

# EVALUATION OF DENTAL ARCH DIMENSION IN CHILDREN WITH OBSTRUCTIVE SLEEP APNEA

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## **Abstract**

**Aim:** The aim of this study was to evaluate the association between dental arch dimensions and obstructive sleep apnea in children.

**Methods:** In this study 48 children (25 male and 23 female, mean age 6.8) with diagnosed obstructive sleep apnea and age matched groups of 48 non-obstructed control children were selected. The children were matched for age and gender. Orthodontic examination was carried out and dental impressions were taken. The length and breadth of the maxillary and mandibular dental arches, palatal height, overjet and overbite, deep bites, open bites, cross bites, crowding were measured. The data was analyzed using Independent sample t test.

**Results:** Children with diagnosed obstructive sleep apnea had a significantly increased overjet, a reduced overbite, and narrower maxilla and shorter mandible compared to the children in control group. There were more children with anterior open bite in the obstructive sleep apnea group ( $P = 0.021$ ) and with a Class II relationship in the group of obstructive sleep apnea ( $P = 0.017$ ) compared with the control group. There were more subjects with mandibular crowding ( $P = 0.005$ ) and with anterior open bite ( $P = 0.016$ ).

**Conclusion:** Based on the results of this study, obstructive sleep apnea can affect on dental arch dimensions.

**Key words:** Obstructive sleep apnea, Dimension, Dental arch, Child