

Med-Peds Resident Adherence to JNC-8 Blood Pressure Guidelines in Diabetic Patients



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Background

Hypertension is a leading cause of morbidity and mortality in the United States. Approximately 1 in 3 Americans, or 75 million people, are currently living with hypertension, and nearly a half million will die from hypertension-related diseases each year (1). In 2014, the 8th Joint National Committee (JNC-8) released evidence-based guidelines for the diagnosis and treatment of high blood pressure, adopting a conventional blood pressure goal of less than 140/90 mmHg for all patients with diabetes (4). It is well established that diabetes and hypertension are independent risk factors for cardiovascular disease, and studies suggest that they have a synergistic effects. Thus, the purpose of this QA/QI project was to evaluate the extent to which the Medicine-Pediatrics resident clinic at the Ambulatory Care Center (ACC) adhered to the JNC-8 guidelines on hypertensive management in patients with diabetes.

Objectives

- To determine the rate of adherence to the JNC-8 guidelines in Diabetic patients seen at the ACC Med-Peds Resident Clinic.
- To discover barriers to adherence to the JNC-8 guidelines in hopes of developing an intervention to improve blood pressure control in Diabetic patients.

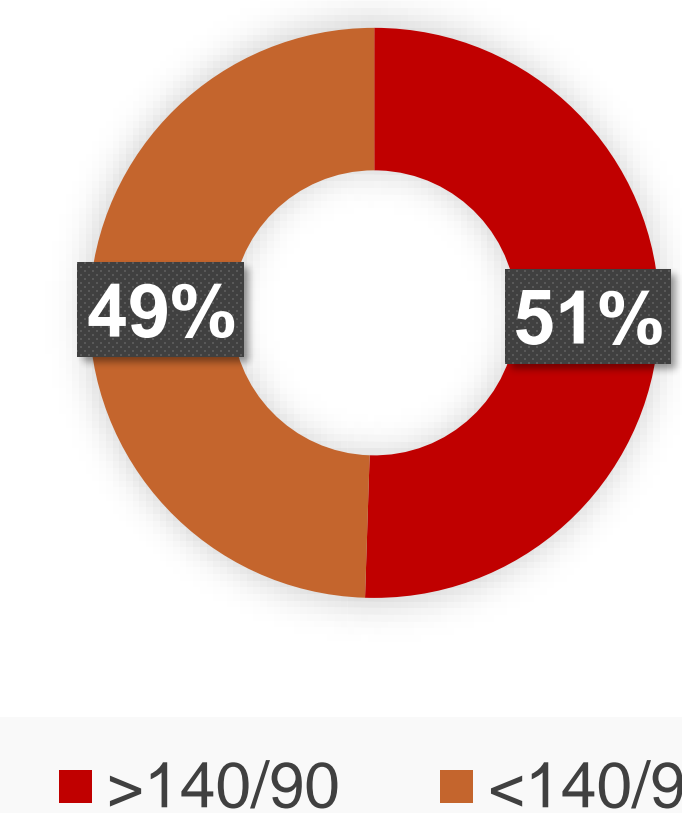
Methods

- A retrospective chart review of Medicine-Pediatrics clinic patients with a diagnosis of diabetes and seen during the period July 2017 to January 2018 was performed.
- Age, sex, race, current HbA1c, comorbidities, microalbuminuria, antihypertensive use, and therapeutic interventions at the last visit were collected using a secure data collection tool.

