Policy Statement 2.2.1 – Community Oral Health Promotion: Fluoride Use

AUSTRALIAN DENTAL ASSOCIATION

Position Summary

All Australians should have access to the benefits of fluoride. Water fluoridation is a safe, effective, and ethical way to help reduce tooth decay across the population.

1. Background

1.1. The use of fluoride in dentistry is one of the most important ways of preventing and limiting tooth decay and has the support of peak public health and dental authorities. International bodies such as the US-based Centres for Disease Control and Prevention (CDC), the World Health Organisation (WHO) and the US Surgeon General actively promote water fluoridation. The CDC placed water fluoridation in the top ten public health achievements of the 20th Century. Similarly, scientific bodies in Australia, recognised public health groups and professional organisations support water fluoridation.

1.2. The National Health and Medical Research Council (NHMRC) strongly recommends community water fluoridation as a safe, effective and ethical way to help reduce tooth decay across the population. The NHMRC supports Australian states and territories fluoridating their drinking water supplies within the range of 0.6 to 1.1 ppm/milligrams per litre(mg/L).

1.3. Community water fluoridation continues to be the safest, most cost-effective, and equitable means to provide protection from tooth decay and has been successfully utilised in Australia for more than 60 years.

1.4. Fluoridation of community water supplies benefits all age groups. The NHMRC found that water fluoridation reduces tooth decay by 26% to 44% in children and adolescents, and by 27% in adults.

1.5. Recent Australian research shows that access to fluoridated water from an early age is associated with less tooth decay in adults.

1.6. Community water fluoridation may be impractical in very small communities, particularly those in regional and remote areas.

1.7. A significant number of households are not connected to mains water.

1.8. The effect of water fluoridation is predominantly from the fluoride contacting the surface of the tooth.

There are two ways in which the fluoride in drinking water acts to reduce tooth decay:

- Reducing demineralisation (i.e. where the enamel begins to dissolve). This makes teeth more resistant to decay.
- Enhancing remineralisation (i.e. recovery of weakened enamel). This helps repair the early reversible stage of tooth decay.

Fluoride also slows the activity of bacteria that cause decay and combines with enamel on the tooth surface to make it stronger and better able to resist decay.

1.9. Infant formula products sold in Australia are safe to be fed to infants when made up with drinking water fluoridated at the levels used in Australia.

1.10. When pregnant and breastfeeding mothers drink water fluoridated at Australian levels, it is safe for the unborn child or infant. Breast milk naturally contains about 5–10 micrograms (µg) of fluoride per litre of milk. The level of fluoride in breast milk remains steady when a nursing mother drinks fluoridated water.

1.11. Dental fluorosis can affect the appearance of teeth, most commonly appearing as white lines/areas on tooth surfaces. It is caused by a high intake of fluoride from one or more sources during the time when teeth are developing. Almost all dental fluorosis in Australia, however, is mild or very mild, does not affect the function of the teeth, and is not of aesthetic concern to those who have it.

Mild to very mild dental fluorosis has been associated with a protective benefit against tooth decay in adult teeth. Moderate dental fluorosis is very uncommon and severe dental fluorosis is rare in Australia. The very small amount of moderate and severe dental fluorosis in Australian children aged 8-14 years is not statistically different between fluoridated and non-fluoridated areas, meaning there is no evidence that community water fluoridation at Australian levels gives rise to these forms of dental fluorosis. In Australia dental fluorosis has declined, over a period when the extent of water fluoridation in Australia has expanded. The decline in dental fluorosis in Australia is linked to reduced exposure to fluoride from other sources such as toothpaste, due to the availability and promotion of low fluoride toothpastes for children and public health messages and guidelines about the appropriate use of these products.

1.12. There are numerous causes of defective enamel formation not related to fluoride.

1.13. Studies have shown that most bottled water sold in Australia does not contain fluoride at sufficient levels to have a preventive effect on tooth decay.

1.14. Fluoride supplements (fluoride tablets or drops) are not recommended as a population health measure in Australia.

1.15. A population that has an increased risk of tooth decay and limited access to a dental practitioner, such as remote Indigenous communities, can now access community and out-reach tooth decay prevention programs where Aboriginal and Torres Strait Islander Health Workers apply fluoride varnish.

