



#6774: Cannabis Use and Post-Operative Pain Scores in Patients Undergoing Sports Medicine Procedures

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INTRODUCTION

The efficacy of cannabis and its individual components (like tetrahydrocannabinol or cannabidiol) for pain management remains uncertain with many studies showing mixed results,¹ especially when considering post-operative pain from arthroplasty.^{2,3} Literature is particularly scant when considering the role of cannabis use in patients undergoing less-invasive specialized arthroscopic sports medicine procedures.⁴ The aim of this study was to quantify the prevalence of self-reported cannabis use within the population of adults undergoing arthroscopic treatment of injury to the hip, knee, and shoulder and investigate the potential association of cannabis use and post-operative pain in this patient population.

METHODS

Approval was received from the Institutional Review Board for a retrospective study, and the electronic medical record at a single, high-volume orthopedic specialty hospital was queried for patients undergoing sports medicine procedures including arthroscopic surgery on the hip, knee, or shoulder between January 1, 2023, and December 31, 2023. Demographic variables (age, sex, race/ethnicity), any drug-use reported by the patient pre-operatively, American Society of Anesthesiologist’s classification of Physical Health, primary procedure, and NRS pain scores (0-10, 10 is worst) in the post-anesthesia care unit (PACU) were extracted. Paired t-tests were performed to assess differences in patients reporting cannabis use and those not reporting cannabis use for continuous variables. Chi Square tests were utilized to assess differences in categorical variables.

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Figure 1. Cannabis Use by Legal Sex in patients undergoing sports medicine procedures

