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Opioid Prescription Rates Before and After ALTO Program and Various Factors Affecting Emergency Department Opioid Prescription Rates

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Patel, Neel B. and Baird, James F., "Opioid Prescription Rates Before and After ALTO Program and Various Factors Affecting Emergency Department Opioid Prescription Rates" (2024). *Rowan-Virtua Research Day*. 95.

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Opioid Prescription Rates Before and After ALTO Program and Various Factors Affecting Emergency Department Opioid Prescription Rates

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Background

- Anyone who needs to or has taken opioid pain medication for various diseases can easily develop an addiction.
- Unfortunately, from 1999-2018 the opioid epidemic took close to 450,000 lives.¹
- One of the major causes for such a public health problem is the wide range of opioid prescribing habits and rates across the country.
- With new programs set in place, fatal opioid overdoses in the U.S. have declined even more from the years 2017 and 2018.¹
- Alternative to Opioids Program (ALTO) is a new program that has been instituted in hospitals across America starting in 2016.⁶
- ALTO is an educational intervention for Emergency Departments to help lower rates of opioid prescriptions.⁶

Significance

- Factors that contribute to varying opioid prescription rates in Emergency Departments include patient demographics, chief complaint, emergency department characteristics, location, and prescriber credentials.⁴
- In the state of New Jersey, South Jersey counties such as Burlington, Ocean, Gloucester, Atlantic, Cumberland, and Cape May have higher prescription rates than counties in North Jersey.⁵
- This study seeks to measure opioid prescription rates before and after the implementation of the ALTO program at Inspira Woodbury Emergency Department. In addition, to identify different characteristics which influence high opioid prescription rates in the Stand-Alone Woodbury Emergency Department located in South Jersey.

Methods

Study Design and Data:

- Retrospective analysis of de-identified raw aggregate patient data was analyzed provided by Inspira IT department. Data points included patient race, gender, age, number of opioids prescribed, and discharge diagnosis by ICD-10 codes.
- Patient opioid prescription data before implementation of ALTO was then compared to the same data points post ALTO.

Study Population:

- Individuals who were prescribed opioids with ICD codes for final discharge diagnosis for abdominal pain, unspecified migraines, renal colonic, low back pain at Inspira Woodbury Emergency Department between January 2023 - March 2024 were selected.

Statistical Analysis:

- A Pearson Chi-Square Test test evaluated at a 0.05 significance level using SPSS Statistics was used to analyze the data.

Results

ALTO vs. Opioids Prescribed

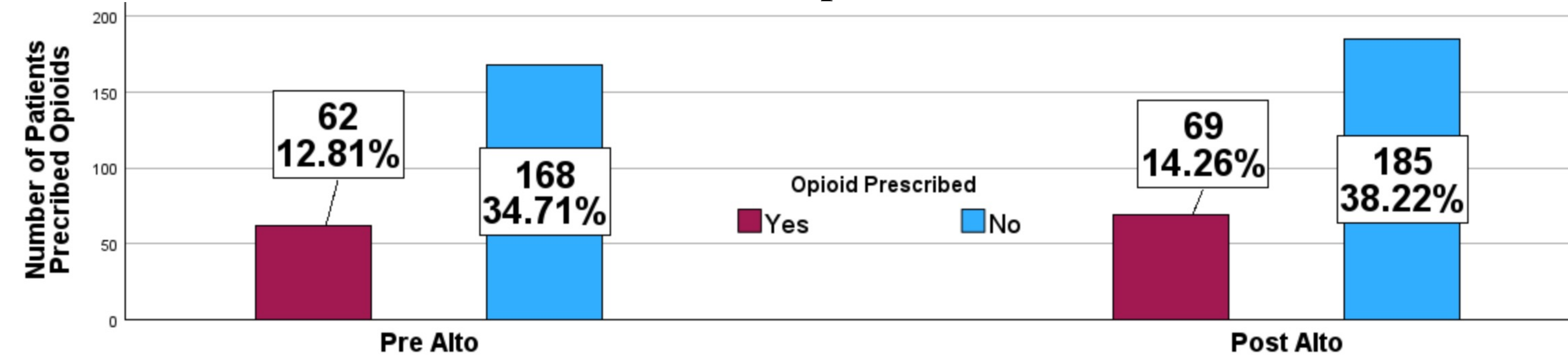


Figure 1. Number of patients prescribed opioids pre and post initiation of ALTO program

