

Cannabis Use and Acute Postoperative Pain Outcomes in Older Adults: A Propensity Score Matched Retrospective Cohort Study

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BACKGROUND

- Cannabis use prevalence is significantly increasing among older adults.
- Previous studies linked cannabis use to increased postoperative pain and opioid requirements in other patient populations.
- These associations have not been studied in older adults.
- **Objective:** To determine the association between preoperative cannabis use and postoperative pain and opioid requirements in the first postoperative 24 hours.

METHODS

- Retrospective cohort study using EHR data.
- 22476 surgery patients (≥ 65 years) at UF Health (2018-2020). Eligibility criteria in Fig 1.
- **Cannabis users:** defined by current cannabis use documentation via NLP.
- **Nonusers:** defined by documentation negating cannabis use via NLP and no CUD ICD codes; or negated substance use documentation and no cannabis-related documentation or CUD ICD codes.
- **Outcomes:** (1) Average Defense and Veterans Pain Rating Scale score, and (2) total oral morphine equivalents (mg), in the first postoperative 24 hours.
- PS calculated via logistic regression: cannabis use=24 independent variables [baseline demographics, physical/mental comorbidities, other substance use, anesthesia characteristics].
- Wilcoxon rank sum to compare medians and IQRs.

RESULTS

- A total of 504 patients were included.
- Median (IQR) age was 69 (65, 72) years; 295 (58.53%) were male, and 442 (87.70%) were non-Hispanic White.
- All baseline characteristics were well-balanced.
- Cannabis users had significantly higher average DVPRS scores [median (IQR): 4.68 (2.71, 5.96) vs. 3.88 (2.33, 5.17); difference=0.80; 95% CL, 0.19 to 1.36; p=0.01] and total OME [median (IQR): 42.50 (15.00, 60.00) mg vs. 30.00 (7.50, 60.00) mg; difference=12.5 mg; 95% CL, 3.80 mg to 21.20 mg; p=0.02] than nonusers within the first postoperative 24 hours.

DISCUSSION

- Cannabis use in older adults was associated with increased postoperative pain levels and opioid doses.
- Cannabis use should be accounted for in perioperative pain management of older adults.
- Limitations: Potential remaining EHR under-documentation of cannabis use; lack of cannabis exposure quantification (e.g., frequency of use).
- Future research may assess causality.
- The Authors have no conflicts of interest.



Cannabis use is associated with increased pain levels and opioid needs in older adults with 24 hours of surgery



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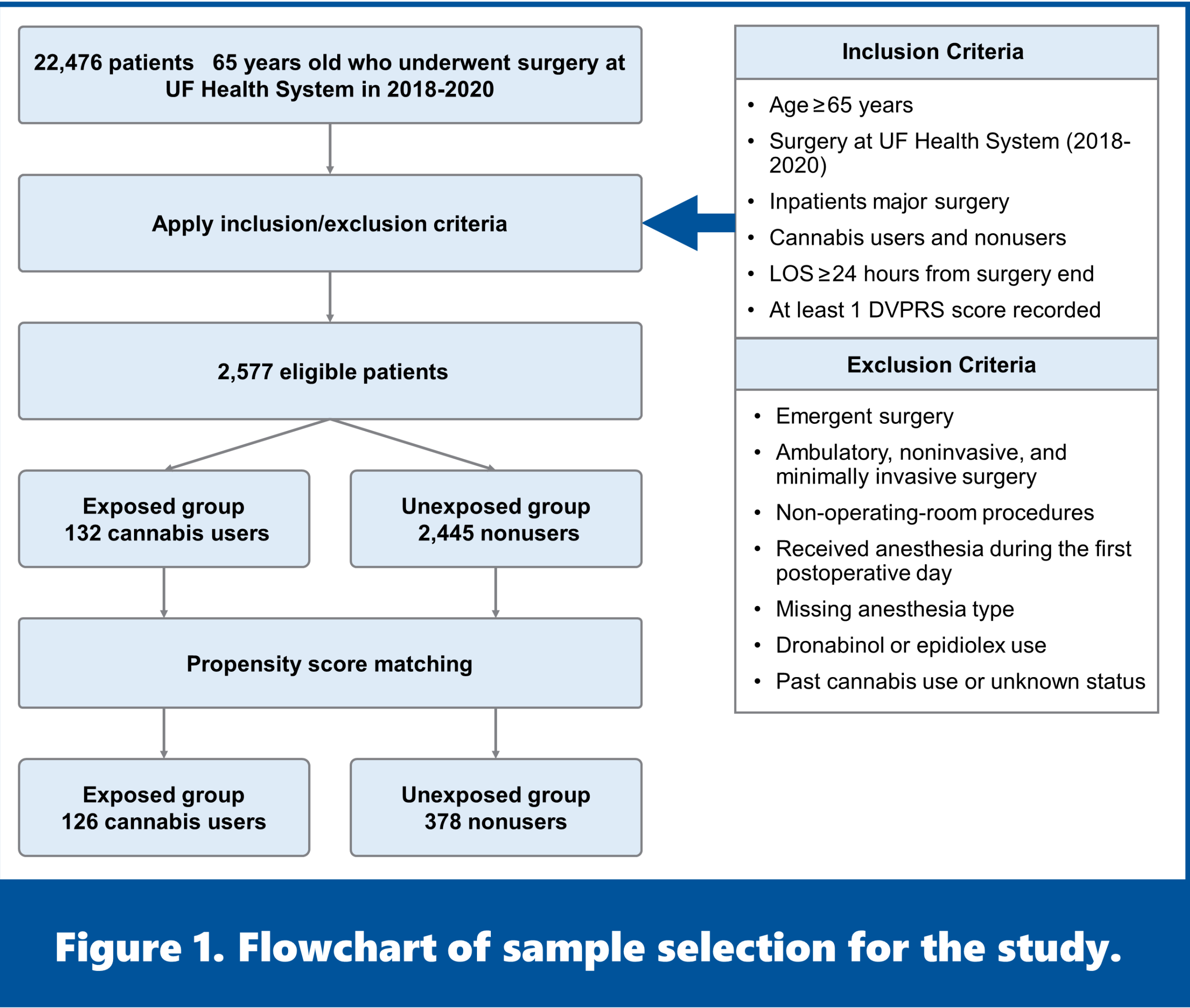


