Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.
The abstracts on this page have been chosen and edited by **Reena Wadia.**

Salivary biomarkers as skeletal maturity indicators

Khade D M, Bhad W A, Chavan S J, Muley A, Shekokar S. Reliability of salivary biomarkers as skeletal maturity indicators: A systematic review. *Int Orthod* 2022; **21:** 100716.

Salivary biomarkers can be used as an adjunct for growth prediction during orthodontic treatment planning along with other methods of skeletal maturation assessment.

This study assessed the reliability of different salivary biomarkers as skeletal maturity indicators when compared with other methods of skeletal maturity assessment. A comprehensive search was conducted on three key electronic databases from 2000 to July 2021. Assessment of skeletal age on the basis of levels of different salivary biomarkers at different pubertal stages was considered as the primary outcome. A total of 158 articles were retrieved, of which 15 were selected for qualitative synthesis. All these studies were cross-sectional in design. These studies compared the levels of different salivary biomarkers such as Alkaline Phosphatase (ALP), Insulin-like Growth Factor-I (IGF-I), Insulin-like Growth Factor Binding Protein-3 (IGFBP-3), Cortisol, Indian Hedgehog (IHH) protein and Dehydroepiandrosterone sulphate (DHEAS) with other methods of skeletal age estimation. Out of these six biomarkers, salivary IGF-1 is a reliable indicator for skeletal maturity assessment. The authors emphasise the need for further research with longitudinal studies in this field.

https://doi.org/10.1038/s41415-023-5463-z

Clear aligner therapy – OGE & IPR

Zhang Y, Wang X, Wang J *et al.* IPR treatment and attachments design in clear aligner therapy and risk of open gingival embrasures in adults. *Prog Orthod* 2023; **24:** 1.

A high rate of open gingival embrasures occurs after clear aligner therapy. Clinicians should be aware of the application of IPR and the design of attachments.

This study determined the prevalence of open gingival embrasures (OGE) in adults after clear aligner therapy and to investigate the risk of OGE associated with interproximal enamel reduction (IPR) treatment and attachment design, focusing on the amount and distribution in mandibular anterior teeth. Pre-treatment and post-treatment intraoral frontal photographs of 225 non-extraction patients were evaluated retrospectively. The amount of IPR and the number of attachments in the anterior teeth from subjects after screening were recorded according to the first version of clear aligner software (Clincheck) and clinical documents. The incidence of OGE in non-extraction patients after clear therapy between maxillary and mandibular central incisors was 26% and 40%, respectively. IPR was not associated with the occurrence of OGE but was associated with severity. The number of attachments in the anterior teeth or central incisors was significantly related to the incidence of OGE but was not associated with severity.

https://doi.org/10.1038/s41415-023-5465-x

Effects of face masks

Kanzow P, Rammert L-S, Rohland B, Barke S, Placzek M, Wiegand A. Effect of face masks on salivary parameters and halitosis: Randomised controlled crossover trial. *J Oral Pathol Med* 2023; **52:** 56–62.

Wearing face masks does not seem to result in measurable side effects on salivary parameters such as a reduced salivary flow rate or VSC levels.

This study aimed to measure the effect of different face masks on salivary parameters and halitosis. The randomised controlled crossover clinical trial with four periods included 40 orally healthy participants using different face masks (cloth mask, surgical mask, filtering facepiece 2 [FFP2] mask) or no mask (control) for four hours in random order. Unstimulated salivary flow rate (primary outcome) and stimulated salivary flow rate, salivary pH and buffer capacity of stimulated and unstimulated saliva (secondary outcomes, blinded), and volatile sulphur compounds (secondary outcome) were measured before and after the four-hour periods. Of 40 randomised participants, 39 completed the study. Unstimulated salivary flow rate prior to face masking amounted to 0.6 ± 0.3 ml/min. Face masking had no significant effect on unstimulated salivary flow or the other salivary parameters. The concentration of volatile sulphur compounds (VSCs) prior to face masking amounted to 157.3 ± 59.7 ppb. Four hours of face masking did not change the salivary flow rate, pH, and buffer capacity, and had no significant effect on VSC levels.

https://doi.org/10.1038/s41415-023-5464-y

Dental trauma in ADHD

Drumond V Z, Nascimento de Oliveira T, Almeida de Arruda J A, Mesquita R A, Abreu L G. Dental trauma in children and adolescents with attention-deficit/hyperactivity disorder: A systematic review and meta-analysis. *Spec Care Dentist* 2023; DOI: 10.1111/scd.12819.

Children and adolescents with ADHD are more likely to have dental trauma; however, due to the limitations of the data, a causal relationship cannot be established.

Attention-deficit/hyperactivity disorder (ADHD) affects approximately 7.2% of children and adolescents worldwide. This study aimed to assess whether children and adolescents with ADHD were more likely to have dental trauma when compared to their healthy peers. The literature was searched until October 2022 and observational studies with a control group were eligible. A meta-analysis was performed. A total of 239 studies were detected; of these, six were included in the qualitative synthesis and four were merged in the meta-analysis. The risk of bias was high. The strength of the evidence was 'very low'. Children and adolescents with ADHD are more likely to have dental trauma than their non-ADHD peers. However, due to limitations in the design of the included studies, a causal relationship cannot be established.

https://doi.org/10.1038/s41415-023-5466-9