

BASCD 2022 ABSTRACT 01**Adults in local authorities with community water fluoridation have better dental health**

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Background:

Community water fluoridation (CWF) was first introduced in 1945 as a dental public health measure, but within the UK there is little contemporary evidence or studies evaluating the effectiveness of water fluoridation at reducing the experience of decay in adults.

Objective:

To determine if there are differences in the dental health of adults who live in fluoridated local authorities, compared to those who live in non-fluoridated local authorities.

Methods:

Secondary data analysis was undertaken using Adults in Practice Dental Health Survey 2018 (AiP 2018) and Adult Dental Health Survey 2009 (ADH 2009) whilst controlling for confounders such as ethnicity, IMD, age, Strategic Health Authority (SHA), sex, toothbrushing frequency, dietary sugar and dental attendance. The results were tested with regression tests OLS, Logit and T-Tests to determine statistical significance.

Results:

ADH 2009 results showed adults in a fluoridated local authority had 1.03 ($p=0.01$) more 'sound and untreated teeth' and were 1.22 ($p=0.16$) times as likely to be free from decay. AiP 2018 results showed the rate of active decay in participants from the fluoridated local authorities was lower by 2.54 ($p=0.40$) percentage points (pp), quantities of filled teeth was 3.04pp ($p=0.006$) lower, and they had 2.83pp ($p=0.04$) less pulpal involvement, ulceration caused by dislocated tooth fragments, fistula and abscess (PUFA).

Conclusion:

Adults living in local authorities with CWF have better dental health, supporting the continued use of CWF in the UK as a dental public health measure.

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