

(ISI). Sleep exposure variables: self-reported sleep hours on weekdays or school/work days were categorized as very short, short, healthy, and long sleep according to AASM recommendations. Four separate Generalized Linear Models (GLM) were fitted to the sample to investigate associations between each α diversity measure and sleep duration, controlling for covariates. All descriptive and regression analyses adjusted for NHANES complex survey design.

Results: The sample included 1,332 participants, of whom 463 were ages 16-18 years, and 869 were ages 19-26 years. The mean age was 20.9 years, and 50.4% were females. Five in ten teenagers (50.6%) reported the recommended hours of sleep (8-10 hrs), while six in ten young adults (61.2%) had the recommended hours of sleep (7-9 hrs). OTU mean was 128.0 [95% CI:122.35–133.64]; FPD mean was 14.24 [13.87–14.62]; SWI mean was 4.61 [4.54–4.67]; and ISI mean was 0.90 [0.89–0.90]. Findings from GLM estimates showed that compared to those with healthy sleep duration, teenagers and young adults with long sleep duration (3% of participants) had significantly higher oral microbiome diversity, according to OTU, FPD, and SWI indicators: 43.0 [22.3–63.72]; 2.96 [1.16–4.76]; and 0.64 [0.07–1.21], respectively. No significant association was found between ISI and self-reported sleep duration.

Conclusion: Oral microbiome diversity is positively associated with longer sleep duration among teenagers and young adults. Further research needs to determine the potential mechanisms behind the associations observed in this study.

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ASSOCIATIONS OF SLEEP AND ORAL MICROBIOME AMONG ADOLESCENTS AND YOUNG ADULTS IN THE UNITED STATES

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Introduction: The human mouth is densely colonized by microbial species. Evidence suggests reduced microbial diversity has been associated with chronic physical and mental health conditions; however, most of these small-scale studies have implicated the gut microbiome and involved children or adults. We examined associations of oral microbiome diversity with self-reported sleep duration among a representative sample of adolescents and young adults ages 16-26 years in the United States.

Methods: This study used cross-sectional data from the National Health and Nutrition Examination Survey (NHANES, 2011-2012). Outcome variables: Oral microbiome alpha (α) diversity measures of richness and evenness: (1) Observed operational taxonomic units (OTU), (2) Faith's phylogenetic diversity (FPD), (3) Shannon-Weiner index (SWI), and (4) Inverse Simpson index