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.**

Impact of Sjögren's disease

Sjögren's disease has a detrimental effect on caries and promotes periodontitis.

This study leveraged an instrumental variable approach to investigate whether Sjögren's disease (SjD) affects the risk of caries and periodontitis. A total of 57 genetic variants strongly associated with SjD were identified from a genome-wide association study of 2,247 European descent cases and 332,115 controls. Associations of these genetic instruments with caries were tested (measured as the number of decayed, missing, and filled surfaces in 26,792 individuals) and periodontitis (17,353 clinical periodontitis cases and 28,210 European controls). Several sensitivity analyses were used to further validate the primary inverse variance weighted (IVW) estimate which revealed an adverse effect of SjD on caries and periodontitis. Sensitivity analyses, conducted to assess the robustness to potential violations of instrumental variable assumptions, further support these findings.

https://doi.org/10.1038/s41415-024-7152-y

Impact of cystic fibrosis

Adults with cystic fibrosis had poor oral hygiene practices but lower levels of clinical gingivitis and periodontitis.

This study investigated the prevalence of periodontal disease and the oral hygiene status of adults with cystic fibrosis (CF). A case-control study of 92 adults with a diagnosis of CF was carried out in Cork University Hospital. A 40-item questionnaire was issued, and two calibrated examiners conducted a periodontal assessment. The results were compared with a population-based control group of similar socio-demographic profile. Oral hygiene levels were significantly worse in people with CF, with a median plaque index of 0.83 in the CF group compared with 0.5 in the non-CF group. Periodontal disease levels were significantly lower in the CF group. Gingivitis was seen in 67% of the CF group, compared with 84% of the non-CF group. Mild periodontitis (periodontal probing depth [PPD] <5 mm) was seen in 15% of the CF group, compared with 32% of the non-CF group. Severe periodontitis (PPD ≥6 mm) was seen in 0% of the CF group, compared with 10% of the non-CF group. There was a tendency, albeit non-significant, towards reduced periodontitis in PWCF who regularly took antibiotics, particularly azithromycin.

https://doi.org/10.1038/s41415-024-7154-9

RCT – factors associated with success

Factors associated with success will be under the pre-, intra- and post-operative categories.

This cohort study investigated the association of various factors on root canal treatment outcome. Primary or secondary root canal treatment of mature permanent teeth was performed by a single endodontist in a private practice over 13 years and followed for 1–4 years. The proportion of successfully treated teeth and roots based on radiographic (periapical index (PAI) ≤2) and clinical criteria (absence of pain, swelling or sinus tract) was estimated; 1,259 teeth (2,445 roots, 3,149 canals) were assessed with a recall rate of 91%. The proportion of successfully treated teeth was 80%. Eleven prognostic factors were identified that significantly reduced the odds ratio for treatment success at tooth level. Six were preoperative: injury history, root PAI, lesion diameter, tooth type, tenderness to periapical palpation and two canals per root. Four factors were intraoperative: root filling of unsatisfactory quality or extending beyond or shorter than 2 mm from the apex, resin sealer and single visit treatment. One factor was postoperative: defective coronal restoration.

https://doi.org/10.1038/s41415-024-7153-x

Invisalign ClinCheck vs actual results

Torque correction of maxillary central incisors and rotational correction of most of the teeth showed significant differences.

The digital impressions of 21 subjects treated with Invisalign Lite were taken and analysed. Subjects were white with a mean age of 20 years. Patients were analysed at T0 (before starting therapy) and T1 (after 28 weeks of treatment), with a two-week change interval. The changes that occurred between T0 and T1 were compared to the predicted changes between T0 and Ts (setup/ClinCheck). The teeth that exhibited the least accurate expression of torque were the central incisors. Tip was not accurate on maxillary central incisors and canines, mandibular central incisors, lateral incisors, first premolars, second premolars and first molars. Rotations were under-expressed on maxillary lateral incisors, canines and second premolars and on mandibular central incisors, canines, premolars and first molars. Overall, angular changes showed a tendency to underperformance. Transverse linear changes were accurate with a significant overperformance on all first molars.

https://doi.org/10.1038/s41415-024-7155-8