

Short Takes Episode 131 Transcript

An Observational Study of Cannabis and PTSD

[00:00:00] **Announcer:** You're listening to Short Takes on Suicide prevention, where experts talk to each other about how research is shaping suicide prevention. This podcast is brought to you by the VA Rocky Mountain MIRECC. And now onto today's conversation.

[00:00:25] **McGarity:** Welcome to the short takes on suicide prevention podcast. I'm Dr. Suzanne McGarity clinical psychologist at VA's Rocky Mountain MIRECC for Suicide Prevention and I'm here today to interview Dr. Hal Wortzel about a recent paper on cannabis and PTSD. I'll start today by introducing Hal. Thank you for being here, Dr. Wortzel.

Hal is a forensic neuropsychiatrist at the Denver VA's Rocky Mountain MIRECC where he serves as Director of the VA Advanced Fellowship Program in Mental Illness in Psychiatry. And he's also the director of the [00:01:00] Neuropsychiatric Consultation Services and Co-Director of VA Suicide Risk Management Consultation Program.

He's also an Associate Professor of Psychiatry, Neurology, and Physical Medicine and Rehabilitation at the University of Colorado. Welcome Hal.

[00:01:15] **Wortzel:** Hi, thanks for having me.

[00:01:17] **McGarity:** So today we'll be talking about your recent paper, The long-term perspective, therapeutic impact of cannabis on post-traumatic stress disorder. Before we go into your study, what is it about cannabis that has scientists and researchers studying whether it might have a therapeutic impact on PTSD?

[00:01:36] **Wortzel:** We're certainly still learning a lot about, uh, cannabis and how it affects human brain. But it turns out that within our brains, there is a, what's called an endocannabinoid system, meaning that our, our brains and our nervous system, have receptors, and natural chemicals that are very much like some of the compounds that we find in cannabis in particular things like [00:02:00] THC and CBD, and that those particular substances or that system, is active in parts of the brain that play a vital role for sort of emotion regulation. So, uh, something called the amygdala that plays an important role in generating emotions, as well as, some of the more advanced parts of our brain that help us exercise a little conscious control over our more basic emotions.

[00:02:23] **McGarity:** Thanks for that explanation Hal. I remember reading in your article that there are actually two types of studies that are needed to determine if cannabis is an effective treatment for PTSD.

So we have experimental studies and observational studies. Can you touch on the difference between these two studies and where your study fits into all of this?

[00:02:43] **Wortzel:** Sure. you know, so with science, uh, and experimental studies in particular, right, you try to control everything that you can, so that there's just one sort of uncontrolled variable, usually sort of the variable, you know, of interest and that's a, that's a real good way to learn about things, but [00:03:00] oftentimes, the realities of life or the world don't allow us to control that many things, or it's not very generalizable to how things sort of work in the real world.

So observational studies, as the name implies, we're not controlling much of anything. We're kind of observing things as they come, uh, which. Uh, has some limitations in that, right? There are a lot of variables that we have to be mindful of when interpreting results. But at the end of the day, what you get from those kinds of studies, maybe tracks a little bit more into, you know, how the real world works and, and, you know, and, and, and life happens.

[00:03:36] **McGarity:** It sounds like one goal was to really take a closer look at how cannabis is used for persons with PTSD in the real world. As you said, um, what were some other things you were hoping to accomplish with this study?

[00:03:51] **Wortzel:** Yeah, well, so that's exactly it sort of real world cannabis use. I mean, controlled studies are really important, um, and those sorts of experimental designs. But in the world of [00:04:00] cannabis, uh, across marijuana and marijuana products are still technically federally illegal. To do those kinds of experimental studies, you have to use basically the marijuana product that's been developed by the United States government for that purpose. Um, which of course is not the, uh, um, the product that the vast majority of Americans are utilizing, you know, or purchasing in a dispensaries like here in Colorado. And so to understand the extent to which the, um, the stuff that people are actually using to help their PTSD, that kind of observational study that allows individuals

to sort of pick and choose what they find helpful to mitigate their symptoms of PTSD, was part of the goal here. So number one to figure out if marijuana, is helpful for PTSD symptoms, uh, if marijuana, uh, in, in the context of, uh, helping PTSD, um, whether or not it changes how people live their lives, if they're more functional, if they're more [00:05:00] active, um, as well as some other sort of associated domains, things like sleep for example. And so that was the goal here, as well as to start to identify a little bit of information about what kinds of products people are gravitating towards, uh, in, in terms of managing their PTSD symptoms.

[00:05:15] **McGarity:** Wow, that's really interesting. So you were wanting to look at how individuals were using real-world products to manage symptoms and how that might impact their activity, and their sleep? I really love to hear more about how you did this. So what did the actual research procedures look like?

