

Perioperative Impact of Cannabis use in a Large Community-Based Healthcare System from 2014-2024

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INTRODUCTION

Cannabis use requires unique anesthetic considerations based on the nature of its consumption. Acute use is associated with airway hyperreactivity as well as tachycardia and hypertension^[1], while chronic use can lead to increased tolerance to anesthetics and opioids, necessitating higher doses for adequate sedation and pain control^[2]. This tolerance can result in delayed emergence from anesthesia and prolonged PACU stays, impacting resource utilization and patient outcomes^[3].

In 2014, our large community-based healthcare system introduced preoperative screening questions regarding cannabis use into our EMR to help clinicians understand its impact on quality, safety, and cost of care.

PURPOSE

This abstract reviews the perioperative impact of increased cannabis use on patients undergoing laparoscopic cholecystectomy between 2014 and 2024, with specific emphasis on postoperative pain and rescue antiemetics.

METHODS

Preoperative cannabis use data from laparoscopic cholecystectomy cases before (2014-2016) and after (2017-2024) medical cannabis legalization in Florida were analyzed (n = 21,552). Using a statistical t-test, the increase in cannabis users, morphine milligram equivalent (MME) requirements and the use of rescue antiemetics were compared.

RESULTS

The analysis revealed a statistically significant increase in the percentage of cannabis users, rising from an average of 1.1% (64 cases) before legalization to 1.5% after legalization (232 cases, p < 0.008) [Figure 1]. Cannabis users required an average of 19.3 MMEs, compared to 17.2 MMEs for non-users, indicating a statistically significant increase of 2 MMEs (p < 0.03) [Figure 2]. Additionally, cannabis users demonstrated an increased need for rescue antiemetics, with an average increase of 0.14 doses per case (p < 0.01) [Table 1]. Our data demonstrated a 0.4% rise in preoperative cannabis use.

Mean percent of laparoscopic cholecystectomy cases with positive cannabis use per quarter

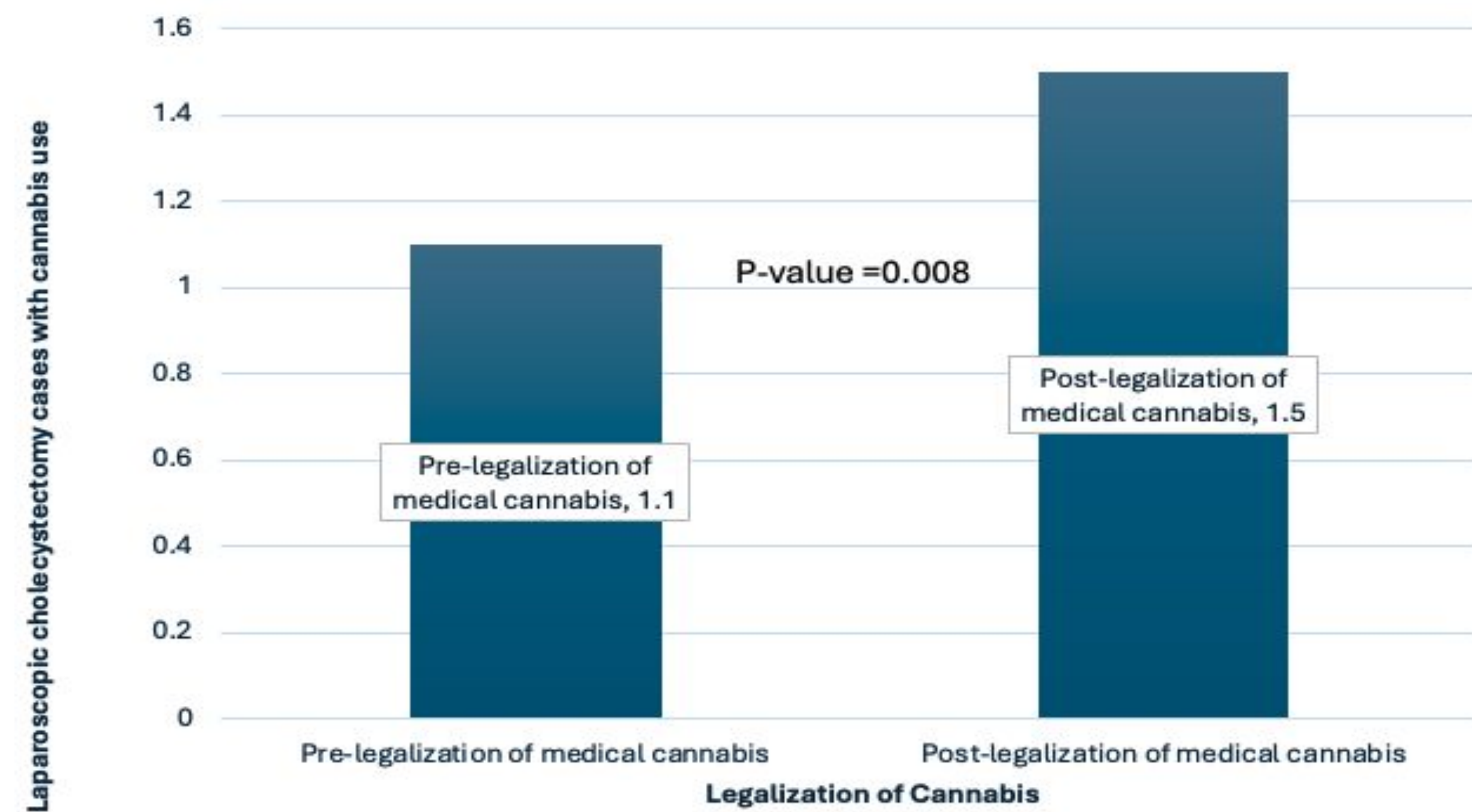


Figure 1

Mean MME used in Cannabis vs. Non-Cannabis using patients undergoing laparoscopic cholecystectomy