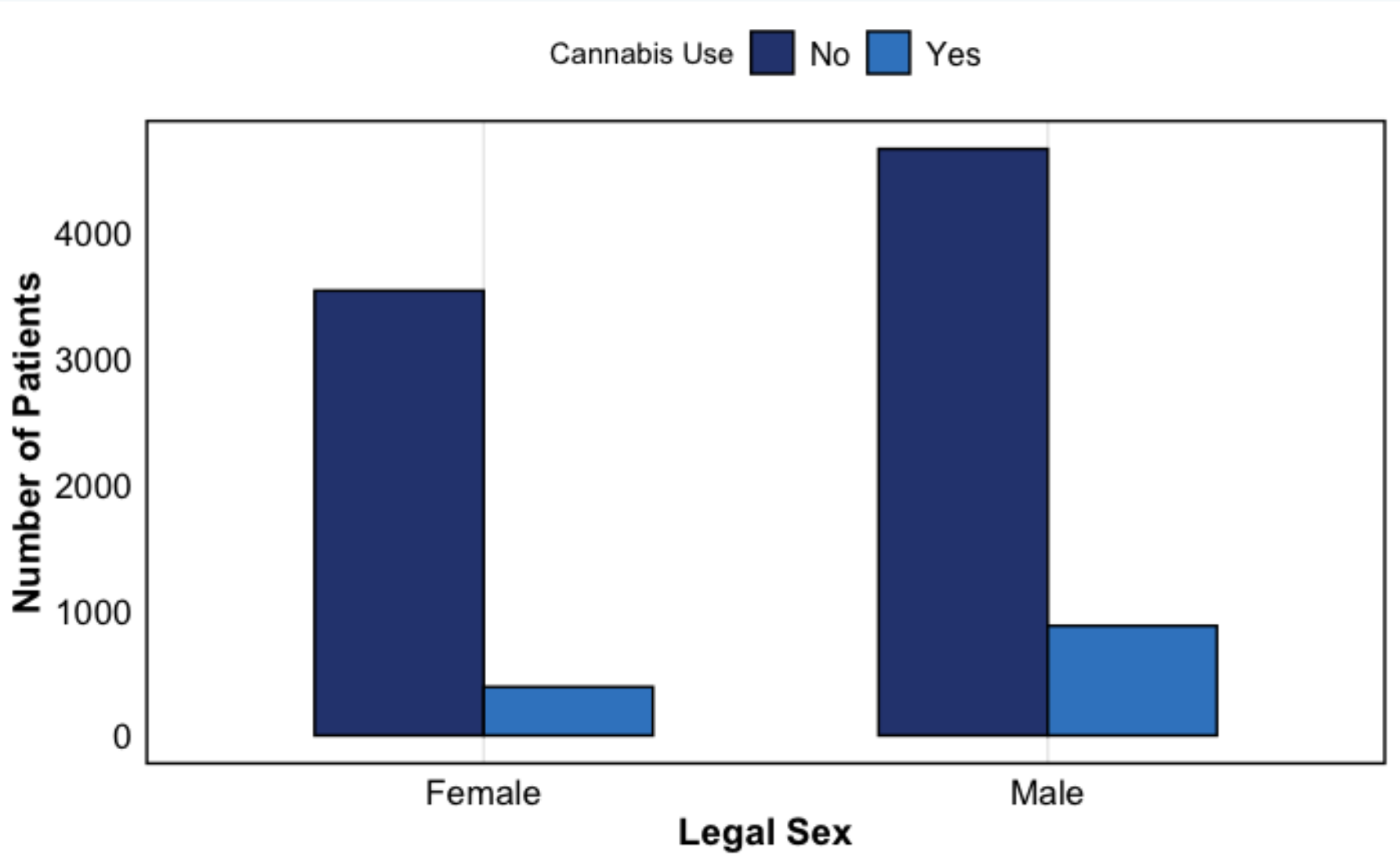


Figure 2. Age Distribution by Cannabis Use in patients undergoing sports medicine procedures