[00:05:35] **Wortzel:** So we had two groups for this investigation. Uh, one group consisted of 75 persons who, um, who had PTSD and were using marijuana

products, in an effort to help, uh, you know, manage their PTSD symptoms. The other group, uh, was another 75 individuals who also had PTSD. Uh, but those were persons who did not use marijuana at all. And certainly not, uh, as part of [00:06:00] a, uh, PTSD, uh, management, protocol or anything like that. and So we then, uh, followed all those folks in a number of different ways over the course of a year. So, uh, every three months in the course of that year, we check in with folks about their PTSD symptoms about their sleep, and then also assessed, some of their.

functional activities and activity levels, you know, to get a sense of how things are improving or not. in the context of marijuana use versus individuals who aren't using marijuana, in the setting of PTSD.

[00:06:30] **McGarity:** So just summarize, you said you had a control group of Veterans with PTSD who are non-cannabis users and then a group of Veterans, um, who did use cannabis. Why is it important to include both of those types of groups in a study like this?

[00:06:47] **Wortzel:** Part of the question is, um, there are a number of things out there to help people with PTSD. Right? A lot of the stuff that we typically recommend at this point is what we call evidence-based treatments. Right? So, uh, psychotherapies for [00:07:00] PTSD, uh, things, uh, like, prolonged exposure therapy or cognitive processing therapy that some folks may have heard of as well as medications that, um, have been studied for this purpose.

Right? Some of the medication s that we often use for depression and anxiety more generally are oftentimes helpful in the context of PTSD. Um, now we don't have that kind of an evidence-based for marijuana products, but at the same time, we know, um, that, you know, at this point there's probably, you know, thousands of people out there who have gravitated towards marijuana products because they feel that it helps with those symptoms, but we don't have sort of the evidence-base to help guide clinicians who are, uh, making recommendations one way or the other about, um, uh, is it a good idea to use marijuana for these things? So we need to start to develop that evidence-base somewhere, and I think this investigation, uh, you know, it's a good start, you know, among some of the other stuff out there to start building that evidence [00:08:00] base and to guide future investigations that will tell us more about the, uh, marijuana and, and to what extent it, it helps with PTSD.

[00:08:09] **McGarity:** And so helping with PTSD, right. So you mentioned that you didn't look at changes in PTSD symptoms, but you also mentioned other types of functioning, um, such as sleep. Why is it important to be looking at all of these things in a study like this?

[00:08:25] **Wortzel:** Well sure and just, you mentioned Veterans, we also had non-veterans in the study as well to sort of broadly capture, the population more at large, but, we certainly did have a lot of Veterans in this study as well. And then looking at things like sleep and in particular functional outcomes and activity levels, um, we felt was really important because, um, I mean symptoms matter, right?

I mean, PTSD symptoms are, are unpleasant and a source of suffering for lots of people. But you know, at the end of the day, in addition to sort of alleviating symptoms. We want to see people, you know, getting back into life, um, you know, engaging work or other [00:09:00] sort of activities that, um, uh, that are just important for our overall wellbeing and emotional health. Right. So It's a good thing if people's, you know, hyper arousal or intrusive symptoms go down, but if that doesn't translate into sort of a happier, more productive lives, then, that intervention, uh, might leave something to be desired. So we, we try to sort of more broadly, um, uh, assess not just symptoms, but how that translates into how people are living.

[00:09:29] **McGarity:** Right. So not just about symptom reduction, but, have lives improved, has functioning improved, and has it had an, a meaningful impact on, veterans and non-veterans over time? Well, let's talk a little bit about what you did find. What were the results of your study?

[00:09:45] **Wortzel:** Well, so, um, among persons using marijuana for PTSD, uh, relative to the group that was not using marijuana, we saw, uh, those folks using, uh, marijuana products get a little bit better, uh, more quickly. And they were about two [00:10:00] and a half times more likely, uh, over the course of the study year to, um, no longer meet criteria for PTSD than those folks who were not using marijuana products.

That was a finding that appears to be predominantly driven by what we call the hyperarousal symptoms of PTSD. Right. So startle response kind of symptoms, the, you know, someone dropped a pan and you, and you sort of jumped out of your seat, uh, looking over your back or, or, or, you know, or what we call hypervigilance.

Those sorts of symptoms appear to be most responsive to marijuana, at least in this investigation.

[00:10:34] **McGarity:** Well, that's promising. Were these findings consistent with what you expected or were there any findings that were surprising to you?

[00:10:42] **Wortzel:** I think, from what we know about people's experience with marijuana, that it was helpful in terms of hyperarousal, I think wasn't unexpected. I say that though, sort of with the caveat that, I wasn't sure what we were going to find. Right? I went into this investigation genuinely curious about, whether or not marijuana does make [00:11:00] a difference and if so, how. So I think it, uh, to the extent that it did make a difference, it made, it seems to be effective in ways that we would sort of anticipate. What was sort of surprising in that context, meaning that we had these sort of benefits in terms of hyperarousal symptoms, but for whatever reason that did not translate into maybe the improvement that we thought we would see with sleep.

