

Evaluating oral antihypertensive use in Black patients following hypertensive crisis

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Background: Due to alterations in the renin-angiotensin-aldosterone system and renal sodium handling, increased cardiovascular reactivity, and early vascular aging or large artery stiffness, the recommended first line antihypertensive therapies for Black patients include calcium channel blockers (CCBs) and thiazide-type diuretics.

Objective: This study aims to assess the appropriateness of the inpatient use of oral antihypertensives in Black patients, compared to White patients, following diagnosis and acute treatment of hypertensive crisis within Novant Health acute care facilities.

Methods: This is a multicenter, institutional review board approved, retrospective chart review evaluation of patients 18 years of age and older who were administered oral antihypertensives following a diagnosis of a hypertensive crisis, hypertensive urgency, or hypertensive emergency. Determination of diagnosis was based on ICD-10 codes during their inpatient admission. The primary endpoint assesses the alignment of inpatient oral antihypertensive use after acute medical management of hypertensive crisis with clinical practice guideline recommendations. Secondary endpoints evaluate reason for initial hospital admission, classes of oral antihypertensives administered, evidence of adherence prior to admission, and reason for non-preferred therapy, if administered. All endpoints will be evaluated using descriptive statistics.

Preliminary Results: The alignment of inpatient oral antihypertensive use with practice guidelines after the acute medical management of hypertensive crisis was 82% for Black patients compared to 90% for White patients included in the analysis. Initial reason for hospital admission varied widely among patients but the most common were as follows: cardiovascular 39%, neurological 26%, and gastrointestinal 13%. Hypertension was being managed by outpatient providers for 48% of Black patient and 73% of White patients. Adherence was documented in 17% of Black patients, whereas 35% were documented as being noncompliant to antihypertensive medications and 48% were either unable to be assessed or had no antihypertensives prescribed prior to arrival to the hospital. Both adherence and nonadherence for White patients was 23%. The most commonly used oral antihypertensive class overall was beta blockers followed by non-dihydropyridine CCBs.

Conclusion: When compared to White patients, a lower percentage of Black patients were administered the most optimal oral antihypertensive therapy following the acute medical management of hypertensive crisis. The Black population included in this study was less likely to have had their hypertension managed by an outpatient provider and showed increased rates of nonadherence to oral antihypertensive medications prior to admission. Overall, further research and discussion with providers is necessary in determining discrepancies between preferred, guideline-directed antihypertensive therapy and alternatives agents being chosen.