

**Oral Health Status and Treatment Needs  
in Relation to Nutritional Status among 9-  
10 Year- old School Children in Nassiryia  
City/Iraq**

**A Thesis**

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# Abstract

## **Background:**

Dental caries and periodontal disease are the most common and widely spread disease affecting humans at different ages, followed by traumatic dental injury. Nutrition was reported to be one of the factors affecting the severity of oral diseases.

## **Aims of the study:**

Aims of this study included the investigation of the prevalence and severity of dental caries, dental plaque, gingivitis, dental calculus, traumatized anterior teeth in addition to dental treatment needs. Furthermore oral diseases were studied in relation to nutritional status.

## **Materials and Methods:**

This oral health survey was conducted among primary school children aged 9-10-year old in Nassirya city in Iraq. The total sample composed of 1350 (696 males and 654 females) selected randomly from different school in Nassirya city. Diagnosis and recording of dental caries and treatment needs were according to the criteria described by WHO (1987). Plaque index of Silness and Loe (1964) was used for plaque assessment, gingival index of Loe and Silness (1963) was followed for recording gingival health condition, Ramfjord index (1959) was applied for the assessment of calculus . Ramfjord index teeth (1959) were examined to assess oral cleanliness and gingival condition. Diagnosis and reording of traumatic dental injuries were according to Garcia-Godoy's classification (1981). Nutritional status was assessed according to body mass index (BMI) indicator by using anthropometric measurement (height and weight)

**Results:**

Results showed that 8.96% of the total sample was caries-free. The dmfs value was  $8.55 \pm 0.18$  for the total sample. A higher value was recorded among females compared to males with statistically highly significant difference ( $P < 0.001$ ). In permanent dentition, the DMFS value of the total children was  $1.69 \pm 0.057$ . Females had higher DMFS mean values than males, the difference was statistically highly significant ( $P < 0.001$ ). For primary dentition the first primary molar was found to be the most commonly affected tooth in children by dental caries, followed by the second primary molar, while for the permanent dentition, the first molars was the most affected. Of the total sample 93.7% was found to be in need of dental treatment include (75.7%) needed one surface restoration, (66.2%) two or more surfaces restoration. Finding of this study revealed that 99.6% of the children had gingival inflammation, 98.9% had a moderate type of gingivitis, the mean value of gingival index was  $1.39 \pm 0.005$ . For the total children mean values of the plaque and calculus index were recorded to be  $1.37 \pm 0.005$  and  $0.01 \pm 0.001$  respectively. No statistically significant differences were recorded between two genders concerning plaque, gingival and calculus indices ( $P > 0.05$ ).

The prevalence of children with traumatized anterior teeth was 19.3% of the total sample. Males were more affected than females, the difference was statistically highly significant ( $P < 0.001$ ). Simple enamel fracture was the most common type of injury among traumatized teeth among children followed by enamel and dentine fracture and then enamel and dentin without pulp exposure. The maxillary central incisors were the most commonly injured teeth. Results showed that 76.2% of the traumatized anterior teeth were left untreated.

The prevalence of malnutrition described by the BMI indicator was 5.9%. For the total sample, no significant differences were recorded in mean dmfs/DMFS and different grades of nutritional status indicator. Results showed no

significant differences concerning plaque, gingival and calculus indices between different grades of BMI indicator ( $P>0.05$ ).

**Conclusion:**

A high prevalence of dental caries, gingivitis and traumatized anterior teeth were recorded. Also, nutritional status may affect oral health of primary and permanent dentition indicating the need of public and health preventive programs among children.