



The Birmingham News

OPINION February 17, 2020

Medical marijuana: Myths and realities

By Alan Blum, MD and Christopher Froehlich

Alabama is one of 17 states that does not permit the prescribing of marijuana for medical conditions--so-called medical marijuana or medical cannabis.

Last year, after the state legislature failed to pass a bill by Senator Tim Melson (R-Florence) to legalize medical marijuana, he chaired a commission of doctors, legislators, and attorneys to study the issue.

This month Melson, an anesthesiologist, introduced a bill (SB165) to approve the use of marijuana in the form of pills, capsules, creams, gels, patches, and certain edible products for the treatment of more than a dozen conditions including epilepsy, autism, cancer, HIV/AIDS, sleep disorders, anxiety, post-traumatic stress disorder, fibromyalgia, Crohn's disease, prolonged nausea, Tourette's syndrome, and spasticity associated with multiple sclerosis or a spinal cord injury.

A patient would receive a medical cannabis card from a physician, who would be required to meet certain qualifications set by the State Board of Medical Examiners before being permitted to prescribe the drug. As lawmakers in Alabama and 10 other

states consider bills that would authorize medical marijuana, we believe it is important to review the myths and realities of the use of marijuana for the treatment of medical conditions. Marijuana, also known as cannabis, has been used as a spiritual component of religious rituals, as a recreational euphoria-inducing substance, and as a medicine as far back as 2000 BCE, notably in China and India.

In Europe and the Americas, marijuana has been used for about 200 years. Although the most recognizable part of the hemp plant *Cannabis sativa* is its long multipronged leaves, these are not smoked. The marijuana that users roll in paper to smoke is made from the flowering tops and fruits (or “buds”) of female cannabis plants. In the past century, marijuana has gone from being an herbal medicine to a notorious illicit drug to a popular recreational drug and alternative medicine.

This evolution is due to several factors, including decades of lobbying for decriminalization and legalization of marijuana by the National Organization for the Reform of Marijuana Laws (NORML) and, since 1995, by the Marijuana Policy Project; growing awareness of the disproportionate incarceration of African Americans for possession of marijuana; frequent scenes in movies and on TV of hilarious hijinks while high on marijuana; and increasing reports on social media of marijuana’s medical benefits.

Marijuana is the most widely used illicit drug in the United States. 35 million adults use marijuana at least once a month, and 90% report doing so for recreational purposes. The nonpartisan group ProCon.org estimates that there are 3.5 million patients in the US who use legal medical marijuana. According to the National Institute on Drug Abuse, young adults 18 to 29 are the most frequent users of marijuana, with approximately 20% reporting past-month use.

Upwards of 30% of these users develop an excessive use disorder that impairs their ability to fulfill obligations at school, at work, or at home. According to Australia’s University of Queensland Center for Youth Substance Abuse Research, cannabis use shortly before driving doubles the risk of a car crash, and one in 10 daily users of

marijuana becomes dependent on the drug. Based on our review, we believe that anyone under 25 should be cautioned against using marijuana because of the long-term effects on learning and recall.

Because it has been difficult for medical researchers to obtain a federally controlled substance for studies, there are insufficient data to prove or disprove most of the claims for marijuana's medical benefits.

As psychiatrists Samuel Wilkinson and Deepak D'Souza of Yale University School of Medicine observed in the *Journal of the American Medical Association*, the problem with the sanctioning by states of marijuana for medical purposes is that legislatures "are essentially legalizing recreational marijuana but forcing physicians to act as gatekeepers for those who wish to obtain it."

Of the 483 chemical compounds in marijuana, delta-9-tetrahydrocannabinol (THC) is the one most responsible for causing the rapid high that users seek. Cannabinol (CBD), another major component of marijuana popularly promoted in oils, creams, and lotions, has no mind-altering effects. Users may consume marijuana in a variety of ways, such as cigarettes (or "joints"), cigars (or "blunts"), water pipes (or "bongs"), vaporizers (as in electronic cigarettes or "e-cannabis"), and edibles (consumed in a variety of products from brownies to gummy bears).

