Improving Hypertension Control in Poststroke Patients: A Step Toward Health Equality Across Ethnicity

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Stroke is a major cause of death and disability globally, and there are considerable economic costs for poststroke care. The burden of stroke remains high and will continue to rise. While a review by Hillier and Inglis-Jassiem in 2010 showed that poststroke care delivered by outpatient clinic may be more effective, additional insight into the effectiveness of other care programs including home care is lacking. There is a need to undertake additional trials for assessing different types of multidisciplinary poststroke care.

One of the most important modifiable risk factors for stroke, dementia, kidney failure, and most cardiac-related disease is high blood pressure (BP). Hypertension remains the most common risk factors for stroke; around 75% of stroke patients also suffer from hypertension. Monitoring and diagnosis of elevated Systolic Pressure (SP) are particularly vital in specific ethnicity, especially those of African-American (Blacks) or Hispanic descent. Stroke prevalence in Blacks (~4%) is almost twice as high as in Whites (~2.3%) and Hispanics (~2.6%). This disparity rendered the highest burden of mortality for the Blacks, together with younger Hispanics despite lower mortality rate in Hispanics compared to Whites. Lack of awareness in stroke symptoms and signs was attributed to delay in receiving intervention, hence increasing mortality rate. The National Heart, Lung and Blood Institute Working Group on Research Needs to Improve Hypertension Treatment and Control in African Americans found that control of hypertension was lower in Blacks compared to Whites despite higher rates of treatment, thus they continue to have a disproportionately high prevalence of hypertension and risk of BP-related complications. The American Heart Association (AHA) has independently released their Scientific Statement on Cardiovascular Health in African Americans, which published strategies recommended to address disparities in cardiovascular health of African Americans. The incidence and mortality of strokes continues to be higher in Blacks compared to Whites, despite a fall in mortality by 80% in the last 60 years. The National Health and Nutrition Examination Survey between 2003 and 2012 reported that Blacks had poorer control of their hypertension despite receiving more intensive therapy. On the other hand, Hispanics tended to have poorer control of their hypertension due to inadequate treatment. In clinical trial settings, however, all ethnicities achieved similar control of BP level. Failure in reducing the disparity between these ethnic groups is attributed to patient-related factors as well as social and cultural environment. The AHA further emphasized that healthcare providers can play a major role in reducing the disparity by performing comprehensive population screening to improve interaction between physicians and patients, and uncover any disease management disparities.

In this issue of American Journal of Hypertension, Feldman et al. presented their study of a pragmatic multi-level intervention study designed to address the issue of tackling hypertension in the home care poststroke Black and Hispanic population. They found that similar reduction in SP was observed across all study arms, i.e., UHC (Usual Home Care), Nurse Practitioner (NP) transitional care program, or a 60-day Health Coach in addition to a nurse and home care (UHC + NP + HC) arms within 3 months follow-up period. The lack of additive value of NP and HC involvement suggests that SP reduction was mainly due to interaction between UHC nurses, physicians and the patients themselves. The study also suggested that UHC nurses may play a bigger role than previously thought in delivering a better control of hypertension in patients. Although BP lowering target was not quite achieved in this study, its important clinical implications remain, as about 25% of strokes are recurrent with mortality rate of around 40%.

Diagnosis, management, and treatment of elevated SP are currently priority targets for intervention as the rate of its incidence, prevalence and cardiovascular complications remain steady. While Feldman et al. have reported significant reduction in SP measured by brachial cuff, management and therapeutic intervention in hypertensives can be improved further. Clinicians need to be aware that conventional brachial cuff measurement may not detect subtle variation in ethnical vascular features. Past studies have concluded that racial disparity in BP control rates cannot be attributed to antihypertensive treatments alone. Research suggests that...
treatment of hypertension with different antihypertensive class may deliver dissimilar effects in Blacks compared to Whites, which might plausibly be related to varying effects of different antihypertensives on central aortic BP and vascular stiffness features. This is where measures of central aortic BP may emerge as a better guide to antihypertensive therapy, although, at present, its application remains limited to research. The BP GUIDE study investigators reported that guidance of hypertension management with central BP provide a more appropriate and potentially less medication to achieve BP target with no adverse effect. Studies have demonstrated that arterial stiffness is an important risk factor for cardiac-related disease, therefore quantification of central BP hemodynamics as a measure of stiffening of central arteries has been suggested by the European Society of Hypertension and European Society of Cardiology Guidelines as one potential diagnostic evaluation, especially for detection of systolic hypertension in young persons, although it is yet to be incorporated into AHA Hypertension Guidelines.

While Feldman et al. have made a step ahead in comparing different approaches in managing hypertension in Black and Hispanic poststroke home care patients, further improvements are desirable. BP is a strong determinant of stroke risk, and there is abundant evidence that controlling BP levels will reduce the risk of stroke. Programs to improve patient-to-health provider interactions are required to encourage adherence to treatment, while other community-based approaches may be trialed in the interim. Strategies that address cardiovascular disease disparities are vital to achieve health equality in the United States.

DISCLOSURE
The author declared no conflict of interest.

REFERENCES