

Molar-Incisor Hypomineralization in Texan Children

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Background: Dental enamel is the hardest tissue and contains the highest density of mineral in the human body. Molar-incisor hypomineralization is a developmental malformation of enamel that contributes to major dental conditions including coronal breakdown, caries, and tooth sensitivity. In patients with MIH, permanent molars and incisors erupt into the oral cavity with discolored, demarcated lesions in enamel. MIH lesions contain less mineral and more protein compared to healthy enamel. The etiology of MIH is multifactorial and includes environmental influences. Despite its high prevalence worldwide, the presence of MIH in the United States is unknown. Purpose: The aim of this study was to determine the prevalence of Molar-Incisor Hypomineralization in the permanent dentition of children aged 6 to 14 years old in Texas. Methods: Patients between 6 and 14 years old were included in the study when they received their initial or semiannual dental exam. Patients were recruited from dental practices throughout the South Texas Oral Health Network (STOHN) and three clinics affiliated with the Pediatric Dentistry Postgraduate program at UTHSCSA. Demographic information was obtained using a survey. During the exam, permanent teeth were examined and scored on a scale from 0 to 4 using MIH criteria as defined by the European Academy of Pediatric Dentistry. All participating dentists were trained and calibrated. Results: Final results included data from 1212 children. The study population included 51.7% girls and 48.3% boys. Hispanics were represented at 83.7% and non-Hispanics at 16.3%. The overall prevalence of MIH on permanent molars and incisors was 29.5%. MIH prevalence was not affected by gender, age, race, ethnicity, type of dental insurance, or tooth type. Conclusions: This cross-sectional study is the first report of MIH in the United States. Children between 6 and 14 years old are affected by molar-incisor hypomineralization in Texas. The prevalence in Texas is comparable to populations in South America. The awareness of MIH by dentists is necessary to address this manifestation appropriately.

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