Middle Ear and Respiratory Infections in Early Childhood and Their Association with Early Childhood Caries.

Alaki S, Burt B, Garetz S.

(In press, AAPD J)

Purpose: This research aims to examine the risk of developing early childhood caries (ECC) in children who have been reported to have middle ear infections (MEI), or respiratory tract infections (RTI) during early childhood.

Methods: Existing Medicaid data in the state of Michigan was analyzed for all continuously enrolled children born during the year 2001 for whom enrollment, medical and dental claims were filed during the years 2001 to 2004. Proportional hazards survival models were used to assess the risk of developing ECC in children who were reported to have had MEI or RTI during the first year of age.

Results: Data on 29,485 children were included in the analysis, of whom 51.3% were males and 48.7% were females. By the end of the first year of age, 47.21% of children had been diagnosed with MEI, and 69.35% with RTI. Results showed that children with at least one claim for MEI or RTI during the first year of age were at 29% higher risk for developing ECC during following years compared to those with no claims (p=0.0001). When the analysis was stratified by race, Hispanic children with =8 claims were found to have 91% greater risk for ECC than those with <8 claims (p=0.01).

Conclusions: This research shows that the occurrence of MEI or RTI during the first year of age is associated with a significant increase in risk for ECC during following years. It also demonstrates a possible role of race and ethnicity in the studied models.