

NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

Submission Id: 7104

Title

Are all smokers treated equally? Racial Differences in Smoking Cessation Pharmacotherapy Within the Epic Cosmos Database

Priority 1 (Research Category)

Smoking Cessation

Presenters

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Abstract

Context: Tobacco use is the leading cause of preventable disease and death in the US. In 2021, 11.5% of US adults reported smoking cigarettes. About half try to quit each year, but only 7% succeed. To assist with smoking cessation, there are several FDA-approved medications, like nicotine replacement, varenicline, or bupropion. Interestingly, new research has highlighted differences in smoking behaviors and cessation rates in African American (AA)/Black smokers compared to White smokers which present a unique opportunity for tailored interventions. Objective, Study Design, & Outcome Measures: This study aims to characterize racial differences in smoking cessation pharmacotherapy use among cigarette users within the Epic Cosmos database from January 2005 to January 2024. Setting & Population Studied: De-identified electronic health record data of patient demographics and treatment from health systems participating in the Epic Cosmos database were accessed. Data was analyzed using chi-square analysis to compare differences in pharmacotherapy treatments by race. Results: In the Cosmos database, 11.3% (n=17,124,293) of patients reported previous or current tobacco use. Among AA/Black patients, 16.1% (n=3,378,935) reported tobacco use, while among White patients, 12.0% (n=12,657,937) reported tobacco use ($\chi^2=1,449,965$, $p<0.0001$). 26.0% (n=3,270,157) of former or current cigarette smokers used at least one kind of smoking cessation pharmacotherapy. AA/Black smokers were less likely to receive any smoking cessation pharmacotherapy compared with White smokers (23.8%, n=629,382 vs. 27.2%, n=2,507,909; $z=-110.5$, $p<0.0001$). Transdermal nicotine patches were the most common choice of pharmacotherapy among White (52.2%, n=1,310,658) and AA/Black (56.1%, n=352,918) smokers. Notably, White smokers were more likely to utilize varenicline compared to AA/Black smokers (28.9%, n=724,146 vs. 19.8%, n=124,743; $\chi^2=819,079$, $p<0.0001$). Conclusion: In the Cosmos database, use of pharmacotherapy differed by race and may not be consistent with current treatment evidence. For example, from the handful of randomized controlled trials conducted in

AA/Black smokers, bupropion and nicotine replacement therapy were NOT effective, while there is promising evidence for varenicline use. Future research that addresses racial differences in specific treatment use may be helpful to reduce excess mortality and morbidity that AA/Black patients experience from smoking related disease.

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