

Fluoride

IQ research discredited

Sir, there has been discussion for some years around an association between ingested fluoride and IQ. The alleged association has been questioned in a detailed review from the prestigious National Academy of Sciences, Engineering and Medicine (NASEM), the US equivalent of the UK's Royal Society.

The claims arose from papers published in the period 1995 to 2010 emanating from China but also from India, Mexico and Iran. These studies were severely criticised because:

- Their design and methods had serious limitations
- They were undertaken in areas where natural fluoride levels in the water are higher than the recommended World Health Organisation upper limit of 1.5 mg/litre
- The authors often failed to take into account other significant water borne contaminants, such as arsenic
- They also failed to take into account other sources of fluoride intake, from coal used for indoor fires and contaminated grain, practices not seen in many developed countries.

More recently a group of researchers from Canada joined the discussion. Their research is of higher quality but commentators have assessed that it still falls far short of demonstrating a clear association between fluoride in drinking water and IQ and certainly does not demonstrate a causal relationship.^{1,2,3}

The US National Toxicology Program (NTP) reviewed the scientific evidence and, in September 2019, published a draft monograph in which they concluded that: 'fluoride is presumed to be a neuro-developmental hazard to humans'. This draft was then sent to the prestigious National Academy of Sciences, Engineering and Medicine (NASEM) for peer review. In its damning 42-page report, published in March 2020, NASEM finds that the NTP draft review failed to provide adequate support for its conclusions. Furthermore, NASEM was critical of the design and methods of many of the studies reviewed by the NTP as well as NTP's own analysis, summary and presentation of the data. The NASEM review recommended that NTP conducts further work.

Meanwhile, we would refer back to the NHS Website (20 August 2019) commenting on the Green *et al.* paper:¹ 'Considerable past research has been conducted into the safety of fluoride, including those conducted by the UK government and other international organisations. Overall, these studies all found that fluoride was not associated with significant health risk, while clearly reducing tooth decay.'

M. A. Lennon, *British Fluoridation Society, Cheshire, UK*

References

1. Green R, Lanphear B, Hornung R *et al.* Association between maternal fluoride exposure during pregnancy and IQ scores in offspring in Canada. *JAMA Pediatr* 2019; **173**: 940-948.
2. Science Media Centre. Expert reaction to study looking at maternal exposure to fluoride and IQ in children. 19 August 2019.
3. Meyer J. Questionable study casts a cloud over the 75th anniversary of water fluoridation. *STAT (First Opinion)*. 24 January 2020.
<https://doi.org/10.1038/s41415-020-1947-2>

Periodontal family history

Sir, I have recently audited the use of the 2017 periodontal classification in new patient clinics at Bristol Dental Hospital (BDH). I was incredibly pleased to see that the team at BDH have adapted well with 98% of the previous 75 new periodontal patients being diagnosed with the 2017 classification as had 85% of referrals from general dental practitioner colleagues.

However, I noticed that only two thirds of referring dentists completed the yes or no tick box asking whether the patient had a family history of periodontal disease, with this being left unanswered 33% of the time. We know the importance of genetics on the susceptibility of an individual to periodontitis,¹ and I believe that the profession should make a concerted effort to ask patients about their periodontal family history as a part of any new patient examination. This information is important when assessing each patient's risk factors and susceptibility to periodontal disease and can be used to mitigate the progression of periodontal disease in these individuals by explaining the risks and providing the appropriate oral hygiene instructions at an earlier age. A patient being aware of associated family history and its outcome may help them take on board the necessity for improving their oral hygiene standard. Additionally, this could help with future research purposes, with one of the suggestions for further investigation from the

2017 world workshop being the identification of characteristics, including genetic factors, which may make an individual more susceptible to periodontal disease.²

Therefore, I make the suggestion that any of my GDP colleagues reading this, ask and document their patient's family periodontal history, so that we can move to pre-empt periodontal disease and provide our patients with the adequate information to maintain their periodontal health.

D. Jayawardena, *Bristol, UK*

References

1. da Silva M K, Gonçalves de Carvalho A C, Pereira Alves E H, Pereira da Silva F R, Dos Santos Pessoa L, Pereira Vasconcelos D F. Genetic factors and the risk of periodontitis development: findings from a systematic review composed of 13 studies of meta-analysis with 71,531 participants. *Int J Dent* 2017; **2017**: 1914073.
2. Chapple I L C, Mealey B L, Van Dyke T E *et al.* Periodontal health and gingival diseases and conditions on an intact and a reduced periodontium: Consensus report of workgroup 1 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions. *J Periodontol* 2018; **89** Suppl 1: S74-S84.

<https://doi.org/10.1038/s41415-020-1948-1>

Correction to: Ectopic canine sequelae

The original letter can be found online at <https://doi.org/10.1038/s41415-019-1063-3>.

Author's correction note:

Letter to the editor *Br Dent J* 2019; **227**: 944-945.

An author's name in this letter was misspelt. L. Hurst should have read L. Hirst.

The original article has been corrected.
<https://doi.org/10.1038/s41415-020-1950-7>

Correction to: Povidone iodine gargle and mouthwash

The original article can be found online at <https://doi.org/10.1038/s41415-020-1794-1>

Author's correction note:

Letter *Br Dent J* 2020; **228**: 900.

When published an author's name was misspelt. M. Hadjiat should have read Y. Hadjiat.

The original article has been corrected.
<https://doi.org/10.1038/s41415-020-1914-y>