Prescription Rates Based by Race

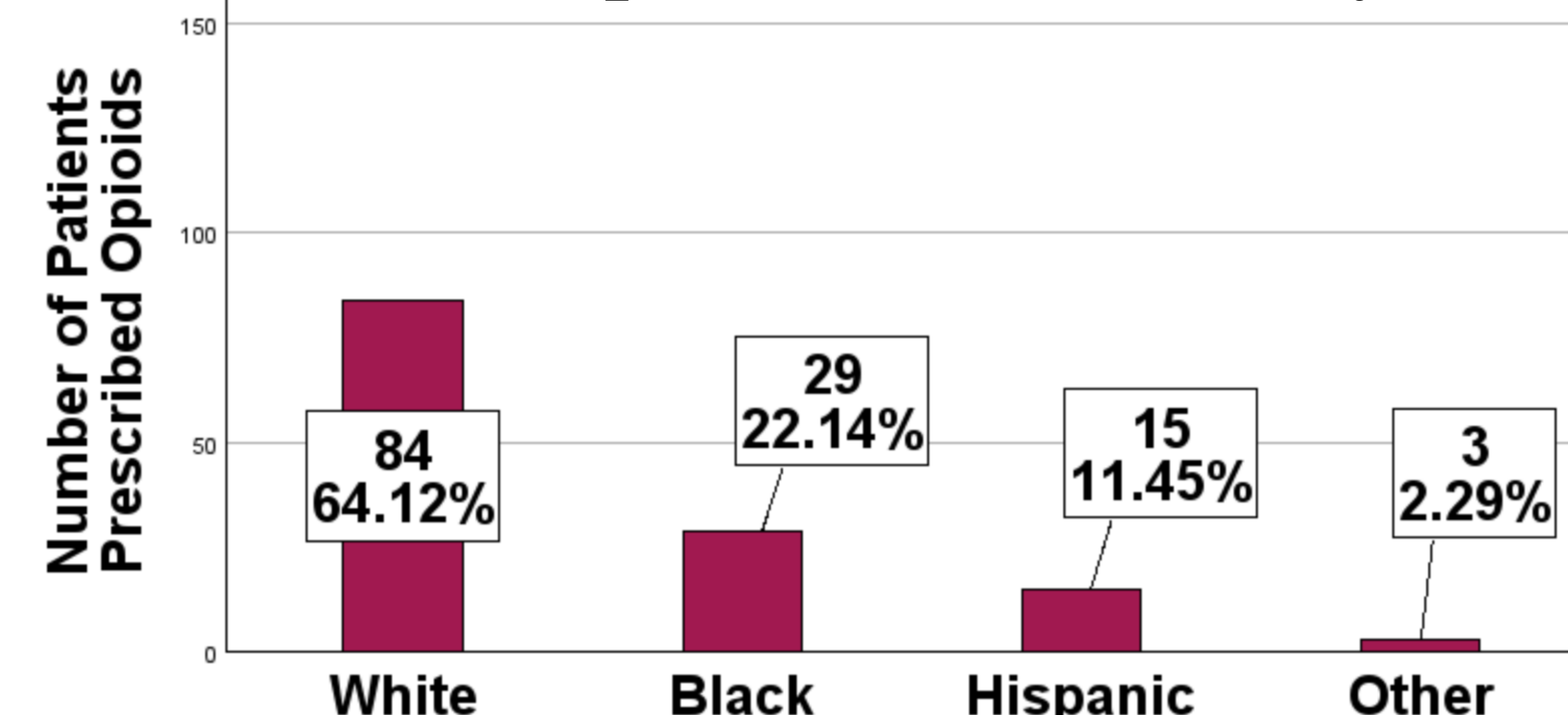


Figure 2. Number of patients prescribed opioids by race.

