Association of Sleep Duration and Insomnia with Body Mass Index Among Brazilian Adults

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Abstract : Introduction: Sleep duration and quality have been increasingly recognized as important factors affecting overall health and well-being, including their potential impact on body weight and composition. Previous research has shown inconsistent results regarding the association between sleep patterns and body mass index (BMI), particularly among diverse populations such as Brazilian adults. Understanding these relationships is crucial for developing targeted interventions to address obesity and related health issues. Objective: This study aimed to investigate the association between sleep duration, insomnia, and BMI among Brazilian adults using data from a large national survey focused on chronic nutrition and sleep habits. Materials and Methods: The study included 2050 participants from a population-based virtual survey. BMI was calculated using self-reported weight and height measurements. Participants also reported usual bedtime and wake time on weekdays and weekends and whether they experienced symptoms of insomnia. The average sleep duration across the entire week was calculated as follows: [(5×sleep duration on weekdays) + (2×sleep duration on weekends)]/7. Linear regression analyses were conducted to assess the association between sleep duration, insomnia, and BMI, adjusting for potential confounding factors, including age, sex, marital status, physical exercise duration, and diet quality. Results: After adjusting for confounding variables, the study found that BMI decreased by 0.19 kg/m^2 for each additional hour of sleep duration (95% CI = -0.37, -0.02; P = 0.03). Conversely, individuals with insomnia had a higher BMI, with an increase of 0.75 kg/m^2 (95% CI = 0.28, 1.22; P = 0.002) compared to those without insomnia. Conclusions: The findings suggest a significant association between sleep duration, insomnia, and BMI among Brazilian adults. Longer sleep duration was associated with lower BMI, while insomnia was associated with higher BMI. These results underscore the importance of considering sleep patterns in strategies aimed at preventing and managing obesity in this population. Further research is needed to explore the underlying mechanisms and potential interventions targeting sleep-related factors to promote healthier body weight outcomes.

Keywords : sleep, obesity, chronobiology, nutrition

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