

WHY WE NEED TO BE CAUTIOUS ABOUT MEDICAL MARIJUANA

Reefer sadness

BY CAROL FALKOWSKI

Marijuana smoke is blanketing the United States. Medical marijuana dispensaries outnumber coffee shops in some communities. And no matter where you go, there's no escaping the debate over whether the drug should be legalized for medical or recreational purposes.

Thus far, 20 states and the District of Columbia have passed laws allowing medical use of marijuana. An additional 15, including Minnesota, are considering medical marijuana legislation. Voters in Colorado and Washington recently legalized recreational marijuana use, and Oregon and Alaska may also have full legalization measures on the ballot soon.

Faced with the daily barrage of marijuana chatter, I find myself rehashing the most salient issues, listening to multiple perspectives and wondering what the key tipping points will be in this historic, escalating conversation.

Growing use, addiction

More people than ever are using marijuana. According to the 2012 National Survey on Drug Use and Health, more than 111 million people in the United States age 12 and older have used marijuana at least once in their lifetime, and 31.5 million have done so in the past year. In 2012, an estimated 18.8 million people (7.3 percent of the population) used marijuana in the past month, compared with 14.6 million (6.2 percent) in 2003.¹

Although most people who use the drug will not develop an addiction to it, marijuana is addictive. It is estimated that 9 percent of people who use marijuana will become dependent on it.² That number

goes up when you talk about those who begin using it at a young age. About one in six who start using marijuana in their teens and 25 to 50 percent of daily users do become addicted.^{3,4} The earlier the age of onset of use, the more likely the development of addiction.

Roughly 18 percent of people age 12 and older who entered drug abuse treatment programs in this country in 2009 reported marijuana as their primary drug of abuse.⁵ Among those age 14 years of age and younger, 61 percent indicated marijuana was their primary drug of abuse.⁵

Adolescents most affected

Marijuana use among adolescents is increasing, according to the 2013 Monitoring the Future Study, a national study that tracks substance abuse among high school students in the United States. In 2013, 12.7 percent of 8th graders reported using marijuana in the past year, compared with 11.4 percent in 2012. Among 10th graders, 29.8 percent reported marijuana use in the past year, compared with 28 percent in 2012.⁶ And 22.7 percent of 12th graders reported marijuana use in past month, 36.4 percent in the past year, and 45 percent at least once in their lifetime.

The survey also found that more kids now use marijuana than smoke cigarettes. Among 12th graders, 16 percent reported smoking cigarettes in the past month, compared with 22.7 percent who said they used marijuana.⁶

Marijuana was reported as “fairly easy” or “very easy” to get by 81.4 percent of 12th graders and by 39.1 percent of 8th graders. Moreover, of the marijuana-using 12th graders in states that allow medical

marijuana, one-third reported obtaining it through someone who was authorized to get medical marijuana. Six percent had their own marijuana authorization. It appears as if medical marijuana is another access channel for teens.⁶

Moreover, the perceived risk of using marijuana is declining among students at all grade levels. From 2005 to 2013, the percentage of students who report being at “great risk” as a result of regular marijuana use has fallen from 74 percent to 61 percent among 8th graders, from 66 percent to 47 percent among 10th graders and from 58 percent to 40 percent among 12th graders. Repeated analysis of these data has demonstrated that when the perception of risk falls, marijuana use rises.⁷

Some proponents of legalizing medical marijuana argue that it would be kept out of the hands of youths because access to it would be regulated in the same way access to alcohol is. Yet in spite of the drinking age being 21, 68.2 percent of high school seniors say they have tried alcohol at least once.⁶ Clearly, efforts to regulate alcohol access aren't as effective as they should be.

Science has shown that marijuana use has pronounced effects on the developing brains of adolescents. This is of particular significance inasmuch as the areas of the brain most affected by marijuana (cognition, memory and learning) are the same areas of the brain required to help them successfully transition to adulthood.

A recent longitudinal study found that regular marijuana use starting during the teen years and continuing into adulthood was associated with a drop in IQ.⁸ Researchers administered IQ tests to more than 1,000 individuals at age 13

and assessed their patterns of cannabis use at several points as they aged. Subjects were again tested for IQ at age 38, and the two scores were compared. Those who used cannabis heavily in their teens and continued through adulthood showed a significant drop in IQ—an average of eight points for those who met criteria for cannabis dependence. Those who started using marijuana regularly or heavily after age 18 showed minor declines, and those who never used marijuana showed no declines.

