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Fluorine in Water and Dental Fluorosis in a Community of Queretaro State Mexico

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Author(s)

Ma Lilia. A Juárez-López, Rafael Huizar-Álvarez, Nelly Molina-Frechero, Francisco Murrieta-Pruneda, Yazmin Cortés-Aguilera

ABSTRACT

The community La Llave, Queretaro State, Mexico, has not been identified by the sanitary authorities as living in a hazard area related to dental fluorosis. However; a high concentration of fluoride is found in their drinking water causing them dental fluorosis. Physical-chemical analysis was carried out in the groundwater sources to determine the prevalence of dental fluorosis risk and caries accordingly to criteria of The World Health Organization, and 154 school children of ages 10 to 13 years were examined. As a result, 1.9 mg/L of fluorine concentration in drinking water was obtained; dental fluorosis presence was detected in the school children with an incidence of about 98%, in 47% of cases severe fluorosis with a dental caries index of 3.06 was traced. The groundwater sources in La Llave community contains fluorine above the limits dictated by Mexican regulations, producing serious repercussions on the health of school children, with an unnaturally high incidence of dental fluorosis.

KEYWORDS

Fluorosis, DEAN Index, Groundwater, La Llave Querétaro, Mexico

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