

Cannabis Improves Cognition in Cancer Patients

By reducing pain, over-the-counter cannabis products may help patients think more clearly.

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Surprising Finding in Cannabis Research: The Drug Improves Cognition in Cancer Patients

Can using over-the-counter cannabis products help cancer patients cope with issues like pain, anxiety, sleeplessness, and depression?

That's what [University of Colorado Cancer Center](#) researcher [Angela Bryan](#), PhD, set out to discover in a study [published in April](#) in the journal *Exploration in Medicine*. And while she found that cannabis improved daily life for study participants in those areas, she also found an effect of the drug that she wasn't expecting to see: improved cognition.

"Participants' subjective cognition — feeling like they could think clearly — actually got better with cannabis use," says Bryan, co-director of the [Center for Health and Neuroscience, Genes, and Environment](#) at the University of Colorado Boulder (CUChange for short).

"Part of why we think that might be is that the other thing that got better is pain. We know that being in pain can compromise cognition tremendously, so we think there might be a connection there. We don't think cannabis itself was causing people's cognition to improve, but if it reduces pain and makes people feel better, that makes it easier to think more clearly."

Studying acute and longer-term effects

Bryan, herself a former breast cancer patient who used cannabis to control her pain throughout her treatment, has devoted much of her research over the past few years to studying the effects of legalized cannabis in Colorado (voters approved the measure to legalize in 2012). For the study in *Exploration in Medicine*, she and her team observed 25 cancer patients over two weeks, starting off by getting their baseline sleep patterns and pain and cognition levels, then asking them to go to a dispensary to purchase any product they wanted to help ease their symptoms.

Once participants had their products in hand — everything from gummies and baked goods to pills and tinctures — the researchers retested their physical and cognitive levels immediately after ingestion of the cannabis product, as well as after two weeks of sustained use. The researchers

found the improvements they were expecting in pain levels, sleeplessness, anxiety, and depression, but the cognitive improvement was a surprise.

“There’s a lot of concern about compromised cognition in patients undergoing treatment for cancer,” Bryan says.” Even after treatment is over, patients describe things like brain fog and slowing of their cognition. There was a concern that if they use cannabis to treat these other concerns, it could compromise their cognition. But the opposite turned out to be the case.”

Quest for more data

At the heart of the cannabis research being conducted by Bryan and her colleagues at CUChange is giving oncologists more data around recommending cannabis products for their patients. Because cannabis is still a Schedule 1 drug at the federal level, it is difficult for researchers to conduct the types of trials that result in solid data. The study that showed improved cognition from over-the-counter products was the pilot for a larger study from the center that will look at the effects on cancer patients of hemp-derived CBD — a product that is legal on the federal level. Cognition will again be one of the areas studied.

“Because it’s hemp-derived CBD, it allows us to do a randomized controlled trial with a placebo, which is far more rigorous than what we were able to do in the pilot,” Bryan says. “I love that in the pilot, participants got to pick the product that they used, because that’s how it works in the real world. The pilot project has a lot of external validity, but it doesn’t have the rigor of a randomized controlled trial with placebo and random assignment and experimental dosing control.”

Bryan knows she has no time to waste, as a large number of cancer patients already are using cannabis to control their symptoms, and oncologists have very little information to guide them as far as which products to recommend, and in what doses.

“We know that 30% to 40% of cancer patients are already using cannabis, so it’s not like people are waiting for the studies to start,” Bryan says. “It’s the wild West, and people are making their best guess about what they think might help them. We’re way behind, and I feel like we have a moral imperative to try to get this work done as quickly as we can.”

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