

**Republic of Iraq  
Ministry of Higher Education  
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University of Baghdad  
College of Dentistry**



**Oral Health Condition among Kindergarten  
Children in Relation to Salivary Soluble Cluster of  
Differentiation 14 and Toll Like Receptor-2  
(Comparative Study)**

A Thesis

Submitted to the Council of College of Dentistry/University of  
Baghdad in Partial Fulfillment of the Requirements for the Degree of  
Master in Pediatric Dentistry

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**Baghdad-Iraq**

**2019 A.D.**

**1441 A.H.**

## Abstract

**Background:** Early childhood caries is highly prevalence dental public health problem that affect the primary tooth in children below the age of 71 months. Salivary soluble cluster of differentiation 14 and toll like receptor 2 are proteins that have the ability to recognize different bacterial cell wall component and attempt to prevent the infection.

**Aim of Study:** Assess the relationship between both biomarkers and oral health condition and investigate the relation between type of feeding and early childhood caries.

**Materials and Methods:** Sixty (4-5) years children were participated in study; categorized into, 30 children with severe stage of early childhood caries as study group and 30 caries free as the control group. Oral examination was done by measuring caries experience (decayed, missing, filled surfaces), dental caries severity and gingival health was assessed by using plaque index and gingival index. Saliva samples were collected from both groups. Enzyme-linked immunosorbent assay was used to measure the level of biomarkers.

**Result:** Significant elevation was found in level of soluble cluster of differentiation 14 among study group with positive correlation with caries experience and severity. Higher level of soluble toll like receptor-2 in caries active group with positive correlation with caries experience and severity, Furthermore a positive correlation between the biomarkers with plaque index and gingiva index in both group. Regarding feeding habit, the highest percentage of children in study group were with mixed feeding while the highest percentage of children in the control group were with natural feeding.

**Conclusion:** Salivary soluble cluster of differentiation 14 and toll like receptor-2 were increased in level as the oral disease develop, so they consider an important detectors of caries activity.