

Poor Sleep Predicts Long-term Cognitive Decline in Hispanics More Than in Whites

Study findings were surprisingly consistent, even among adults who were not obese

Poor sleep impacts the risk of long-term cognitive decline in Hispanic/Latino middle-aged and older adults differently than it does in non-Hispanic adults, according to research led by University of Miami Miller School of Medicine neurology faculty and the largest long-term study of U.S. Hispanic/Latinos to date.



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During seven years of follow-up, Hispanics/Latinos were more likely to develop cognitive declines in processing speed, mental flexibility, and verbal memory, if they had sleep disordered breathing, such as obstructive sleep apnea, and long sleep duration of nine or more hours. The risk was especially high in middle-aged adults without metabolic syndrome and women without obesity or metabolic syndrome, according to the paper published in *Alzheimer's & Dementia*, the journal of the Alzheimer's Association.

"A surprising finding of this study of 5,500 U.S. Hispanic/Latino adults was that participants without obesity that had sleep apnea and long sleep duration had worse cognitive decline," said senior author Alberto Ramos, M.D., M.S.P.H., associate professor of neurology, and research director of the Sleep Disorders Program. "To some extent, this was like a natural experiment in which we removed the effect that obesity has on cognition and saw 'the pure effect' of sleep difficulties, such as sleep apnea, and long sleep duration on cognitive health."

The work shows that the metabolic risk factors that predict neurocognitive decline in non-Hispanics are not generalizable to Hispanics, according to Sonya Kaur, Ph.D., instructor in the Division of Neuropsychology at the Miller School.

The predictors were surprising

"In general, the relationship between sleep and cognition was not mediated by metabolic syndrome and obesity in Hispanics like it is in non-Hispanics," Dr. Kaur said. "For Hispanics, sleep seems to be a much stronger predictor than obesity and metabolic syndrome, which are traditionally thought of as

predictors in terms of what causes cognitive decline in non-Hispanics.”

This is important given that, compared to non-Hispanic whites, Hispanics/Latinos are at greater risk for metabolic syndrome and have four times the risk of developing Alzheimer’s disease and related dementias, according to Dr. Kaur.

The findings highlight the importance of a precision medicine approach in studying and treating Hispanic/Latino patients.

“In the big picture, these findings have implications for how we can personalize treatment of sleep disorders to more effectively lessen cognitive decline, prevent neurocognitive disorders such as Alzheimer’s disease, and preserve brain health,” Dr. Ramos said.

The Miller School has long been a leader in identifying disorders and risk factors associated with dementia and Alzheimer’s and Hispanic health.

The role of genetic risk factors

“We are conducting ongoing research on the cognitive effects of migration factors and genetic risk factors in Hispanic patients, because there is evidence that genetic risk factors in non-Hispanic whites do not predict cognition decline in the same way as in Hispanics,” Dr. Kaur said.

Previously, Dr. Ramos and colleagues published data showing a high prevalence of sleep disorders associated with neurocognitive dysfunction, including memory decline, in a diverse population of Hispanic/Latino participants.

“This study builds on our previous work,” said Dr. Ramos, who recently was awarded a five-year \$13 million grant from the National Institute on Aging (NIA) to study “Sleep in Neurocognitive Aging and Alzheimer’s Research.”

The study in *Alzheimer’s & Dementia* was done in collaboration with investigators from Wayne State University, University of California San Diego, University of Illinois at Chicago, Mount Sinai Icahn School of Medicine, University of North Carolina at Chapel Hill, San Diego State University, Miami Veterans Association Medical Center, and Brigham and Women’s Hospital, Harvard Medical School.

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