

Substance Abuse Paper:
Marijuana Usage, Subsequent Effects, and Treatment

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The Nature of Marijuana

Marijuana, also known as *cannabis*, is a psychoactive drug sourced from a group of *Cannabis* plants. The plants are *Cannabis sativa*, *Cannabis indica*, and *Cannabis ruderalis*, which are native to Central and South Asia. Its usage can be both recreational and medicinal, with properties that give way to medical and leisurely applications. Other contemporary names marijuana goes by include “weed, herb, pot, grass, bud, ganja, Mary Jane,” and more (NIH, 2020).

According to Live Science, “the leaves, stems, flower buds, and extracts from the marijuana plant can be eaten, brewed in a tea, or put into a tincture” (Ghose, 2017). Of the many compounds within marijuana, scientists believe the main one responsible for its psychoactive effects is tetrahydrocannabinol (THC). THC acts similarly to the cannabinoid chemicals found naturally in the human body, and it is found in the resin secreted by glands of the marijuana plant. In the brain, THC attaches to the cannabinoid receptors that are associated with memory, pleasure, thinking, coordination, and time perception, which, resultantly, affects a person’s memory, pleasure, movements, concentration, and coordination (Bradford, 2017). Over the past few decades, the amount of THC in marijuana has grown (Ghose, 2017). The average THC content in marijuana in the 1990s was about 3.74 percent, while in 2013 it reached almost 10 percent (National Institute on Drug Abuse, 2020). Essentially, THC is the substance that produces the “high” associated with the drug’s usage.

The Usage and Effects of Marijuana

In the U.S., marijuana is the most commonly used illegal substance, and its usage is increasing in all adult age groups regardless of gender (SAMHSA, 2021). From the 2020 National Survey on Drug Use and Health, it was found that 17.9 percent of people aged 12 or

older in 2020 had used cannabis within a 12-month period (SAMHSA, 2020). In 2021, another survey discovered that about 30.5 percent of high school seniors used cannabis in the past 12 months (NIH, 2021). Among users aged 12 or older, an estimated 5.1 percent were found, within the same time frame, to have a cannabis use disorder (SAMHSA, 2020).

As mentioned above, the drug can be utilized both recreationally and medicinally in a variety of ways. Medical marijuana is most commonly used for pain control. It typically employs cannabidiol (CBD), which is an extract from *Cannabis* plants that has little to no intoxicating properties (Grinspoon, 2020). Patients who have taken CBD have reported relief from anxiety, insomnia, muscle tightness, and pain, particularly chronic pain. It can also be used to treat nausea, weight loss, and glaucoma, as well as other diseases and discomforts. Part of its appeal is that it has been deemed safer than opiates, as it is far less addictive. It is also a safe alternative to non-steroidal anti-inflammatory drugs (NSAIDs), such as Advil or Aleve (Grinspoon, 2020). Further studies on even more diverse applications continue to be conducted.

Marijuana also takes on various forms in recreational use. One common method of usage is smoking. Smokers will either roll the leaves into a cigarette (or joint) or smoke it in a dry pipe, bong, or blunt. A newer method of marijuana consumption is through vaporization, referred to as vaping, where users inhale the vapor in place of the smoke. Similar to vaping is a method called dabbing, where users inhale vapors produced by THC resins in lieu of the leaves. Apart from inhalation, the drug can also be orally ingested through what is known as marijuana edibles. This is when oils extracted from marijuana plants are fused into various foods, such as brownies, gummy bears, granola bars, and even beverages (Buddy T, 2020). Often, the delayed onset of the edibles' psychoactive effects is what causes frequent overdose. Other recreational usages include sprays, marijuana tinctures, and topical applications.

Marijuana consumption can cause several different effects on its users. The highs that people tend to chase after are the feelings of euphoria and sense of relaxation they often experience. Other effects may include “heightened sensory perception, laughter, altered perception of time, and increased appetite” (NIH, 2020). On the other end of the spectrum, users might experience “anxiety, fear, distrust, or panic”, as well as acute psychosis, including “hallucinations, delusions, and a loss of the sense of personal identity” (NIH, 2020). Generally, the effects of smoked marijuana will last about one to three hours, while those of marijuana eaten or drunken can last even longer.

DSM-5 Disorders Linked to Marijuana Usage

There have been several studies conducted that have found links between marijuana usage and psychiatric disorders. Overall, research has determined that usage can lead to increased risk for “psychosis (schizophrenia), depression, anxiety, and substance use disorders” (NIH, 2020). Schizophrenia spectrum, as well as other psychotic disorders, is characterized by delusions, hallucinations, disorganized thinking, and abnormal thinking, among other symptoms (American Psychiatric Association, 2013). As mentioned above, many, if not all, of these symptoms can be caused by marijuana consumption, especially for users that are genetically predisposed to or have a family history of schizophrenia. More recent research suggests that smoking high-potent marijuana daily increases the chance of developing psychosis by almost five times that of those who do not use the drug. The studies show that earlier and higher doses of cannabis use can lead to psychotic symptoms developing more rapidly, especially when users start at a young age (Hamid et al., 2020).

