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Daily sleep quality is associated with daily cognition in late life

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Introduction

• Some changes in sleep and cognition are considered part of normal aging, but older adults often face sleep disturbance or cognitive decline that goes beyond the scope of normal aging.1,2
• The relationship between sleep and cognition is more pronounced for older adults.3
• Attention is a cognitive domain that may be particularly sensitive to alterations in sleep quality.
  • One explanation for this relationship is that poor sleep quality impacts an individual’s ability to filter or suppress stimuli.4

Aim and Hypotheses

• The aim of the present study was to examine the relationship between self-reported sleep quality and self-reported daytime attention, a domain of cognitive functioning, in a community-dwelling sample of older men (i.e., 65 years of age and older) at both the between-persons (mean-level) and within-persons (day-to-day inconsistency) levels of association.
  • Hypothesis 1: Self-reported sleep quality on average would predict self-reported daytime attention on average.
  • Hypothesis 2: On days when older adults reported poorer self-reported sleep quality, they would also report poorer self-reported daytime attention.

Methods

• Secondary analysis of data from a study which examined long-term clinical outcomes (i.e., cognitive status, physical functioning, and inflammation) of hypersomnia in at-risk older adults was performed.

Results

A single multilevel model predicting self-reported attention revealed the following:

• (1) older individuals who reported better sleep quality (on average) also reported having better daily attention (on average)
  • $\beta=0.64, t(248.15) = 10.12, p < 0.001$

• (2) following a day of above-average sleep quality, older individuals experienced above-average attention
  • $\beta = 0.16, t(259.79) = 2.75, p = .006$

Conclusions

• Overall sleep quality was associated with self-reported overall attention.
• A night of good sleep was associated with better self-reported attention the following day.
• Results point to the potential importance of nightly fluctuations in sleep quality for daytime functioning.

Clinical Implications:

• Interventions aimed at improving nightly sleep consistency are worth exploring as possible methods to improve daytime cognitive functioning in older adults.

Future Directions:

• Given known sex differences in sleep and cognition in aging, studies are also needed to explore this relationship among older women.

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