

Letters to the editor

Send your letters to the Editor, *British Dental Journal*, 64 Wimpole Street, London, W1G 8YS. Email bdj@bda.org. Priority will be given to letters less than 500 words long. Authors must sign the letter, which may be edited for reasons of space.

CORONAVIRUS

Are 'family bubbles' safe?

Sir, we write in regard to Dr Cohen's suggestion of treating all family members in a single dental session (*BDJ* 2020; **229**: 6). This proposes that household transmission is the main concern in this process, however, studies found that secondary transmission of SARS-CoV-2 developed in only about 16.3% of household contacts.¹ Conversely, community and nosocomial infection impose a higher risk for family members to get infected. Therefore, such recommendations may be misleading and may worsen the pandemic by going against infection control and safety guidelines.

By the middle of April 2020, more than 9,000 healthcare workers in the United States had been infected by SARS-CoV-2, accounting for 19% of the total number of patients reported by the Centers for Disease Control and Prevention (CDC) thus implying that there is a significant knowledge gap regarding infection control as well as the practice among dentists and doctors. Considering the highly infectious nature of the current pandemic and its modes of transmission which are not yet fully understood, especially in the prodromal and convalescent stages, dental healthcare workers must strictly follow biosafety protocols and specific COVID-19 protective measures.

A. Riad, Brno, Czech Republic; A. Gad, Tanta, Egypt; M. Boccuzzi, Pisa, Italy; S. Cosola, Lido di Camaiore, Italy

Reference

1. Li W, Zhang B, Lu J *et al*. Characteristics of household transmission of COVID-19. *Clin Infect Dis* 2020; *ciaa450*. doi: 10.1093/cid/ciaa450.

<https://doi.org/10.1038/s41415-020-1992-x>

BAME and COVID-19

Sir, research indicates that BAME communities are disproportionately adversely impacted by SARS-CoV2 (COVID-19). The *HSE* reported the results of an analysis of deaths of NHS staff from COVID-19 based upon media reports up to 22 April 2020.¹ Those from BAME communities were found to account for 63% of the deaths, yet the communities only formed 21% of all NHS staff. Among medical staff the comparable figures were even more concerning, 95% and 44% respectively. An ONS analysis found that a proportion of the excess risk of adverse risk COVID-19 presents to BAME groups is accounted for by demographics, socio-economic profiles and some dimensions of health, but the remainder remained unexplained.

Pan *et al.*² recently reported the findings of a systematic review to assess whether ethnicity had been reported in research relating to patients with COVID-19 and its relation to clinical outcomes. They concluded that BAME individuals are at raised risk of adverse outcomes including hospitalisation, ITU admission and mortality.

For COVID-19, severe disease is characterised by a proinflammatory hypercytokinemia which damages heart, kidney, liver and lung tissues with the latter leading to acute respiratory distress syndrome.³

The response of different skin types to UV radiation may be estimated using the Fitzpatrick scale comprising six phototypes which are semi-quantitative in that each has an associated minimal erythematous UV dose (MED) range.⁴ By way of confirming an apparent correlation between

phototype MED values and ethnicity related COVID-19 death risk I calculated the *r* values⁵ for men (*r* = 0.81) and women (*r* = 0.81) using ONS fully adjusted model data⁶ and author estimated MED values⁷ for the relevant ethnic groups.

I believe that the strong correlations support the logical hypothesis that ultraviolet radiation (UVR) skin exposure induced immunosuppression reduces the risk of hypercytokinemia development in COVID-19 infected individuals and in turn the following cascade of predictions:

- UV induced inflammation in the skin induces immunosuppression which is locally protective and also acts systemically
- Immunoregulatory efficiency as it relates to hypercytokinemia risk, is inversely correlated with increasing Fitzpatrick Skin Type code.

Possible mechanisms for the greater innate immunomodulation efficiency in lower MED range phenotypes groups might include:

- Differences between skin types are related to phenotypic variations, more probably those in the genes coding for elements of the NF- κ B protein complex and/or IL-6-STAT3 signalling pathways
- Utilisation of vitamin D in the management of an inflammatory response⁸ in the skin is more efficient/optimised in lower MED range skin phenotypes. However, the effect is systemic so improving immunomodulation efficiency
- The efficiency with which UVR induced regulatory T cells mediated immunosuppression is induced (whether a continuous or discrete process) is inversely correlated with skin phenotype MED value when corrected for the age of the individual.