Letter by Triantafyllou and Straub Regarding Article, "Thresholds for Ambulatory Blood Pressure Among African Americans in the Jackson Heart Study"

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To the Editor:

We read with great interest the article by Ravenell et al[1] regarding proposed thresholds for daytime, nighttime, and 24-hour ambulatory blood pressure (BP) in African Americans. The authors suggest higher thresholds for hypertension for that specific population. More specifically, they suggest that daytime hypertension be defined as systolic BP/diastolic BP≥140/85 mm Hg, 24-hour hypertension be defined as 24-hour systolic BP/diastolic BP≥135/80 mm Hg, and nighttime hypertension be defined as nighttime systolic BP/diastolic BP≥130/75 mm Hg. It is widely accepted that ambulatory BP monitoring is the most accurate method to confirm elevated BP measurements in the office. Higher ambulatory BP levels (24 hours, daytime, or nighttime) can predict cardiovascular adverse events independently of office BP levels.[2] During recent years in the literature, the concept of ambulatory (short-term) BP variability has come into play. Short-term BP variability is the variation in the BP in the same individual over 24 hours. There are several indices of BP variability proposed, which can be applied separately in 24 hours, daytime, and nighttime systolic BP and diastolic BP: first, the standard deviations of the mean 24-hour day, and night values; second, the difference mean in BP day and night values; and third, the BP variability derived from spectral analysis of the 24-hour BP tracing.[3] Observational studies, and a recently published meta-analysis, as well, suggest that short-term BP variability is independently associated with cardiovascular outcomes.[3,4] However, limited data exist regarding BP variability in the African American population. Given the large cohort in the authors' study, it would be clinically important and meaningful if the authors could provide data regarding the daytime, nighttime, and 24-hour BP variability in the African American population, and their association with cardiovascular end points, as well. Comparison of this variability with that of other races could identify one of the reasons African Americans are at increased risk for cardiovascular events.[5] Moreover, given that the authors have ambulatory BP data in patients on antihypertensive treatment, the above analysis could help identify any medication class or classes having a favorable effect on the BP variability. Along the same lines, another meaningful analysis of the data would be to compare the frequency/incidence of cardiovascular events in patients taking different antihypertensive medication classes, after adjusting for BP levels. That way, potential pleiotropic medication actions, or pharmacogenomic interaction of the medication class and African American race, could be identified. As a result, we might be able to make better treatment selections for African American patients with hypertension.

DISCLOSURES

None.

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