

## BASCD 2022 ABSTRACT 16

### **Water fluoridation for dental caries prevention in Scotland: a systematic review**

*Al Rasheed, A.,<sup>1\*</sup> Jones, C.<sup>2</sup>*

*<sup>1</sup>University of Dundee, UK; <sup>2</sup>University of Edinburgh, UK*

#### **Background:**

Water fluoridation was used in Scotland previously as a public health measure to prevent dental caries. However, currently there are no active schemes in the country.

#### **Objectives:**

To investigate the effect of the implementation and the cessation of water fluoridation, in Scotland, on the dental health of the population.

#### **Methods:**

Databases including PubMed, Scopus, ASSIA, Web of Science, CINAHL Plus, MEDLINE, and the grey literature was also searched. The literature search was concluded on 28<sup>th</sup> May 2022. Inclusion criteria included any studies, published in English, evaluating the influence of water fluoridation on dental caries of the Scottish population using the dmft/s, DMFT/S or the deft/s indices. The data was combined based on the effect of the cessation and implementation of the intervention and type of dentition.

#### **Results:**

Nine studies were included in the review with a total of 2,731 child participants. The findings showed that fluoridated groups had lower caries prevalence in primary and permanent teeth than non-fluoridated groups. However, three years after the cessation of the intervention, the levels of caries continued to decrease in both dentitions of the fluoridated children. Five years after the stoppage of fluoridation, formerly fluoridated groups experienced increases in caries levels that became comparable to the levels in the non-fluoridated groups. Comparison of caries prevalence after fluoridation cessation, showed an increase in the fluoridated groups but a decrease in the non-fluoridated groups. The cost of dental treatment also decreased favouring the fluoridated groups.

#### **Conclusion:**

Water fluoridation caused reductions in caries prevalence among the Scottish population. Future studies need to evaluate the effect of water fluoridation on dental health inequalities in Scotland.

#### **Correspondence to:**

Ahmed Al Rasheed

Email: 2445973@dundee.ac.uk

[https://doi.org/10.1922/CDH\\_BASCD22\\_Abstract16](https://doi.org/10.1922/CDH_BASCD22_Abstract16)