

# Letters to the editor

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## Oral health

### Integrating dental care with maternity services

Sir, I am writing to address the alarming findings that over a million new mothers have missed out on free NHS dental care due to the pandemic. Patients are eligible for free NHS dental care during pregnancy and for 12 months postpartum, but the uptake plummeted during the pandemic.<sup>1</sup> To mitigate this issue, I propose integrating dental check-ups with maternity care and training midwives to provide oral hygiene instructions.

Integrating dental check-ups during pregnancy visits to gynaecologists can significantly improve oral hygiene during this critical period. Hormonal changes during pregnancy increase the risk of gum disease and other dental issues, which can lead to complications such as preterm birth and low birth weight.<sup>2</sup> By incorporating dental care into routine gynaecological visits, we can ensure early detection and treatment of dental problems, preventing more severe health issues and reducing the need for costly emergency treatments.<sup>3</sup>

Training midwives to provide oral hygiene instructions can also play a critical role in preventing dental diseases. Midwives, as trusted health professionals with regular contact with expectant mothers, are ideally positioned to deliver essential oral health education. By incorporating oral hygiene instructions into their routine visits, midwives can encourage good dental practices and raise awareness about the importance of oral health during pregnancy.<sup>4</sup>

Integrating dental check-ups with the child's vaccination schedule can help establish a dental home, promoting good oral health in the child and providing a convenient dental visit for the mother. This

approach ensures that both mother and child receive regular dental care, fostering a culture of preventive health that can lead to better long-term outcomes.

In conclusion, integrating dental check-ups with maternity care, gynaecological visits, and child vaccination schedules, along with training midwives in oral hygiene, offers a comprehensive, cost-effective strategy to improve the oral health of mothers and their children. Establishing structured communication and collaboration pathways between healthcare and dental professionals can enhance both oral health and pregnancy outcomes.<sup>5</sup> I urge healthcare policymakers to consider these measures to ensure that all mothers have access to the dental care they need and deserve.

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### Underground dentistry Veneer 'techs'?

Sir, we write to bring to your attention an alarming trend of underground dentistry being promoted on social media. Calling themselves 'veneer techs', these are non-dentally qualified people who have

completed a course between 12 hours and two days at a cost of up to \$6,000 to gain a certificate in providing 'veneers'. Said courses are teaching composite bonding techniques without respect to the underlying dentition or periodontium. These people are, inappropriately, being encouraged to prepare the teeth with a drill under the guise of quick earnings.

A brief investigation on TikTok reveals such providers as having over 40k followers; they demonstrate the treatment and their 'clients' before and after the process. Before, we see vast evidence of periodontal disease and caries and afterwards, such disease is masked by layer upon layer of composite with clearly no consideration of the underlying foundations. The professional status of providers is often vague or not mentioned on their websites and social media, likely leaving many 'clients' fooled into believing they were seen by a qualified professional. In other examples, we see treatment being carried out at providers' homes or at aesthetic clinics with no dental professionals on site.

This is concerning to see, and we worry that this trend in the US may spread to the UK. It seems that dental aesthetic treatment in the UK may be on a perfect trajectory to flirt with so-called 'veneer techs', since the provision of whitening by non-dentally qualified aestheticians has already been raised as a concern in the dental profession.<sup>1</sup> The General Dental Council (GDC) express that 'It is a criminal offence for a person who is not a registered dentist or a registered dental care professional to practise dentistry'.<sup>2</sup> Hence, there is hope that the legislation of the Dentists Act 1984 and regulation of the GDC will provide the legal basis to target this practice should it begin in the UK. Should general dentists hear of a spread of this trend to their area,

it is our recommendation to report this illegal practice to the GDC.<sup>3</sup> Additionally, protecting patients by providing adequate advice and information is crucial to help avoid a national dental health catastrophe.

