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 **Paul Hellyer.**

Doctors realise that the mouth is part of the gut!

Lucchese A, Di Stasio D, De Stefano S, Nardone M, Carinci F. Beyond the Gut: A Systematic Review of Oral Manifestations in Celiac Diseases. *J Clin Med* 2023; **12:** 3875.

Oral ulceration and enamel defects are associated with celiac disease. Celiac disease (CD) is characterised by an immunological response to the proteins in gluten, often resulting in diarrhoea, abdominal pain, weight loss and malabsorption, although some patients may be asymptomatic. 'Given that the mouth is the initial segment of the gastrointestinal system,' oral manifestations of CD can contribute to diagnosis.

Thirty-three papers were reviewed, showing that 66% of patients affected by CD are female. Recurrent aphthous ulceration (RAS) was reported in 27 papers and dental enamel defects (DED) reported in 19 studies. Less frequently reported symptoms include delayed dental eruption, glossitis and geographic tongue, glossodynia, xerostomia, cheilitis and oral lichen planus.

The relationship between DED and CD may involve factors beyond nutritional deficiencies interrupting amelogenesis. An autoimmune response to amelogenins and amelobalstin suggests an interplay of genetic and (auto)immunological factors. Studies show that RAS has a higher prevalence in CD patients than healthy control subjects and a gluten-free diet may lead to a remission of associated RAS.

The authors suggest that understanding the oral manifestations of CD may enhance the management of oral disease through targeted CD therapy.

https://doi.org/10.1038/s41415-023-6279-6

Risk-based caries prediction

Fontana M, Eckert G J, Katz B P *et al*. Predicting Dental Caries in Young Children in Primary Health Care Settings. *J Dent Res* 2023; **102:** 988–998.

A 10-point questionnaire developed, easily used at medical screening. Targeted health care delivery may improve outcomes while containing costs but most caries risk assessment tools are expert informed with little validation.

A convenience sample of 1,326 children aged 12 ± 3 months was recruited from three primary care research networks. Oral examination by calibrated examiners was carried out at baseline, 30 months and 4 years. The primary care giver (PCG) completed a 52-item questionnaire at each visit. At age four, 985 (74% retention) children were examined and 29% showed cavitated caries experience.

From the clinical and questionnaire data, a 10-point screening questionnaire was developed. The tool showed good accuracy (AUC = 0.73) and in addition to dietary questions, asked for information about birth by caesarean section, receipt of state benefits and PCG's oral health.

Those at higher risk require recurrent interventions and working interprofessionally may help to address issues of access and effectiveness.

https://doi.org/10.1038/s41415-023-6281-z

Ownership in health care settings

Borsa A, Bejarano G, Ellen M, Bruch J D. Evaluating trends in private equity ownership and impacts on health outcomes, costs and quality: systematic review. *BMJ* 2023; DOI: 10.1136/bmj-2023-075244.

A view from the USA.
Private equity (PE) firms use institutional and private investors' capital, in tandem with large amounts of debt, to acquire companies for profitable re-selling in 3–5 years' time. Arguments for include the advantages of economies of scale and managerial expertise. Concerns include prioritising profit over patient safety and overemphasising profitable services in place of the less profitable.

This systematic review of 55 relevant papers found that organisational changes frequently led to increased charges for patients and negotiated higher rates to insurers. Staffing changes tended to lead to a decrease in numbers or a shift to a lower skill mix. On quality, 21 studies identified some form of harmful impact and 12, some form of beneficial impact. PE ownership was associated with negative impacts on patient satisfaction and general quality scores.

PE ownership in the healthcare sector is increasing and in this literature review, no consistent benefits were identified. The authors suggest that increased surveillance, reporting and regulation may be warranted.

https://doi.org/10.1038/s41415-023-6280-0

Saliva testing for caries risk

Musalem-Dominguez O, Montiel-Company J M, Ausina-Márquez V, Morales-Tatay J M, Almerich-Silla J M. Salivary metabolomic profile associated with cariogenic risk in children. *J Dent* 2023; **136:** 104645.

A system not yet ready for clinical use.
Changes in the metabolic activity in the oral microbiome have been noted in individuals with active dental caries. Metabolimic profiles from whole saliva can be identified and quantified using nuclear magnetic resonance spectroscopy (NMR). NMR has the advantages of excellent reproducibility and being highly automatable. Sample preparation is simple although relatively large sample size is required.

At two paediatric dental units in Spain, unstimulated saliva was collected from 31 children, aged 7–10 years, diagnosed with ICDAS codes lll, IV and V (the case group) and 37 children of similar age with ICDAS codes I and II (the control group). Higher levels of taurine and mannose were found in the case group and higher levels of glycine and glucose in the controls. Glycine may have a protective role in reducing caries risk. The presence of taurine may be a biomarker for caries.

The predictive capacity of the model developed is described as moderate (AUC = 0.71).

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