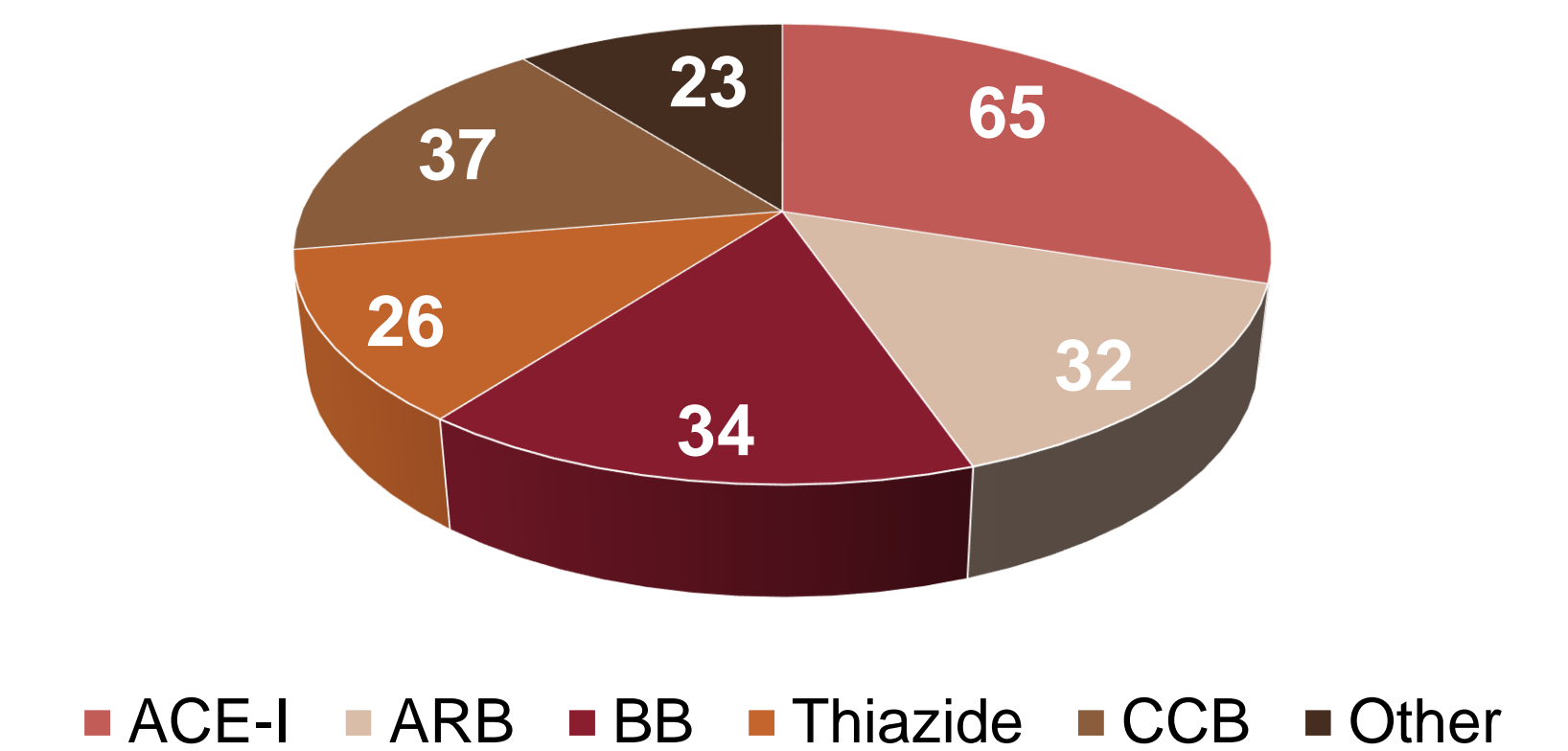
Demographics

Characteristic	Category	Number (%)
Age	33-59 years	46 (47.4)
	>60years	61 (62.9)
Gender	Male	36 (37.1)
	Female	61 (62.9)
Race	African American	63 (64.9)
	Caucasian	4 (4.1)
	Hispanic	16 (16.5)
	Other	14 (14.4)