Other research from the National Epidemiological Survey on Alcohol and Related Conditions did not find a link between marijuana usage and mood and anxiety disorders.

However, they did find an increased risk of alcohol use disorders, nicotine dependence, marijuana use disorder, and other drug use disorders (NIH, 2020). Additional studies link the drug's use to anxiety, depression, and suicide planning (SAMHSA, 2021).

Treatments for Marijuana Abuse and Addiction

Whether marijuana is used legally or illegally, it can lead to abuse and addiction. Those who are addicted might experience withdrawal symptoms when they do not use it, including anxiousness, restlessness, irritability, insomnia, and reduced feelings of hunger. Physiologically, abuse of the drug might cause bloodshot eyes, dry mouth, memory distortion, impaired perception, delayed reaction time, diminished coordination, increased appetite, and weight gain (Juergens, 2021). In addition, over usage might also produce nervous or paranoid behaviors, all of which could affect personal and professional lives and relationships. Studies have found that adults who seek treatment for marijuana use disorders have, on average, used marijuana almost daily for over ten years and have attempted to quit upwards of six times (NIH, 2020). Additional research has indicated that behavioral therapies and medications have both shown promise in reducing marijuana consumption.

One form of therapy that has proven effective is cognitive-behavioral therapy (CBT). When employed to combat marijuana use disorder, therapists will teach strategies that help identify and correct any problematic behaviors, leading to greater self-control, the stoppage of drug use, and addressing additional problems that tend to coexist with the usage. Another therapeutic approach that has produced favorable outcomes is motivational enhancement therapy (MET). This intervention “does not attempt to treat the person, but rather mobilize his or her own internal resources for change and engagement in treatment” (NIH, 2020). Essentially, it is designed to produce motivated change by supplying nonjudgmental feedback and collaborative

goal setting. The therapist will utilize principles derived from motivational interviewing (linked to the person-centered approach by Carl Rogers) in order to display empathy, elicit “change talk”, and resolve ambivalence (McRae-Clark & Sherman, 2016). A third approach that has exhibited potential is contingency management (CM). Therapists utilizing this intervention will set and monitor a target behavior (i.e. negative urine tests for drug screenings) and provide positive rewards when the target behavior is achieved. It is based on operant conditioning and is effective when opportunities to reinforce are frequent and the value of the reinforcer is high to the client receiving treatment. Evidence from clinical trials suggests that utilizing techniques from each of these three treatment modalities in conjunction with each other produces the most successful abstinence outcomes (McRae-Clark & Sherman, 2016).

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders, 5th edition: DSM-5*. American Psychiatric Publishing.
- Blaha, M.J. (2021, October 7). *5 vaping facts you need to know*. Johns Hopkins Medicine. <https://www.hopkinsmedicine.org/health/wellness-and-prevention/5-truths-you-need-to-know-about-vaping>
- Bradford, A. (2017, May 18). *What is THC?*. Live Science. <https://www.livescience.com/24553-what-is-thc.html>
- Grinspoon, P. (2020, April 10). *Medical marijuana*. Harvard Health Publishing. <https://www.health.harvard.edu/blog/medical-marijuana-2018011513085#:~:text=The%20most%20common%20use%20for,Americans%2C%20e%20specially%20as%20they%20age.>
- Hamid, P., Khan, S., M, S., Patel, S. (2020). The association between cannabis use and schizophrenia: Causative or curative? A systematic review. *Cureus*. 12(7). doi: 10.7759/cureus.9309
- Juergens, J. (2021, November 11). *Marijuana symptoms and warning signs*. Addiction Center. <https://www.addictioncenter.com/drugs/marijuana/symptoms-signs/>
- McRae-Clark, A.L., & Sherman, B.J. (2016). Treatment of cannabis use disorder: Current science and future outlook. *Pharmacotherapy*. 36(5), 511-535. doi:10.1002/phar.1747
- National Institute on Drug Abuse. (2020, July). *What are marijuana's effects?*. National Institutes of Health. <https://nida.nih.gov/publications/research-reports/marijuana/what-are-marijuana-effects>

Pagan, C.N. (2021, January 14). *What is marijuana abuse?*. WebMD.

<https://www.webmd.com/mental-health/addiction/marijuana-abuse>

Substance Abuse and Mental Health Services Administration. (2021, October 25). *Know the risks of marijuana*. SAMHSA. <https://www.samhsa.gov/marijuana>

T. B. (2020, April 3). *How is marijuana used?*. Very Well Health.

<https://www.verywellhealth.com/how-is-marijuana-used-63522>