Prescription Rates Based by Gender

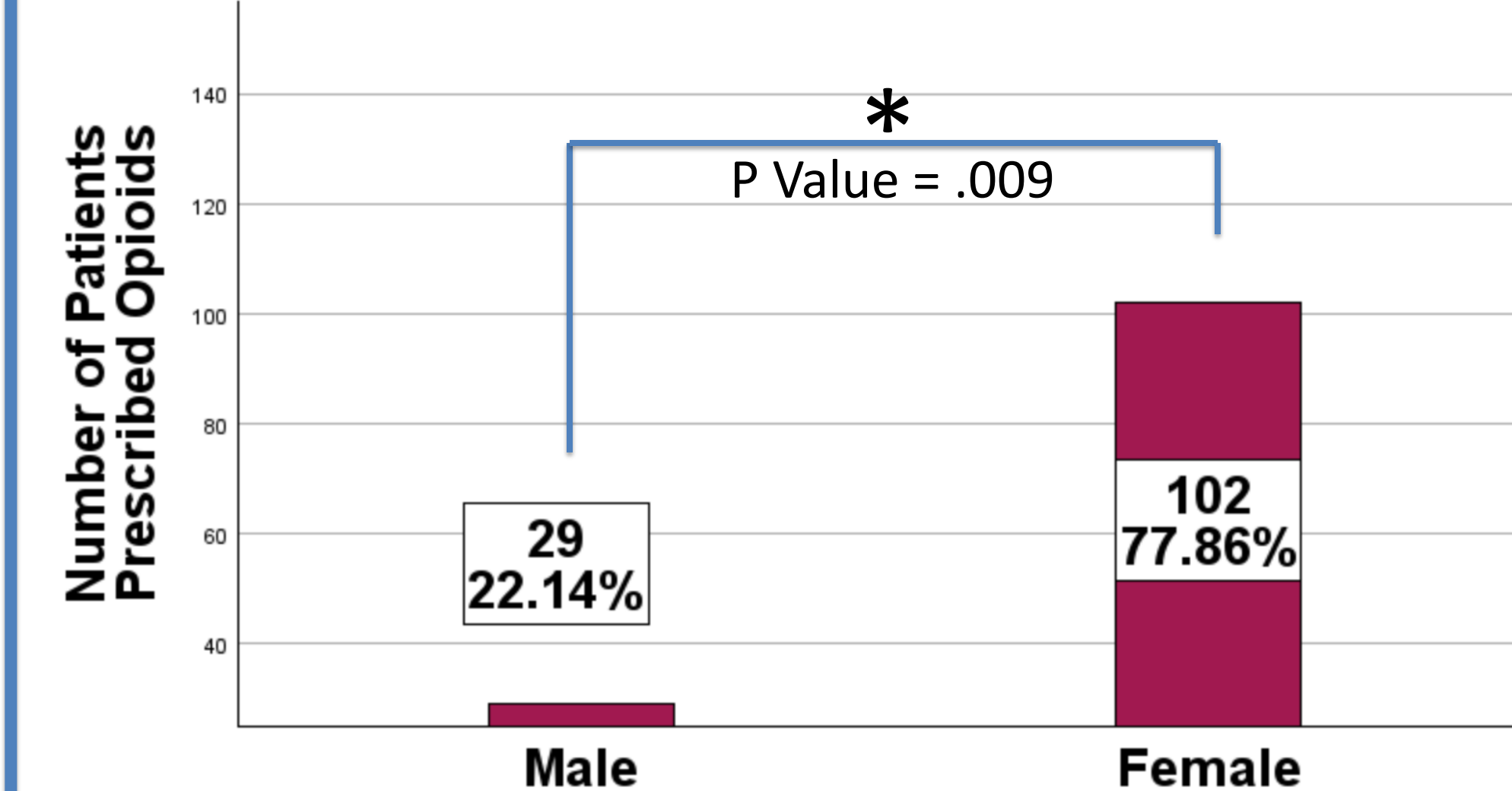


Figure 3. Number of patients prescribed opioids by gender.

