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Sleepiness, occlusion, dental arch and palatal dimensions in children attention deficit hyperactivity disorder (ADHD)

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Abstract

Aims

This was to compare sleepiness, occlusion, dental arch and palatal dimensions between children with attention deficit hyperactivity disorders (ADHD) and healthy children (control group).

Methods

15 children with ADHD (10 boys, 5 girls, mean age 10.98 years) and 36 healthy age matched children (21 boys, 15 girls, mean age 10.60 years) were included. Intra-oral three-dimensional scans of the teeth and palate were performed to evaluate the occlusion, dental arch and palatal dimensions. Sleepiness was evaluated from the questionnaires. The differences between the two groups were analysed by Fisher's exact test and general linear models adjusted for age and gender.

Results

The ADHD children had a significantly narrower dental arch at the gingival level of the canines ($p < 0.05$) and a tendency to increased prevalence of posterior cross-bite compared to the controls (13.3 vs. 0.0%, $p = 0.086$). The ADHD children snored significantly more ($p < 0.05$) and slept restlessly significantly more often ($p < 0.0005$) compared to the controls. The ADHD children had a tendency to sleep fewer hours during the night ($p = 0.066$) and felt inadequately rested in the morning ($p = 0.051$) compared to the controls.

Conclusion

The results indicate that sleepiness and palatal width, especially the more anterior skeletal part of the palate, may be affected in children with ADHD. The results may prove valuable in the diagnosis and treatment planning of children with ADHD. Further studies are needed to investigate sleep and dental relations in children with ADHD.