

Weekly Monitoring of the Water Fluoride Content in a Fluoridated Metropolitan City — Results After 1 Year

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Introduction

The fluoridation of community drinking water raises many questions and continues to be a source of controversy (1, 2). In the United States, the Centers for Disease Control and Prevention (CDC) is a strong proponent of drinking water fluoridation for the prevention of dental caries (3). Furthermore, it has been a stated goal of the United States Department of Health and Human Services that by the year 2010, 75 percent of the United States population would have access to fluoridated drinking water, with fluoride concentrations falling in the range of 0.7-1.2 parts per million (ppm) (4, 5).



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Abstract

It continues to be the goal of the United States Department of Health and Human Services to fluoridate community water supplies to prevent dental caries. In Houston, Texas, where community water is assumed to contain in the range of 0.7-1.2 ppm fluoride, water samples were taken from the same source on approximately a weekly basis over a period of 52 weeks. The purpose of this study was to determine the extent of fluctuation of water fluoride concentration in these samples. Water fluoride analysis with an ion-specific electrode and millivolt meter of the data set showed a range of 0.33 to 1.00 ppm fluoride, with a mean of 0.70 ppm and a standard deviation of 0.15. This wide range of fluoride concentrations may create a risk for fluorosis in pediatric patients who are prescribed dietary fluoride supplements.

KEY WORDS:

Community drinking water, fluoride supplements, fluorosis, tap water

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