

SESSION 1510 (PAPER)

SLEEP DISORDERS

BIDIRECTIONAL ASSOCIATIONS BETWEEN SLEEP COMPLAINTS AND DEPRESSION: FINDINGS FROM THE NHATS STUDY

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Depression and insomnia are prevalent in older adults and show bidirectional relationships. Sleep initiating and maintenance difficulties are the two frequently seen complaints of insomnia diagnostic criteria. Whether these two sleep complaints differ in their associations with depression is unknown. Using the National Health and Aging Trends Study (NHATS), we examined whether sleep initiating and maintenance difficulties at baseline (T1) predicted depression onset at 12 months (T2) and 24 months (T3) in 4,048 T1 non-depressed participants and whether depression at T1 predicted these two sleep complaints at T2 and T3 in 3,581 T1 non-insomnia participants. Participants who developed depression at T2 tended to be Hispanic, non-Hispanic black, less educated, live alone, physically inactive, and have more painful locations and chronic conditions. Participants with sleep complaints at T2 tended to be less educated, live alone, physically inactive, and have more painful locations and chronic conditions. Sleep initiating difficulty persistently predicted depression onset at T2 (OR: 1.62, 95% CI: 1.14, 2.31) and T3 (OR: 1.84, 95% CI: 1.21, 2.81) after adjusting demographics, lifestyles and health condition-related covariates. Depression at T1 persistently predicted sleep initiating difficulty at T2 (RRR: 2.19, 95% CI: 1.44, 3.34) and T3 (RRR: 1.70, 95% CI: 1.07, 2.70) after adjustment. Sleep maintenance difficulty at T1 did not predict depression onset at either time point and vice versa. This study suggests a bidirectional association of depression with sleep initiating difficulty but not sleep maintenance difficulty in older adults. Interventions targeting difficulty initiating sleep may moderate depression onset in older adults.

DYADIC FACTORS THAT ASSOCIATE WITH INSOMNIA IN CAREGIVERS OF PERSONS LIVING WITH DEMENTIA

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Insomnia is prevalent in caregivers of persons living with dementia (PLWD); however, more research is needed to identify which dyadic factors most impact caregiver sleep. This study aimed to identify the factors associated with caregiver insomnia in the baseline component of a randomized clinical trial. A linear regression was conducted with caregiver variables (e.g., depression), and PLWD variables (e.g., disruptive nighttime behaviors) as independent variables in relation to insomnia, as

assessed with Insomnia Severity Index (ISI). Caregivers (n=49) were on average 63 years, mostly female (65.3%), White (69.4%), and spouses (65.3%). Mean ISI was 6.8, indicating mild-to-moderately disturbed sleep. Multiple linear regression ($F(11,32) = 13.4, p < .001$) showed that both caregiver-based measures (depression, $p < .023$) and PLWD-based measures (disruptive nighttime behaviors, $p < .001$) were independently associated with ISI. Ideas about needed multicomponent dyadic interventions which target both PLWD nighttime behaviors, caregiver depression, and sleep disturbances will be discussed.

MULTIMODAL PERSONALIZED CHRONOTHERAPY IMPROVES SLEEP IN ADULTS WITH MILD COGNITIVE IMPAIRMENT: A RANDOMIZED TRIAL

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Poor sleep is common among older adults with Mild Cognitive Impairment (MCI) and may contribute to their increased risk for dementia. Chronotherapy is a set of intervention strategies which can improve sleep quality by strengthening the entrainment of the biological clock to the solar light-dark cycle, and includes strategies such as: 1) bright light therapy (BLT); 2) physical activity (PA); and 3) good sleep hygiene. Thus, in this 24-week randomized controlled trial (RCT; NCT02926157), we aimed to examine the efficacy of a multimodal, personalized chronotherapy intervention to improve sleep quality among older adults with MCI. Ninety-six older adults (65+ years) with MCI were randomized to either: 1) a multimodal personalized chronotherapy group (INT); or 2) a waitlist-plus-education control group (CON). Participants allocated to the INT received four once-weekly, general sleep hygiene education classes, followed by 20 weeks of 1) individually-timed BLT; and 2) bi-weekly, individually-tailored PA counselling in conjunction with receiving a consumer-available PA tracker (Fitbit® Flex™). We found a significant group x time interaction for objectively measured sleep fragmentation (5.01; $p < 0.01$) and also for Pittsburgh Sleep Quality Index (PSQI) score ($p = 0.03$), such that the INT: 1) maintained sleep fragmentation while CON worsened at 12 weeks ($p < 0.01$); and 2) had improved PSQI score compared to CON at both 12 weeks ($p < 0.01$) and 24 weeks ($p = 0.04$). Our results provide novel evidence that a multimodal personalized chronotherapy approach may promote both objective and subjective aspects of sleep quality in older adults with MCI.

POOR SLEEP QUALITY IS RELATED TO DECREASED WHITE MATTER INTEGRITY IN BRAIN NOCICEPTIVE PATHWAYS IN OLDER ADULTS

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Poor sleep quality, decreased physical activity (PA) and increased sedentary behavior (SB) are common characteristics of older adults. Notably, these factors play an important role in brain health. We examined the relationship