

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.

Omega 3 fatty acids for periodontitis patients

Van Ravensteijn M M, Timmerman M F, Brouwer E A G, Slot D E. The effect of omega 3 fatty acids on active periodontal therapy - a systematic review and meta-analysis. *J Clin Periodontol* 2022; DOI: 10.1111/jcpe.13680. Online ahead of print.

Dietary supplementation with ω -3 fatty acids as an adjunct to SRP is more effective in reducing PPD and improving CAL than SRP alone.

The aim of this systematic review and meta-analysis was to examine the additional effect of ω -3 fatty acids to non-surgical periodontal therapy (SRP) on probing pocket depth (PPD) and clinical attachment level (CAL). PubMed and Cochrane-CENTRAL libraries were searched up to January 2021 for RCTs in chronic periodontitis patients, treated with SRP/placebo as controls and SRP/ ω -3 fatty acids as test group. Ten eligible publications were identified. Descriptive analysis showed a significant effect on PPD and CAL, in favour of the groups with ω -3 fatty acids in the majority of comparisons. Meta-analysis revealed that adjunctive use of ω -3 fatty acids to SRP resulted in 0.39 mm more PPD reduction and 0.41 mm more CAL gain than SRP alone.

<https://doi.org/10.1038/s41415-022-4516-z>

AI-assisted dental monitoring

Shen K-L, Huang C-L, Lin Y-C *et al.* Effects of Artificial Intelligence (AI)-Assisted Dental Monitoring Intervention in Patients with Periodontitis: A Randomized Controlled Trial. *J Clin Periodontol* 2022; DOI: 10.1111/jcpe.13675. Online ahead of print.

Using AI monitoring at home had a positive effect on treatment outcomes for patients with periodontitis.

This study evaluated the effects of an at-home AI-assisted dental monitoring application on treatment outcomes in patients with periodontitis. Participants with periodontitis were recruited and randomly assigned into an AI (AI; n = 16), AI and human counselling (AIHC; n = 17), or control (CG; n = 20) group. All participants received non-surgical periodontal treatment. An AI-assisted tool called DENTAL MONITORING (DM) intervention was used. This is a new technological AI monitoring product that utilises smartphone cameras for intraoral scanning and assessment. Patients in the AI and AIHC groups respectively received additional (a) DM or (b) DM with real-person counselling over three months. Periodontal parameters were collected at baseline and follow-ups. A mixed-design model analysed the follow-up effects over time. The AI and AIHC groups respectively exhibited greater improvement in probing pocket depth, clinical attachment level and plaque index at three-month follow-up than the CG did. The AIHC group had a greater reduction in probing pocket depth and clinical attachment level at the three-month follow-up compared with the AI group.

<https://doi.org/10.1038/s41415-022-4518-x>

CPC for COVID patients

Alemay A, Perez-Zsolt D, Raich-Regu  D *et al.* Cetylpyridinium Chloride Mouthwash to Reduce Shedding of Infectious SARS-CoV-2: A Double-Blind Randomised Clinical Trial. *J Dent Res* 2022; DOI: 10.1177/00220345221102310. Online ahead of print.

A 0.07% CPC mouthwash was associated with a significant increase of nucleocapsid protein levels in saliva, indicating enhanced disruption of viral particles.

This was a multi-centre, double-blind, placebo-controlled trial to assess the virucidal activity of cetylpyridinium chloride (CPC) mouthwashes. Outpatients who tested positive for SARS-CoV-2 infection with or without symptoms were randomised to perform washes and gargles for one minute with 15 mL of either coloured distilled water or 0.07% CPC mouthwash. The study outcomes were the SARS-CoV-2 log₁₀ viral RNA load and the nucleocapsid protein levels, both in saliva at 1 and 3 hr after the intervention. In total, 118 patients were enrolled and randomised. The assessment of the viral load showed no significant differences between groups. The levels of SARS-CoV-2 nucleocapsid protein of lysed viruses were significantly higher in the CPC group. In non-hospitalised patients with asymptomatic or mild symptomatic SARS-CoV-2 infection, a 0.07% CPC mouthwash, compared to placebo, was associated with a significant increase of nucleocapsid protein levels in saliva, indicating enhanced disruption of viral particles.

<https://doi.org/10.1038/s41415-022-4517-y>

Systemic multimorbidity clusters

Larvin H, Kang J, Aggarwal V R, Pavitt S, Wu J. Systemic Multimorbidity Clusters in People with Periodontitis. *J Dent Res* 2022; DOI: 10.1177/00220345221098910. Online ahead of print.

People with periodontitis are more likely to present with hypertension and obesity together, and diabetes is more influential to multimorbidity clusters in people with severe periodontitis.

This study aimed to identify systemic multimorbidity clusters in people with periodontitis. Cross-sectional data of 3,736 participants across three cycles of the National Health and Nutrition Examination Survey (2009 to 2014) were utilised. Periodontal examination was carried out by trained dentists for participants aged ≥ 30 years. The extent of periodontitis was represented by the proportion of sites with clinical attachment loss (CAL) ≥ 3 mm, split into four equal quartiles. A range of systemic diseases reported during the survey were also extracted. In the study population, the top three prevalent diseases were hypertension (63.9%), arthritis (47.6%) and obesity (45.9%). A total of 106 unique systemic multimorbidity clusters were identified. Hypertension was the most centralised disease in the overall population, followed closely by arthritis and obesity. 'Hypertension, obesity' was the largest weighted multimorbidity cluster across CAL quartiles.

<https://doi.org/10.1038/s41415-022-4519-9>