



National Institute of Diabetes and
Digestive and Kidney Diseases (NIDDK)

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FEW AMERICANS ARE AWARE THEY HAVE CHRONIC KIDNEY DISEASE

Ten to 20 million people in the United States have kidney disease but most don't know it, according to researchers at the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) at the National Institutes of Health, the Johns Hopkins Bloomberg School of Public Health, and the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention. The findings are in the *Journal of the American Society of Nephrology*.

Over the past decade the number of people with kidney failure doubled and the number starting dialysis or having a first kidney transplant increased by 50 percent, so that more than 400,000 Americans are now being treated for kidney failure at a cost of \$25 billion annually. In contrast to these dramatic increases, the study also found that the number of people with earlier stages of kidney disease remained stable. About 7.4 million people have less than half the kidney function of a healthy young adult. Another 11.3 million have at least half of what's considered normal function, but they also have persistent protein in their urine, a sign of kidney disease. The researchers can't explain the paradox between stable prevalence of kidney disease and rising incidence of kidney failure, but they suggest that fewer patients may be dying and more may be progressing faster to dialysis.

"Given the high prevalence of chronic kidney disease, we need to increase awareness, diagnosis and treatment if we are going to reduce the rate of progression and complications. Most critical are control of diabetes and hypertension," said Josef Coresh, M.D., Ph.D., lead author of the study and professor of epidemiology, medicine and biostatistics at the Bloomberg School of Public Health in Baltimore.

Coresh and his colleagues estimated awareness of chronic kidney disease among 4,101 people in the United States from 1999 to 2000 and compared disease prevalence in those years with that from 1988 to 1994, when 15,488 people were surveyed. Data were from two National Health and Nutrition Examination Surveys by NCHS of nationally representative, non-institutionalized adults.

In the most recent survey, participants were asked: "Have you ever been told by a doctor or other health professional that you had weak or failing kidneys (excluding kidney stones, bladder infections, or incontinence)?" Less than 10 percent of adults with moderately decreased kidney function (one half to one quarter the filtering capacity of a young healthy adult) reported being told they had weakened or failing kidneys. Awareness was low in all but the most severe stages of kidney disease. Women with moderately decreased kidney function were significantly less aware of their illness compared to similarly affected men. The researchers determined actual kidney function from blood and urine tests and estimated glomerular filtration rate (GFR), a measure of how well the kidneys are filtering waste from the blood.

Lack of awareness may be due in part to doctors' sole reliance on the blood level of a substance known as creatinine. Because muscle mass and other person-to-person variables can alter creatinine levels, a "normal" reading can provide a false sense of security. Instead, creatinine should be considered along with a patient's age, gender, and race to estimate GFR.

"Kidney disease can be well advanced before it's found with creatinine alone. GFR is a more accurate gauge of how well the kidneys work, and our free calculator makes finding the rate a snap," said Thomas H. Hostetter, M.D., senior author of the study and director of NIDDK's National Kidney Disease Education Program (NKDEP). "The earlier we identify kidney disease the sooner we can treat it," said Hostetter.

NKDEP is asking labs to streamline the process for identifying kidney disease. "The GFR calculator is a great tool, but it's still one more step for busy doctors' offices. We are really pleased that several major labs have agreed to automatically report estimated GFR whenever creatinine is measured, removing a potential barrier to finding kidney disease early," said Hostetter. "We are still working quite hard to standardize tests for kidney disease by all labs."

People with chronic kidney disease are at high risk for premature death, heart attacks and strokes as well as hypertension, anemia, bone disease and malnutrition. NKDEP strives to increase awareness about kidney disease and offers the GFR calculator and other free tools at www.nkdep.nih.gov.

"Chronic Kidney Disease Awareness, Prevalence and Trends among U.S. Adults, 1999 to 2000" was written by Josef Coresh, Danita Byrd-Holt, Brad C. Astor, Josephine P. Briggs, Paul W. Eggers, David A. Lacher and Thomas H. Hostetter. The paper was published online on November 24, 2004, and will appear in print January 2005 in the Journal of the American Society of Nephrology.

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