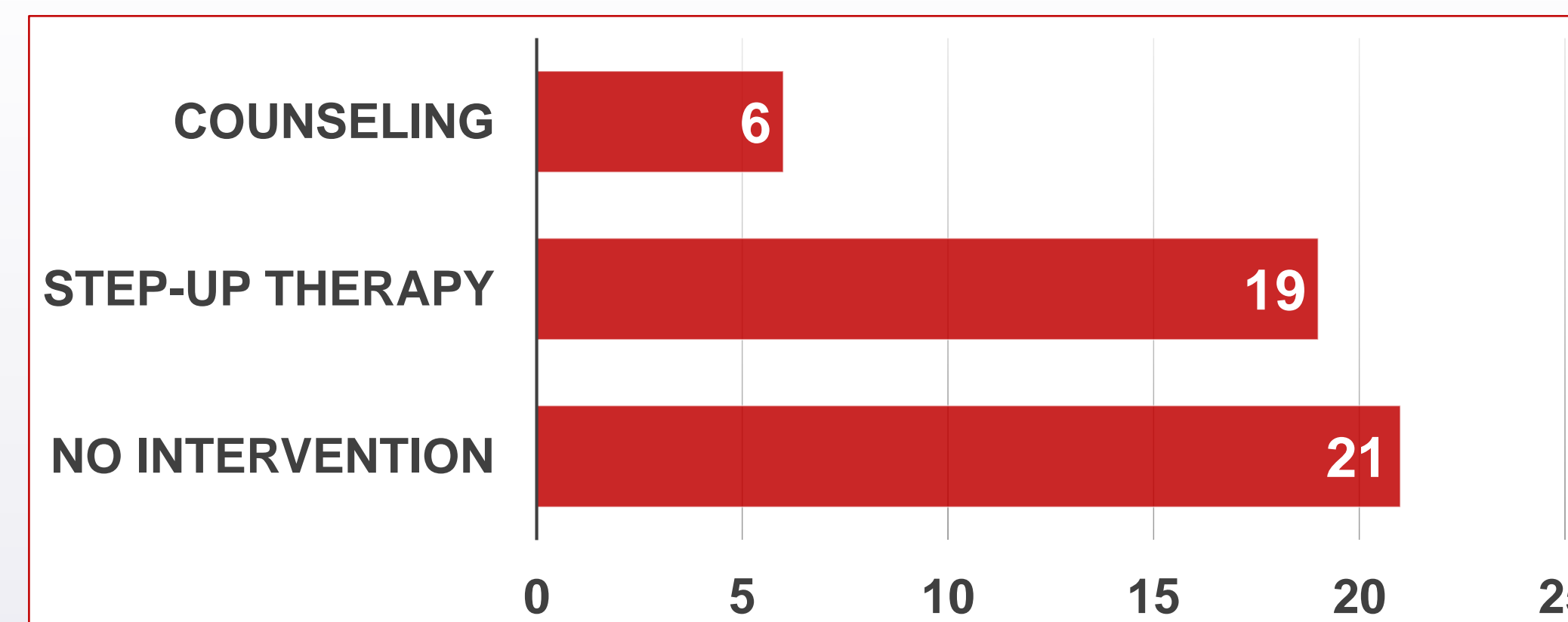
