

A vicious cycle in osteoarthritis: Sleep disturbance-pain-depression-disability

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New research confirms that sleep disturbances are linked to pain and depression, but not disability, among patients with osteoarthritis (OA). Study results published in *Arthritis Care & Research*, a journal of the American College of Rheumatology (ACR), found that poor sleep increases depression and disability, but does not worsen pain over time.

Arthritis is one of the top three health concerns that cause disability in the U.S., with OA being the most common form of arthritis. Medical evidence reports that nearly 30 million Americans are affected by OA, which has increased healthcare costs by \$186 billion between 1996 and 2005. Previous studies show that those with knee OA report issues with initiating sleep (31%), difficulty maintaining sleep at night (81%), and general sleep problems (77%).

"Sleep disturbance is a common complaint among those with pain, particularly among those with OA," explains Dr. Patricia Parmelee from the Center for Mental Health & Aging at The University of Alabama in Tuscaloosa. "Our research is unique as we investigate the complex relationships among sleep, OA-related pain, disability and depressed mood simultaneously in a single study."

For the present study 288 [patients](#) with knee OA provided information on [sleep disturbances](#), pain, functional limitations, and depressive symptoms. Researchers recruited participants from diverse settings to gather a broad representation of OA subjects. Sleep disturbances at the start of the study were used to predict changes in pain, disability and

[depression](#) after a one-year period.

Findings indicate that sleep was independently associated with pain and depression at baseline. Disability was not linked to baseline sleep disturbances. In individuals with high pain levels, the combination of poor sleep and pain exacerbated depression. Sleep disturbance at baseline predicted increased depression and disability, but not pain at one-year follow-up.

Dr. Parmelee adds, "This study shows that depression plays a strong role in the sleep-pain connection, particularly with severe pain. Further investigation of sleep in disability progression may lead to new interventions that disrupt the cycle of OA distress."

More information: "Sleep Disturbance in Osteoarthritis: Linkages with Pain, Disability and Depressive Symptoms." Patricia A. Parmelee, Caitlan A. Tighe and Natalie D. Dautovich. *Arthritis Care and Research*; Published Online: October 6, 2014. [DOI: 10.1002/acr.22459](https://doi.org/10.1002/acr.22459)

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