Figure 1. Flowchart of sample selection for the study.

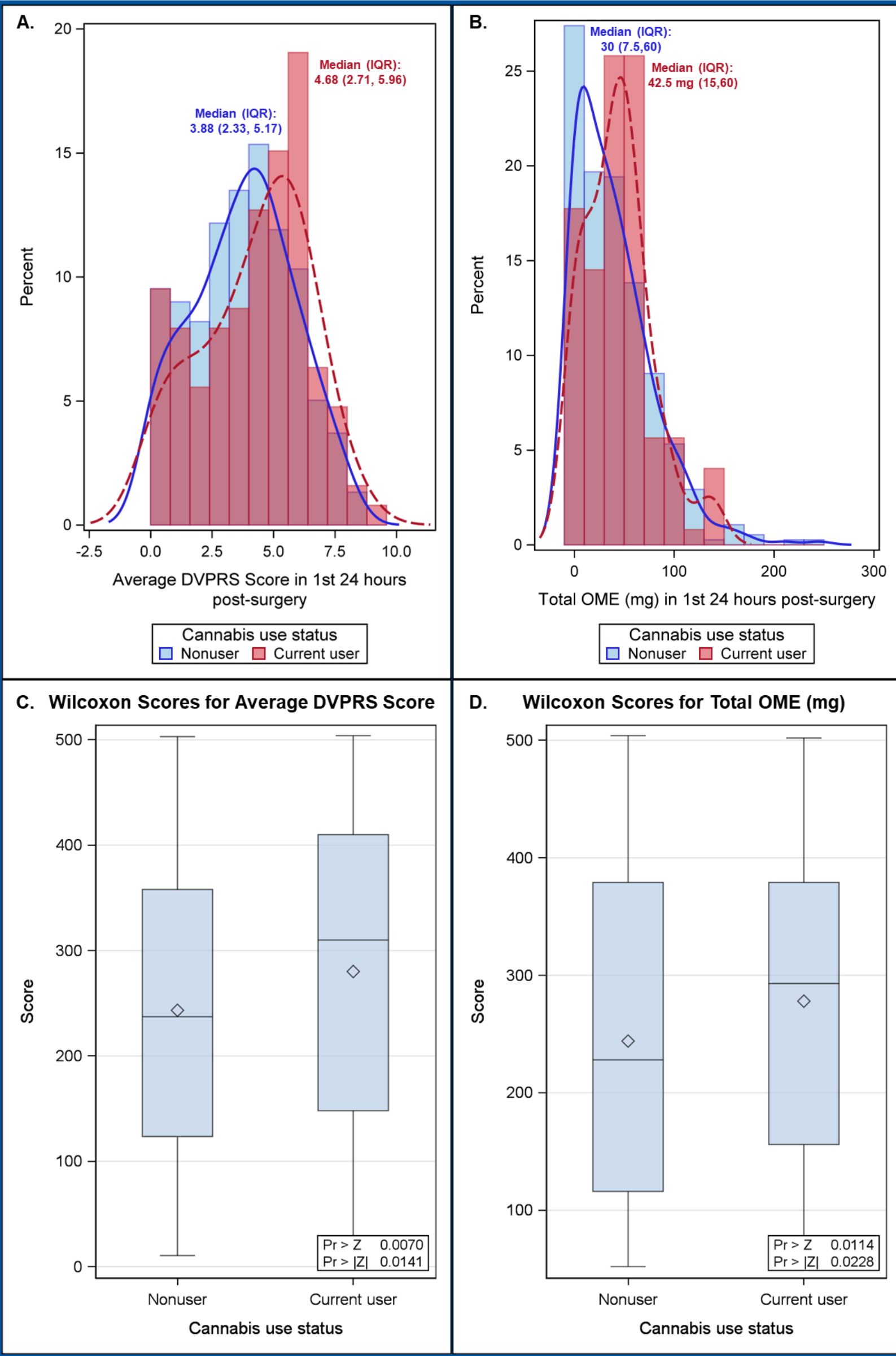


Figure 2. Distribution histograms with kernel curves and boxplots with Wilcoxon rank sum test of average defense and veteran pain rating scale scores and total oral morphine equivalents (mg) comparing cannabis users and nonusers.