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NEIGHBORHOOD-LEVEL SLEEP HEALTH AND CHILDHOOD OPPORTUNITY INDEX AT THE CENSUS TRACT LEVEL: COMPARISON TO OTHER HEALTH INDICATORS

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Introduction: Promoting sleep health at the neighborhood level may be an efficient way to promote overall health and well-being. This study examined the relative contribution of sleep health, versus other regional health metrics.

Methods: Neighborhood sleep health values were obtained from the “500 Cities” data collected by the CDC, which includes census tract and proportion that report values associated with health. Data include the population of each census tract as well as census-estimated proportion of the population in each census tract that report obtaining at least 7 hours of sleep. Other health indicators evaluated included access to health insurance, past-year routine medical or dental checkup, older adult preventive care, leisure-time activity, mammography, pap testing, and prevalence of arthritis, binge drinking, hypertension, antihypertensive use, cancer, asthma, coronary disease, cholesterol screening, colon screening, COPD, smoking, diabetes, hypercholesterolemia, kidney disease, poor mental and physical health, obesity, stroke, and teeth lost. The Child Opportunity Index (COI) is a publicly-available index (DiversityDataKids.org) reported at the census tract level. It provides indices for “Education,” “Health and Environment,” and “Social and Economic” domains, as well as a global score. The present analysis merged the 500 Cities data with the COI data, using census tract as the matching variable. When data were merged, 27,130 census tracts were included.

Results: In stepwise analyses adjusted for population size, with global COI as the dependent variable, sleep health emerged as the strongest predictor, accounting for 57.2% of the variance of global COI ($p < 0.0001$). When all other health predictors were included in the model, the next largest contributors were teeth lost (additional 15.5%), health insurance (additional 3.0%), and asthma (additional 1.4%). Similarly, when stepwise analyses examined each component of COI as dependent variable, sleep health consistently emerged as the most substantial predictor, accounting for 41.2%, 24.3%, and 56.4% of the variance of “Education,” “Health and Environment,” and “Social and Economic” scores, respectively (all $p < 0.0001$).

Conclusion: Sleep health is more strongly associated with overall COI (and all its components) than any other regional health metric. Public health efforts targeting sleep health may have disproportionately beneficial impact on factors that support family health and well-being.

Support (If Any):

0075

FOOD INSECURITY IS ASSOCIATED WITH SLEEP DURATION AND SLEEP DISORDERS SYMPTOMS IN A COMMUNITY ADULT SAMPLE

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Introduction: Food insecurity is an issue of socioeconomic disadvantage and is increasingly recognized as a key risk factor psychosocial stress and metabolic health. This study examined relationships with aspects of sleep health including sleep duration, quality, continuity, and control, and sleep disorders symptoms.

Methods: This cross-sectional study used data from the Sleep and Healthy Activity, Diet, Environment, and Socialization (SHADES) study of working-age adults ages 22-60 (N=1003). Food insecurity was assessed using items regarding: worry that food would run out, food would not last, and inability to afford healthy meals. Each item was scored 0-2 and total scores ranged from 0-6. Sleep-related variables included habitual sleep duration, Insomnia Severity Index, Brief Index of Sleep Control, Epworth Sleepiness Scale, self-reported habitual sleep latency and wake after sleep onset (WASO), nightmares, restless legs symptoms, STOP-BANG, and statements indicating that medical health and/or stress interfere with sleep. Covariates included age, sex, race/ethnicity, education, insomnia, and shiftwork.

Results: Greater food insecurity was associated with an increased likelihood of being a very short (<5h) sleeper (RRR=1.23, 95%CI[1.08,1.04]) or short (5-6h) sleeper (RRR=1.15, 95%CI[1.05,1.25]), as well as having mild (RRR=1.28, 95%CI[1.16,1.41]) or moderate/severe insomnia (RRR=1.38, 95%CI[1.24,1.54]). Those with higher food insecurity perceived less control over sleep (B=-0.11, 95%CI[-0.14,-0.07]), more sleepiness (B=0.40, 95%CI[0.23,0.57]), longer sleep latency (B=2.24, 95%CI[1.09,3.38]), more WASO (B=1.80, 95%CI[0.09,3.51]), and more nightmares sometimes (RRR=1.13, 95%CI[1.04,1.23]) or often (RRR=1.23, 95%CI[1.07,1.40]). Participants were more likely to report uncomfortable sensations in their legs at night and needing to move legs to alleviate discomfort >3 times/week (RRR=1.33, 95%CI[1.17,1.51] and RRR=1.27, 95%CI[1.11,1.45], respectively). They also experienced a higher STOP-BANG score (B=0.09, 95%CI[0.05,0.13]) and were more likely to either agree or strongly agree that medical symptoms (RRR=1.30, 95%CI[1.15,2.47]) and stress (RRR=1.34, 95%CI[1.15,1.57], respectively) and stress (RRR=1.88, 95%CI[1.31,2.69]) and RRR=2.16, 95%CI[1.51,3.10], respectively). Post-hoc analyses showed that most of these relationships were consistent across all 3 components of food insecurity.

Conclusion: Food insecurity was associated with worse sleep health, including risk for insufficient sleep, insomnia, sleep apnea, restless legs, and nightmares. Future research should investigate if efforts to reduce food insecurity can help improve sleep health and other associated outcomes.

Support (If Any):