Unknown Effect of Cannabis Use on Procedural Sedation Requirements

To the Editor:

We read with great interest the recent report by Twardowski et al1 regarding the impact of regular cannabis use on procedural sedation requirements. This area remains poorly studied, and we applaud the authors for investigating this timely and germane issue. However, owing to methodologic flaws, we believe that the interpretation and clinical utility of the study are extremely limited.

The primary shortcomings relate to sedative administration and confounding variables. Furthermore, the abstraction process was not described with regard to a standardized abstraction tool, blinded trained abstractors, and interrater reliability. Unstructured data abstraction is more likely to identify outcome differences.

Data were included for 3 sedatives (fentanyl, midazolam, and propofol), but information is absent on additional drugs an endoscopist may use, such as lorazepam, diazepam, or diphenhydramine. Administration of nonabstracted sedatives would reduce the required doses of the 3 included sedatives. Additionally, it is unknown whether every patient (N=250) received all 3 sedatives. Data were described as non-normal with absent measures of dispersion, and if select sedatives were received by only a portion of the cohort, this factor may have introduced error.

The study failed to account for at least 4 confounding variables. The first is regular recent alcohol, sedative, or opioid use (listed in data collection but not reported on). Alcohol use is more common among cannabis users, which may increase sedative requirements.2 The second is body weight, which is important because of volumes of distribution. Studies vary on optimal body weight indices, such as ideal body weight or lean body mass, but dose requirements would be affected if the 2 groups had differing body weights. Future studies should report dosing by a body mass index.3 The third is age, a variable that is related to cannabis use and sedation requirements, with younger patients more likely to be regular cannabis users and elderly patients likely to require less sedation.4 Age was not reported, and groups were not matched by age if applicable. Last, scant endoscopy details are provided. If a patient required polypectomies, this factor would increase procedure duration and likely sedative dosing. Similarly, combination esophagogastro-duodenoscopy and colonoscopy increases procedure duration and likely sedative dosing. In fact, the combined procedure occurred in 4 of 25 regular cannabis users (16%) and 18 of 225 nonusers (8%). This significant difference alone may account for the increased sedative requirements in the regular cannabis user group.

Cannabis may affect pharmacokinetic or pharmacodynamic tolerance to procedural sedatives. The limitations in this study preclude additional insight into the study question. (doi:10.7556/jaoa.2020.002)

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References


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