
BACKGROUND: The association between kidney function and cognitive impairment has not been assessed in a national sample with a wide spectrum of kidney disease severity.

STUDY DESIGN: Cross-sectional.

SETTING & PARTICIPANTS: 23,405 participants (mean age, 64.9 +/- 9.6 years) with baseline measurements of creatinine and cognitive function participating in the REasons for Geographic And Racial Differences in Stroke (REGARDS) Study, a study of stroke risk factors in a large national sample.

PREDICTOR: Estimated glomerular filtration rate (eGFR).

OUTCOME: Cognitive impairment.

MEASUREMENTS: Chronic kidney disease (CKD) was defined as eGFR less than 60 mL/min/1.73 m(2). Kidney function was analyzed in 10-mL/min/1.73 m(2) increments in those with CKD, and in exploratory analyses, across the range of kidney function. Cognitive function was assessed using the 6-Item Screener, and participants with a score of 4 or less were considered to have cognitive impairment.

RESULTS: CKD was associated with an increased prevalence of cognitive impairment independent of confounding factors (odds ratio, 1.23; 95%
confidence interval, 1.06 to 1.43). In patients with CKD, each 10-mL/min/1.73 m(2) decrease in eGFR less than 60 mL/min/1.73 m(2) was associated with an 11% increased prevalence of impairment (odds ratio, 1.11; 95% confidence interval, 1.04 to 1.19). Exploratory analyses showed a nonlinear association between eGFR and prevalence of cognitive impairment, with a significant increased prevalence of impairment in those with eGFR less than 50 and 100 mL/min/1.73 m(2) or greater.

**LIMITATIONS:** Longitudinal measures of cognitive function were not available.

**CONCLUSIONS:** In US adults, lower levels of kidney function are associated with an increased prevalence of cognitive impairment. The prevalence of impairment appears to increase early in the course of kidney disease; therefore, screening for impairment should be considered in all adults with CKD.

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