

Treating insomnia in elderly reduces inflammation, lowers risk for chronic diseases

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(Medical Xpress)—Lack of sleep can make you sick. And while everybody has the occasional restless night, for those who suffer from chronic insomnia—some 15 percent of older adults in the United States—that sleep loss can increase the risk for cardiovascular disease, hypertension, weight gain, type 2 diabetes, and even lead to an earlier

death.

The reason for the increased risk of health problems is thought to be an association between [insomnia](#) and an increase in [inflammation](#) throughout the body that becomes chronic. Though inflammation can be a good thing—part of a robust immune response that heals injury and fights infection, [chronic inflammation](#) can damage and kill healthy cells, leading to disease.

What hasn't been known is whether treating insomnia could reduce inflammation, thereby lowering the risk for chronic disease in [older adults](#). Nor has it been known what the most effective therapy is to treat insomnia.

Now UCLA researchers have answered both these questions. In a new study, they demonstrate that reducing insomnia can indeed lead to decreases in inflammation, and second, that a form of psychotherapy called [cognitive behavioral therapy](#) proved superior to other forms of treatment.

The study appears in the September issue of the journal *Sleep*.

The results were obtained from a [randomized clinical trial](#) of 123 adults older than 55, and showed that treating insomnia led to decreases in a known marker of inflammation called C-reactive protein (CRP). The protein is found in blood plasma, and its levels rise in response to an acute inflammatory stimulus. The CRP levels were measured at the beginning of the study, again after treatment, and again in a follow-up 16 months later.

"What we found particularly intriguing was that the levels of the CRP inflammatory marker remained low even 16 months after treating the insomnia," said Michael Irwin, first author, and a professor of psychiatry

and director of the Cousins Center for Psychoneuroimmunology at the UCLA Semel Institute for Neuroscience and Human Behavior.

The researchers also compared three treatments for insomnia:

- Cognitive behavioral treatment (CBT), a form of therapy that helps people learn how to identify and change destructive or disturbing thought patterns that have a negative influence on behavior;
- Tai chi chih (TCC), the westernized version of the Chinese martial art characterized by slow movement and meditation;
- Sleep seminar education, which provided educational information related to the physical, medical, and psychosocial factors of aging and their contribution to [sleep](#) problems.

They found that, by far, cognitive behavioral therapy performed better than tai chi chih and sleep seminar education in reducing insomnia, and also showed greater and more sustained improvements in sleep quality, the ability to maintain continuous sleep throughout the night, and study participants' reports of fatigue, and depressive symptoms.

"This is the first randomized, controlled trial that has evaluated the comparative efficacy of TCC versus CBT, a standardized behavioral intervention for insomnia," Irwin said. The research team found that those who got cognitive behavioral treatment showed a reduced rate of diagnostic insomnia that was nearly double either of the other two treatments.

The benefit of treating insomnia to reduce inflammation is comparable to the benefit reported with vigorous physical activity or weight loss, he noted. "To advance public health, these findings prominently emphasize the position of sleep among the three pillars of health—diet, exercise and sleep.

"Finally, if insomnia is untreated and sleep disturbance persists, we found that CRP levels progressively increase," Irwin said. "Together, these findings indicate that it is even more critical to treat insomnia in this population who are already at elevated risk for aging-related inflammatory disease."

More information: Irwin MR, Olmstead R, Carrillo C, Sadeghi N, Breen EC, Witarama T, Yokomizo M, Lavretsky H, Carroll JE, Motivala SJ, Bootzin R, Nicassio P." Cognitive behavioral therapy vs. Tai Chi for late life insomnia and inflammatory risk: a randomized controlled comparative efficacy trial." *Sleep* 2014;37(9):1543-1552.
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