

The Intersection of Marijuana and Opioid Use in Chronic Pain Management: A Retrospective Cohort Study

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Introduction:

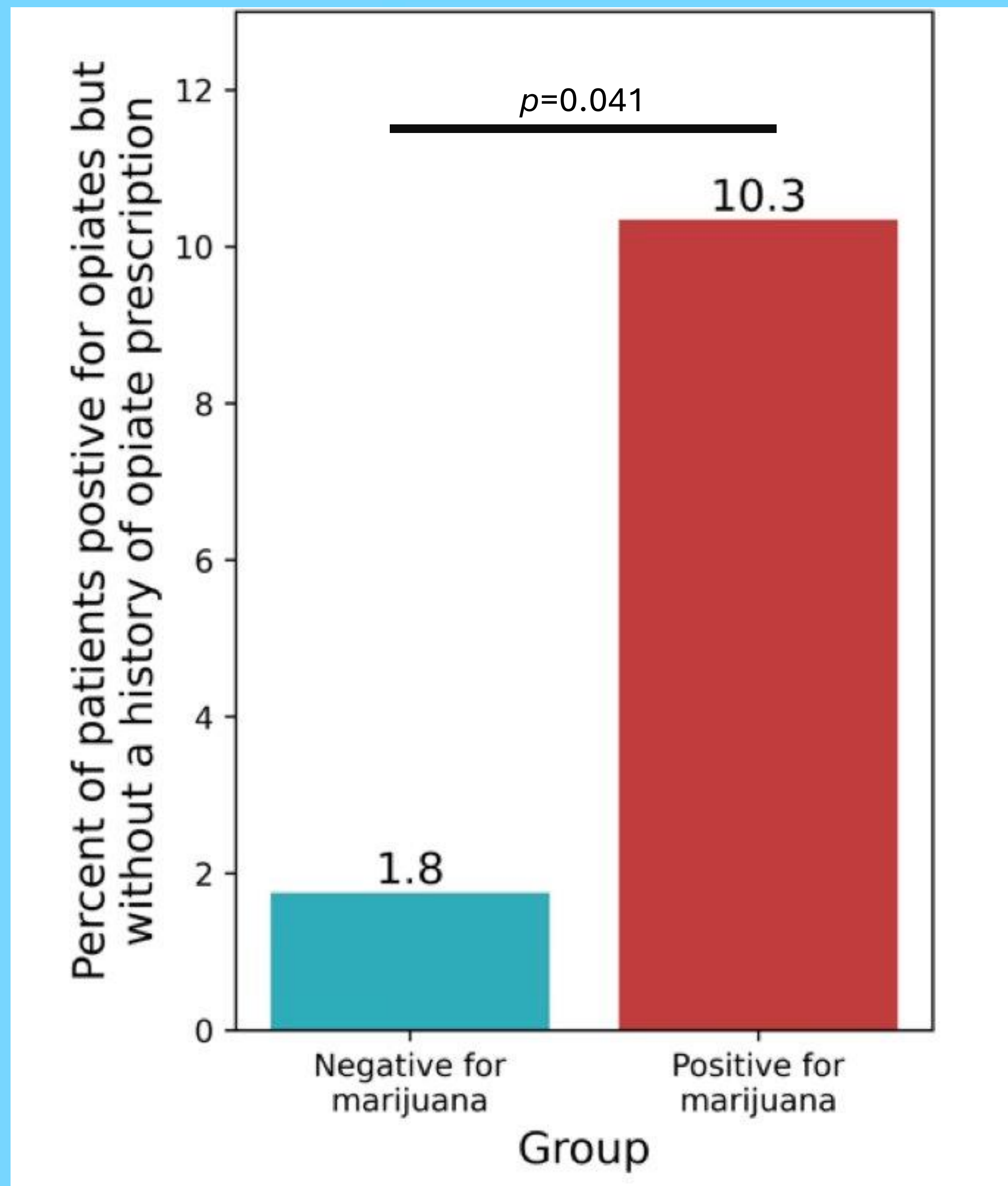
- Legalization of medical and recreational cannabis in many states has contributed to its increased usage in the general population.
- Neurobiological mechanisms such as cross-sensitization and dopaminergic system activation amongst substances may contribute to marijuana's association with an increased risk of opioid addiction.
- This study assessed:
 - **Prevalence** of marijuana and opioid use in pain clinic.
 - **Risk factors** for marijuana and opioid use.

