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Cannabidiol as prophylaxis for SARS-CoV-2 and COVID-19? Unfounded claims versus potential risks of medications during the pandemic

Letter to the Editor

Cannabidiol (CDB) is ubiquitous in U.S. markets as consumer-based products (CBD oils, lotions, edibles, etc.), via medical cannabis programs, and as a prescription product.[1] Products containing CBD have proliferated amidst claims of broad health benefits. One of the most common claims for CBD is "immune support" or "boosting." Now, under the threat of a global pandemic, many consumers and patients look for natural remedies to combat SARS-CoV-2 to protect themselves from infection. In light of this, a look at CBD and its impacts on the immune system is warranted as pharmacological effects suggest a potentially detrimental effect. The role of pharmacists as accessible, evidence-based medication experts throughout this pandemic is also considered.

CBD has complex pharmacological properties. Immunomodulation may be mediated through cannabinoid receptors or myriad other pharmacological targets.[2] These net effects can be summarized as "anti-inflammatory" and are the sought after therapeutic effects of CBD for a variety of immune-mediated disorders including autoimmune conditions and neurodegeneration. These effects suppress cytokines and decrease chemokines, leading to suppression of effector T cells, microglial cells, and overall host response to pathogens including viruses like SARS-CoV-2.[2]

Perhaps the best current medical knowledge on the impact of cannabidiol alone on infection risk is limited to a phase 3 clinical trial of Epidiolex® (cannabidiol) dosed at 10 or 20 mg/kg/day for serious seizure disorders.[3] Infections were over 30% more common in those receiving CBD versus placebo. Among infections, viral (7% and 11% versus 6%) and pneumonia (8% and 5% versus 1%) had the largest relative increases for 10 and 20 mg/kg/day doses versus placebo, respectively.[3] Consumer doses of CBD are likely much lower than these therapeutic doses for refractory seizures but CBD doses through medical cannabis preparations could be equally potent.[1]

Thus, current pharmacological and clinical evidence suggests CBD (and the other primary cannabinoid, tetrahydrocannabinol [THC])[4] could decrease the ability fight off infections and is contrasted against its potential clinical uses as an anti-inflammatory. This risk may be higher for viral and respiratory infections.[1,3] Recommendations for patients and clinicians to avoid use of CBD and other cannabinoids during this pandemic may need to be encouraged unless medically supported for recognized indications (e.g. seizures, cancer, chronic pain). False marketing claims of "immune system boosting" or antiviral effects should be reported to regulatory bodies like the Food and Drug Administration.

Pharmacists are in a unique position, particularly in the community retail and ambulatory settings, to encourage judicious use and make recommendations for CBD and other over-the-counter and prescription medications gaining attention (e.g. ibuprofen, antihypertensives[5,6]) during this pandemic. Pharmacists should approach this from an evidence basis and not give in to media sensationalism of unfounded hypotheses and case reports. Pharmacists should instead encourage public health by following federal and state guidance and promoting these practices with our patients.[7] Pharmacists are the drug safety experts, and now is the time to provide that information to the best of their abilities.

Declaration of competing interest

I declare no competing interests.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.sapharm.2020.03.020.

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Joshua D. Brown*
Center for Drug Evaluation & Safety, Department of Pharmaceutical Outcomes & Policy, University of Florida College of Pharmacy, USA
E-mail address: joshua.brown@ufl.edu.

* 1225 Center Drive HPNP #3320, Gainesville, FL, 32606, USA.

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