March 17, 2010
So sorry… 2+ year old presentation and references must have gotten jumbled. Hopefully the following studies will be enough to satisfy the point that stopping fluoridation will not cause cats and dogs to start sleeping together, the sky to fall or congress to balance the budget. Have a good evening. Don’t stop wondering!!!

Cheers,
Craig O'Donoghue, DDS

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**Patterns of dental caries following the cessation of water fluoridation.**

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[Medline record in process]

OBJECTIVES: To compare prevalence and incidence of caries between fluoridation-ended and still-fluoridated communities in British Columbia, Canada, from a baseline survey and after three years. METHODS: At the baseline (1993/4 academic year) and follow-up (1996/7) surveys, children were examined at their schools. Data were collected on snacking, oral hygiene, exposure to fluoride technologies, and socio-economic level. These variables were used together with D1D2MFS indices in multiple regression models. RESULTS: **The prevalence of caries (assessed in 5,927 children, grades 2, 3, 8, 9)** decreased over time in the fluoridation-ended community while remaining **unchanged in the fluoridated community.** While numbers of filled surfaces did not vary between surveys, sealed surfaces increased at both study sites. Caries incidence (assessed in 2,994 life-long residents, grades 5, 6, 11, 12) expressed in terms of D1D2MFS was not different between the still-fluoridating and fluoridation-ended communities. There were, however, differences in caries experienced when D1D2MFS components and surfaces at risk were investigated in detail. Regression models did not identify specific variables markedly affecting changes in the incidence of dental decay. CONCLUSIONS: Our results suggest a complicated pattern of disease following cessation of fluoridation. Multiple sources of fluoride besides water fluoridation have made it more difficult to detect changes in the epidemiological profile of a population with generally low caries experience, and living in an affluent setting with widely accessible dental services. There are, however, subtle differences in caries and caries treatment experience between children living in fluoridated and fluoridation-ended areas.


PMID: 11153562, UI: 21026421
Water fluoridation in Kuopio, Finland, was stopped at the end of 1992. In our previous study, no increase in caries was found in Kuopio 3 years after the discontinuation of water fluoridation. The aim of the present study was to further observe the occurrence and distribution of caries in Kuopio and Jyvaskyla, which was used as the reference town for Kuopio. In 1992, 1995 and 1998 independent random samples of all children aged 3, 6, 9, 12 and 15 years were drawn in Kuopio and Jyvaskyla. The total numbers of subjects examined were 688, 1,484 and 1,530 in 1992, 1995 and 1998, respectively. Calibrated dentists registered caries clinically and radiographically. No indication of increasing caries could be found in the previously fluoridated town during 1992-1998. In both towns the mean dmfs and DMFS values either decreased or remained about the same during the observation period. When all study years and both towns were pooled, 25% of the 12- and 15-year-olds with the highest DMFS counts accounted for 79 and 67%, respectively, of all affected surfaces. The mean numbers of fluoride varnish and sealant applications had markedly decreased in 1993-1998 compared to 1990-1992. The fact that no increase in caries was found in Kuopio despite discontinuation of water fluoridation and decrease in preventive procedures suggests that not all of these measures were necessary for each child.
Decline of caries prevalence after the cessation of water fluoridation in the former East Germany.

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In contrast to the anticipated increase in dental caries following the cessation of water fluoridation in the cities Chemnitz (formerly Karl-Marx-Stadt) and Plauen, a significant fall in caries prevalence was observed. This trend corresponded to the national caries decline and appeared to be a new population-wide phenomenon. Additional surveys (N=1017) carried out in the formerly-fluoridated towns of Spremberg (N=9042) and Zittau (N=6232) were carried out in order to support this unexpected epidemiological finding. Pupils from these towns, aged 8/9-, 12/13- and 15/16-years, have been examined repeatedly over the last 20 years using standardised caries-methodological procedures. While the data provided additional support for the established fact of a caries reduction brought about by the fluoridation of drinking water (48% on average), it has also provided further support for the contention that caries prevalence may continue to fall after the reduction of fluoride concentration in the water supply from about 1 ppm to below 0.2 ppm F. Caries levels for the 12-year-olds of both towns significantly decreased during the years 1993-96, following the cessation of water fluoridation. In Spremberg, DMFT fell from 2.36 to 1.45 (38.5%) and in Zittau from 2.47 to 1.96 (20.6%). These findings have therefore supported the previously observed change in the caries trend of Chemnitz and Plauen. The mean of 1.81 DMFT for the 12-year-olds, computed from data of the four towns, is the lowest observed in East Germany during the past 40 years. The causes for the changed caries trend were seen on the one hand in improvements in attitudes towards oral health behaviour and, on the other hand, to the broader availability and application of preventive measures (F-salt, F-toothpastes, fissure sealants etc.). There is, however, still no definitive explanation for the current pattern and further analysis of future caries trends in the formerly fluoridated towns would therefore seem to be necessary.


