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Title: Respiratory disorders and dietary habits in a cohort of 8-14 years old schoolchildren

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Body: Aim: Determine the correlation between the prevalence of respiratory symptoms, sleep disordered breathing (SDB) and dietary habits in a population of primary and secondary schoolchildren, in a small city in Central Italy (Ronciglione, VT). Methods: Subjects were recruited from a non-selected population of students. Parents underwent a questionnaire of 10-items on sleep and respiratory symptoms and 18 questions on dietary habits. Results: In 2012 we enrolled 192 schoolchildren (109 males, mean age 10.6 ± 1.2 years; IC 8.5-14.8 years) similarly distributed by age. The prevalence of obesity was 19.8% whereas respiratory symptoms were 8.3% for asthma and 21.9% for rhinitis. About SDB, the percentage of snoring was 4.7%, 3.1% for sleep apnea and 1% for nocturnal awakenings. Moreover the prevalence of bruxism was 7.3% and was significantly increased in males than in female (11.9% vs 1.2%, p<0.05), while the percentage of snoring and oral breathing were higher in obese children than in those without obesity (11.1% vs 0.8%, p<0.001 and 13.2% vs 2.3%, p<0.05, respectively). We also noticed that snoring obese children (centile BMI 107.8 ± 12.0) compared to non-snoring obese (centile BMI 110.8 ± 6.8) eat more snacks between meals (66.7% vs. 36.4%) and consumed less than one portion of fruit (83.3% vs 45.4%) and vegetables (83.3% vs 63.6%) per day, although this not statistically significant. Conclusions: We confirm an increase of SDB in obese children. There is no difference in centile BMI between snoring and non-snoring obese children and we hypotize a role of dietary habits in SDB.