Evaluating the Safety of Cannabinoid-Based Medicines for Older Adults
Donna M. Fick, PhD, RN, GCNS-BC

Should cannabinoid-based medicines (CBMs) be avoided for older adults? Velayudhan and colleagues1 examine whether the use of CBMs containing delta-9-tetrahydrocannabinol (THC) increases the risk of neuropsychiatric adverse events (AEs) in adults aged 50 years and older. As the authors note,1 it is already known that regular use of cannabis with high levels of THC is associated with increased psychotic symptoms in younger persons with established psychotic disorders, but little is known about AEs associated with the use of THC-containing CBMs in older adults, who increasingly use CBMs to manage chronic pain and other health conditions.2

Velayudhan and colleagues1 performed a rigorous systematic review of randomized clinical trials (RCTs) published from 1990 to October 2020 that examined the safety and tolerability of different CBMs. The authors examined 30 RCTs using THC-only CBMs (total THC exposure, 1252.83 person-years) and 24 RCTs using CBMs with different combinations of cannabidiol (CBD) and THC (total THC and CBD exposure, 388.56 person-years). They found a significant positive association between THC dose and incidence rate ratio for dizziness or lightheadedness (estimate, 0.05; 95% CI, 0.02-0.08; \( P = .001 \)) and thinking or perception disorder (estimate, 0.07; 95% CI, 0.03-0.11; \( P < .001 \)) for the THC-only studies, but there were no associations with any other neuropsychiatric AEs for the THC and CBD combination studies. The association for thinking or perception disorder was mainly influenced by 2 particular studies. Of note, 1 of the studies that found an association between THC and thinking or perception disorder had the largest sample size (329 participants in the active intervention arm and 164 participants in the control intervention arm), as well as the longest duration of treatment.1

The mean age of patients in both groups of RCTs (THC only and THC-CBD combination) was younger than 60 years, and there were too few studies to conduct sensitivity analyses for participants aged 65 years or older.1 There were only 3 THC-only studies and 1 THC-CBD combination study where all participants were aged 65 years or older.1

Despite some limitations acknowledged by the authors,1 including the use of self-reporting and too few older adults in the sample, this study clearly detected an important signal that CBMs containing THC are associated with alterations in thinking and perception and dizziness and lightheadedness among older adults, and the authors cautioned against using CBMs in adults older than 50 years. A common issue in drug studies with older adults is a lack of inclusion of adults aged 65 years and older and those with multiple comorbidities, who are most likely to be taking multiple medications, thus leading to increased medication problems.3 Clearly, more studies of safety and efficacy should be conducted with adults aged 65 years and older, who are looking for nonopioid solutions to chronic, persistent pain and other conditions for which CBMs are commonly prescribed. Although this study1 reported important and critical information about psychotic AEs in older adults using CBMs, it contained too few older adults aged 65 years and older.

Other recent reviews2,4,5 of CBMs have also found higher rates of nervous system AEs in older adults taking CBMs and a very low quality of evidence for whether they actually improved pain or other conditions for which they were given. Overall, this study by Velayudhan and colleagues1 shows that there is a paucity of studies on the efficacy and safety of CBM use in older adults. The history of inappropriate medication use in older adults has many examples of the dangers of such misuse when searching for a solution for difficult geriatric issues. Overprescribing of medications for older adults that turn out to have more harm than benefit is unfortunately common and may lead not only to drug-related AEs but also to hospitalizations and death in older persons.6 In this study,1 both of the

Open Access. This is an open access article distributed under the terms of the CC-BY License.

AEs associated with THC, alterations in thinking and dizziness and lightheadedness, can lead to falls and delirium, which have poor outcomes for older persons, including nursing home placement and death. We should not abandon best practices in the care of older adults by looking for simple solutions in pharmaceuticals that could be doing more harm than benefit.

Given the complexity of care of older adults with chronic pain and conditions, such as painful diabetic neuropathy, nausea, cachexia, arthritis and joint pain, and fibromyalgia, it is critical to continue to study the effects of THC in older adults. Clinicians need stronger evidence and guidance for the use of CBMs. Future research with adults aged 65 years and older is needed because many older adults are taking CBMs without the safety and efficacy data needed to make good decisions about the use of THC or CBD. To determine whether CBMs should be on a list of drugs to avoid, studies need to include more adults aged 65 years and older, adults with multiple comorbidities, and THC formulations with varying dosages and duration. The conditions for which CBMs are given in older adults are often challenging and ones for which there are limited options. Finally, as clinicians, we often feel the need to do something for patients, and medication can be an easy but harmful solution. Studies and education are also needed for nonpharmacologic approaches to such conditions as pain, for which CBMs are often given.7

THC should be used with caution in adults aged 50 years and older, and more research is urgently needed to further understand the risks and benefits of THC in adults aged 65 years and older. THC is prescribed for many conditions where a safer, nondrug approach can and should be used in conjunction with THC or as a safer alternative. Clinicians should use an individualized approach with these products that considers the potential of other drug-drug interactions, multiple comorbidities, and care aligned with the priorities of the older adults. Once again, less really is more for improving care in older adults.

ARTICLE INFORMATION

Open Access: This is an open access article distributed under the terms of the CC-BY License. © 2021 Fick DM. JAMA Network Open.

Corresponding Author: Donna M. Fick, PhD, RN, GCNS-BC, Penn State College of Nursing, 201 Nursing Sciences Bldg, University Park, PA 16802 (dmf21@psu.edu).

Author Affiliation: Penn State College of Nursing, University Park, Pennsylvania.

Conflict of Interest Disclosures: Dr Fick reported being a member of the panel for the American Geriatrics Society Beers Criteria for potentially inappropriate medication use in older adults and having cochaired the criteria panel for 20 years and being an advisory member and consultant for the Institute for Healthcare Improvement Age-Friendly Health Systems initiative.

Disclaimer: The contents are those of the author and do not necessarily represent the official views of or an endorsement by Health Resources and Services Administration, Department of Health and Human Services, or the US government.

Additional Contributions: Priyanka Shrestha, MGS, RN (Penn State College of Nursing), assisted with formatting the manuscript.

REFERENCES

