Race and poverty as confounders for increased antihypertensives in NHANES 2013-2020 respondents

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Background: This study explores the relationship between one's number of antihypertensive prescriptions (AHPs) and the confluence of demographic factors including race, gender, education, and poverty level.

Methods: 2013 to pre-pandemic 2020 NHANES responses were utilized. Respondents aged 18+ with ≥1 AHP for an ICD-10 code for "essential hypertension" or "hypertension prevention" were included. GraphPad Prism 10 was used for analyses.

Results: Multiple linear regression controlling for age, gender, race, education, birthplace, and marital status was significant (R^2 =0.023, $F_{(16, 2791)}$=4.159, $p<0.0001$). More AHPs were prescribed at 1x to <5x poverty vs. ≥5x poverty (β=-0.0985, p=0.0271).

Two-way regression controlling for age and gender was significant (R^2 =0.020, $F_{(23, 2784)}$=2.508, $p<0.0001$). Non-Hispanic Black respondents 1x to <5x poverty predicted more AHPs vs. Non-Hispanic White below (β=-0.1531, p=0.241) or ≥5x (β=-0.3483, $p<0.0001$) poverty.

Adjusting for race, education, and birthplace, there was no significant difference in number of AHPs between genders (β=-0.0203, p=0.347). GED/high school graduation did not predict differences in AHPs vs. education <9th grade (β=-0.0526, p=0.2053), 9-11th grade (β=0.0280, p=0.437), some college (β=0.0230, p=0.4304), or college graduation (β=-0.0176, p=0.5848).

Conclusion: Non-Hispanic Black individuals and those living between 1x and 5x poverty level were associated with more AHP prescriptions. This points to potential bias in prescription of antihypertensives.