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Inattention, hyperactivity, and symptoms of sleep-disordered breathing.

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OBJECTIVE: Inattention and hyperactivity are frequent among children with sleepdisordered breathing (SDB) and often improve when SDB is treated. However, the frequency of SDB symptoms among inattentive and hyperactive children has received little study. DESIGN: Cross-sectional survey. SETTING: Two university-affiliated but community-based general pediatrics clinics. PATIENTS: Patients consisted of N = 866 children (469 boys), aged 2.0 to 13.9 years (mean: 6.8 plus minus 3.2 years), with clinic appointments. MEASURES: A validated Pediatric Sleep Questionnaire assessed for habitual snoring (1 item), snoring severity (a 4-item subscale), sleepiness (4 items), and overall risk of SDB (16 items). Parents also completed 2 common behavioral measures, an inattention/hyperactivity scale (IHS) derived from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, and the hyperactivity index (HI, expressed as a t score) of the Conners' Parent Rating Scale. RESULTS: Habitual snoring was reported in 16% (95% confidence interval [CI]: 13, 19) of the participants. High HI scores (>60) were found in 13% (95% CI: 11, 16) of all participants, 22% (95% CI: 15, 29) of habitual snorers, and 12% (95% CI: 9, 14) of nonsnorers. Odds ratios between HI >60 and each of the following were: habitual snoring, 2.2 (95% CI: 1.4, 3.6); 1 additional positive symptom-item on the snoring scale, 1.3 (95% CI: 1.1, 1.5); 1 additional positive item on the sleepiness scale, 1.6 (95% CI: 1.4, 2.0); and a 1-standard deviation increase in the overall SDB score, 1.7 (95% CI: 1.4, 2.0; all odds ratios age- and sex-adjusted). Results were similar for high IHS scores (>1.25). Stratification by age and sex showed that most of the association with snoring (but not sleepiness) derived from boys <8 years old. CONCLUSIONS: Inattention and hyperactivity among general pediatric patients are associated with increased daytime sleepiness and---especially in young boys---snoring and other symptoms of SDB. If sleepiness and SDB do influence daytime behavior, the current results suggest a major public health impact.

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