Prescription Rates Based by Age

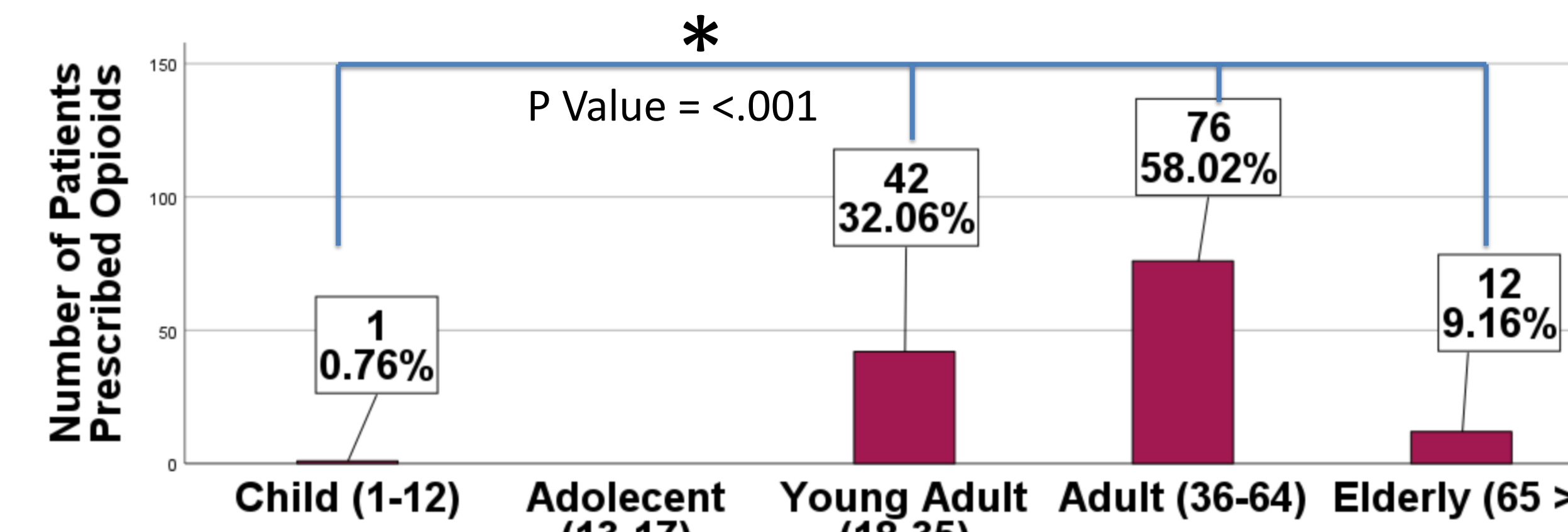


Figure 4. Number of patients prescribed opioids by age.