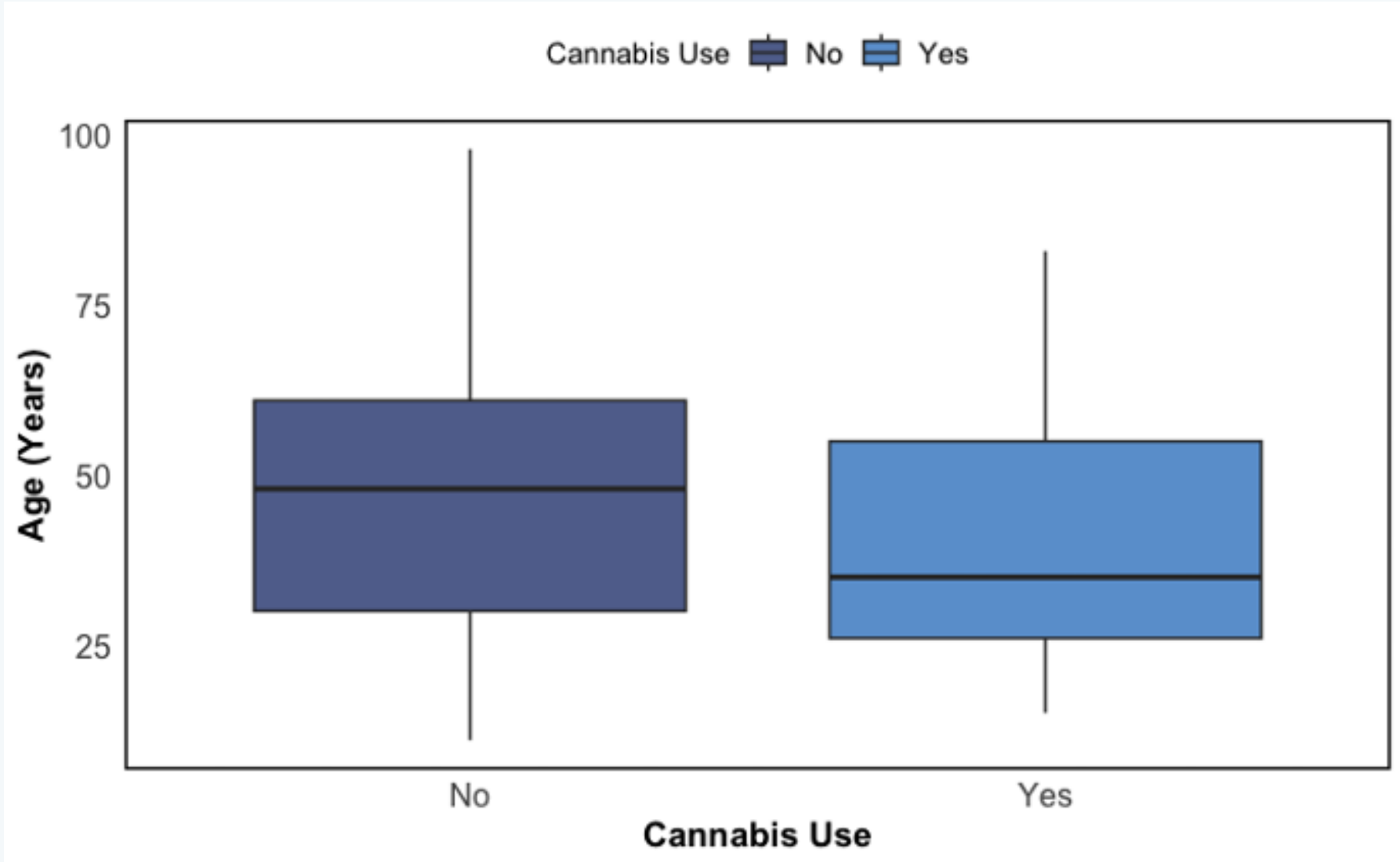


Table 1. Demographic Information stratified by Cannabis Use in patients undergoing any sports medicine procedure

	Self-Reported Cannabis Use		p-value
	Cannabis User	Non-User	
Sex, N (%)			
Female	387 (30.7)	3544 (43.1)	<0.001
Male	874 (69.3)	4673 (56.9)	
Age, Mean (SD)	40.36 (16.7)	46.23 (18.6)	<0.001
Race, N (%)			0.001
White/ Caucasian	961 (81.4)	6287 (82.4)	
African American	98 (8.3)	409 (5.4)	
Asian/Pacific Islander	78 (6.6)	601 (7.9)	
Unknown	43 (3.6)	335 (4.4)	
Location of Surgery, N (%)			<0.001
Hip	153 (12.1)	713 (8.7)	
Shoulder	438 (34.7)	4635 (56.4)	
Knee	670 (53.1)	2869 (34.9)	
ASA Score, N (%)			0.451
1, Normal health	355 (28.2)	2264 (27.6)	
2, Mild systemic disease	841 (66.7)	5454 (66.4)	
3, Severe systemic disease	65 (5.2)	496 (6.0)	
PACU Pain Score, Mean (SD)	3.64 (3.5)	3.38 (3.4)	0.013

RESULTS

A total of 9,478 patients (7,235 patients undergoing arthroscopic procedures) within the study period were identified. The mean age of the arthroscopy cohort was 41.2 years (SD 17.1), and 59.3% (n = 4293) male. The overall prevalence of cannabis use among arthroscopy patients was 13.7% (n = 989) with significantly higher prevalence in males compared to females (p < 0.0001). Patients self-reporting cannabis use were also significantly younger compared to non-users (36.8 years v. 42.2 years, p < 0.0001). When comparing by primary procedure, mean **maximum post-operative PACU pain** score did not differ significantly between cannabis users and non-users undergoing ACL reconstruction (p = 0.596), subacromial decompression (p = 0.867), or rotator cuff repair (p = 0.6265), but was **significantly higher in users undergoing labral repair of the hip (cannabis user: 6.33, non-user: 5.82, p = 0.044).**

DISCUSSION

Patients undergoing arthroscopic procedures self-reporting cannabis use are significantly younger and more likely to be male compared to those who do not report cannabis use. Additionally, though statistically significant, the difference in maximum pain score during PACU stay for hip arthroscopy patients undergoing labral repair may not be clinically significant. Limitations of this study include the likelihood of underreporting substance use due to social stigma, lack of details on cannabis use including recency, frequency, route and content, and the limited follow-up for post-operative pain score. Further investigation is warranted to determine clinical relevance of cannabis use on pain outcomes in sports medicine, accounting for potential underreporting, confounders, and addressing limitations of short-term pain assessments.

References →

