

Defending fluoridation

DR JOE MULLEN counters the main arguments against fluoridation.

Reasons offered against fluoridation can be grouped into four main headings:

- (a) fluoridation does not reduce the burden of dental caries;
- (b) fluoridation causes harm;
- (c) politico-legal considerations; and,
- (d) fluoridation causes environmental damage.

In this article it will be possible only to touch briefly on each of these issues.

Claims that fluoridation does not reduce the burden of dental caries:

- tend to focus on the occasional study that appears to show little benefit, ignoring the volume of studies that show the opposite;
- state that the clinical significance of the benefit seen in studies is undermined; and,
- state that the quality of studies on fluoridation is low.

The first two points are evidently incorrect. The third point is technically valid in that it is impossible to conduct the highest quality type of study, a randomised controlled trial (RCT), for water fluoridation. However, all of the evidence taken together provides more than enough evidence of benefit.

Claims that fluoridation causes harm are based on two issues, namely enamel fluorosis and claims of effects on general health. The enamel fluorosis issue has been studied since the early 1900s at least, involving the work of Frederic McKay in Colorado Springs, USA, and JM Eager in Naples, Italy.¹ Fluorosis, if deemed to be aesthetically unacceptable, can be managed with painless microabrasion, and the type of fluorosis seen in Ireland tends to be very mild, and not necessarily in need of treatment. However, the argument goes: "if fluoride causes this damage on teeth where we can see it, what's it doing to the bones and other tissues we can't see?" Frequently, the claim is made that fluorosis is a sign of systemic poisoning. Current theory is that the main cause of enamel fluorosis is the reduction of calcium levels in the developing enamel matrix, thereby impairing crystal formation.²

Ill health claims

Claims of ill health effects are based in the main on laboratory studies. Such claims have not been substantiated in human health studies.

The York Systematic Review,³ one of the major systematic reviews of recent years, explains the issue very well on its website. Major governmental and independent reviews in a number of countries in recent years have all concluded that the evidence to date does not indicate that community water fluoridation causes any ill health effects.

Politics

For dentists, the politico-legal and environmental arguments may be less familiar than those on oral and general health, but these are crucial issues. The Forum on Fluoridation of Ireland⁴ addressed the ethical and legal issues in some detail, and the matter was also considered in a report from the Nuffield Council on Bioethics in the UK.⁵ The Environmental issues have been addressed in the recent report of the European Commission's Scientific Committee on Health and Environmental Risks (SCHER).⁶ This committee did not find any evidence of negative environmental impacts from community water fluoridation.

While recognising the benefits of fluorides to oral health, it is equally important to consider, investigate and remain informed, and to be able to address the concerns that may be raised.

References

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Dr Joe J Mullen, Principal Dental Surgeon, HSE-West (Sligo-Leitrim) – joejmullen@hse.ie.