

Geography, Race, Gender Affect Hypertension Risk

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Body

The risk of developing hypertension may depend on where in the United States a person lives as well as his or her gender and race, according to a study.

Researchers found that individuals living in Birmingham, Ala., had a higher 20-year incidence of hypertension (33.6%) than those residing in Chicago (23.4%), Minneapolis (19%), and Oakland, Calif. (27.4%), a team led by Deborah A. Levine, MD, MPH, Assistant Professor of Medicine at the University of Michigan in Ann Arbor, reported in *Hypertension* (published online ahead of print).

Compared with Birmingham residents, those in Chicago, Minneapolis, and Oakland had a 28%, 40%, and 27% decreased risk of hypertension, respectively, after adjusting for age, race, gender, body mass index, family history, education, uric acid level, physical activity and other potential confounders.

The study also revealed that blacks, especially black women, have a greater risk of hypertension than whites. In a fully adjusted model, hypertension was 46% more likely to develop in black women than black men, Dr. Levine's group reported. In addition, compared with black men, white men and white women were at 30% and 29% lower risk.

The study included 3,436 individuals aged 18-30 years when they were enrolled in the longitudinal community-based **Coronary Artery Risk Development in Young Adults (CARDIA) study** in 1985-1986. The patients had a mean age of about 45 years after 20 years of follow-up.

"Geography and demography have strong, independent effects [on hypertension risk] that persist after adjustment for many hypertension risk factors," the authors concluded.

Their findings suggest that hypertension incidence may contribute to geographic and racial differences in mortality from cardiovascular disease, including stroke, they noted.

Dr. Levine and her colleagues observed that potential causes of geographic differences in hypertension include "socioeconomic factors not captured by adjustment for education, dietary or lifestyle factors, or environmental-gene interactions."

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Racial differences in hypertension incidence "may result from racial differences in sympathetic reactivity to stress, salt sensitivity, cumulative effects of psychosocial factors and stress, responsiveness of the renin-angiotensin-aldosterone system, dietary or lifestyle factors, or environmental-gene interactions."

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