Prescription Rates Based on Diagnosis

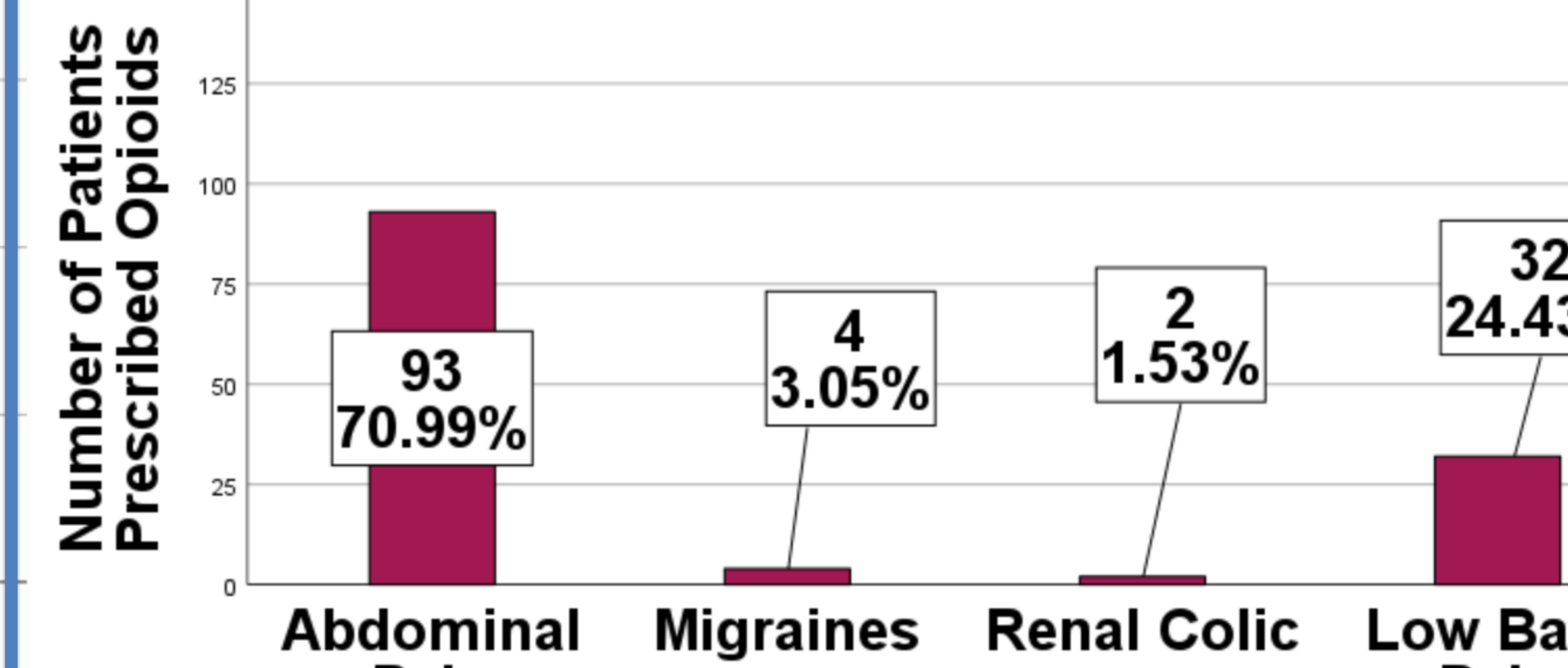


Figure 5. Number of patients prescribed opioids by ICD Diagnosis

Abdominal Pain

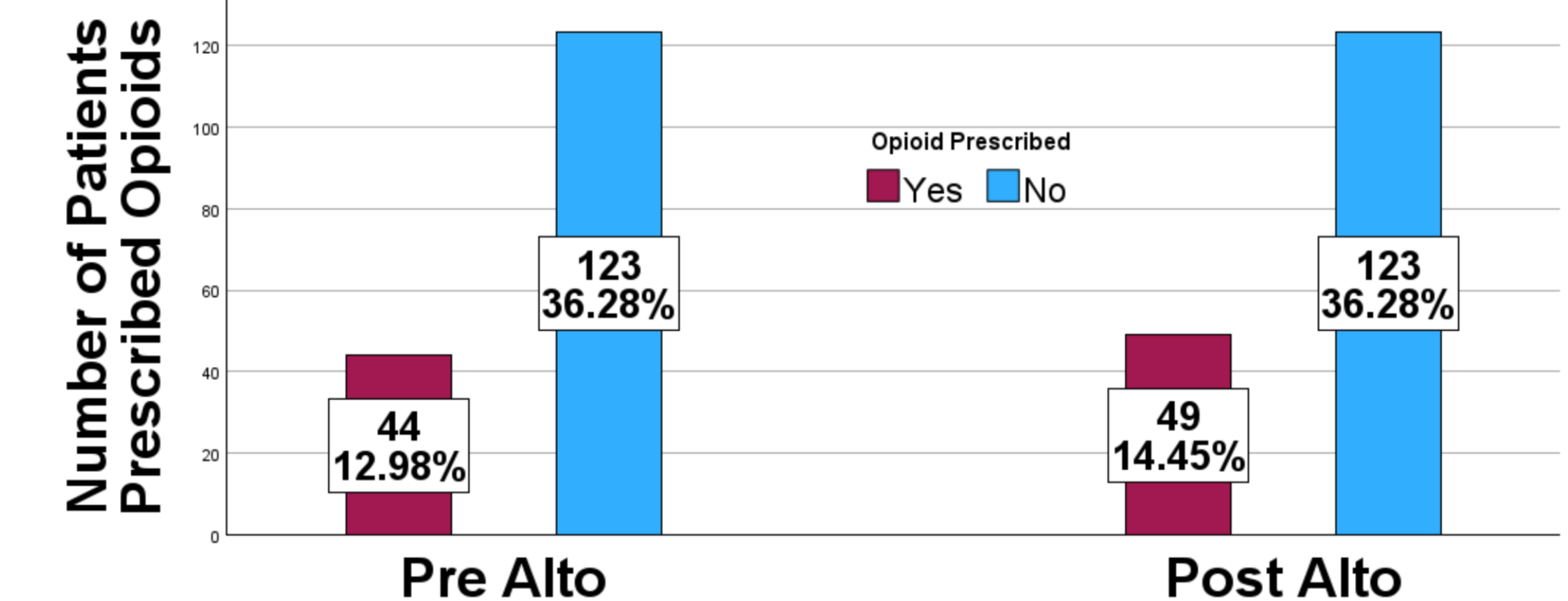


Figure 6. Number of patients prescribed opioids based on abdominal pain before and after ALTO.

