

**Ministry of Higher education  
and scientific research  
University of Baghdad  
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# **Impact of Inbreeding on Oral Health Status of Their Children**

**A Thesis**

**Submitted to the College of Dentistry, University of  
Baghdad in the Partial Fulfillment of the Requirement for the  
Degree of Master of Science/Preventive Dentistry**

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**2019 A.D**

**1440 A.H.**

## **ABSTRACT**

**Background:** “Consanguineous marriage is a relationship between biologically related individuals. As a clinical genetic term, a consanguineous marriage is a union between couples who are related as second cousins or closer”. Genetic factors have role in gene environment interactions which effect on oral health.

**Aim of the study:** The present study was carried out to assess the impact of inbreeding on selected dental and oral variables to compare oral health status of whose children their parents is of inbreeding marriage with children that their parents outbreeding marriage. Assessment dental caries, oral hygiene include dental plaque and gingival health condition in addition to enamel anomalies, teeth wear, malocclusion and tooth size among primary schools student in Al-Qasem city-Babylon Iraq.

**Materials and Methods:** The study was conducted during the period from December 2018 to February 2019. Three hundred ninety eight (398) student, 6-12 years old, from 4 primary school, 199 child that their parents of inbreeding marriage (study group), and other 199 child their parents not inbreeding marriage (control group), were included in this study. Dental caries and enamel anomalies were diagnosed and recorded according to World Health Organization criteria. Plaque index according to Silness and Loe's, gingival index according to Loe and Silness. The malocclusion will be measure according to malocclusion index by WHO. Tooth size (measure of mesiodisal dimension of central incisors) was evaluated by using vernier and teeth wear will be assess according to criteria of Smith and Knight Index.

**Results:** Mean value of decayed, missing and filling (dmfs) for primary teeth was (15.16) for inbreeding group which higher than outbreeding dmfs (11.0), while concerning permanent teeth, the mean value of decayed, missing and filling (DMFS) was (4.71) for inbreeding group which higher than outbreeding DMFS (2.12). Statistically highly significant difference was existed between

groups ( $p=0.00$ ). In the examination of enamel defect for inbreeding group, the most prevalent type of enamel defect was found to be demarcated opacity followed by diffuse opacity. While hypoplasia which was the least one. The mean value for plaque and gingival indices were (2.05) and (1.50) respectively for inbreeding group. The mean value for plaque and gingival indices were (1.16) and (0.57) respectively for outbreeding group.

A positive highly significant correlation was found between plaque and gingival indices. Positive significant correlations were recorded between caries-experience and plaque index for inbreeding group.

Malocclusion was found a higher percentage in children of inbreeding parents than children of outbreeding parents, the differences were statistically highly significant existed between two groups ( $p=0.00$ ).

Regarding tooth size, the upper central incisor teeth in children of control group have larger mesiodistal dimension than children of inbreeding group. Difference was statically significant ( $p=.001$ ). For lower central incisors teeth, mesiodistal width of incisor teeth, there was no difference between inbreeding and outbreeding groups. Teeth wear was found higher mean value (3.77) in outbreeding group than mean value (1.14) of inbreeding group. Differences was statistically highly significant existed between two groups ( $p=0.00$ ).

**Conclusion:** Considering a higher prevalence of plaque, gingivitis, dental caries and malocclusion in children of inbreeding parents than children of not inbreeding parents. It is necessary to formulate the need for an improving public and school preventive programs, and encouraged to orient health knowledge in a positive direction among all children in general and among children of inbreeding parents in particular.