Methods:

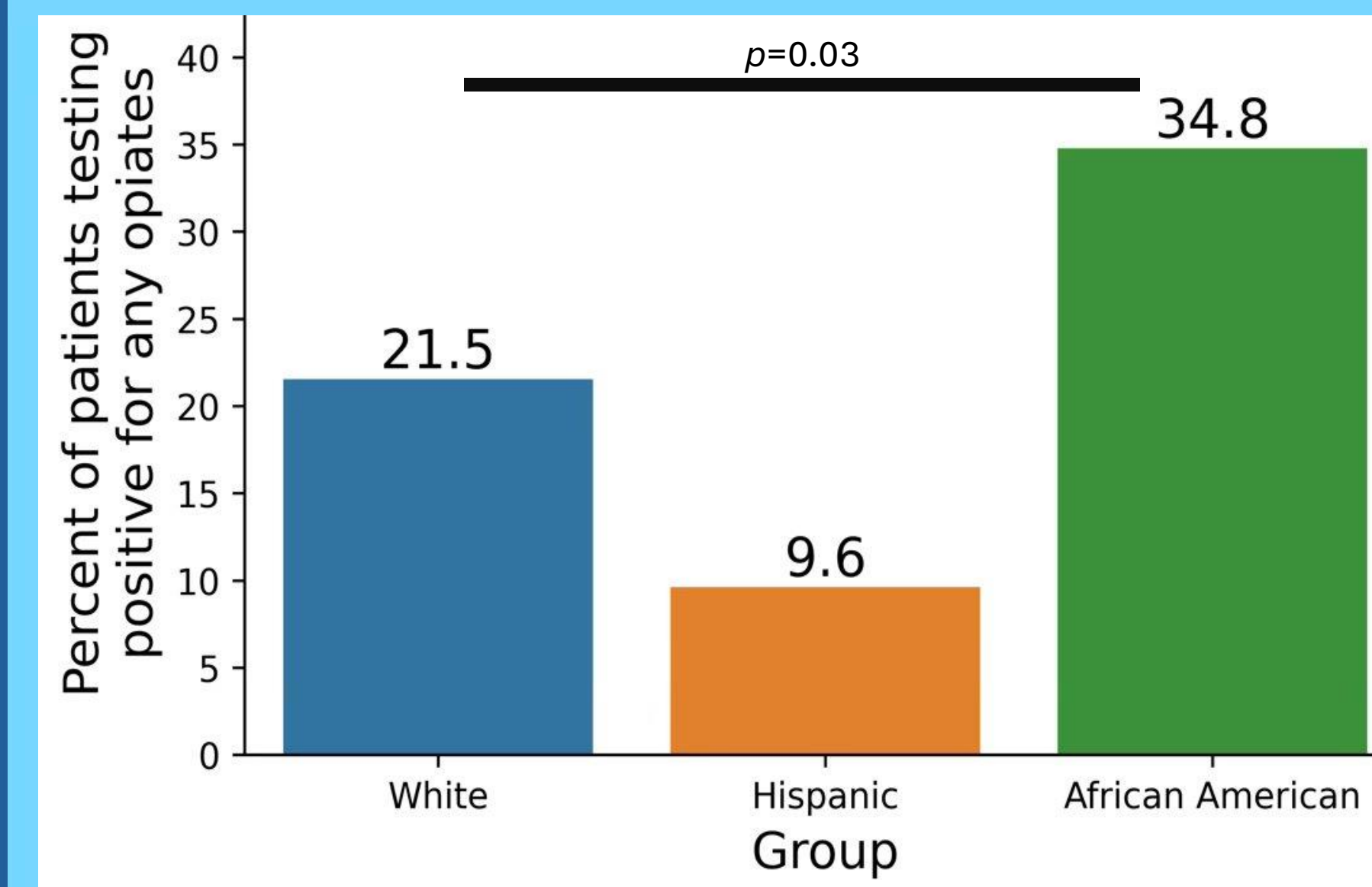
- A retrospective cohort study of 200 first-time chronic pain patients at our outpatient clinic was performed from July 1, 2022, to February 29, 2024.
- We collected urine/saliva drug screen results, demographic information, and self-reported history of prior opioid prescriptions.
- Marijuana positivity as a potential predictor of opioid positivity was evaluated.

Results:

