

HYPERTENSION IN EARLY-STAGE KIDNEY DISEASE: AN UPDATE FROM THE KIDNEY EARLY EVALUATION PROGRAM

Rigas Kalaitzidis¹ Suying Li² Changchun Wang² Shu-Cheng Chen, ² Peter A. McCullough³ George Bakris¹ ¹Department of Medicine University of Chicago, Pritzker School of Medicine, Chicago, Illinois; ²Chronic Disease Research Group, Minneapolis Medical Research Foundation, Minneapolis, Minnesota; ³Department of Medicine, William Beaumont Hospital, Royal Oak, Michigan

Chronic kidney disease (CKD) is a worldwide public health problem. Systolic blood pressure level over time as an associated feature of CKD has not been fully explored in community volunteer and nationally representative samples of the US population.

This cross-sectional analysis evaluated hypertension and early-stage CKD in participants in the Kidney Early Evaluation Program (KEEP), a voluntary community-based health screening program administered by the National Kidney Foundation, and the National Health and Nutrition Examination Survey (NHANES) data to assess similarities and differences between these populations. Participants in both databases were aged ≥ 18 years.

The KEEP database included 88,559 participants and the NHANES 20,095. Hypertension prevalence was higher in KEEP (69.6%) than NHANES (38.1%); $P < 0.001$. Compared with NHANES, KEEP participants had higher rates of obesity (79.5% versus 51.5%, $P < 0.001$) and diabetes (28.0 versus 8.9%, $P < 0.001$). Among diabetic participants, KEEP had slightly higher rates of prevalent hypertension (88.5% versus 85.7, $P = 0.03$). Among hypertensive participants, CKD stages 3 and 4 were more prevalent in KEEP than NHANES (79.1% versus 69.3%, $P < 0.001$). Rates of CKD stages 3 and 4 were higher in KEEP than NHANES for the following subgroups: African Americans (72.4% versus 57.4%, $P < 0.001$), smokers (69.1% versus 55.6%, $P = 0.002$), and those with hypercholesterolemia (80.2% versus 71.9%, $P < 0.001$).

In the volunteer KEEP population, rates of hypertension and CKD were higher than in NHANES, most prominently in African Americans and participants with increased cardiovascular risk.