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The Relationship Between Daytime Sedentary Behavior and Sleep Health in Desk-based Workers

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Adults with desk-based occupations may have higher amounts of sedentary behavior (SB). Greater amounts of SB are independently associated with negative health outcomes. The health risks of excessive SB may be due to poor sleep health; however, the relationship between SB and sleep health is unclear. **PURPOSE:** To examine the relationship between SB and sleep health in a sample of adults who are desk-based workers. **METHODS:** Data were collected on 168 desk-based workers with elevated blood pressure (51.8% female; 85.7% White race; age=44.4±10.8 y; body mass index [BMI]=31.1±6.5 kg/m²). SB was objectively measured by the activPAL3 micro, worn for approximately 7 days; SB variables were overall daily SB, SB spent in bouts ≥30 minutes (SB30), SB spent in bouts ≥60 minutes (SB60). Sleep was objectively measured using the Actiwatch Spectrum, concurrently worn with the activPAL3 micro for approximately 7 days. Self-reported sleep was assessed using Pittsburgh Sleep Quality Index and Epworth Sleepiness Scale. Six dimensions of sleep health (regularity, satisfaction, alertness, timing, efficiency, and duration) were categorized as “good” or “poor” from the objective and self-reported sleep measures; a composite score summed good sleep health dimensions on a scale of 0-6, with higher scores indicating better sleep health. Linear regression models examined the relationship between SB and sleep health with adjustment for age, gender, race, and BMI. **RESULTS:** The mean daily time spent in SB was 662.2±93.8 min, with 384.0±125.8 min and 202.9±116.0 min each day spent in SB bouts of ≥30 min and ≥60 min, respectively. The mean sleep health score was 4.7±1.1, with 23.2% of the sample meeting “good” for all six sleep health dimensions. No measure of SB was significantly associated with overall sleep health (each p>0.50). Overall daily SB was not significantly associated with any of the individual domains of sleep health (each p>0.86) except sleep midpoint ($\beta=0.16$, p=0.04). Greater time spent in SB bouts ≥30 min and ≥60 min were also associated with later sleep midpoint ($\beta=0.18$ [p=0.01] and $\beta=0.16$ [p=0.03], respectively). **CONCLUSION:** These cross-sectional analyses showed that SB

was generally not associated with sleep health in a sample of highly sedentary adults. Future work should examine whether intervening SB impacts sleep health.

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