adult

A Physician's Perspective

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Marijuana, or cannabis, is by far the most widely used illicit drug in the United States (SAMHSA, 2011). In the past few years, marijuana use by teens has been increasing while the perceived risk of marijuana use has steadily declined, no doubt due to its recent legalization in Colorado and Washington, and the growing number of states supporting medical marijuana.

While marijuana has long been viewed as a relatively benign drug, today's marijuana "is not your father's marijuana." The strains available today have a substantially higher THC content than the "weed" of the '60s. Since 1983, when THC concentrations averaged below 4 percent, many marijuana samples now reflect content in the 10 percent to 20 percent range, with some specialty products showing concentrations exceeding 30 percent (Meserve & Ahlers, 2009).

The diagnosis of dependence requires significant intrusion of the substance into a patient's life, with clinically significant disruption in multiple areas. In adolescents, that may manifest as problems in school and in adults as lateness and/or absenteeism at work. All ages may experience difficult peer and family relationships, as well as basic emotional, cognitive, and psychological issues.

Research into the effects of cannabis on the developing brain has increased exponentially over the past decade, largely as a result of discovering the importance of the naturally occurring cannabinoid system that regulates brain growth and development (Berghuis et al., 2007; Heng et al., 2011). Marijuana is a complex plant containing at least 85 chemicals called cannabinoids, which exert their psychoactive properties by interacting with the brain's cannabinoid CB₁ receptors (found in the brain in higher concentrations than any other receptor) and the endocannabinoid system (at least ten times the size of the endorphin system), which regulates basic physiological functions such as appetite, thirst, memory, pain threshold, attention, and fear/anxiety (Cermak, 2010).

Chronic cannabis use can suppress this naturally occurring cannabinoid system, resulting in an alteration of the structure and operation of the brain regions involved with these functions, and leading to dependence and tolerance, with progression to drug-seeking behavior. These changes

can persist well into adulthood and increase risk for psychiatric illness (Chadwick et al., 2013). Stopping cannabis use leads to withdrawal.

The American Society for Addiction Medicine (ASAM) recently released a definition of addiction (2011):

Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death. (short version)

The DSM-5 (2013) states, "Cannabis use disorder is a problematic pattern of cannabis use leading to clinically significant impairment or distress" which could manifest by at least two symptoms within a twelve-month period. Some of symptoms listed by the DSM-5 include cannabis "taken in larger amounts or over a longer period than was intended," "persistent desire or unsuccessful effort to cut down or control" use, "craving, or a strong desire or urge to use," and "continued cannabis use despite having persistent or recurrent social or interpersonal problems exacerbated by the effects of cannabis.

Therefore, cannabis dependence qualifies as a psychoactive drug addiction and is so characterized both by the American Society of Addiction Medicine (ASAM) and by the American Psychiatric Association (APA) in the new DSM-5 (2013).

The current weight of scientific and clinical evidence therefore indicates that high doses of marijuana in susceptible individuals, particularly developing adolescents, is addictive.