Sleep Duration and Health in Young Adults

Both long and short sleep duration are associated with negative health outcomes in middle-aged and older adults. This study assessed the relationship between sleep duration and self-rated health in more than 17,000 young adults from 24 countries. Sleeping less than 7 to 8 hours was associated with increased risk of poor self-rated health independent of age, sex, socioeconomic background, smoking, alcohol consumption, body mass index, physical activity, depressive symptoms, recent use of health services, and country of origin. Long sleep duration was not related to health. These findings suggest that short sleep duration may be a particular concern in young adults.

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Longitudinal Association of Sleep-Related Breathing Disorder and Depression

Pepbard et al investigated longitudinal and cross-sectional associations of polysomnographically assessed sleep-related breathing disorder (SRDB) predicting Zung scale-defined depression in a population-based cohort study. Sleep-related breathing disorder was characterized along a spectrum of 4 severity categories, ranging from no SRDB to minimal, mild, or moderate or worse SRDB. In longitudinal models, a 1-category increase in SRDB severity (eg, from mild to moderate or worse) was associated with an 80% increased odds of depression. Greater odds of depression were associated with higher SRDB severity levels in a dose-response fashion. These results suggest that depressive symptoms should be assessed in patients with, or at high risk for, SRDB.

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Sleep Duration and Body Mass Index in a Rural Population

This cross-sectional, community-based study examined if short sleep duration was related to body mass index in a rural population in southeast Iowa. The study participants consisted of 990 adults from whom data were collected from 1999 to 2004. Self-reported sleep duration on weekdays was negatively correlated (β = -0.42, 95% confidence interval, -0.77 to -0.07) with higher body mass index after adjusting for sex, age, education, physical job demand, household income, depressive symptoms, marital status, alcohol consumption, and snoring. These data support an association between short sleep duration and obesity, which is consistent with the relationship seen in other settings.

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Shift of Monocyte Function Toward Cellular Immunity During Sleep

Angle et al evaluated by means of flow cytometry the intracellular production of the type 1 cytokine interleukin (IL)-12 and the type 2 cytokine IL-10 in monocytes considered precursors of antigen-presenting cells. Blood was sampled repeatedly on 2 occasions, once during a normal sleep-wake cycle, with sleep between 11 PM and 7 AM, and once while the subjects remained awake continuously throughout the 24-hour period. The study shows that nocturnal sleep in humans represents a condition in which the type 1–type 2 cytokine balance is shifted maximally toward type 1 (ie, IL-12) activity. These findings indicate that sleep, by preferentially supporting type 1 IL-12 activity, induces a 24-hour oscillation between predominant type 1 and type 2 cytokine activity and, thereby, can globally increase the efficacy of adaptive immune responses.

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Impact of a Child’s Chronic Illness on Maternal Sleep and Daytime Functioning

To better understand why pediatric caregivers experience higher rates of depression and fatigue compared with parents of healthy children, this study examined sleep patterns and daytime functioning in mothers of children with and without chronic illnesses. A total of 118 mothers of children with ventilator dependency or cystic fibrosis or healthy children with and without chronic illnesses completed a series of self-reported measures focusing on sleep, caregiving, and daytime functioning. The results indicate that caregivers of ventilator-dependent children have higher rates of disrupted sleep patterns and shorter total sleep time (by almost 1 hour) compared with the other 2 groups. Furthermore, caregiver sleep quality was shown to mediate the relationship between the child’s health and caregiver depression and fatigue. While a chronic illness may affect or disrupt a child’s sleep, caregiver sleep patterns are also significantly disrupted because of nighttime caregiving demands and stress related to the child’s illness, resulting in chronic partial sleep deprivation and concomitant decreases in daytime functioning.

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