

**Assessment of secretory immunoglobulins (s.IgA) and cariogenic bacteria in stimulated saliva of mothers and children with severe early childhood caries (SECC)**

By Haneen Al Shukairy  
(B.D.S. King Abdulaziz University)

A thesis submitted in partial fulfillment of the requirements for the Master degree of  
Science in Pediatric Dentistry

King Abdulaziz University

JEDDAH  
1426 H  
2005 G

# Assessment of secretory immunoglobulins (s.IgA) and cariogenic bacteria in stimulated saliva of mothers and children with severe early childhood caries (SECC)

Haneen Nizar Al Shukairy, B.D.S  
Division of Pediatric Dentistry  
Preventive Dental Sciences Department  
Faculty of Dentistry  
King Abdulaziz University  
Jeddah, Kingdom of Saudi Arabia (2005)

Thesis Chairperson: Prof. Najlaa Mohammed Al Amoudi

Early childhood caries (ECC) is recognized as an infectious disease. The first step in its development is primary infection by the bacterium *S. mutans* which has been identified as the primary etiologic factors in dental caries. *Lactobacilli* were also found to play a role in the progression of disease. However, the underlying mechanism of immune response to caries is unclear. The association between secretory IgA (s.IgA) and cariogenic microorganisms is still controversial.

The purpose of this study was to assess the level of cariogenic bacteria and salivary IgA in caries free children, and children with SECC and their corresponding mothers. The study also aims at correlating the children's levels to their mothers'.

Sixty children and their mothers attending the dental clinic in King Abdulaziz University participated in our study. Their age ranged from 3 – 5 years. The study groups consisted of thirty children with SECC and a control group consisting of thirty caries free children.

Children together with their mothers were examined and their caries level was recorded. Stimulated saliva was collected from each participant for bacterial and immunological assessment. The secretory IgA (s. IgA) level was assessed by ELISA test and the *S. mutans* and *Lactobacilli* counts in each sample were determined, using the Dento cult methods

Our study has shown that children with SECC and their mothers had shown higher levels of s. IgA than caries free children and mothers. A positive high correlation was found between secretory IgA of mothers and children in both groups. Children with SECC had higher levels of *S. mutans* and *Lactobacilli* than caries free children. The mothers of children with SECC had a statistically higher count of *Lactobacilli* than caries free children's mothers. However, the difference was not statistically significant with respect to their *S. mutans* counts. Meanwhile, a significant correlation exists between mothers and children with SECC with respects to *S. mutans*.