Abstract

Objective. The aim of the present study was to estimate the prevalence of dental fluorosis in primary dentition of a San Luis Potosí children population, and its association to fluoride concentration in drinking water and urine. An additional objective was, to develop, validate, and test a specific index for dental fluorosis in primary dentition. Material and methods. From May 1997, to January 1999, we conducted a cross-sectional study to assess the prevalence of dental fluorosis in primary dentition. Study subjects were 100 children aged 3-6 years, selected at random from three kindergartens in three risk areas of San Luis Potosí. The specific index of dental fluorosis for primary dentition (Dental Fluorosis for Primary Dentition Index-DFPDI) was validated by estimating fluoride concentrations in enamel of teeth with and without dental fluorosis. The Kruskal-Wallis test was used to assess the association between fluoride concentrations in drinking water and urine, with dental fluorosis; the association between risk area and dental fluorosis was assessed with the Mantel-Haenszel c2 test. Results. The prevalence of dental fluorosis in primary dentition was 78%; primary molars were most affected in both maxillae and the predominant color was a non-glossy white appearance. We found a strong direct correlation (\(r=0.93\)) between fluoride concentrations in drinking water and urine, with dental fluorosis; the association between risk area and dental fluorosis was assessed with the Mantel-Haenszel c2 test. Results. The prevalence of dental fluorosis in primary dentition was 78%; primary molars were most affected in both maxillae and the predominant color was a non-glossy white appearance. We found a strong direct correlation (\(r=0.93\)) between fluoride concentrations in drinking water and urine, with dental fluorosis; the association between risk area and dental fluorosis was assessed with the Mantel-Haenszel c2 test. Conclusions. DFPDI allowed adequate identification and grading of dental fluorosis in primary dentition. It is important to detect the initial toxic effects of fluoride exposure to predict dental fluorosis in permanent dentition and skeletal fluorosis.

Keywords

Key words: dental fluorosis; dentition, primary; Mexico