

Sleep disturbances linked to increased dementia risk

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Researchers at Karolinska Institutet in Sweden report that sleep disturbances in midlife or in late life are associated with a higher risk for developing dementia in old age. The results are published in *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*.

The results show that in midlife, when participants were in their 40s or 50s, insomnia was associated with a 24 per cent increased risk for [dementia](#) later in life. In late life, when participants were in their 60s or 70s, terminal insomnia (waking up too early) was associated with a doubled risk for later dementia, while long sleep duration (more than 9 hours of sleep per night) was associated with a fourfold increased risk for later dementia. The latter finding among this older population may be due to already existing (undiagnosed) dementia-related pathology, as dementia is often linked with sleep disturbances, including increased [sleep duration](#).

"Our findings have direct clinical implications, and combined with previous studies they indicate that different stages in the life course are sensitive to sleep disturbances, which in turn increase the risk

for dementia. These sleep disturbances necessitate closer clinical attention and the implementation of tailored interventions," says lead author Shireen Sindi, postdoctoral researcher at Karolinska Institutet's Department of Neurobiology, Care Sciences and Society.

Assessment of multiple sleep parameters

The analysis included three population-based studies from Sweden and Finland with large sample sizes of men and women (more than 2 000), long follow-up durations, assessment of multiple sleep parameters, and standardised dementia diagnoses, adjusting for potential influencing factors such as levels of physical activity, genetics and sleep medications.

Dr. Sindi works within the Nordic Brain Network team (led by Professor Miia Kivipelto at Karolinska Institutet), focusing on lifestyle interventions for dementia. They published the landmark Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (Finger) trial, which showed that a 'multidomain [intervention](#)' including diet, exercise, cognitive training and management of vascular risk factors has a positive impact on cognitive functioning. More recently, many countries are adapting the Finger model to their local settings (e.g. USA, China, Singapore, Canada), within the World-Wide Fingers platform.

Interventions to improve sleep

"It is promising that lifestyle changes can positively impact cognition. So far, there has been insufficient evidence regarding the role of sleep disturbances as a risk factor for dementia. Our current study indicates that future interventions to prevent dementia may benefit from also including interventions to improve sleep," says Dr. Sindi.

The team will now continue investigating the association between [sleep disturbances](#) and

cognitive performance and dementia among different populations, including memory clinic patients. They will also examine the role of underlying biological mechanisms.

More information: Shireen Sindi et al. Sleep disturbances and dementia risk: A multicenter study, *Alzheimer's & Dementia* (2018). DOI: [10.1016/j.jalz.2018.05.012](https://doi.org/10.1016/j.jalz.2018.05.012)

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