Migraines

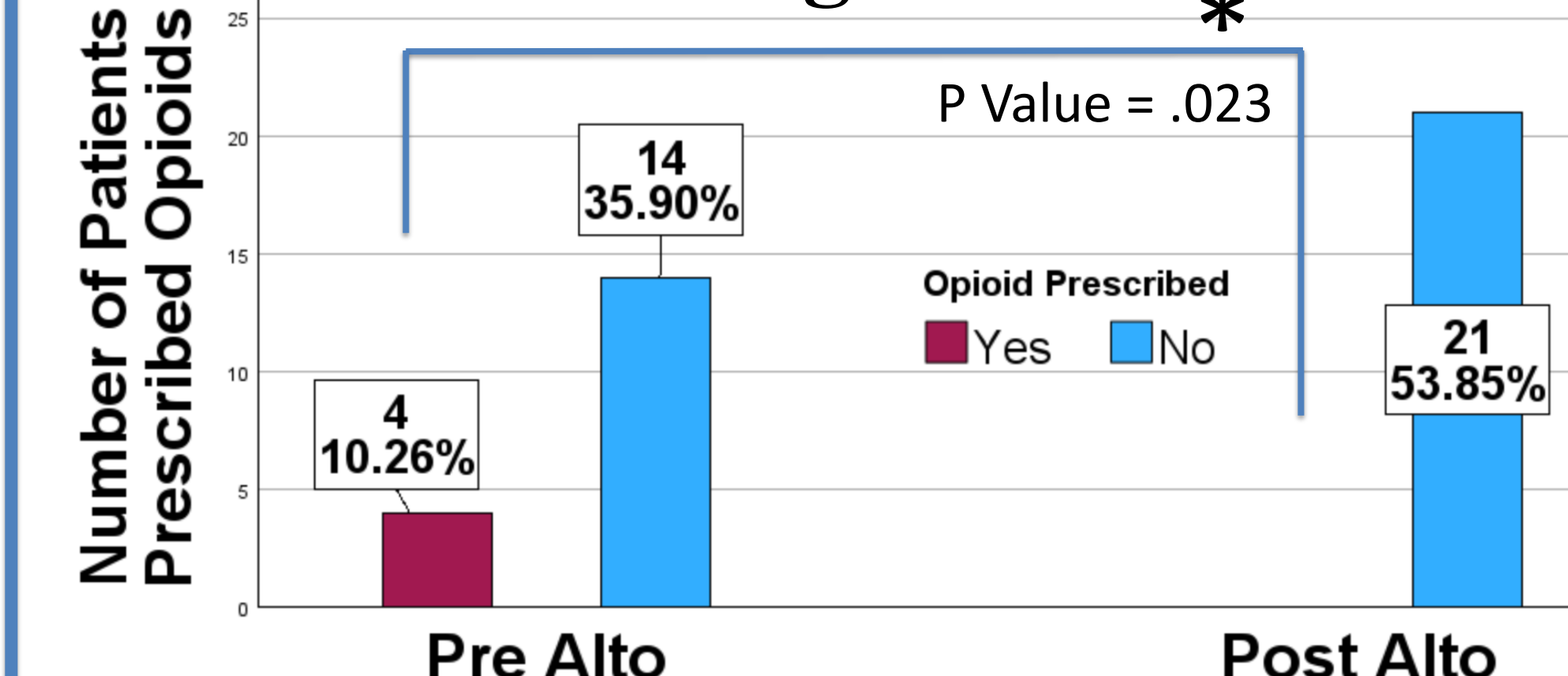


Figure 7. Number of patients prescribed opioids based on migraines before and after ALTO.