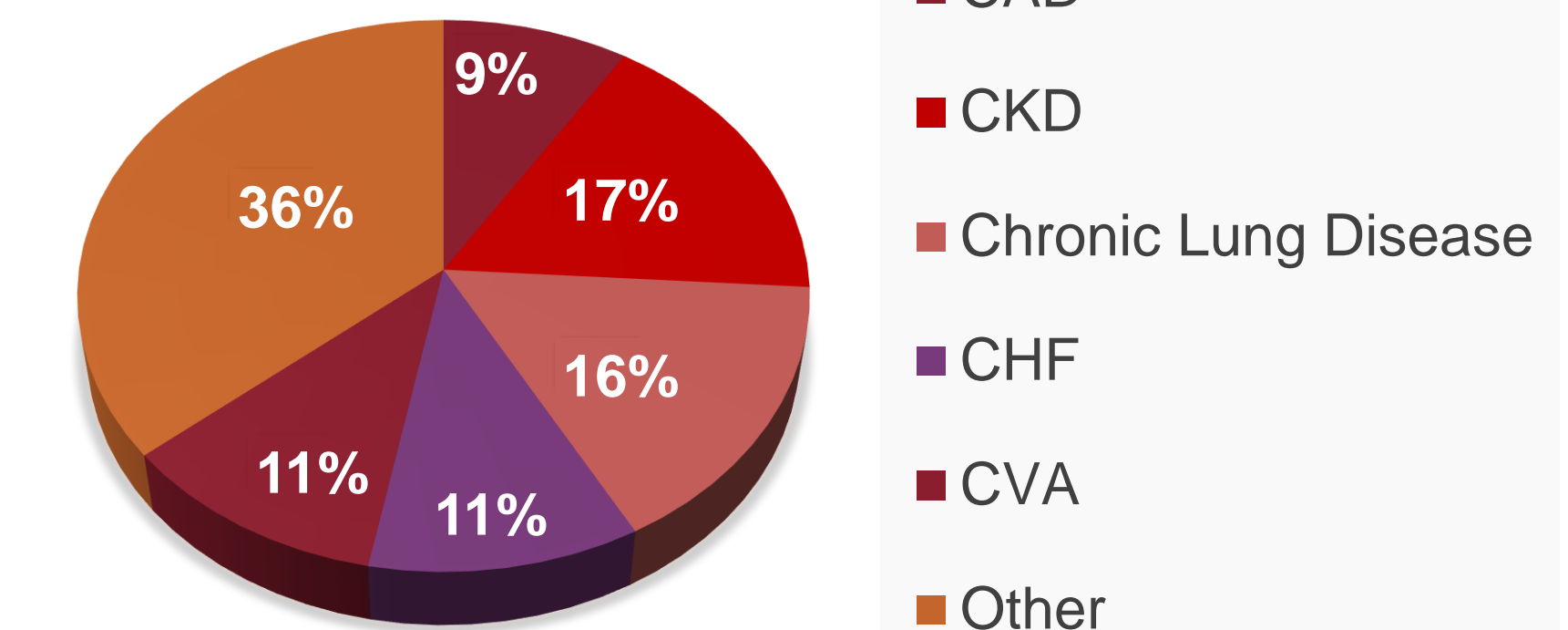
Blood Pressure



