Medical Cannabis for PTSD: Current Evidence and Emerging Research

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A few years ago, New Mexico was the only state that allowed medical cannabis use among individuals with posttraumatic stress disorder (PTSD). Now, in 2015, nine states have legalized medical cannabis for PTSD. The trend toward legalizing cannabis has led many with PTSD to ask their doctors about whether they should start using it to help manage symptoms. Given the recent advances in scientific research, it is prudent to consider the current state of the evidence for cannabis use, medical or otherwise, as a treatment for PTSD symptoms.

Beginning with an investigation of Vietnam veterans by Bremner and colleagues in 1996, scientific studies have increasingly highlighted the use of cannabis by individuals with PTSD, particularly for the alleviation of hyperarousal symptoms (e.g., nightmares). Approximately six years following Bremner's study, David Vlahov and colleagues reported similar associations among individuals in New York after the 9/11 terrorist attacks. In 2007, I published my first paper on the topic, replicating the findings of Bremner and Vlahov among young adults in Vermont. What has followed has been consistent evidence that a number of different groups of individuals with PTSD use cannabis to cope. From undergraduates to veterans, and from large groups representative of the U.S. population to a handful of people in Israel, scientific studies have largely agreed that individuals with PTSD are particularly apt to use cannabis, primarily for the purpose of improving sleep.

While these studies have provided important groundwork for understanding cannabis use by individuals with PTSD, they are limited in a number of important ways. First, with the exception of two recent pilot studies of oral THC (the primary psychoactive ingredient found in cannabis), all studies of cannabis and PTSD have been observational and predominantly retrospective. They have assessed individual "cannabis" use, without attempting to actually define or track the cannabis consumed. While this approach may work for substances that only vary in terms of potency (e.g., alcohol), cannabis varies both in terms of potency and constituents. Indeed, two types of cannabis can have extremely different effects simply as a function of the types and concentrations of cannabinoids that are present.

A second limitation of existing work relates to the fact that many of the published studies on PTSD and cannabis can be interpreted in a number of ways, at least partially due to their relatively simplistic designs coupled with the biases or personal beliefs of the readers. For example, how would you interpret the finding that individuals with PTSD use cannabis to cope with their symptoms? While this may seem relatively straightforward, some may view this as a bad thing (e.g., using cannabis is no different than using heroin or cocaine when you are "down and out," a "maladaptive" coping strategy), while others may view this as a good thing (e.g., individuals with PTSD finally found something to help alleviate their distress). Now, what if we said that people with PTSD experience worse symptoms when they try to stop using cannabis? Does that mean that cannabis is addictive and leads to worsening of PTSD over time, or that cannabis is really working and that removing the medicine will only lead people to

return to their prior state of suffering?

While a long history of research on other substances could be examined for potential clues, the fact of the matter is that we currently don't have enough information to make informed decisions about using cannabis as a treatment for PTSD. While this may be frustrating for people wanting a clear answer, as a scientist, these are exciting times.

In November of last year, my phone rang. When I picked up, I heard Rick Doblin (Executive Director of MAPS) and Ken Gershman (Medical Cannabis Research Grant Program Manager at the Colorado Department of Public Health and Environment; CDPHE) on the other end. A few days before Thanksgiving, the news was in: Our clinical trial of the effects of four different types of cannabis on PTSD in veterans was selected for funding through a $2.1 million grant from CDPHE. Our study is the first randomized controlled trial to test which ratios of THC and CBD are most helpful for those with PTSD. It was only six months earlier that I had reached out to Rick to redesign and oversee a study that he and Sue Sisley had originally developed, so that we could provide the most rigorous test of the complex relations between cannabis and PTSD.

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In conjunction with another grant that I received from Colorado, as well as a simultaneous study by Tilray in Canada, we will soon know more definitively whether, how, and what types of cannabis may benefit individuals with PTSD. Objectively, given the current state of the literature, there is very little evidence to support the use of cannabis among individuals with PTSD. The story remains incomplete until proper science is conducted. We need scientifically sound randomized controlled trials of cannabis for PTSD, including testing a number of cannabis types with a variety of cannabinoid concentrations, to better understand this issue. Most importantly, studies of cannabis and PTSD need to examine effects beyond initial reductions in symptoms, to include long-term rates of cannabis dependence ("addiction") and symptom maintenance. If cannabis were not effective at managing acute symptoms, individuals who suffer from PTSD would likely not use it. The current challenge lies in identifying under what conditions cannabis use may have more positive, compared to negative consequences.

These are exciting times to be a scientist.

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