

New TILDA study finds link between water fluoridation and positive oral health in older people

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A new study by researchers from the [Irish Longitudinal Study on Ageing \(TILDA\)](#) and the School of Dental Science in Trinity College Dublin has found a positive relationship between higher levels of water fluoridation and oral health among older people in Ireland.

In order to assess the relationships between [water fluoridation](#) and [oral health](#) and bone density in adults over 50 years of [age](#) in Ireland, the researchers used data from 4977 adults participating in the TILDA study and data from Census 2006 which records the type of water supply in a person's [local area](#). According to Census 2006, around 84% of households have fluoridated water supplies.

The researchers found that a higher prevalence of households with fluoridated water in a local electoral district was associated with an increased probability of an older person having all their own teeth. A variety of other individual characteristics that may be expected to impact oral health and bone mineral density were also controlled for in the research.

The team also looked at bone density measurements from TILDA because at a molecular level it is known that fluoride can increase bone mass. However, they found no association between the prevalence of fluoridated water and [bone density](#).

Professor of Restorative Dentistry at the Dublin Dental School & Hospital, Trinity Brian O'Connell said: "While the initial focus of water [fluoridation](#) in Ireland was to prevent tooth cavities in children, much less attention has been paid to the effects of fluoridation later in life. There are now large adult populations that have lived several decades with fluoridated water supplies, yet the benefits and risks for these populations have remained unclear. This study shows a measureable positive relationship between fluoridation and maintaining a person's own teeth."

"There are however limitations with these results as tooth loss could be the result of other processes such as gum disease, wear, trauma and access to dental care. In addition, it was not possible to assess the impact of other sources of fluoride, such as diet, toothpaste and mouth rinses which could all have an impact on oral health."

The authors stated that the safety of water fluoridation has been extensively reviewed internationally and it was found to have either no detrimental effect on general health or no clear evidence of toxicity. Nonetheless, fluoridation is controversial in some communities and suspicion remains that it represents a significant health risk. It is therefore essential, they said, that the health effects of fluoridation be investigated in the Irish context.

Principal Investigator of TILDA, Professor Rose Anne Kenny said: "The availability of detailed data from TILDA on the health, wellbeing and economic circumstances of a nationally representative sample of the over 50s allows us to undertake a comprehensive investigation of the impact of public health policies such as water fluoridation on the health of the older population. Longitudinal studies such as TILDA are an invaluable resource for tracking trends in population health, investigating the causes and consequences of disease and for assessing the impact of policy on the health and wellbeing of our older population".

Co-author of the study, Dr Vincent O'Sullivan said: "A third wave of TILDA data collection and assessment, which is currently underway, will allow us to extend this research to include an objective measure of oral health status and individual lifetime exposure to fluoridated drinking water. This will facilitate further research on the [health](#) effects of exposure to fluoridated water supplies."

Fluoridation of public water supplies began in Ireland in 1964 and was extended to major cities and towns by 1970.

Provided by Trinity College Dublin

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