The Time Is Now: Reducing Racial Risk of Hypertension with Postpregnancy Follow-Up

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Introduction

AFRICAN AMERICAN WOMEN HAVE the highest prevalence of hypertension in the United States compared with other racial/ethnic groups and sexes.¹ Multiple factors contribute to racial and gender differences in hypertension such as lifestyle, socioeconomic position, and pregnancy-related factors.¹ A large proportion of incident hypertension is explained by dietary and lifestyle risk factors in women,¹ and obesity is a well-recognized risk factor for hypertension.¹ African American women are more likely to be obese than white women² and have less adherence to recommendations on diet and weight management.³ Inadequate blood pressure control in African Americans is also linked to socioeconomic challenges such as underinsurance and lower health literacy.³ Many African Americans have lower socioeconomic positions, which contribute to increased stress and unhealthy lifestyles.¹

Pregnancy is a stressful period in a woman's life and may be complicated by gestational hypertension, pre-eclampsia, or worsening of pre-existing hypertension. Pre-eclampsia is more common in African American women than in white women⁴ and has been associated with an increased risk of future hypertension.⁵ The postpartum period may be a window to perform a comprehensive wellness assessment and initiate a framework for future care in African American women.⁶

Margerison et al. contribute to the literature by investigating the role of hypertension risk factors measured at midlife and previously at the time of pregnancy.⁷ Using the POUCHMoms study, they demonstrated that racial differences in hypertension between African American women and white women are attenuated by midlife risk factors and eliminated after accounting for pregnancy-related risk factors.⁷ The risk factors for hypertension that were measured included socioeconomic status, psychosocial, behavioral, and physiological factors.

Socioeconomic status is linked to blood pressure control³ and was assessed as a composite score based on reported education, marriage status, income, investments, and ownership of private health insurance. Psychosocial factors are associated with blood pressure progression particularly with

an accumulating number of stressful events^{1,3} and included depression, hostility, and job strain in this study. The behavior assessment included self-report of smoking, diet quality, weekly sedentary hours, and sleep summary score. Physiological factors are known determinants of blood pressure¹ and included body mass index, lipids, and C-reactive protein levels.

Risk factors measured during pregnancy included socioeconomic status, body mass index, maternal lipids, C-reactive protein levels, and pregnancy complications. These risk factors are important because they frequently occur together, possibly have additive effects, and can be modified to reduce the risk of future hypertension in African American women. For instance, obesity commonly exists with abnormal lipid profiles and elevated inflammatory markers. Mid-life socioeconomic status explained most of the disparities in hypertensive status between African American women and white women in Margerison's study.⁷ However, the order of entry of the risk factors into the models could affect their relative importance as acknowledged by Margerison. Although pregnancy complications are recognized as sex-specific risk factors for cardiovascular disease,⁸ they did not account for racial disparities for hypertension in this study. In the POUCHMoms study, pre-eclampsia was less common in African American women.⁷ A major limitation of this study is that genetics, racial discrimination, neighborhood environment, and social support have been associated with racial disparities were not accounted for.

The Time Is Now

Hypertension is poorly diagnosed, treated, and controlled in African Americans who suffer disproportionately from hypertension-related morbidity such as cardiovascular disease, stroke, and chronic kidney disease.³ The increasing rates of hypertension among African American women are significant because the death rate from hypertension is greater in African American women than in white women,² and the elimination of hypertension can reduce cardiovascular disease mortality by as much as 38% in women.¹ Hypertension is also a strong risk factor for heart failure, which

disproportionately affects African American women.^{1,9} Accumulation of risk factors such as hypertension increases the likelihood of heart failure and death in women of all ethnicities.⁹ Thus, African American women should be screened for both traditional and sex-specific risk factors.

Most women, including African Americans, receive care during the pregnancy and postpartum periods. Therapies and interventions provided during pregnancy should be focused not only on pregnancy-related complications but also on known cardiovascular disease risk factors as indicated by Margerison's study. The weeks after birth are a critical period for women and form the basis for long-term health and transition to the well-woman care visit.⁶ During the well-woman prevention visit, risk factors should be comprehensively reviewed and lifestyle counseling provided to reduce cardiovascular disease risk with the goal of preventing future events.⁸ The Patient Protection and Affordable Care Act expanded coverage to all individuals of reproductive age and provided coverage for many reproductive health services.¹⁰ Although addressing health disparities and promoting health of pregnant women are national priorities,¹¹ any uncertainty about healthcare poses a risk to reproductive healthcare coverage particularly among African American women.

Conclusions

Racial disparities in the prevalence of hypertension have persisted despite increasing awareness and development of targeted therapies to decrease disparities.³ The pregnancy follow-up visit creates a window of opportunity during which African American women can be targeted for aggressive risk factor modification to decrease the risk of developing hypertension later in life. Collaboration between obstetricians and primary care providers is necessary to ensure ongoing care beyond the postpartum years especially for vulnerable populations such as African American women.

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References

1. Benjamin EJ, Virani SS, Callaway CW, et al. Heart disease and stroke statistics-2018 update. A report from the American Heart Association. *Circulation* 2018;137:e67–e492.

2. Mosca L, Barret-Connor E, Wenger NK. Sex/gender differences in cardiovascular disease prevention what a difference a decade makes. *Circulation* 2011;124:2145–2154.
3. Mueller M, Purnell TS, Mensah GA, Cooper LA. Reducing racial and ethnic disparities in hypertension prevention and control: What will it take to translate research into practice and policy? *Am J Hypertens* 2015;28:699–716.
4. Breathett K, Muhlestein D, Foraker R, Gulati M. Differences in preeclampsia rates between African American and Caucasian women: Trends from the National Hospital Discharge Survey. *J Womens Health (Larchmt)* 2014;23:886–893.
5. Garovic VD, August P. Preeclampsia and the future risk of hypertension: The pregnant evidence. *Curr Hypertens Rep* 2013;15:114–121.
6. Presidential Task Force on Redefining the Postpartum Visit. Committee on Obstetric Practice. Optimizing Postpartum care. ACOG Committee Opinion. *Obstet Gynecol* 2018;131:e140–e150.
7. Margerison CE, Catov J, Holzman C. Pregnancy as a window to racial disparities in hypertension. *J Womens Health* 2019;28:152–161.
8. Brown HL, Warner JJ, Gianos E, et al. Promoting risk factor identification and reduction of cardiovascular disease in women through collaboration with obstetricians and gynecologists. A presidential advisory from the American Heart Association and the American College of Obstetricians and Gynecologists. *Circulation* 2018;137:e843–e852.
9. Breathett K, Leng I, Foraker RE, et al. Risk factor burden, heart failure, and survival in women of different ethnic groups. Insights from the women's health initiative. *Circulation* 2018;11:e004642.
10. Stulberg D. The patient protection and affordable care act and reproductive health: Harnessing data to improve care. *J Health Polit Policy Law* 2013;38:441–456.
11. Hawkins SS, Cohen BB. Affordable care act standards for race and ethnicity mask disparities in maternal smoking during pregnancy. *Prev Med* 2014;65:92–95.

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