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## Heavy metal toxicity

### Exploring the impact of dental metal ions

Sir, a literature review was conducted on dental metal ions using 2024 publications from the National Library of Medicine. Topolska *et al.* investigated the chemical impact of metal orthodontic appliances on human enamel in which 107 enamel samples underwent a 12-month simulation of orthodontic treatment, experiencing metal exposure and pH changes.<sup>1</sup> Analysis using ICP-MS and LA-ICP-MS revealed increased levels of Fe, Cr, and Ni in samples with metal contact, particularly in the outer enamel and fissures, compared to sealed samples. It concluded that metal leakage during orthodontic treatment can chemically alter the enamel surface and create microlesions.<sup>1</sup>

In periodontitis, research highlighted the antibacterial properties of metal and metal oxide nanoparticles (NPs) against various bacteria, including drug-resistant strains. Green synthesis of NPs was favoured for its low toxicity and environmental safety. Gold NPs (AuNPs) showed low toxicity to cells, while silver NPs (AgNPs) offered multiple benefits like stability and conductivity. Zinc oxide (ZnO) and copper (Cu) NPs effectively inhibited periodontitis-causing bacteria. Additionally, certain metallic NPs can boost the antimicrobial effectiveness of periodontitis treatments.<sup>2</sup>

In dental prosthetics, chromium-cobalt and chrome-nickel steels were widely

used but can cause allergies and have poor corrosion resistance.<sup>3</sup> To enhance their properties, amorphous silicon carbide nitride (Si(C,N)) coatings were applied to these alloys using magnetron sputtering. The coatings, varying in carbon to nitrogen ratios, were analysed for structure, chemical composition, wettability, and roughness. Results showed that such coatings, ranging from 2 to 4.5 µm thickness, increased surface free energy, suggesting their potential as protective films in dental prosthetics.<sup>3</sup>

The impact of stannous ions from sodium-fluoride-dentifrice on oral biofilms was assessed, comparing it to zinc-based dentifrice and a control.<sup>4</sup> Results showed that stannous ions did not significantly alter the overall microbiome but increased beneficial commensals and reduced pathogens. Specifically, stannous ions were found to selectively bind to and reduce periodontitis-associated bacteria, suggesting their potential in maintaining oral health and preventing disease by targeting harmful bacteria.<sup>4</sup>

Polysaccharides as functional foods or drugs offered a natural remedy for heavy metal toxicity, employing chelation and antioxidant mechanisms.<sup>5</sup> They effectively bind toxic metals, safeguarding organs and aiding in the prevention of degenerative conditions. Compounds such as methionine, cysteine, N-acetylcysteine, S-adenosylmethionine, α-lipoic acid, and glutathione played a crucial role in detoxification and tissue healings.<sup>5</sup>

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## Periodontology

### Removable dentures and Alzheimer's disease

Sir, recent studies have indicated that periodontal pathogens that are present in the oral cavity and can enter the bloodstream through the oropharyngeal port have the potential to cross the blood-brain barrier and potentially accelerate Alzheimer's disease (AD)-specific neuropathology. This acceleration occurs through increased neuroinflammation, plaque formation, and dysregulation of iron homeostasis, ultimately leading to ferroptosis, neuronal death, and neurodegeneration.<sup>1,2</sup>

It is disconcerting to note that the use of removable dentures (RDs) over time can lead to an increased presence of these bacteria.<sup>3,4</sup> Furthermore, in patients with poor oral hygiene, RDs can also serve as a source of infection.<sup>4</sup>

Given the relatively higher prevalence of RDs use among elderly patients and the fact that AD often occurs in this age group, it is imperative to conduct comprehensive research to establish any potential link between these two factors.

Therefore, in today's ageing society, the identification and characterisation of modifiable risk factors associated with AD, including RDs, have the potential to significantly reduce its prevalence. In addition, prosthodontists must place patient safety as a top priority and guarantee that prosthetic treatments are both efficient and safe for extended periods.

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