

PERSONAL HEALTH

Do You Have the Heart for Marijuana?

Research suggests that smoking marijuana carries many of the same cardiovascular health hazards as smoking tobacco.



By Jane E. Brody

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Do you have the heart to safely smoke pot? Maybe not, a growing body of medical reports suggests.

Currently, increased smoking of marijuana in public, even in cities like New York where recreational use remains illegal (though no longer prosecuted), has reinforced a popular belief that this practice is safe, even health-promoting.

“Many people think that they have a free pass to smoke marijuana,” Dr. Salomeh Keyhani, professor of medicine at the University of California, San Francisco, told me. “I even heard a suggestion on public radio that tobacco companies should switch to marijuana because then they’d be selling life instead of selling death.”

But if you already are a regular user of recreational marijuana or about to become one, it would be wise to consider medical evidence that contradicts this view, especially for people with underlying cardiovascular diseases.

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Compared with tobacco, marijuana smoking causes a fivefold greater impairment of the blood’s oxygen-carrying capacity, Dr. Keyhani and colleagues reported.

In a review of medical evidence, published in January in the Journal of the American College of Cardiology, researchers described a broad range of risks to the heart and blood vessels associated with the use of marijuana.

The authors, led by Dr. Muthiah Vaduganathan, cardiologist at Brigham and Women’s Hospital in Boston, point out that “marijuana is becoming increasingly potent, and smoking marijuana carries many of the same cardiovascular health hazards as smoking tobacco.”

Edible forms of marijuana have also been implicated as a possible cause of a heart attack, especially when high doses of the active ingredient THC are consumed.

With regard to smoking marijuana, Dr. Vaduganathan explained in an interview, “The combustion products a tobacco smoker inhales have a very similar toxin profile to marijuana, so the potential lung and heart effects can be comparable. When dealing with patients, we really have to shift our approach to the use of marijuana.”

His team reported, “Although marijuana is smoked with fewer puffs, larger puff volumes and longer breath holds may yield greater delivery of inhaled elements.” In other words, when compared to tobacco smoking, exposure to chemicals damaging to the heart and lungs may be even greater from smoking marijuana.

Dr. Vaduganathan said he was especially concerned about the increasing number of heart attacks among marijuana users younger than 50. In a registry of cases created by his colleagues, in young patients suffering a first heart attack, “marijuana smoking was identified as one factor that was more common among them.” The registry revealed that, even when tobacco use

was taken into account, marijuana use was associated with twice the hazard of death among those under age 50 who suffered their first heart attack.

Other medical reports have suggested possible reasons. A research team headed by Dr. Carl J. Lavie of the John Ochsner Heart and Vascular Institute in New Orleans, writing in the journal Missouri Medicine, cited case reports of inflammation and clots in the arteries and spasms of the coronary arteries in young adults who smoke marijuana.

Another damaging effect that has been linked to marijuana is disruption of the heart's electrical system, causing abnormal heart rhythms like atrial fibrillation that can result in a stroke. In one survey of marijuana smokers, the risk of stroke was increased more than threefold.

These various findings suggest that a person need not have underlying coronary artery disease to experience cardiovascular dysfunction resulting from the use of marijuana. There are receptors for cannabinoids, the active ingredients in marijuana, on heart muscle cells and blood platelets that are involved in precipitating heart attacks.

Cannabinoids can also interfere with the beneficial effects of various cardiovascular medications, including statins, warfarin, antiarrhythmia drugs, beta-blockers and calcium-channel blockers, the Boston team noted.

The researchers found that in an analysis of 36 studies among people who suffered heart attacks, the top three triggers were use of cocaine, eating a heavy meal and smoking marijuana. And 28 of 33 systematically analyzed studies linked marijuana use to an increased risk of what are called acute coronary syndromes — a reduction of blood flow to the heart that can cause crushing chest pain, shortness of breath or a heart attack.

"In settings of an increased demand on the heart, marijuana use may be the straw on the back, the extra load that triggers a heart attack," Dr. Vaduganathan said. He suggested that the recent decline in cardiovascular health and life expectancy among Americans may be related in part to the increased use of marijuana by young adults.

"We should be screening and testing for marijuana use, especially in young patients with symptoms of cardiovascular disease," Dr. Vaduganathan urged.

He expressed special concern about two recent practices: the vaping of marijuana and the use of more potent forms of the drug, including synthetic marijuana products.

"Vaping delivers the chemicals in marijuana smoke more effectively, resulting in increased doses to the heart and potentially adverse effects that are more pronounced," the cardiologist said. "Marijuana stimulates a sympathetic nervous system response — an increase in blood pressure, heart rate and demands on the heart that can be especially hazardous in people with preexisting heart disease or who are at risk of developing it."

Dr. Vaduganathan's team estimated that more than two million American adults who say they have used marijuana also have established cardiovascular disease, according to data from the National Health and Nutrition Examination Surveys in 2015 and 2016.

According to Dr. Keyhani, who works at the San Francisco VA Medical Center, the combination of marijuana smoking and pre-existing heart disease is especially concerning because inhaling particulate matter of any kind can harm the heart and blood vessels.

"Marijuana is a leafy green, and combustion of any plant is probably toxic to human health if the resulting products are inhaled," she explained. "Unfortunately, the research base is inadequate because marijuana hasn't been studied in randomized clinical trials."

A major problem in attempts to clarify the risks of marijuana is its classification by the U.S. Drug Enforcement Administration as a Schedule I drug, making it illegal to study it rigorously in controlled clinical trials.

Scientists must then resort to the next best research method: prospective cohort studies in which large groups of people with known habits and risk factors are followed for long periods to assess their health status. “The challenge is to recruit a cohort of daily cannabis users,” Dr. Keyhani said. “It’s absolutely important to look at the health effects of cannabis now that the prevalence of daily use is increasing. The absence of evidence is not evidence of absence.”

While there are currently no official guidelines, Dr. Vaduganathan’s team urged that anyone known to be at increased risk of cardiovascular disease should be advised to minimize the use of marijuana or, better yet, quit altogether.

Jane Brody is the Personal Health columnist, a position she has held since 1976. She has written more than a dozen books including the best sellers “Jane Brody’s Nutrition Book” and “Jane Brody’s Good Food Book.”

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