

Highlights

In the present study, an association of short lingual frenulum with SDB, as expressed by a positive Sleep Clinical Record, has been demonstrated.

Abstract

Background

Recent evidence has emphasized the role of a short lingual frenulum in the pathogenesis of sleep-disordered breathing (SDB) in childhood. The oral dysfunction induced by a short frenulum may promote oral–facial dysmorphism, decreasing the size of upper airway lumen and increasing the risk of upper airway collapsibility during sleep. The aim of this study was to evaluate the presence of a short lingual frenulum as risk factor for SDB in children of school age, with and without snoring, who were recruited from the community.

Methods

Children aged 6–14 years were recruited from a school in Rome. For all participants, the previously described Sleep Clinical Record (SCR) was completed, and orthodontic evaluation and measurement of lingual frenulum were performed. Tongue strength and endurance were evaluated in all participants using the Iowa Oral Performance Instrument (IOPI). SDB was defined as positive SCR (≥ 6.5).

Results

We assessed 504 children with mean age of 9.6 ± 2.3 years, and in 114 of them (22.6%) a short frenulum was identified. Children with a short lingual frenulum were at significantly higher risk for a positive SCR compared to those with a frenulum of normal length (odds ratio = 2.980, 95% confidence interval = 1.260–6.997). Participants with positive or negative SCR did not differ in tongue strength or endurance.

Conclusion

Short lingual frenulum is a risk factor for SDB. An early multidisciplinary approach and screening for SDB are indicated when this anatomical abnormality is recognized.