

“TARDIVE PHOTOPSIA” AND THE TIEL-CULEMBORG STUDY

In his wide-ranging editorial on “tardive photopsia” in the July–September 2006 issue of *Fluoride*,¹ managing editor Bruce Spittle served up an intellectual feast of scientific discoveries that ultimately overturned many widely held but mistaken notions and beliefs. He presented a cogent analysis of what is now known versus past misconceptions about water fluoridation and tooth decay with telling examples from recent official studies in New Zealand. Its promoters, by selectively citing data, try to make fluoridation look effective in preventing tooth decay. However, when findings from large-scale surveys are compared, the supposed caries reductions are often not very evident, or they disappear.

In Holland, the Tiel-Culemborg fluoridation study was promoted and is still cited in the dental literature as an example of the effectiveness of water fluoridation to reduce tooth decay. But after fluoridation was discontinued in 1974, dental caries continued to decline throughout Holland. However, as I have noted previously, there is more to the story.

At the time fluoridation of Tiel began in 1952, there were significant dietary differences between Tiel and the nonfluoridated control city of Culemborg. Children in Culemborg ate twice as much yogurt as children did in Tiel, and, like most Dutch children, they usually sweetened their yogurt heavily with sugar.² Not only that, the planners of the study, Professors O Backer Dirks, KG Konig, and B Houwink, arranged for the infant center in Tiel—but not in Culemborg—to make available to mothers a less cariogenic, sugar-free form of Liga cake, the first solid food commonly given to infants and toddlers.² Only after fluoridation in Tiel had ended in late 1973 were physicians throughout Holland informed by the manufacturers that the sugar-free form of Liga cake would be made available outside of Tiel. Thus when fluoridation started, children in Tiel were quietly given an advantage with less sugar in their diet.

We were also told that fluoridation had been proved to be absolutely safe, but after Dr Meta Asselbergs found a preponderance of mold infections compared to bacterial infections in the sputum of bronchitis patients in Tiel and refused to stop this research, she was fired. Only later did she discover that Tiel was fluoridated. My biologist colleague in Haarlem, Dr GW Grimbergen,³ similarly found that mold overcame bacterial growth in fluoridated water, whereas bacterial growth dominated in nonfluoridated water.

At a meeting of health officials after fluoridation had ended, the question was asked: Was there any evidence of changes in the bodies of the people in Tiel compared to those in Culemborg? An official responded: “Well, you know, the average weight of people in fluoridated Tiel was one kilogram more than in nonfluoridated Culemborg.” He was hastily hushed up, but the word was out that there was a measurable difference between the two cities, whatever the exact reason might have been. Another report, which I have also noted,⁴ revealed that certain neurological disorders and cancer among women had become more prevalent in Tiel than in Culemborg.

Professor Backer Dirks not only set up the study to make Tiel look better than Culemborg, but he also swept aside or denied what he did not want to be revealed. He even declared in front of the Municipal Council in Haarlem that recommended levels of fluoride intake have never had any side effects. Yet, at the same time, it was known that he had received the report by Feltman and Kosel in the United States showing that 1% of pregnant women and children who were ingesting fluoride tablets for caries prevention suffered ill effects not seen in the placebo controls without fluoride.⁵

On another occasion, I saw Professor Backer Dirks present a graph showing a projected steeper increase in caries among children over age 12 living in Culemborg than among those living in Tiel. At that presentation, my eldest son (now a rheumatologist) pointed out to Professor Backer Dirks that the upper end of his graph for children age 12 to 18 was simply a projection—an artifact—not based on hard data. Later, it was found that the rate of tooth decay among the children over age 12 in fluoridated Tiel actually rose more quickly and approached that of nonfluoridated Culemborg.⁶

What strikes me in all this is that "tardive photopsia" (delay in seeing the light) often leads those who have this syndrome not only to fail to look at contrary evidence but also to engage in misleading behavior that is clearly not scientific or ethical.

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