1510 H Street NW • Suite 800 • Washington, DC 20005 p 202.640.4660 • F 202.637.9793 • www.asn-online.org



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Contacts: Tracy Hampton • (312) 339-9067 • thampton@nasw.org Christine Feheley • (202) 640-4638 • cfeheley@asn-online.org

IMPAIRED SLEEP MAY HAVE SERIOUS HEALTH CONSEQUENCES FOR KIDNEY DISEASE PATIENTS

Highlights

- In individuals with chronic kidney disease, high sleep fragmentation was associated with an elevated risk of developing kidney failure.
- Higher sleep fragmentation and shorter sleep duration were each linked with steeper declines in kidney function over time.
- Subjectively measured daytime sleepiness was associated with an increased risk of early death from any cause.

Sleep disturbances are common in individuals with kidney disease.

Washington, DC (September 14, 2017) — A new study reveals a potential link between disordered sleep and kidney function loss and early death among individuals with chronic kidney disease (CKD). The findings, which appear in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN), suggest that people with CKD may be especially vulnerable to the deleterious effects of impaired sleep.

Increasing evidence suggests that sleep disorders are common in patients with CKD, but the influence of sleep duration and quality on their health is unknown. To investigate, Ana Ricardo, MD, MPH (University of Illinois at Chicago), Kristen Knutson, PhD (Northwestern University), and their colleagues evaluated sleep (using a wrist-worn accelerometer for 5-7 days) and clinical outcomes including worsening of kidney function over time and death from any cause in 431 individuals with mild-to-moderate CKD. Patients were assessed yearly for a median follow-up of 5 years.

During follow-up, 70 patients developed kidney failure and 48 died. High sleep fragmentation was associated with an elevated risk of developing kidney failure. In addition, higher sleep fragmentation and shorter sleep duration were each linked with steeper declines in kidney function over time. Furthermore, subjectively measured daytime sleepiness was associated with an 11% increased risk of death from any cause.

"These findings suggest that impaired sleep is an unrecognized and clinically significant risk factor for progression of CKD," said Dr. Ricardo. "Future work is needed to evaluate

interventions to improve sleep habits in patients with CKD and assess whether the observed relationship with CKD progression is causal."

Study co-authors include Jinsong Chen, PhD, Lawrence Appel, MD, Lydia Bazzano, MD, Eunice Carmona-Powell, Janet Cohan, MS, Manjula Kurella Tamura, MD, Susan Steigerwalt, MD, John Daryl Thornton, MD, Matthew Weir, MD, Nicolas Turek, BA, Mahboob Rahman, MD, Eve Van Cauter, PhD, and James Lash, MD.

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The article, entitled "The Association of Sleep Duration and Quality with CKD Progression," will appear online at http://jasn.asnjournals.org/ on September 14, 2017, doi: 10.1681/ASN.2016121288.

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Media contact: sparmet@uic.edu