Renal Colic

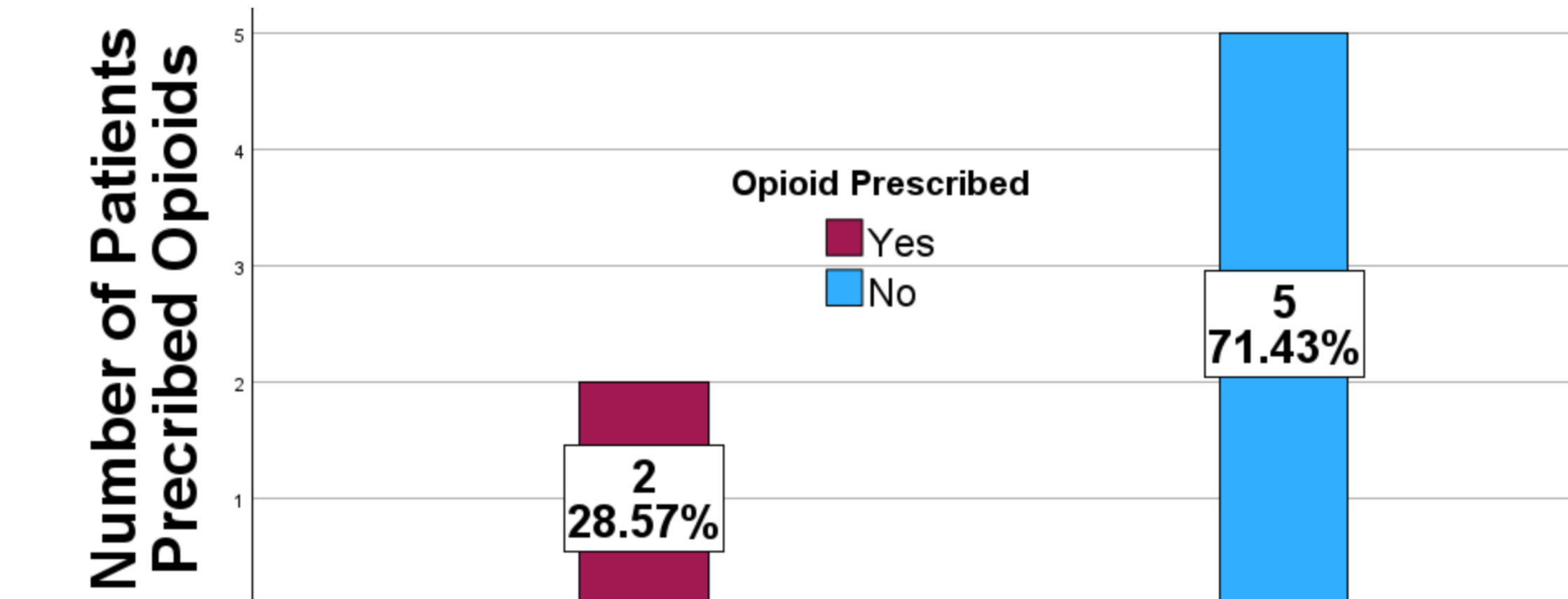


Figure 8. Number of patients prescribed opioids based on renal colic before and after ALTO.