1.16. Evidence shows the effectiveness of silver fluorides for arresting caries in primary teeth for children and root caries for older patients.

1.17. There is reliable evidence that community water fluoridation at current Australian levels is not associated with cancer, Down syndrome, cognitive dysfunction, lowered intelligence or hip fracture.

1.18. Furthermore, there is no reliable evidence of an association between community water fluoridation at current Australian levels and other human health conditions including chronic kidney disease, kidney stones, hardening of the arteries (atherosclerosis), high blood pressure, low birth weight, all-cause mortality, musculoskeletal pain, osteoporosis, skeletal fluorosis, thyroid problems and self-reported ailments such as gastric discomfort, headache, and insomnia.

Definitions

1.19. ABORIGINAL AND TORRES STRAIT ISLANDER HEALTH PRACTITIONER means a person registered by the Aboriginal and Torres Strait Islander Health Practice Board

1.20. ADDITIONAL SOURCES OF FLUORIDE is an all-encompassing term to include all sources of fluoride other than community water fluoridation – such as fluoride rinses, toothpastes, gels, drops, tablets and fluoride in foods and beverages.

1.21. BOARD is the Dental Board of Australia.

1.22. DENTAL FLUOROSIS is the staining or mottling of the teeth, usually in the form of white spots or lines, as a result of greater than optimal fluoride ingestion during tooth development in children.

1.23. DENTIST is an appropriately qualified dental practitioner, registered by the Board to practise all areas of dentistry.

1.24. DENTAL PRACTITIONER is a person registered by the Australian Health Practitioner Regulation Agency via the Board to provide dental care.

1.25. FLUORIDE SUPPLEMENTS are products such as fluoride tablets or drops that seek to achieve a similar effect on the individual as fluoridation of the water supply.

1.26. REMOTE/VERY REMOTE are classified as per the MM6 & MM7 respectively as per the Modified Monash Model

1.27. WATER FLUORIDATION is the adjustment of the natural levels of fluoride found in community water supplies to an optimal level for maximum tooth decay prevention and minimal occurrence of dental fluorosis.

2. Position

Water Fluoridation

2.1. All Australians should have equality of access to the benefits of fluoride, either by water fluoridation or the use of other sources of fluoride.

2.2. Fluoridation of community water supplies is preferred as a safe and effective means of reducing the prevalence of tooth decay in all age groups and should be implemented and maintained in those communities where there is an insufficient natural fluoride content for this purpose.

2.3. Where community water supplies are fluoridated, there must be adequate control and supervision of the procedure.

2.4. Governments must adopt water fluoridation as part of Health Policy and actively promote its introduction, where it is feasible, as a public health measure.

2.5. Manufacturers and producers of bottled water should be encouraged to ensure that their products contain fluoride at in the range 0.6 – 1.1 ppm/milligram per litre (mg/L) and that the fluoride content is included in labelling.

2.6. Only water filters that do not remove fluorides should be recommended.

2.7. Manufacturers of water filters or water filtering systems should include information on their products as to whether or not fluoride is removed.

Additional Sources of Fluoride

2.8. Fluorides must be readily available at a reasonable cost to those needing them. Toothpastes containing fluoride should be used as an important method of further reducing tooth decay risk, regardless of whether or not the area water supply is optimally fluoridated. Fluoride toothpastes should be used in accordance with usage instructions or as recommended by a dental practitioner who should take into account the age of the patient, the access to fluoridated water and an assessment of an individual's tooth decay risk. Young children should have adult supervision when brushing to limit the amount of toothpaste used and, thereby, the ingestion of fluoride. Toothpaste should be kept out of the reach of young children.

2.9. Professional topical application of fluorides must be selectively used on patients who, as a result of an evaluation conducted by a dentist, (or other appropriately trained dental practitioners) are assessed as having an increased risk of tooth decay.

Dental Fluorosis

2.10. The control of additional fluoride sources, rather than the reduction or removal of the optimum fluoride level in drinking water, is the preferred strategy for maintaining the low prevalence of dental fluorosis.

Research

2.11. Support must be given to ongoing research into the epidemiology of tooth decay and the use of fluoride to ensure assessments of safety, effectiveness and efficiency of all methods of delivery of fluoride are up to date.

Policy Statement 2.2.1

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