PMID: 11014515, UI: 20466443
The effects of a break in water fluoridation on the development of dental caries and fluorosis.

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Durham, NC, fluoridated since 1962, had an 11-month cessation of fluoridation between September, 1990, and August, 1991. The purpose of this study was to assess the effects of this break on the development of caries and fluorosis in children. Study participants were continuously-resident children in Kindergarten through Grade 5 in Durham's elementary schools. There were 1696 children, 81.4% of those eligible, for whom a questionnaire was completed and clinical data recorded. Age cohorts were defined by a child's age at the time that fluoridation ceased. Caries was recorded in children in the Birth Cohort through Cohort 3, and fluorosis for children in Cohorts 1 through 5. Caries was assessed in the primary first and second molars according to the decayed-filled index; fluorosis on the labial surfaces of the upper permanent central and lateral incisors was assessed by the Thylstrup-Fejerskov (TF) index. Mother's education was associated with caries; higher education of the mother had an odds ratio of 0.53 (95% CI 0.40, 0.76) for caries in the child. No cohort effects could be discerned for caries. Overall prevalence of fluorosis was 44%. Prevalence in Cohorts 1, 2, 3, 4, and 5 was 39.8%, 32.3%, 33.0%, 62.3%, and 57.1%, respectively. These cohort differences remained statistically significant in regression analysis. It was concluded that while the break had little effect on caries, dental fluorosis is sensitive to even small changes in fluoride exposure from drinking water, and this sensitivity is greater at 1 to 3 years of age than at 4 or 5 years.


PMID: 10728978, UI: 20191322
Caries prevalence after cessation of water fluoridation in La Salud, Cuba.

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In the past, caries has usually increased after cessation of water fluoridation. More recently an opposite trend could be observed: DMFT remaining stable or even decreasing further. The aim of the present study conducted in La Salud (Province of Habana) in March 1997 was to analyse the current caries trend under the special climatic and nutritional conditions of the subtropical sugar island Cuba, following the cessation, in 1990, of water fluoridation (0.8 ppm F). Diagnostic evaluations were carried out using the same methods as in 1973 and 1982. Boys and girls aged 6-13 years (N = 414), lifelong residents in La Salud, were examined. Between 1973 and 1982 the mean DMFT had decreased by 71.4%, the mean DMFS by 73.3% and the percentage of caries-free children had increased from 26.3 to 61.6%. In 1997, following the cessation of drinking water fluoridation, in contrast to an expected rise in caries prevalence, DMFT and DMFS values remained at a low level for the 6- to 9-year-olds and appeared to decrease for the 10/11-year-olds (from 1.1 to 0.8) and DMFS (from 1.5 to 1.2). In the 12/13-year-olds, there was a significant decrease (DMFT from 2.1 to 1.1; DMFS from 3.1 to 1.5), while the percentage of caries-free children of this age group had increased from 4.8 (1973) and 33.3 (1982) up to 55.2%. A possible explanation for this unexpected finding and for the good oral health status of the children in La Salud is the effect of the school mouth rinsing programme, which has involved fortnightly mouth rinses with 0.2% NaF solutions (i.e. 15 times/year) since 1990.


PMID: 10601780, UI: 20069258
The reunification of the two German states has resulted in social transformations in Eastern Germany after 1990, in the wake of which disadvantageous effects on oral health were to be expected. **Contrary to the predicted caries increase, a caries decline in the juvenile population could be proven by epidemiological comparative studies** (n = 50612) (decrease between 1983-1989 and 1993-1995 by 34.2%). The caries decline is probably caused by a broader availability of fluorides, a high level of individual dental curative and preventive care (fissure sealings) and by changed oral health behaviour and nutritional habits. Reference is made to a possible tangent between a high level of antibiotics consumption and the virulence of oral pathogenic streptococci.
Hi all,
This statement appeared on the power point presentation tonight:

  A number of recent cessation studies show that stopping fluoridation does literally
nothing to increase overall dental decay. Komarek et al, A Bayesian analysis of
multivariate doubly-interval-censored dental data, Biostatistics 2005 6 pp 145-155
Copy Available.

I have dug up a copy of Komarek et al. 2005. It has NOTHING WHATSOEVER to do with
cessation studies. It does make some interesting points about fluoride systemic
ineffectiveness but not about cessation studies.
makes one wonder....

Rainer Newberry