



Salt Fluoridation

Case Study

Case Study: Salt Fluoridation Program in Mexico

The Mexican Sanitary Norm mandated fluoride (250 mg F/kg) be added to salt based on favorable results from other countries.¹ The first state to receive a fluoridation program was the state of Mexico, which is the most densely populated. Researchers sought to describe the prevalence of dental caries, treatment needs of children and describe changes in the prevalence of dental caries after 9 years of salt fluoridation (1988-1997).²

The Institute of Health of the State of Mexico and the W.K. Kellogg Foundation provided financial support for the study. Furthermore, it was supported by the Ministry of Education, which provided information on middle level school for sampling procedures. A cross-sectional stratified sampling design was utilized to sample middle level schools within the state of Mexico. In 1988, 2,275 12-year old students were examined and in 1997 another sample of 1,138 were examined.

At the baseline examination in 1988, 10.3% of children were caries-free with a mean DMFT=4.39 (SD 2.9). However, at the follow-up examination in 1997, 27.7% were caries-free with a mean DMFT=2.47 (SD 2.4). The overall dental caries reduction between the two time points was approximately 44%. Decayed teeth accounted for 82% of DMFT index in 1988 compared to approximately 73% of the index in 1997. Although, dental caries indices were greater among females compared to males the reduction observed over time associated with salt fluoridation was similar in both groups. The unmet restorative need decreased by only 10% over the 9-year period, suggesting that



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dental utilization played a minimal role in the observed reduction in dental caries. The authors noted that the results may reflect a combined effect of fluoridated salt and fluoridated over the counter toothpaste as there was a marginally increased production of fluoridated toothpaste during the study period.

This study provides data to support the role of salt fluoridation in reducing dental caries among children by comparing data prior to the implementation of salt fluoridation to data 9-years after its execution. Furthermore, this study highlights feasibility of salt fluoridation as a means to reduce dental caries which can be an effective alternative to water fluoridation.

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2. Irigoyen ME, Sanchez-Hinojosa G. Changes in dental caries prevalence in 12-year-old students in the State of Mexico after 9 years of salt fluoridation. *Caries Res.* Jul-Aug 2000;34(4):303-307.