

from assessing sleep the night before the appointment and determine if this represents a change from their typical sleep pattern.

Categories: Sleep and Sleep Disorders

Keyword 1: sleep

Keyword 2: inhibitory control

Keyword 3: executive functions

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74 Neurobehavioral Symptoms of Dementia as a Risk Factor for Poor Caregiver Sleep Quality

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Objective: Caregivers to persons with dementia (PWD) consistently report lower sleep quality than non-caregiving controls. Low sleep quality, in addition to being unhealthy for the caregiver, may also impact the quality of care provided to the PWD. One factor that may contribute to poor sleep among caregivers is neurobehavioral symptoms (NBS) of the PWD. NBS, such as mood changes, lack of motivation, and disinhibition, are consistently rated as some of the most distressing symptoms by caregivers. Furthermore, they can include some symptoms related to sleep, such as nighttime wandering and REM sleep behaviors. Prior correlational research indicates a very strong association between NBS of the PWD and sleep quality of the caregiver. However, there are third variables, particularly demographics of the caregiver, which may better explain this relationship. When these variables are controlled in research, findings on the association between PWD NBS and caregiver sleep quality are mixed. Thus, we sought to investigate the relation between PWD NBS and caregiver sleep quality while controlling for caregiver demographics.

Participants and Methods: Fifty caregivers to PWD completed a survey containing the Mild Behavioral Impairment Checklist as a measure of PWD NBS, the Pittsburgh Sleep Quality Index as a measure of caregiver sleep quality, and caregiver demographics. The relationship between PWD NBS and caregiver sleep quality was assessed using hierarchical linear

regression. First, we examined the relationship between caregiver demographics (age, gender, income) and caregiver sleep quality. Second, we added NBS to the model to assess for incremental predictive utility by examining change in R^2 .

Results: A significant correlation was found between PWD NBS and caregiver sleep quality, with higher PWD NBS associated with worse caregiver sleep quality ($r(48) = .34, p = .014$). A hierarchical regression found that caregiver demographics explained a non-significant proportion of variance in reported caregiver sleep quality ($F(3, 44) = 1.05, p = .382, R^2 = .07$). When PWD NBS was added in model two, there was a significant change in variance explained in the overall model ($F(1, 43) = 2.65, p = .046, \Delta R^2 = .13, R^2 = .20$). Across both models, PWD NBS was the only variable significantly associated with caregiver sleep quality ($B = .08, p = .011$).

Conclusions: In line with previous studies, these results indicate a moderate relationship between PWD NBS and caregiver sleep quality. Furthermore, findings suggested that PWD NBS is a risk factor for poor caregiver sleep quality, above and beyond caregiver demographic characteristics. Individuals designing interventions aimed at improving caregiver sleep quality should consider including PWD NBS as an intervention target. Future research should replicate these findings in a longitudinal sample to further evaluate causality.

Categories: Sleep and Sleep Disorders

Keyword 1: caregiver burden

Keyword 2: sleep

Keyword 3: dementia - Alzheimer's disease

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75 Early Childhood Sleep Quantity, but not Parent-Reported Sleep Problems, Predict Impulse Control in Children at Age 8 years

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Objective: Conduct secondary analyses on longitudinal data to determine if caregiver-reported sleep quantity and sleep problems across early childhood (ages 2 – 5 years) predict their child's attention and executive functioning at age 8 years.

Participants and Methods: This study utilized data from the Health Outcomes and Measures of the Environment (HOME) Study. The HOME Study recruited pregnant women from 2003-2006 within a nine-county area surrounding Cincinnati, OH. Caregivers reported on their child's sleep patterns when children were roughly 2, 2.5, 3, 4, and 5 years of age. Our analysis included 410 participants from the HOME Study where caregivers reported sleep measures on at least 1 occasion or their child completed an assessment of attention and executive functioning at age 8.

At each time point, caregiver report on an adapted version of the Child Sleep Habits Questionnaire (CSHQ) was used to determine: (1) total sleep time (TST; "your child's usual amount of sleep each day, combining nighttime sleep and naps") and (2) overall sleep problems (23 items related to difficulties with sleep onset, sleep maintenance, and nocturnal events). Our outcome variables, collected at age 8, included caregiver-report forms and measures of attention and executive functioning. Caregiver report measures included normed scores on the Behavior Rating Inventory of Executive Function, from which we focused on the Behavior Regulation Index (BRIEF BRI) and Metacognition Index (BRIEF MI). Performance based measures included T-scores for Omission and Commission errors on the Conner's Continuous Performance Test, Second Edition (CPT-2) and Standard Scores on the WISC-IV; Working Memory Index (WMI).

We used longitudinal growth curve models of early childhood sleep patterns to predict attention and executive functioning at age 8. Predictive analyses were run with and without key covariates: annual household income, child sex and race. To account for general intellectual functioning, we also included covariates children's WISC-IV Verbal Comprehension and Perceptual Reasoning Indexes.

Results: Children in our sample were evenly divided by sex; 60% were White. Sleep problems did not show linear or quadratic change over time, so an intercept-only model was used. Sleep problems did not predict any of our outcome measures at age 8 in unadjusted or covariate-adjusted models. As expected, sleep

duration was shorter as children matured, so predictive models examined both intercept and slope. Slope was negatively associated with CPT-2 Commissions (unadjusted $p=.047$; adjusted $p=.013$); children who showed the least decline in sleep over time had fewer impulsive errors at age 8. The sleep duration intercept was negatively associated with BRIEF BRI (unadjusted $p=.002$; adjusted $p=.043$); children who slept less across early childhood had worse parent-reported behavioral regulation at age 8. Neither sleep duration slope nor intercept significantly predicted any other outcomes at age 8 in unadjusted or covariate-adjusted analyses.

Conclusions: Total sleep time across early childhood predicts behavior regulation difficulties in later childhood. Inadequate sleep during early childhood may be a marker for or contribute to poor development of a child's self-regulatory skills.

Categories: Sleep and Sleep Disorders

Keyword 1: sleep

Keyword 2: attention

Keyword 3: executive functions

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76 Investigating the Severity of Insomnia Comorbidities Between the Sexes

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Objective: Previous research indicates that women tend to struggle with insomnia at higher rates both prior to and during the global COVID-19 pandemic; however, not much research has investigated the extent to which insomnia correlates with comorbid problems, including aggression, depression, anxiety, PTSD severity, and alcohol use between the sexes. On a neurobiological level, insomnia could be associated with those mood disorders due to the effects of sleep disturbance on serotonergic and GABA neurotransmission, and males might experience such associations at a lower