Low Back Pain

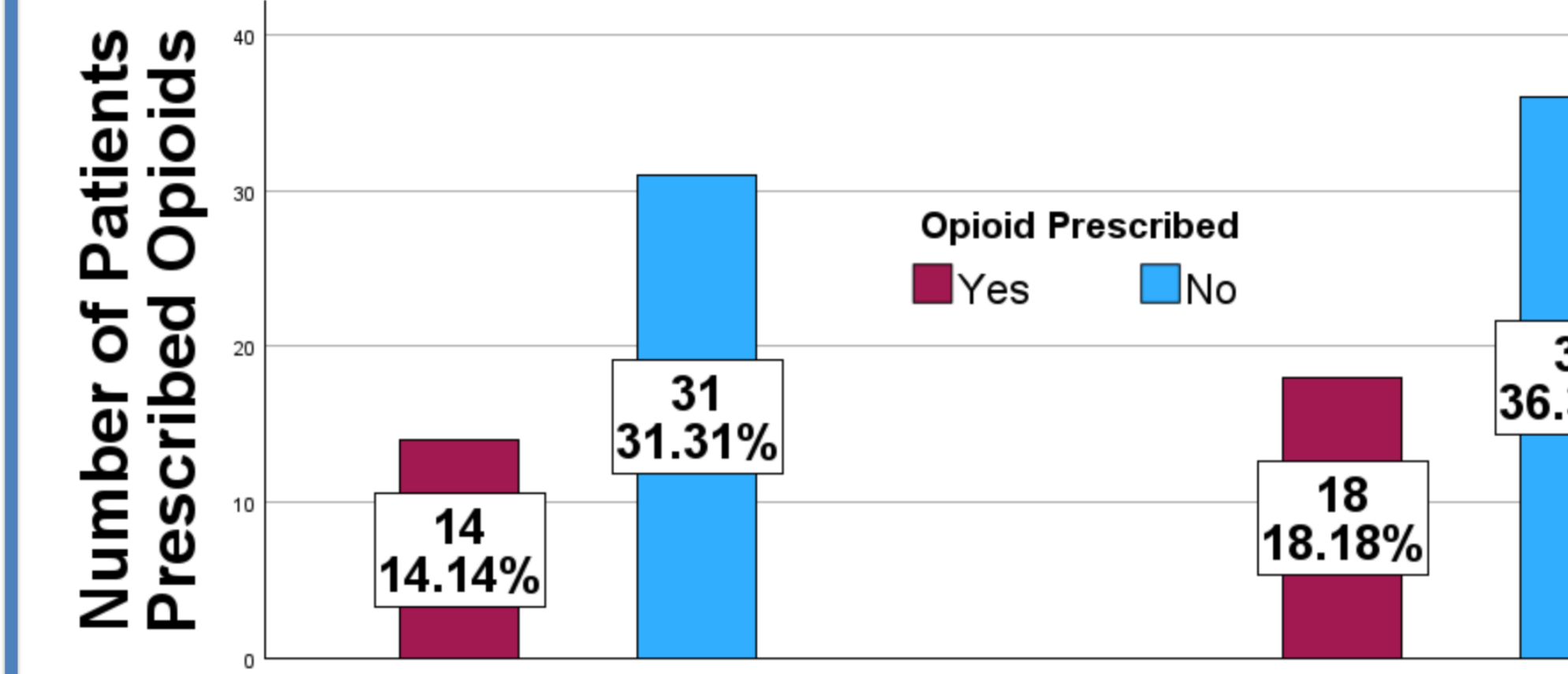


Figure 9. Number of patients prescribed opioids based on low back pain before and after ALTO.

Results (cont.)

- There was a significant difference in opioids prescribed between male and female patients. There were more females prescribed opioids than males who who had a final diagnosis of either, abdominal pain, renal colic, low back pain, and migraines (p Value = .009).
- There was a significant difference in the age of patients prescribed opioids who had ICD final diagnosis of either abdominal pain, renal colic, low back pain, and migraines. Patients who are considered young adults to adults were more frequently prescribed opioids than the elderly, adolescent and children (p Value = <.001).
- Based on ICD Final Diagnosis, there was a significant difference in opioids prescribed post ALTO intervention for migraines. Patients who had migraines were prescribed less opioids than before (p Value = .023).
- There was no significant difference in opioids prescribed for low back pain (p Value = .814), renal colic (p Value = N/A), and abdominal pain (p Value = .659) post ALTO intervention.
- There was no significant difference between the number of opioids prescribed pre and post ALTO Intervention (p Value = .959).
- There was no significant difference between race and opioids prescribed (p Value = .067).
- There was no significant difference between ICD final diagnosis and opioids prescribed (p Value = .072).

Conclusions

- Although the Intervention of ALTO did not significantly decrease opioid prescriptions, it did significantly decrease opioid prescriptions for migraines. This proves that ALTO has the potential to minimize opioid prescriptions for certain diagnosis.
- Possible reasons for no significant differences in pre/post ALTO prescription rates include not enough sample size due to studying 3 months pre and post ALTO and not enough time for ALTO to take effect.
- Female patients were prescribed more opioids for the same ICD final diagnosis compared to men.
- Patients who are young adults and adults are more frequently prescribed opioids than children, adolescent and the elderly.
- More longitudinal research needs to be done on the affect of ALTO to determine its affect on opioid prescription rates.

References