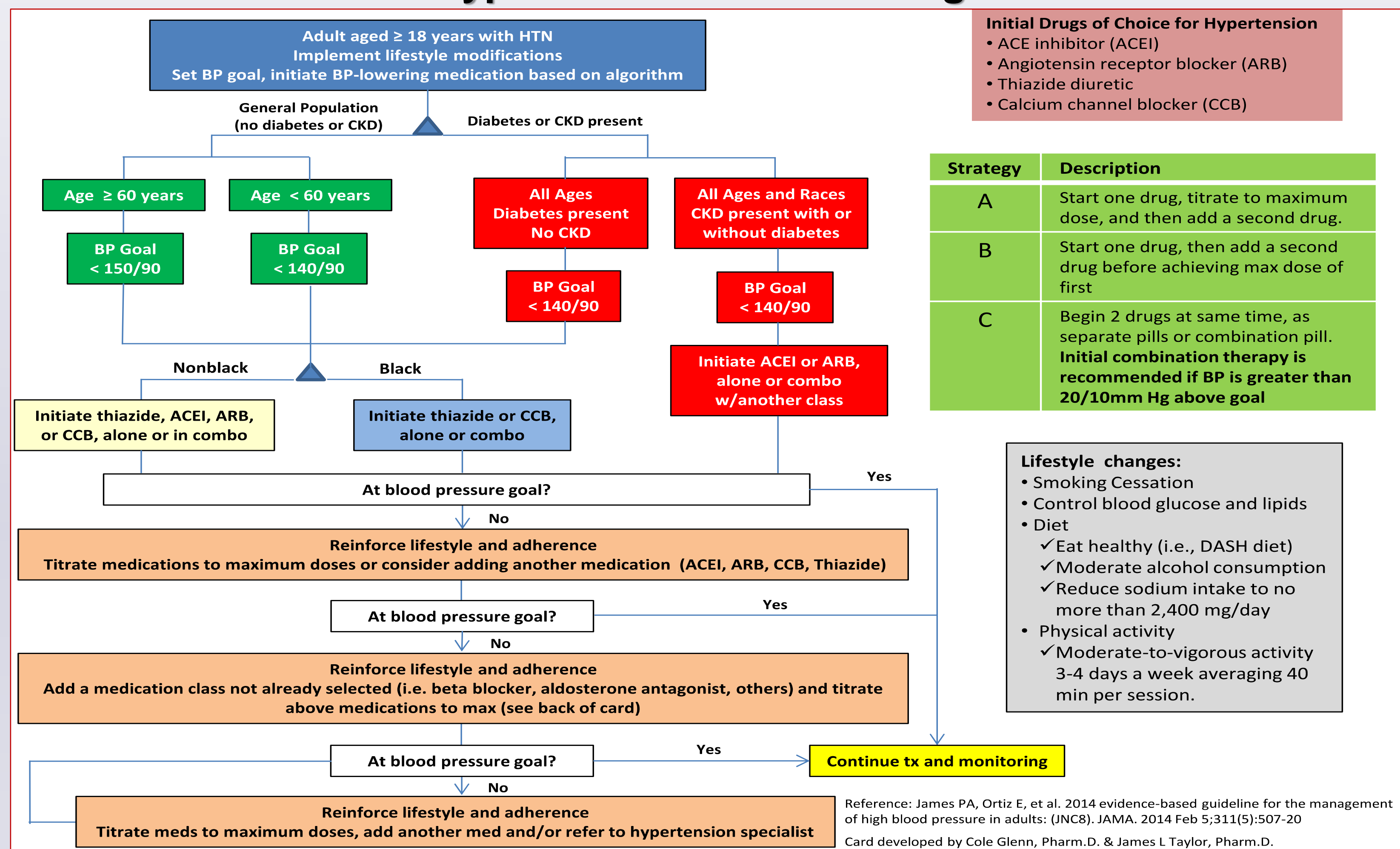
Current Anti-hypertensives



Co-morbidities



JNC8 Hypertension Guideline Algorithm



Results

- Data from a total of 97 patient charts were extracted, mean age was 46 years. There were 63 African American and 34 non-African American. Majority of the patients were female (63%). Comorbid medical conditions were present in 86/97 patients and included CKD(n=17), chronic lung disease (n=16), CHF (n=11) and CVA (n=11).
- The goal blood pressure of < 140/90 mm Hg was achieved in 48/94 patients for whom blood pressure was documented at last visit (51%).
- ACE-Is and ARBs were the most commonly used antihypertensive, with 66 patients on either an ACE-I or ARB (68%). Among those with documented microalbuminuria, 71.4% were on ACE-I or ARB (15/21). The most common alternative antihypertensive used were calcium channel blockers (n=37), B-blockers (n=31), and thiazide diuretics (n=26).
- Congestive heart failure or history of MI was an indication in 13/31 patients prescribed B-blocker. Data was not collected on the rate of tachyarrhythmia, which may account for the high usage of this second line agent.
- Of the 46 patients that did not meet BP goal, 19 received step-up therapy with either additional antihypertensive or dose augmentation of the current regimen, 6 received diet/exercise counseling only, and 21 received no further intervention

Conclusions

The results of this study show that there is plenty of room for improvement in reaching the recommended blood pressure goal for the diabetic patients in the Med-Peds Ambulatory Care clinic. It is unclear as to why the group was largely women, however, it is likely due to the high predilection of diabetes with African American women in an urban area. While a majority of patients were on an appropriate anti-hypertensive, several patients more patients could have benefited from an ACE-I or ARB, though contraindication or allergy was not collected. A large number of patients also did not receive further intervention despite uncontrolled hypertension. Of note, the newest AHA/ACA hypertension definitions and recommendations would need to be incorporated for future interventions. Further studies to assess the barriers to reaching these goals will need to be explored.

References

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