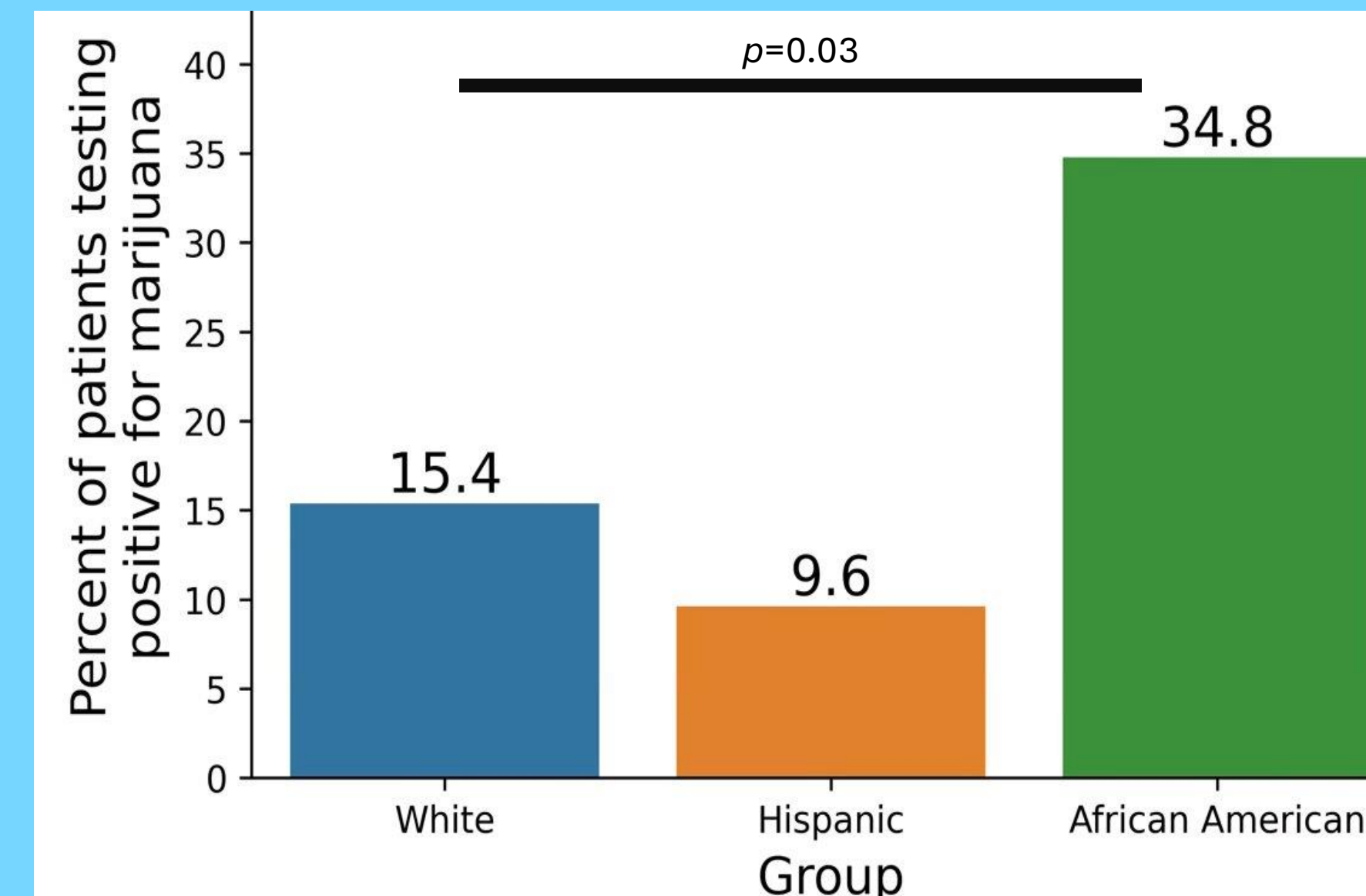
- Among 200 new patients, 14.5% of chronic pain patients tested positive for marijuana.
- Marijuana use was associated with opioid positivity in patients without a prior prescription.



Patients testing positive for marijuana demonstrated a significantly higher rate of opiate use without a prescription (10.3%) than those testing negative for marijuana (1.8%)(p=0.041)



Opioid positivity varied by race: 34.8% of African American patients, 21.5% of White patients, and 9.6% of Hispanic patients (p=0.03)



Marijuana positivity varied by race: 34.8% of African American patients, 15.4% of White patients, and 9.6% of Hispanic patients (p=0.03)

Discussion:

- Our study of 200 chronic pain patients found that individuals testing positive for marijuana use were more likely to test positive for opioids use without a prescription.
- African American patients were disproportionately affected in this cohort, showing an even stronger correlation between marijuana and opioid consumption, suggesting potential demographic factors at play.
- These findings suggest that marijuana use may serve as a risk factor for opioid use.

Limitations:

- **Sample size** – Findings from 200 patients at Columbia University Medical Center may not represent all chronic pain populations.
- **Polysubstance use** – The use of other substances (e.g., alcohol, etc.) was not accounted for, which could confound results.

References:

1. Olsson M, Wall MM, Liu SM, Blanco C. Cannabis Use and Risk of Prescription Opioid Use Disorder in the United States. *Am J Psychiatry*. 2018 Jan 1;175(1):47-53. doi:10.1176/appi.ajp.2017.17040413. Epub 2017 Sep 26. PMID: 28946762; PMCID: PMC5756122.
2. American Medical Association Journal of Ethics. Ethical implications of the opioid epidemic. *AMA J Ethics*. 2020;22(8):E743-E750. doi:10.1001/amajethics.2020.743
3. Kolodny A, Courtwright DT, Hwang CS, et al. The prescription opioid and heroin crisis: a public health approach to an epidemic of addiction. *Annu Rev Public Health*. 2015;36:559-574. doi:10.1146/annurev-publhealth-031914-122957
4. Mannes ZL, Wall MM, Alschuler DM, et al. Cannabis Legalization and Opioid Use Disorder in Veterans Health Administration Patients. *JAMA Health Forum*. 2025;6(6):e251369. doi:10.1001/jamahealthforum.2025.1369