Marijuana addiction? [1]

Dear Alice,

For people who are addicted to smoking marijuana, is it a physical or psychological addiction?

?Weed wacker

Answer

Dear Weed wacker,

In a nutshell, probably both. Marijuana is the most widely used illicit drug in the United States (cocaine is second), but scientific understanding about the nature of pot addiction lags far behind research about other drugs. For now, there is no clear-cut diagnosis for marijuana addiction, but mounting evidence from both animal and human studies points to physical and psychological dependence stemming from pot use. (For more background on the difference between psychological dependence, physical dependence, and addiction, check out Feeling 'dope sick' from cocaine use [2] in the Go Ask Alice! archive for Alcohol & Other Drugs.)

Smoking marijuana releases an active ingredient called THC (tetrahydrocannabinol). After taking a hit or inhaling, THC travels through the lungs, into the bloodstream, and up to the brain where it hooks onto cannabinoid receptors on nerve cells. These THC-loving receptors are concentrated in areas of the brain that influence pleasure, memory, concentration, sensory and time perception, and coordinated movement - all of which are involved in the smoker's "high" feeling.

Heavy pot smokers may quickly build a tolerance to marijuana, possibly needing up to eight times the dose to get the same high as infrequent users. Increased tolerance is a sign of physical dependence and changes in brain chemistry. These physiological changes are not completely understood, but long-term marijuana use appears to affect the brain much in the same way as other addictive drugs. THC withdrawal in animals changes the activity of nerve cells that house dopamine, a neurotransmitter involved in pleasure, motivation, and reward. Interestingly, all addictive drugs affect dopamine nerve cells in some way.

Of course, not all pot smokers become dependent on Mary Jane, and reliance on the drug may be determined by how much you use. A study [3] published in the Journal of Psychiatric Research investigated the effects of marijuana use in over 2,000 teens and young adults over four years. Overall, 35 percent of pot smokers showed at least one symptom of dependency such as increased tolerance, withdrawal symptoms, cravings, and continued use despite
health problems. Eighty-one percent of high frequency users (defined as using marijuana three or more times a week) had at least one sign of dependency compared to only 22 percent of low frequency users (less than three times a week). Among both groups, the most common sign of dependency was withdrawal.

A review [4] published in the American Journal of Psychiatry confirms that many (but not all) regular marijuana users experience negative effects when they stop using the drug. Since THC is fat-soluble and lingers in the body, withdrawal symptoms may not be felt immediately. Marijuana withdrawal may not be as severe as quitting alcohol or tobacco. Emotional and behavioral withdrawal symptoms may include:

- irritability
- restlessness or trouble sleeping
- fatigue and yawning
- depressed mood
- anger and aggression
- strange dreams

Physical withdrawal symptoms may include:

- appetite change
- nausea or stomach pain
- weight loss
- shakiness
- sweating

The growing demand for marijuana treatment programs is another concrete example of the potential for abuse and addiction. For example, the National Institute on Drug Abuse [5] reports that marijuana abuse was responsible for approximately 16 percent of all admissions to US drug treatment facilities in recent years. There's no medical treatment for marijuana addiction, but counseling in the form of cognitive behavioral therapy or motivational incentives helps some people kick their pot habit. Even with treatment though, the majority of people who abuse marijuana have difficulty quitting for good.

Marijuana may not be as addictive as tobacco, alcohol, or other drugs, but there's no question that puffing pot can become a habit. More research is needed to illuminate how and why some folks get high and others get hooked. Meanwhile, marijuana enthusiasts may want to take care not to underestimate the addictive power of pot.

Alice!
Category: Marijuana, Hash, & Other Cannabis [6]

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