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LONGITUDINAL EVALUATION OF SLEEP-RELATED BREATHING DISORDERS IN AN ORTHODONTIC POPULATION

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Objectives: The aim of the present study is to investigate the evolution of sleep-disordered breathing (SDB) in children and adolescents having undergone orthodontic treatment in a university setting.

Materials and Methods: Questionnaires on sleep and day-time behavior have been administered to 168 subjects at two time points: at the screening session, when they were admitted for treatment at the University of Montreal, and four years later, when most of them were on retention, but some subjects were still in active treatment or growth follow-up. The mean age of the subjects at the time of the first evaluation was 13 years. Data analysis involved (i) exploratory data analysis to identify the main patterns; (ii) Bivariate analysis using χ^2 tests to examine the association between nominal/ordinal variables; (iii) Multivariate analysis using linear logistic regressions for continuous and binary outcomes. In all these statistical models, potential confounding factors have been controlled for.

Results: The results of the present study show that most of the subjects that initially didn't present symptoms of SDB remained symptom-free following the orthodontic treatment, whereas those that at the base-line investigation presented symptoms of SDB continued to manifest them after the orthodontic treatment. 12% of the subjects developed symptoms of SDB during the present study, but none of the orthodontic treatments investigated (non-extraction vs. two-premolar or four-premolar extractions) was statistically significant associated with them.

Conclusions: Orthodontic treatment involving teeth extraction has been incriminated as being responsible for development of sleep apnea. The present study shows that SDB in an orthodontic population is mostly constant before and after the orthodontic treatment, and that the new cases developed are not related to any kind of orthodontic treatment.