

normative mean for child difficulty falling asleep without caregiver presence at bedtime. The prevalence of these elevated scores were greater than the expected prevalence of 15.9% in normative data.

Conclusion: Overall, children living in poverty and without an individual bed score similar to normative samples on sleep measures. However, a greater proportion of youth in this sample showed clinically significant sleep impairments and poor sleep practices compared to normative data. Future studies are needed to understand and promote healthy sleep among youth living in poverty.

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0514

RISK FACTORS FOR SYMPTOMS AND SIGNS OF SLEEP APNEA IMPACTING QUALITY OF LIFE IN AN URBAN PEDIATRIC COMMUNITY-BASED SAMPLE

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Introduction: Pediatric obstructive sleep apnea (OSA) disproportionately affects children from minority groups and children living in disadvantaged neighborhoods, but the risk factors that drive this risk are not well understood. We investigated the relationship between minority race/ethnicity, household risk factors (smoking, socio-economic status [SES]), and neighborhood disadvantage with OSA-related quality of life (QOL) scores in participants in the Environmental Assessment of Sleep Youth (EASY) observational study.

Methods: Families of children 5-12 years old recruited from largely low-income Boston-area neighborhoods participated in an extensive in-home evaluation of OSA risk factors. OSA-related QOL was assessed with parent-reported OSA-18 questionnaire (values >37 indicative of negative impact of symptoms and signs of OSA on QOL). Secondhand smoking (SHS) was defined by parent-report of smoking in the home. Neighborhood disadvantage was characterized using geocoded addresses, calculating the Neighborhood Socioeconomic (NSES) index. We performed logistic regression with OSA-18 >37 as the dependent variable and age, gender, race/ethnicity, BMI, household smoking, household measures of SES and NSES index as independent variables.

Results: The sample included 256 children (40%-Hispanic ethnicity, 31%-Black, 20%-White, 9%-Other; 56% were female), with a mean age 9.1 ± 1.9 and BMI percentile 69.9 ± 29.8 . 33% and 40% of children were from households with income <\$25,000 and \$25,000-\$75,000, respectively, and 10% had SHS exposure. Mean NSES index was 47.9 ± 15.4 (national average of 50). An elevated OSA-18 was reported for 35% of participants and significantly associated with Hispanic ethnicity and smoking exposure (OR=2.16, CI 1.01-4.62 and OR=2.71, CI 1.2-6.3) after adjusting for age, gender, and BMI percentile. Further adjustment for family income attenuated the association of OSA-18 with Hispanic ethnicity, but a significant association with household smoking persisted. NSES index and BMI percentile were not associated with OSA-18.

Conclusion: High symptoms and signs of OSA impacting QOL were associated with Hispanic ethnicity, household smoking and SES in this diverse cohort of children living in urban and predominantly low-income communities. The study points to the need for strategies to reduce household smoking as one strategy for decreasing sleep health disparities, and the further need to understand other factors associated with low SES that increase risk for poor sleep health.

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A MIDDLE SCHOOL AND HIGH SCHOOL SLEEP TRENDS IDENTIFIED BY A SCHOOL BASED SLEEP SCREENING PROGRAM

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Introduction: WUAL is a population based preventative sleep screening and education program for 7th to 12th graders through an asynchronous virtual platform. A descriptive summary of the program has been presented previously. First year results of a partnership with a middle school and high school with established delayed school start times are available and reveal unique trends across the academic year and specific patterns that differ between 7th-9th grade and 10th-12th grade.

Methods: The WUAL team consists of a board-certified pediatric sleep specialist, school guidance counselor and 2 project managers. The Protection of Pupil Rights Amendment (PPRA) was considered. A letter describing the program with an opt-out option was provided to parents prior to survey distribution. Survey data was captured using REDcap and included the Epworth sleepiness scale -CHAD (ESS) and the childhood sleep habits questionnaire (CHSQ). The surveys were completed at two-time points: December 2020 and April 2021. WUAL website was developed to serve as an educational resource and to access the surveys.

Results: A total of 346 students participated. Average weekday sleep reported by 7th- 9th graders was 8.6 hours (mean 8.9, 9 and 8 hours respectively). Average weekday sleep reported by 10th-12th graders was 7.1 hours (mean 7.1, 7 and 7.3 hours). Pairwise comparisons showed that students' raw scores on both the ESS and the CHSQ decreased from December to April ($p \leq .002$). To examine the clinical significance of these changes, students' trajectories were examined. There were 4 specific patterns of responses identified over the 2 time points: normal to normal, normal to pathologic, pathologic to normal and pathologic to pathologic. Despite the significant changes in raw scores, between 1/3 and 1/2 of the students with pathologic responses remained pathologic.

Conclusion: This method of screening has demonstrated a high degree of successful completion. Sleep patterns evolve over the course of the school year and for at least half of students appear to improve. There are additional differences observed between younger and older teenagers as observed by weekday sleep hours reported in 7th to 9th grade students compared to 10th to 12th grade students.

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