Is Obstructive Sleep Apnea a Modifiable Disease Risk Factor for Cognitive Decline and Dementia? Emerging Research and Future Directions

Christopher N. Kaufmann, PhD, MHS[1,2]

[1] Division of Clinical and Population Health Integration, Department of Health Outcomes and Biomedical Informatics, University of Florida College of Medicine, Gainesville, FL, USA
[2] University of Florida Claude D. Pepper Older Americans Independence Center, University of Florida, Gainesville, FL, USA

There is growing interest in the importance of sleep for brain health, as increasing evidence suggests that its disruption may contribute to cognitive decline and dementia. Among the most common sleep disorders, obstructive sleep apnea (OSA) has drawn increasing attention due to its potential impact on neurodegeneration. This presentation will provide an overview of current research, specifically from the epidemiologic literature, on the relationship between OSA and cognitive outcomes in older adults. We will first summarize epidemiologic findings linking OSA to accelerated cognitive decline and increased risk for neurodegeneration, including Alzheimer's disease. Second, mechanistic pathways, such as intermittent hypoxia, sleep fragmentation, inflammation, and vascular dysfunction, will be discussed, which may contribute to neuropathologic changes over time. Third, we will explore the mixed data on whether treatment for OSA, especially continuous positive airway pressure (CPAP), may mitigate cognitive decline and the potential impact of future treatments for OSA. Finally, we will identify critical gaps in the literature and discuss methodological challenges in studying this complex association, including the role of comorbid conditions and the need for longitudinal data. Understanding these links is essential for developing sleep-based interventions promoting cognitive resilience in aging populations.

Sponsored By: grant from NIA: R01AG079391

Presenter Name and Contact Information:
Christopher N. Kaufmann, PhD, MHS
Assistant Professor
Division of Clinical and Population Health Integration
Department of Health Outcomes and Biomedical Informatics
University of Florida, College of Medicine
Gainesville, Florida, USA
Email: ckaufmann@ufl.edu