

***Oral Health Status, Treatment Needs and  
Dental Anomalies in Relation to Nutritional  
Status among 12 year-old School Children in  
Heet city/Al-Anbar governorate/Iraq***

***A Thesis***

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## *Abstract*

### **Background :**

The most common oral diseases affect human beings throughout the world are dental caries and periodontal disease. Dental anomalies are another oral problem affecting teeth. These all may be affected by nutritional status. Base line data are needed among these diseases in different Iraqi governorate to have a national result.

### **Aims of study :**

This survey was made to investigate the prevalence and severity of dental caries, gingivitis, oral cleanliness, in addition to dental anomalies (enamel defects, supernumerary teeth, geminated and fused teeth), among 12 year-old school children in Heet city. Also to explore the relation between oral diseases and nutritional status.

### **Materials and Methods :**

This oral health survey was conducted among primary and secondary school children, the total sample consisted of 764 (409 males and 355 females). Diagnosis and recording of dental caries and treatment needs were done according to the criteria of WHO (1987). Plaque index was assessed according to the criteria of Silness and Loe (1964), while gingival health condition assessment was according to the criteria of Loe and Silness (1963). Ramfjord index teeth (1959) were examined for the calculus assessment. Diagnosis and recording of enamel defects were according to the criteria of WHO (1997), while other anomalies (supernumerary teeth, geminated and fused teeth) were recorded either by the presence or absence of the anomaly. Nutritional status was recorded according to body mass index (BMI) indicator by applying anthropometric measurement (height and weight) (CDC, 2000).

**Results :**

The prevalence of dental caries was (90.2%). The DMFS/dmfs values were ( $5.85 \pm 0.168$ ,  $1.57 \pm 0.146$ ) respectively for the total sample. Females were found to have higher value as compared to males with statistically highly significant difference ( $P < 0.01$ ) for DMFS, while the opposite picture was found for dmfs. The higher percentage of examined children were in need of preventive or fissure sealant (91.6%), followed by those in need of one surface filling (80.4%).

The prevalence of gingivitis was found to be (100.0%), (74.3%) of the total sample had a moderate type of gingival inflammation. The mean values of plaque, gingival and calculus indices were ( $1.877 \pm 0.011$ ,  $1.234 \pm 0.008$ , and  $0.085 \pm 0.006$ ) respectively. Statistically a highly significant difference was recorded between males and females concerning PLI ( $P < 0.01$ ), while no statistically significant differences were found between the two gender concerning GI and CAL ( $P > 0.05$ ). There was a highly significant weak correlation between PI, GI and CAL ( $P < 0.01$ ). Finding of this study revealed that (50.6%) of the total sample had dental anomalies (50.5% enamel defect and 0.1% supernumerary teeth), while no child has been found with geminated and/or fused teeth. This prevalence was found to be among permanent dentition only. The most prevalent type of enamel defect was recorded to be diffuse opacity (41.1%), while the least was the hypoplasia (3%). No statistically significant difference was recorded between gender concerning enamel defects.

Results showed that (5.9%) of the total sample was malnourished. A highly significant differences were recorded in the mean DMFS/dmfs and different grades of nutritional status indicator. Finding of this study revealed no significant difference concerning gingival and calculus indices between different grades of BMI indicator ( $P > 0.05$ ), while statistically significant difference was recorded in mean of plaque index and different grades of nutritional status indicator ( $P < 0.05$ ).

*Conclusions :*

School children in Heet were found to have a high prevalence of dental caries and gingivitis. Nutritional status was found to affect severity of these diseases, thus there is a need for public and school preventive programs among those children.