Modest medicinal effects

The last major comprehensive review of the scientific literature related to marijuana was the Institute of Medicine report, *Marijuana and Medicine: Assessing the Science Base*, which was first published in 1999 and updated in 2003.⁹ It reviewed the potential health benefits and risks of marijuana and its constituent cannabinoids, assessed findings and included testimony from experts in multiple disciplines. The report concluded that further research on cannabinoid drugs and safe delivery systems was warranted. Wrote co-principal investigator John Benson Jr., M.D., dean and professor of medicine emeritus at the Oregon Health Sciences University School of Medicine: “Marijuana’s medical effects are generally modest, and for most symptoms there are more effective medicines already available on the market.”¹⁰

In 1999, dronabinol (Marinol) and nabilone (Cesamet) were the only FDA-approved, marijuana-based medications. Today, nabiximols (Sativex), a chemically pure mixture of plant-derived THC and cannabidiol that is formulated as a mouth spray, is approved for the relief of cancer-associated pain and spasticity and neuropathic pain in multiple sclerosis in the United Kingdom, Canada and other countries. It is currently in Phase 3 clinical trials for cancer pain in the United States.

The National Institute on Drug Abuse summarizes the medicinal argument as follows: “Many have called for the legalization of marijuana to treat conditions including pain and nausea caused by HIV/

AIDS, cancer and other conditions, but clinical evidence has not shown that the therapeutic benefits of the marijuana plant outweigh its health risks. To be considered a legitimate medicine by the FDA, a substance must have well-defined and measurable ingredients that are consistent from one unit (such as a pill or injection) to the next. As the marijuana plant contains hundreds of chemical compounds that may have different effects and that vary from plant to plant, and because the plant is typically smoked, its use as a medicine is difficult to evaluate.”¹¹

Reasons for recommendations

In the 20 states in which medical marijuana is dispensed, there are variations in state law and dispensary specifications. Yet according to a summary by the White House Office of National Drug Control Policy, most people who receive marijuana as medicine—in states that allow it—do not suffer from chronic, life-threatening diseases.¹² Ninety-four percent of medical marijuana dispensary users in Colorado reported getting marijuana for severe pain. Only 3 percent received it for cancer and 1 percent for HIV/AIDS.¹³ Yet it is this very argument—to reduce the pain and suffering of the very ill with these conditions—that is often advanced to get medical marijuana legislation passed in the first place. Once distraught but now grateful parents tell policymakers they had tried everything for their severely ill children with no success, until they administered marijuana. Personal accounts of others describe marijuana’s remarkable effectiveness in relieving their symptoms of certain medical conditions. I have no reason not to believe them. Whether they tried the already available prescription drugs containing marijuana constituents is often unclear.

I am a staunch defender of the rigorous process of drug approval in this country that exists to help ensure that drugs marketed are safe and effective. During my tenure on the Food and Drug Administration’s Drug Abuse Advisory Committee, we reviewed the scientific evidence on newly developed drugs and made recom-

mendations regarding their safety, efficacy, abuse potential, approval and labeling. In spite of the limitations of that process and the extra steps one must take in order to conduct research with a Schedule I drug, which marijuana is, I believe that our country’s over-the-counter and prescription medications are safer because of it.

The economic cost

Many people assume that if the government simply collects enough tax revenue from marijuana sales it will offset the societal costs of marijuana abuse. Based on our experience with alcohol, I believe nothing could be further from the truth. The Minnesota Department of Health estimates the annual costs associated with alcohol use in the state to be \$5 billion—an amount 17 times greater than that collected in tax revenues from alcohol sales (\$296 million).¹⁴ The same pattern holds true nationally.

Clearly, the costs that stem from alcohol, our most widely used addictive and legal substance, are not offset by the amount collected in taxes from its sale. Alcohol is not a budget-neutral item. There is no reason to believe things would be much different with marijuana.

And so?

Despite these arguments, more people than ever support legalizing marijuana. In fact, according to the latest Gallup poll, 58 percent of Americans said they are in favor of it. This compares with only 12 percent when this poll was first administered in 1969.¹⁵

As I ponder the inevitable expanded use that would stem from legalizing marijuana for medical or recreational purposes, I fear the prospect of more broadly exposing young people to yet another addictive substance with known, sometimes long-term damaging effects. It seems inconsistent with protecting and promoting public health. I’m also curious as to why the government hasn’t fast-tracked research on cannabinoid constituents and their development as medications, just as it fast-tracked AIDS research in the 1990s

in light of the widespread professional and public outcry to do so.

Because the issues associated with marijuana are complicated and the implications far-reaching, voters and lawmakers need to proceed with caution. **MM**

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