# Oral health status and dental treatment needs among intermediate school male students in Al-Khalis city/Iraq.

A Thesis
Submitted to the College of Dentistry, University of Baghdad
in Partial Fulfillment Requirements for the Degree of Master
of Science in Preventive Dentistry

By
**Karrar Nihad Al-Mujamaii**
B.D.S

Supervised by
**Assist. Prof. Dr. Baydaa Hussein**
B.D.S., M.Sc.

Baghdad-Iraq

August 2017 A.D.                    Dhu AlQaeda 1438A.H.

# Abstract

**Background:** Although dental caries and periodontal disease are not life threatening, but they are considered the most prevalent and widely spread oral diseases throughout the world particularly in developing countries as in Iraq, these oral diseases followed by other oral problems (enamel anomalies and traumatic dental injury) among adolescents.

**Aims of the study:** The present study was carried out to assess the oral hygiene condition (dental plaque), as well as to estimate the prevalence and severity of dental caries, periodontal disease, enamel anomalies, and traumatic dental injury among fourteen and fifteen years old intermediate school male students living in urban area in Al-Khalis city/ Diyala/ Iraq. Furthermore, dental treatment needs of dental caries was determined.

**Materials and Methods:** This oral health survey was conducted among 14 and 15 years old intermediate school male students from an urban area in Al-Khalis city/ Diyala/ Iraq. The total sample composed of 735 students (338 were aged 14 years old and 397 were aged 15 years old). In present study, the diagnosis and recording of dental caries and its treatment needs were conducted according to the criteria described by WHO (1987). Plaque index of Silness and Loe (1964) was used to estimate the dental plaque, while the gingival health condition was assessed using gingival index by Loe and Silness (1963). Examination and recording of enamel anomalies were conducted according to criteria of enamel anomalies index described by WHO (1997). The traumatic dental injuries was assessed according to the classification system described by Garcia-Godoy (1981).

**Results:** Results showed that in the total sample only 12.38% of the students were caries free. The mean value of DMFT and DMFS were 4.51±0.1 and 6.83±0.19 respectively in the total sample, regarding age they were higher

among 15 years old than among 14 years old students with statistically non significant difference (p > 0.05). Additionally, this study revealed that in the total sample, the highest percentage of students were in need for one surface filling (82.31%), followed by two surface filling (54.42%), the same finding was recorded for 14 and 15 years old students.

This oral health survey showed that the mean value of plaque index was 1.12±0.010 in the total sample, furthermore, it was higher among 15 years old than among 14 years old students with statistically highly significant difference (p< 0.01).

In this study, the prevalence of gingivitis for the total sample was 99.45%, and the mean value of gingival index was 1.50±0.013. Furthermore, the mean value of gingival index was higher among 15 years old than among 14 years old students with statistically non significant difference(p> 0.05). Additionally, the moderate type of gingivitis was the most prevalent type in the total sample and for both ages.

The prevalence of enamel anomalies for the total sample was 49.93%. Regarding age, it was higher among 14 years old (56.80%) than among 15 years old (44.08%). In the total sample, diffuse opacity was found to be the most prevalent type of enamel anomalies (47.76%), followed by demarcated opacities (2.31%), the same finding was recorded for 14 and 15 years age group. The most commonly affected teeth by enamel defect were upper central incisors, while the less commonly affected teeth were upper first premolars in the total sample and both ages.

The prevalence of traumatic dental injuries for the total sample was 6.12%. Regarding age, the prevalence was higher among 14 years old than among 15 years old students, and the difference was statistically significant (p< 0.05, Chi-square= 6.575). This study revealed that in the total sample,

simple enamel fracture was the most prevalent type of traumatic dental injuries (4.63%) followed by enamel and dentine fracture (1.09%), while the less prevalent type was enamel and dentine fracture with pulp exposure (0.41%), the same finding was recorded for both age groups. In the total sample the most commonly susceptible teeth for traumatic dental injuries were upper central incisors, the same finding was recorded for both ages.

**Conclusions:** The dental caries and gingivitis were the most prevalent oral diseases followed by enamel anomalies  and traumatic dental injury among 14 and 15 years old intermediate schools male students living in urban area in Al-Khalis city in present study, which in turn indicates the need for school and public health preventive programs among those students. Furthermore  highest percentage of students were in need for one surface filling followed by tow surface filling in the total sample and both ages.