

Study Will Assess Effects of CBD on Cancer-Related Pain, Sleeplessness and Depression

CU Cancer Center researchers previously found that cannabis products helped with pain, depression and cognition.

November 20, 2024 By University of Colorado Cancer Center

A [2023 research study](#) conducted by [University of Colorado Cancer Center](#) member [Angela Bryan](#), PhD, found that over-the-counter cannabis products helped cancer patients cope with issues like pain, anxiety, sleeplessness, and depression, and improved their cognitive function as well.

Building on her previous research and looking for more detailed data on cannabis' effectiveness for cancer patients, Bryan — herself a former breast cancer patient who used cannabis to control her pain throughout her treatment — has secured a prestigious R01 grant from the National Cancer Institute to conduct a double-blind, randomized controlled trial to see if hemp-derived cannabidiol (CBD) has similarly beneficial effects.

Unlike the 2023 study, which gave participants information about THC and CBD and then asked participants to choose any cannabis edible product they liked from their local dispensary, the new study will provide the product directly to the participants. Participants will be randomized to one of three products — full-spectrum CBD, which contains a small amount of tetrahydrocannabinol (THC), the psychoactive part of the cannabis plant; broad-spectrum CBD, which contains no THC; or a placebo. (Though cannabis is still a Schedule 1 drug, hemp-derived CBD is legal on the federal level.)

We sat down with Bryan to find out more about the study and what she hopes to discover.

What are the primary differences between the 2023 pilot study and the research you are conducting now?

The pilot study looked at the use of legal products that people could go to dispensaries and buy. People selected whatever they wanted to use and used however much they wanted. We saw some interesting and encouraging results, but they're a little challenging to interpret, because people knew exactly what they were taking. There were a lot of expectancies we couldn't control for in that design.

In this design, we're conducting a randomized controlled trial. It's double blind, so people don't know what they're taking, and we don't know what they're taking. And instead of the dispensary products, we're working with a local hemp company that is providing us with hemp-derived CBD. We are comparing full-spectrum CBD to broad-spectrum CBD to a placebo. They all look the same. Participants have a recommended dose they're supposed to take every day, morning and evening, so it's a much more tightly controlled study. We hope we can add more to the conversation about the potential risks and benefits of cannabis use for cancer patients.

What's the difference between full-spectrum and broad-spectrum CBD?

There are two primary cannabinoids in cannabis. One is tetrahydrocannabinol, or THC, which is the one that is psychoactive. When people talk about getting high, it's the THC that's making them feel that way. The other primary cannabinoid is cannabidiol, or CBD. Cannabidiol is associated with anti-inflammatory properties. It doesn't have any psychoactive effects.

Full-spectrum CBD contains the whole hemp plant, which means there is a small amount of THC in there, just naturally as part of the plant. For broad-spectrum CBD, they take out that little bit of THC. We're interested in knowing, do people derive any benefit from these products? Are there any harms associated with these products, and does that differ based on whether the product is inclusive of the THC that's naturally in the plant, or whether it has been removed? There's some speculation that the beneficial effects of cannabis might require both cannabinoids in some measure, for us to see those beneficial effects.

How will the research be conducted?

Participants will take their product for eight weeks. About halfway through that time, we are doing acute use sessions to see what the acute effects of taking the medication are. We will use our mobile pharmacology laboratory to drive to people's houses to take some assessments before they take their product. Then we bring them back to the Anschutz campus to get post-use measurements, including blood work to check their liver function. At multiple points in the trial period, we will ask if they experienced any changes in their pain levels, cognition, sleep, etc.

How long will the study last, and what are you hoping to discover?

It's a five-year grant, and we expect to be in data collection for at least four years. It takes a long time to recruit cancer patients for behavioral trials like this. It's going to be a while before we have some firm answers.

Our hope is that we can give patients some guidance about the effectiveness of CBD, about what dose might be helpful, and whether there's any difference between broad spectrum and full spectrum.

If you look at states with medical marijuana laws, cancer patients are far and away the most frequent users of medical cannabis. This is something that's happening everywhere, which is why we think it's so important to get actual data to help guide people in their decisions, because we

know they're going to do it anyway. The more data we can provide about what might work best for people and how to balance the risks and the benefits — that's really the contribution we hope to make.

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<http://beta.docker.cancerhealth.com/article/cu-cancer-center-research-will-study-effects-cbd-cancerrelated-pain-sleeplessness-depression>