LETTERS TO THE EDITOR

**Re: “Cannabidiol in the Treatment of Post-Traumatic Stress Disorder: A Case Series” by Elms et al.
(*J Altern Complement Med* 2019;25:392–397.
DOI: 10.1089/acm.2018.0437)**

Elizabeth Stuyt, MD,^{1,2} and Richard L. Hilderbrand, PhD³

Dear Editor:

WE READ WITH interest the article entitled “Cannabidiol in the treatment of post-traumatic stress disorder: a case series.”¹ Although there is a need for evidence-based treatments for post-traumatic stress disorder (PTSD), we have significant concerns that this report contributes to the increased use of a substance for which there is no true scientific evidence of its effectiveness. Cannabidiol (CBD) is a current “craze” where, despite Food and Drug Administration warnings, it is being advertised as “cure” for multiple problems, including PTSD.

Although this study was a retrospective case series of 11 patients, it is extremely weak, and we question the advisability of publishing it. We are concerned that people reading it may believe that CBD is a safe and effective treatment for PTSD, and yet there is no evidence from this case series that this is true. The authors did acknowledge that the results should be “interpreted carefully” and identified some of the limitations of their report, but we see significant weaknesses they did not acknowledge.

The authors essentially supply no evidence that the CBD is responsible for the reduction in PTSD Checklist for DSM-5 (PCL-5) scores. Although this may be true, they have not accounted for all the other “treatments as usual” that the patients also received (psychotherapy and psychotropic medications). At minimum, before publishing, it seems they could have done a retrospective chart review of similar patients who were treated for PTSD in their clinic who did not receive CBD and use the PCL-5 to compare treatment success.

Other weaknesses include the use of two different CBD products and self-dosing by the patients with widely varying regimes, making it impossible for the reader to know what a recommended product/dose regime might be. There was no documented testing of the tetrahydrocannabinol (THC) content in the products and no urine drug screens to identify how many were also exposed to THC (from the product or

use of other cannabis products). Although the dose of CBD was “ad lib,” the doses were relatively small, which brings up the strong possibility of placebo effect. The return rate of the patients was quite small, with only 4 out of 11 completing the full course of treatment. If this was such a helpful treatment, one would expect patients to continue in treatment. The authors reported that the study participants received a significant number of psychiatric medications but did not address the specific drug–drug interactions that may have been present with CBD.

The discovery of the endocannabinoid system in the body has been a beneficial outcome of cannabis research, but we truly need a lot more rigorous scientific study before we can cavalierly recommend CBD as a treatment for PTSD. There is evidence that CBD has significant negative interactions with multiple medications² and is potentially liver toxic as 5%–20% of participants in the Epidiolex trials developed elevated liver enzymes.³

Animal studies of effects of CBD demonstrate a great deal of variability and divergent results with some suggesting CBD may have anxiolytic properties and others suggest it may have anxiogenic properties. A recent study of single dose CBD given before fear conditioning in mice showed increased levels of freezing during fear conditioning suggesting that CBD treatment increased the expression of generalized fear and the memory in CBD-treated animals was more resistant to extinction.⁴ This suggests that CBD could be anxiogenic and counterproductive in treating PTSD. We clearly need more rigorous scientific study.

References

1. Elms L, Shannon S, Hughes S, Lewis N. Cannabidiol in the treatment of post-traumatic stress disorder: A case series. *J Altern Complement Med* 2019;25:392–397.
2. Stockings E, Zagic D, Campbell G, et al. Evidence for cannabis and cannabinoids for epilepsy: A systematic review

¹Department of Psychiatry, University of Colorado Health, Colorado Springs, CO.

²Circle Program, Crossroads Turning Point, Pueblo, CO.

³Toxicology Consulting, Colorado Springs, CO.

- of controlled and observational evidence. *J Neurol Neurosurg Psychiatry* 2018;89:741–753.
3. Rong C, Carmona NE, Lee YL, et al. Drug-drug interactions as a result of co-administering delta 9-THC and CBD with other psychotropic agents. *Expert Opin Drug Saf* 2018;17:51–54.
 4. Uhernik AL, Montoya ZT, Balkissoon CD, Smith JP. Learning and memory is modulated by cannabidiol when administered during trace fear conditioning. *Neurobiol Learn Mem* 2018;149:68–76.

Address correspondence to:
Elizabeth Stuyt, MD
Circle Program
Crossroads Turning Point
1711 E. Evans
Pueblo, CO 81004

E-mail: libbystuyt@msn.com