Gender Differences in the Association between Sleep Duration and Body Composition: The Cardia Study.

Sleep duration has been inversely associated with body mass index (BMI). We examined the relationship between self-reported sleep duration and BMI, waist circumference, and percent body fat in Black and White individuals from the CARDIA study. Box-Tidwell regression models were adjusted for age and race (Model 1), additional lifestyle and demographic variables (Model 2), and physical activity (Model 3). There were significant interactions between sleep and gender for the main outcome variables. In men, there was a trend for an inverse relationship between reported sleep duration and BMI in Model 2 (beta = -0.20, P = .053) but not model 3 (beta = -0.139, P = .191). In women, inverse relationships were observed between sleep duration and BMI (beta = -0.294, P = .005) and waist circumference (beta = -0.442, P = .059), in Model 2. These associations became nonsignificant in model 3 (BMI: beta = -0.172, P = .084; waist circumference: beta = -0.161, P = .474). Our results are consistent with previous findings that sleep is associated with BMI and other body composition variables. However, the relationship between self-reported sleep duration and body composition may be stronger in women than in men.