

Investigating **Marijuana** as a Treatment for PTSD Symptoms

By Rick Doblin, Ph.D., MAPS Executive Director

MAPS is venturing into new territory with a study that will see whether marijuana can reduce symptoms of posttraumatic stress disorder (PTSD), especially symptoms related to disturbed sleep or being overly wary (hyper-vigilance). Marijuana is known to have anxiety-reducing effects, and this study will consider its therapeutic potential as an alternative to existing drugs for PTSD.

This study will look at whether smoking or vaporizing marijuana can help reduce PTSD symptoms in fifty veterans with posttraumatic stress disorder (PTSD). Participants can be men or women aged 18 or older with a diagnosis of PTSD that has not improved after they have tried either medication or psychotherapy.

Marijuana potencies will include 0%, 2%, 6%, or 12% delta-9-tetrahydrocannabinol (THC), one of several active ingredients in the plant, and marijuana with 6% THC and 6% cannabidiol (CBD), another active ingredient that may provide anxiolytic effects.

At the start of the study, participants will be randomly assigned to receive marijuana of a particular potency during the first half of the study, or “Stage 1.” During the second half of the study, or “Stage 2,” they will be randomized to receive one of the three higher potencies. The study subjects will not know how much THC or CBD is in the marijuana they will receive, and neither will the researcher introducing them to the plant, nor the researcher measuring their PTSD symptoms. A researcher will measure PTSD symptoms at the start of the study, at four weeks of marijuana use, and at two weeks without using marijuana, and then at the same points during Stage 2.

Whether or not participants have previous experience with marijuana, another researcher will introduce them to the substance. Half of all participants will be assigned to smoke and half will be assigned to vaporize. This researcher will not be the one measuring PTSD symptoms, ensuring that the person measuring symptoms cannot guess the marijuana potency a subject received. During these introductory sessions, participants will learn standard techniques for smoking or vaporizing the materials. After these introductory sessions, participants will smoke or vaporize one type of marijuana for four weeks. The marijuana will come in two packages containing two weeks’ supply, prepared as rolled cigarettes. Participants are allowed to use up to two rolled cigarettes per day, at any time of day, according to when they believe it will best treat their symptoms. Participants assigned to the vaporizing group will be instructed to unroll the cigarettes and use the material in the vaporizer.

Participants will complete daily diaries of their marijuana use and brief measures of their experiences with smoking or vaporizing marijuana. Two weeks after they start using study marijuana, the participant will meet with the researchers again to measure symptoms of depression, check how the participant is doing, and to receive the next portion of marijuana after returning any unused material. PTSD symptoms will be assessed again at four weeks. The researchers will also take a blood sample at four weeks of use to measure cannabinoid levels, and the participant will bring in any remaining marijuana. The researchers will weigh it to determine how much was used. Participants must then stop using marijuana for a period of two weeks. They will contact the researchers by telephone after the first week, and symptoms of depression will be measured. After two weeks of not using marijuana, participants will meet with the researchers, and their PTSD symptoms and blood cannabinoid levels will be measured again. At this point, participants will go on to the next stage of the study. They will continue to smoke or vaporize the substance, but they will receive a different potency of marijuana. As before, no one will know which type of marijuana is assigned in Stage 2.

The second half of the study, or Stage 2, will be just like the first half except that participants will receive marijuana with a different potency from the material they received during Stage 1. They will be re-introduced to smoking or vaporizing marijuana, and they will receive two packages of marijuana for use during the next four weeks. They will stop using marijuana for two weeks after the four-week period; thus, PTSD symptoms will be measured at four weeks of marijuana use and at two weeks without any use. Participants will contact the researchers via telephone for measuring other symptoms, such as depression.

We hope to compare the effects of the two “placebo” potencies of marijuana against the higher potencies, and to see whether CBD can provide additional contributions to the effects of marijuana in treating PTSD. We also want to see how symptoms fare after participants go without marijuana for a while.

We hope this study provides us with insights on the effects of THC and CBD on PTSD symptoms, and it should also allow us to see if smoking and vaporizing are equally good methods of using marijuana for treating PTSD symptoms. •