

***Prevalence and Severity of Molar-
Incisor Hypomineralisation in relation to its
Etiological factors among School Children
age 7- 9 years in Al-Najaf governorate***

A Thesis

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Abstract

Background:

Molar-Incisor hypomineralisation (MIH) is one of the biggest challenges with great clinical interest for dental practice because MIH has a great impact on the oral health as consequently, on the quality of life of children. Currently, the etiology of MIH remains unclear and is thought to be acquired via multifactorial, systemic disturbances during amelogenesis. There is no previous study concerning school children aged 7 – 9 years in Al-Najaf governorate in order to estimate the prevalence and severity of molar incisor hypomineralisation and the possible associated risk factors .

Objective:

To estimate the prevalence , severity and the possible associated etiological factors of molar- incisor hypomineralisation and also to study the correlation between body mass index and molar- incisor hypomineralisation.

Patients and Methods:

A cross sectional study was conducted at Al-Najaf Governorate, data were collected during the period from January to the end of April 2014. study population included the primary school children aged, 7-9 years of both genders who attending the primary schools of Al-Najaf governorate. Children having amelogenesis imperfecta, tetracycline staining or undergoing orthodontic treatment at the time of study, those with completely broken crowns of the first permanent molars, or those whose parent/guardians refused to missed data or not get back the questionnaire were excluded from the study. Sample size was calculated according to the standard equation and a total of 600 children were enrolled. A structured self-administered validated arabic language questionnaire and an examination sheet was measured . Body weight and height were measured and the body mass index was calculated according to the standards. Dental material and supplies were used in examination, Prior

to the clinical examination the participating children were given a toothbrush and fluoridated toothpaste to brush their teeth thoroughly under the supervision of the researcher. The demarcated hypomineralization was recorded according to the 10 point scoring system depended on the European academy of pediatric dentistry evaluation criteria. The severity was assessed according to the clinical evaluation of the examiner and the presence of opacities. Data of the studied group were entered and analysed by using the statistical package for social sciences (SPSS) version 21 and appropriate statistical tests were used to assess the differences and correlations between variables.

Results:

The response rate was 84.7% and the highest was in the 9-year-old children, the participants were 532 children, the prevalence of hypomineralisation defect was 22.9%. The prevalence of demarcated hypomineralisation was increased concomitantly with the age, and the 9-year-old children were the more affected. The overall prevalence of molar-incisor hypomineralisation among boys was lower than girls; (17.3%) and 22.6%, respectively. Molar-incisor hypomineralisation was more frequent in normal body mass index children.

The total number of teeth of the studied group was 1464. The number of affected teeth was 381 represented (26%) of the total number of teeth. The molar and incisors were most affected with White/creamy demarcated opacities with no post eruptive enamel breakdown, (27.7% and 15.2%), respectively. The severely affected teeth were 33 teeth, represented 4.5% of the total number of teeth of the 122 children, severely affected molars were 25 (5.1%) and the severely affected incisors were 8 (0.8%), (P=0.001), Obese and overweight were more likely to have more severely affected teeth and the severity was also increased with the age of child.

Conclusions and Suggestions:

The prevalence of Molar Incisor Hypomineralisation among Iraqi school children of Al Najaf governorate was 22.9%, it was more prevalent among girls, the 9-year-old children, normal body weight children and urban residents. Molars were more affected with than incisors. It was more prevalent in maxillary than mandibular teeth. The severely affected teeth represented 4.5% of the total number of teeth of the 122 children. , molars were more severely affected than incisors. The more severely affected teeth reported in obese and underweight children. Further studies are suggested for further understanding of the etiological and risk factors of the disease.