

Assessing Adherence to Guideline Recommendations on Initial Selection of Pharmacological Treatment for Hypertension at a General Internal Medicine Clinic in Metropolitan Central Illinois

Purpose: Clinical guidelines provide evidenced-based patient care recommendations and can improve treatment outcomes. The 2017 ACC/AHA Hypertension Guidelines have advanced treatment of hypertension but have not been adopted by the American College of Physicians (ACP) and the American Academy of Family Physicians (AAFP) for use in primary care. It is unclear how the ACC/AHA guidelines have impacted treatment of hypertension in primary care settings. A retrospective chart review will evaluate if and to what extent the ACC/AHA guidelines influence initial selection of pharmacological treatment of hypertension during primary care visits at a general internal medicine clinic in metropolitan Central Illinois.

Methods: This is a retrospective cohort study reviewing the electronic medical records (EMR) of all visits associated with the management of hypertension in patients who presented to a general internal medicine clinic aged 18 years and older. Visits after a HTN ICD code was first noted in the patient's chart were considered. Patients being seen by their primary care provider in clinic from December 21st, 2017, to December 31st, 2021, with at least 6 months of follow-up data available and at least 2 documented follow-up visits were included. Initiation of pharmacological therapy was defined as adherent if it met all of the following criteria: if pharmacological treatment was initiated as soon as it was warranted, if initial selection was first-line, and if initial selection was optimal based on race, comorbidities, blood pressure, and patient-specific factors according to the 2017 ACC/AHA Hypertension Guidelines. Results are reported as means \pm standard deviations, medians with interquartile ranges, or proportions and compared using Student's t-test, the Mann-Whitney test, and Fisher's exact test as appropriate.

Results: Data was extracted from 100 electronic health records. There were 34 patients excluded from analysis because they had either been previously initiated on antihypertensive therapy prior to being seen at the clinic or never truly diagnosed with HTN. Of the 66 records analyzed, 27 (40.9%) were female, and 12 (18.2%), 45 (68.2%), and 9 (13.6%) identified as African American, white, and non-African American/White, respectively. A total of 54 out of 66 patients (81.8%) received pharmacological treatment upon diagnosis of hypertension that met the ACC/AHA 2017 Hypertension guideline recommendations on primary medication class choice. Those receiving care meeting the ACC/AHA guidelines had higher control rates (i.e., BP \leq 130/80 mmHg; 64.8% vs. 41.7%) and had shorter times to control (median of 110 vs. 132 days), although neither of these differences were

statistically significant.

Conclusion: Based on the statistical analysis of data from our study population, most prescribers' decision-making in appropriate time to initiating pharmacological treatment and initial choice of medication is consistent with the 2017 ACC/AHA Hypertension Guidelines. However, our results also indicated that there is a significant percentage of patients who were either not initiated on pharmacological treatment when it was warranted or the initial choice of medication upon diagnosis of hypertension was suboptimal based on guideline recommendations. Further study is necessary to detect differences in outcomes and could potentially lead to quality improvement initiatives that would foster improvement in patient care.

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