Right? So, I mean, I know clinically I encounter folks all the time who use marijuana products or say they use marijuana products because it helps them sleep. And we didn't see that, uh, as a benefit in our investigation. And going back to what we were

talking about before we had some measures about activity and functional outcome and those didn't seem to really track with, uh, with the changes either.

So, while we did see, you know, essentially what comes down to self reported improvement in hyperarousal symptoms in particular, there wasn't a lot of change beyond that, that we were able to observe in relation to function, sleep, or activity.

[00:11:59] **McGarity:** [00:12:00] And one follow up question. Since you mentioned, you know, how you were measuring different things, how did you account for the different types and amounts of cannabis used in this study?

[00:12:10] **Wortzel:** Yeah. So we, had folks essentially complete a diary that sort of, uh, went back a few months to capture what they were using, how they used it and how much they used. I mean, so that's one of the challenges with marijuana products nowadays, right? Because there are so many products and there's so many routes out there. Right? So, folks are smoking and vaping and there's edibles and there's tinctures and there's balms and you know, all different routes of administration. And then the route of administration aside, there's also just a ton of different products out there that have different, uh, relative contributions from the components that make up marijuana.

So, I'm sure a lot of our listeners have heard of, THC and CBD and, and those are just some of the ones that we've studied the most, but it turns out that there's a lot more compounds that go into marijuana [00:13:00] that are potentially, uh, you know, playing a role here. So our study was not large enough to sort of analyze the different products in terms of outcomes. But it was the case that, more or less consistent with sort of the literature or previous investigations on the subject, it seems that folks in our study also gravitate towards products that had a lot of THC.

[00:13:20] **McGarity:** so I think that's a good segue into some discussion about limitations of the study. So it is hard to account for such wide variability in the products used, you know, particularly here that are available in Colorado, maybe versus other states. Were there any other limitations that you encountered in this study.

[00:13:39] **Wortzel:** Yeah. So I, you know, again, this was an observational study, so we take folks as, as they came and, um, you know, and, and some of these folks were, were doing other things to intervene with PTSD. Right? So taking medications, they might've been, uh, participating in psychotherapy trials. So there's a lot more sort of potentially going on in the background across these two groups, can account for the signals that [00:14:00] we saw, including their participation in this study itself. And in that context everybody knew whether they were a marijuana user or were not a marijuana user. And so that potentially has implications too, right?

I mean, in particular with marijuana there's a lot of folks who are real interested in seeing this evidence base be developed, so, that it can be sort of officially listed, that PTSD can be officially part of the, the various conditions that are supported, you

know, in terms of marijuana, medical programs. And so folks enlisting in this study, you know, are potentially aware of, of that issue as well.

[00:14:34] **McGarity:** So it sounds like you really did put a lot of thought into all the different factors, you know, contributing to findings. Knowing all of this, what do you think subsequent real world studies like this should, should take away from your study that we've been talking about today?

[00:14:52] **Wortzel:** Yeah. I mean, so, you know, like I said before, marijuana research certainly doesn't start with this study. Other folks have been doing, you know, work along these lines [00:15:00] as well. Um, but we, we are talking about a body of research that really is in its infancy. And I would say we're still pretty much in the ground floor, right? So we are just starting, I think, to maybe generate some signals that supports that kind of what we already know. Right? Lots of folks who are using marijuana, and they experience it as being helpful for their PTSD. And I think a study like this helps sort of concretely, you know, in a scientific fashion, sort of the document and demonstrate that signal as well as that these folks were doing okay. Right? They were using this product safely without adverse effects, which hopefully then sort of opens the door for more in the way of, um, uh, the experimental designs and other things to dive deeper into some of these issues and the outstanding questions as to, to what extent does marijuana really help with these symptoms?

How does it do so? And what in particular about marijuana is helpful. Because as I was saying before, right, there's, there's an awful lot of [00:16:00] compounds that go into marijuana, a lot of different ways people use it. So there is still a ton of work to figure out what are the optimal compounds? What are the potentially more detrimental aspects of marijuana that we could potentially eliminate in the future? What's the right amount? What's the optimal dosing? Is THC versus CBD better for these kinds of things? So, there's still an awful lot to figure out about if marijuana is useful for PTSD, if so, how and how do we do that optimally in a way that, um, you know, minimize this, some of the, uh, like any medicine used to treat something, uh, there are potential downsides and side effects and that's true of marijuana too. So how do we minimize those along the way?

[00:16:39] **McGarity:** Well, thank you, Hal. I think that's actually a great summary of the key takeaways for this observational study and really serving as a starting point for taking a closer look at how individuals are using marijuana, cannabis products to help not just with symptom alleviation, but also how does [00:17:00] that translate into the impact on their day-to-day life?

I want to thank you for being here today. Uh, this is a really interesting study and I enjoyed our discussion today.

[00:17:11] **Wortzel:** Thanks.

[00:17:12] **Announcer:** That's it for this episode, you can find more Short Takes on your favorite podcasting app. And if you like what you hear, subscribe to the show

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