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Fluoridation News

New Zealand study finds no difference in average IQ levels between people born in fluoridated and non-fluoridated areas

A study by researchers at the University of Otago, published in the *American Journal of Public Health* in May 2014, tracked nearly 1,000 individuals born in and around the community of Dunedin on the South Island of New Zealand in 1972/73 and measured their IQ at the ages of 7, 9, 11, 13 and 38. (1)

No statistically significant difference in average IQ levels was found between those who had lived in fluoridated and non-fluoridated areas up to the age of 5 and those who, during those early years of life, had or had not used fluoride toothpaste or tablets.

The results of the IQ tests were statistically adjusted to take account of individuals' birth weight, socio-economic status and educational achievements, and whether or not they had been breastfed as infants.

As well as comparing IQ scores of those from fluoridated and non-fluoridated parts of Dunedin, the research team looked at their subtest scores for verbal reasoning, perceptual reasoning, working memory and processing speed.

In a news release from the University of Otago, lead researcher Dr Jonathan Broadbent commented: "Our findings will hopefully help to put another nail in the coffin of the complete canard that fluoridating water is somehow harmful to children's development. In reality, the total opposite is true, as it helps reduce the tooth decay blighting the childhood of far too many New Zealanders."

KEY CONCLUSION OF NEW ZEALAND STUDY

"The findings do not support the assertion that fluoride exposure in the context of CWF can affect neurologic development or IQ. Study members who lived in areas with CWF before age 5 years had slightly higher IQs (on average) in adulthood than those who had not, but this difference was non-significant."

New Zealand study more relevant to water fluoridation than earlier ones conducted mostly in China

The New Zealand research team contrast their approach with that used by earlier studies conducted in communities with high naturally occurring fluoride levels - mostly in rural areas of China - which did not take account of confounding variables that could potentially impact on children's IQ, such as the effects of lead and arsenic in the water supply, iodine deficiency, socio-economic status and poor nutrition.

These methodological flaws, they argue, make such studies irrelevant to water fluoridation - unlike the results of the their own study which, they believe, are likely also to apply to communities where water is artificially fluoridated.

Their report highlights the recommendation of the Prime Minister's Chief Science Adviser, Sir Peter Gluckham, for New Zealand government departments to employ a designated research-literate staff expert to interpret science for the benefit of politicians.

Alluding to the pressures that came on local politicians in New Zealand following publication of Chinese studies on fluoride and IQ, they add: "Our study suggests that local government organisations could benefit from the same. Scientists and policy makers should be reminded of the necessity of caution in attributing causality when evidence for it does not exist."

1. Broadbent JM, Thomson WM, Ramrakha S, Moffitt TE, Zeng J, Lyndie A, Page F, Poulton R (2014). *Community water fluoridation and intelligence – a prospective study in New Zealand.* American Journal of Public Health, published online May 15, 2014.

AUTHORS' VIEW ON THE APPLICABILITY OF THEIR FINDINGS TO OTHER COUNTRIES WITH WATER FLUORIDATION SCHEMES

"The participants of the Dunedin study cohort are reasonably similar in their characteristics to populations in the European and North American context. Where implemented in New Zealand, CWF is set at 0.7 to 1.0 parts per million fluoride, which is similar to the level used in other countries that use CWF. The findings of this study are therefore likely to be generalisable to similar populations."