Perhaps the most promising beneficial use for medical marijuana is in the treatment of the combination of nausea, pain, and loss of appetite in patients with cancer or HIV/AIDS. By helping to reduce all of these symptoms simultaneously, marijuana can potentially reduce the number of medications a patient might otherwise need to take.

Moreover, the rapid uptake of inhaled THC may prevent vomiting better than a pill, which patients may not be able to keep down. Inhaling THC also enables patients to use the minimum dosage required to manage their symptoms, reducing the risk of undesirable side effects.

In patients with epilepsy who have not found relief with traditional medications, CBD is also proving to be beneficial. A research team at the UAB Epilepsy Center and

Children's Hospital led by neurologists Jerzy Szaflarski and Elizabeth Bebin has shown that Epidiolex, the first FDA-approved CBD-based medication, dramatically reduces the number and severity of seizures while also improving quality of life.

But the myths and misconceptions related to the medical uses of marijuana still far exceed the benefits. One such myth is that marijuana can help cure cancer. Although small amounts of THC have been found to kill tumor cells, the typical concentrations of THC in recreational or medicinal marijuana use have been found to promote the proliferation of cancer cells.

By 2019 only five small studies specifically examined marijuana use in autism, and the results showed insufficient benefit. Marijuana has shown promise in the treatment of the painful spasticity of muscles in individuals with multiple sclerosis (MS). However, there is no way to objectively measure the spasticity that causes pain. And marijuana can also magnify problems with balance and posture in some patients with MS.

There is no evidence that marijuana can reduce the inflammation of the gut in Crohn's disease or diminish the tics in Tourette's syndrome. Nor has it been found that marijuana can significantly reduce the pain of fibromyalgia.

According to Dr. Susan Stoner of the University of Washington Alcohol and Drug Abuse Institute, using marijuana to cope with anxiety may offer some short-term benefit, but studies indicate that marijuana use is also associated with an increase in substance use disorders.

THC appears to decrease anxiety at lower doses but increases anxiety at higher doses. Although CBD appears to decrease anxiety at all doses that have been studied, the effect is short-term. And while marijuana might be helpful for some individuals with post-traumatic stress disorder by inducing a deeper sleep state that reduces dreams and nightmares, long-term use could impair thinking and the immune system.

Some marijuana proponents dispute the contention that marijuana is related to the development of psychotic disorders such as schizophrenia. But THC can produce symptoms that resemble psychosis. It may be that marijuana use precedes development of psychosis in some genetically susceptible individuals or that those who will develop psychosis are more likely to use marijuana--or both.

One unfortunate widespread belief is that marijuana is safe for use by pregnant women who have nausea. To the contrary, marijuana use in pregnancy is associated with an increased risk of preterm birth, and infants of mothers who smoke marijuana are more likely to have problems with memory, attention, and problem-solving.

Even in states where marijuana is legal and regulatory controls are in place, this safety myth is perpetuated by marijuana retail outlets, which are called dispensaries.

In one study, 39% of marijuana dispensaries in Colorado claimed that cannabis use in pregnancy is safe, and 69% recommended cannabis to treat morning sickness in pregnancy.

Ironically, the Alabama bill would not permit the use of marijuana that is either smoked or vaped, in spite of the fact that the rapid absorption from this form of the drug holds the most promise for the treatment of certain medical conditions.

The bottom line?

Most research on the medical uses of marijuana is inconclusive. Although greater evidence of the benefits of marijuana may well emerge with the loosening of restrictions on its availability for research, currently the risks outweigh the benefits.

Alan Blum, MD, the Gerald Leon Wallace Endowed Chair in Family Medicine at the University of Alabama, directs the Center for the Study of Tobacco and Society. Christopher Froehlich, a nursing student at the University of Alabama, is in the Catherine J. Randall Research Scholars Program.