

Constipation symptoms added complications of sleep quality among patients with chronic kidney disease

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by Ruszkowski et al,
see p. 512

It is estimated that 14% to 57% of patients with chronic kidney disease (CKD) experience poor sleep quality.¹ Poor sleep quality among patients with CKD has been associated with various health-related outcomes including increased risk of obesity, diabetes, cardiovascular disease, and mortality.² Also, poor sleep quality and excessive or inadequate sleep have been shown to be associated with rapid progression of CKD to end-stage kidney disease.² The exact mechanism of poor sleep quality among patients with CKD is not known; however, the one proposed mechanism is sympathovagal imbalance due to the impairment of the baroreceptor reflex function in which the sympathetic nervous system is hyperactive, leading to a decreased vagal tone.³ Different studies have looked at the intervention to improve sleep quality in this population. In one meta-analysis with 67 studies involving 3427 participants, Natale et al⁴ looked at various interventions including relaxation techniques, exercise, acupressure, cognitive-behavioral therapy, educational interventions, benzodiazepine treatment, dopaminergic agonists, telephone support, melatonin, reflexology, light therapy, different forms of peritoneal dialysis, music, aromatherapy, and massage; however, it could not provide any certain evidence of improved sleep quality in this population.

Constipation is a common functional gastrointestinal disorder and is the most prevalent condition encountered in daily clinical practice. It is estimated that approximately 30% of the general population experience constipation during their lifetime.⁵ And the prevalence of constipation is even higher among patients with CKD.⁶ Constipation in that population could be multifactorial including dietary restrictions (eg, limited fiber and fluid intake), chronic medication use (eg, phosphate binders, iron supplements), high

prevalence of other comorbidities (eg, diabetes mellitus), and alteration of the gut microbiota due to increased uremic toxins.⁶ Although a common condition, and perceived as a benign, there are pieces of evidence revealing that constipation is independently associated with adverse clinical outcomes such as CKD progression, cardiovascular events, and mortality.⁶ Even in the general population without CKD, functional gastrointestinal disorders including constipation is associated with poor sleep quality.⁷

As discussed above, the prevalence of poor sleep quality and constipation are high among patients with CKD, and both these disorders have negative impact on the patient's overall health. To connect the dots, it is interesting that in this issue of *Polish Archives of Internal Medicine* (*Pol Arch Intern Med*), Ruszkowski et al⁸ looked at the association between constipation symptoms and sleep quality among patients with nondialysis CKD. In this cross-sectional study, 100 patients with CKD in the outpatient setting filled questionnaires addressing sleep quality and disorders. Patients were divided into 3 groups according to estimated glomerular filtration rate (eGFR) tertiles: with low eGFR (≤ 32 ml/min/1.73 m²), medium eGFR (33–43 ml/min/1.73 m²), and high eGFR (≥ 44 ml/min/1.73 m²). Patients were asked to recall and fill the Medical Outcomes Study (MOS) 12-Item Sleep Scale-Revised (MOS-Sleep-R). The MOS-Sleep-R questionnaire consists of 12 items that measure 6 dimensions of sleep with a 4-week recall period: sleep disturbance (4 items), daytime somnolence (3 items), sleep adequacy (2 items), snoring (1 item), awakening due to shortness of breath/headache (1 item), and sleep quantity (1 item). For the assessment of the constipation symptoms, the scores of the Patient Assessment of Constipation-Symptoms (PAC-SYM)

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subscales were utilized. Interestingly, the author's showed that the prevalence of poor sleep quality was higher among those with certain gastrointestinal symptoms, consistent with constipation symptoms including decreased frequency of defecation, functional constipation, abdominal discomfort/pain, and too small bowel movements even after adjusting for some of the confounding variables including age, history of depression, and some medications.

One of the major risk factors for the development of end-stage kidney disease is CKD. And both having CKD and rapid progression of CKD are associated with an increased risk of cardiovascular events and mortality.^{9,10} In clinical practice, every effort to slow the progression of CKD would have beneficial outcomes. Early diagnosis and treatment of constipation, although simple steps may have beneficial outcomes among patients with CKD, to slow the progression of CKD and also increase the sleep quality along with the overall health-related quality of life. The findings of the current study emphasize the burden of constipation symptoms and sleep quality among patients with CKD. Managing those symptoms may prevent the progression of CKD.

ARTICLE INFORMATION

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