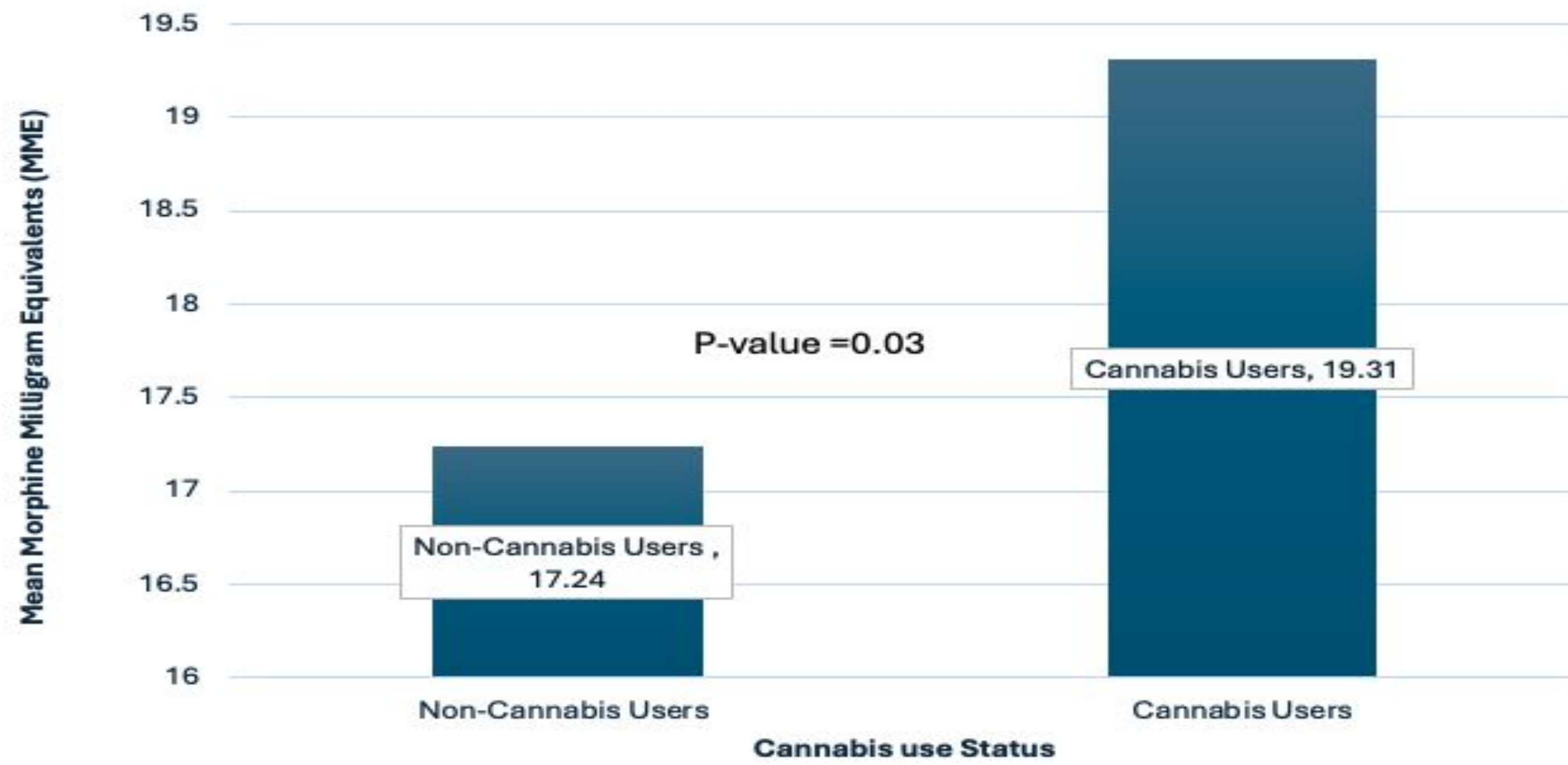


Figure 2

CONCLUSION

The rise in prevalence reported in our study is notably lower than figures reported in other studies. For instance, a study at Beth Israel Deaconess Medical Center found that 7.7% of patients reported cannabis use prior to surgery^[4]. Several factors could contribute to this discrepancy, including regional differences in cannabis use, variations in patient populations, differences in data collection methods, and underreporting due to stigma or legal concern. However, these findings highlight the growing prevalence of cannabis use in the surgical population and its measurable impact on perioperative care. These challenges impact patient safety, satisfaction, and healthcare costs via extended recovery times and increased medication requirements. Our team is upgrading our preoperative EMR to differentiate between acute and chronic cannabis use and better quantify route, quantity, and frequency of use. Future research will analyze facility-level and patient-level costs associated with higher opioid and antiemetic requirements, as well as identify whether specific opioid types are utilized more frequently by cannabis users. These data will be instrumental in developing tailored protocols to optimize anesthetic management, improve resource allocation, and enhance patient outcomes in the era of increasing cannabis consumption.

Cannabis use status	Mean doses of rescue antiemetics used by laparoscopic cholecystectomy patients
Non-cannabis users	0
Marijuana users	0.14
Difference	0.14
p-value	0.01

Table 1

References

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