

PREVALENCE OF CHRONIC KIDNEY DISEASE IS HIGH IN PERSONS WITH UNDIAGNOSED OR PRE-DIABETES IN THE UNITED STATES

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Diabetes is the leading cause of chronic kidney disease (CKD) in the United States; however, little is known about recent community prevalence of CKD in persons with undiagnosed or pre-diabetes. We estimated CKD prevalence in NHANES 1999-2006 participants who were ≥ 20 years old, responded to the diabetes questionnaire, and had fasting plasma glucose (FPG) measurements. Diabetes status was defined as follows: diagnosed diabetes, self-report of a provider diagnosis; undiagnosed diabetes, $\text{FPG} \geq 126$ mg/dl *without* a self-reported diagnosis; pre-diabetes, $\text{FPG} \geq 100$ and < 126 mg/dl; no diabetes, $\text{FPG} < 100$ mg/dl. CKD was defined by an $\text{eGFR} < 60$ ml/min/m² or albumin-to-creatinine ratio of ≥ 30 mg/g. CKD prevalence was examined using multivariable logistic regression. Among 8,145 adults, 826 had diagnosed diabetes, 256 had undiagnosed diabetes, 2,272 had pre-diabetes, and 4,791 had no diabetes. After adjustment for age, sex, and race/ethnicity, prevalence of CKD in those with diagnosed diabetes was high, at 32.1%; CKD prevalence was also considerably higher in those with undiagnosed diabetes (23.6%) and pre-diabetes (16.9%), compared to those without diabetes (11.8%; $P < 0.001$ across groups). Of all cases of CKD, 37.1% occurred in participants with undiagnosed or pre-diabetes. Only 3.0% and 3.9%, respectively, of those with CKD in these groups were aware of their CKD. Older and female participants with no or pre-diabetes were more likely to have CKD than their younger and male counterparts. No significant age or sex differences in CKD prevalence were observed among those with diagnosed or undiagnosed diabetes. CKD prevalence is high and awareness is low among persons with undiagnosed and pre-diabetes, who would likely benefit from interventions to prevent progression of both CKD and diabetes.