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Association between Dental Caries and Asthma among 12-15 Years Old School Children Studying in Karachi, Pakistan: A Cross Sectional Study

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Abstract : Background: Dental caries affects the overall health and well-being of children. Findings from various international studies regarding the association of dental caries with asthma are inconsistent. With the increasing burden of caries and childhood asthma, it becomes imperative for an underdeveloped country like Pakistan where resources are limited to identify whether there is a relationship between the two. This study aims to identify an association between dental caries and asthma. Methods: A cross-sectional study was conducted on 544 children aged 12-15 years recruited from five private schools in Karachi. Information on asthma was collected through the International Study of Asthma and Allergies in Childhood (ISAAC) questionnaire. The questionnaire addressed questions regarding child's demographics, physician diagnoses of asthma, type of medication administered, family history of asthma and allergies, dietary habits and oral hygiene behavior. Dental caries was assessed using DMFT Index (Decayed, Missing, Filled teeth) index The data was analyzed using Cox proportional Hazard algorithm and crude and adjusted prevalence ratios with 95% CI were reported. Results: This study comprises of 306 (56.3%) boys and 238 (43.8%) girls. The mean age of children was 13.2 ± (0.05) years. The total number of children with carious teeth (DMFT > 0) were 166/544 (30.5%), and the decayed component contributed largely (22.8%) to the DMFT score. The prevalence of physician's diagnosed asthma was 13%. This study identified almost 7% asthmatic children using the internationally validated International Study of Asthma and Allergies in Childhood (ISAAC) tool and 8 children with childhood asthma were identified by parent interviews. Overall prevalence of asthma was 109/544 (20%). The prevalence of caries in asthmatic children was 28.4% as compared to 31% among non-asthmatic children. The adjusted prevalence ratio of dental caries in asthmatic children was 0.8 (95% CI 0.59-1.29). After adjusting for carious food intake, age, oral hygiene index and dentist visit, the association between asthma and dental caries turned out to be non-significant. Conclusion: There was no association between asthma and dental caries among children who participated in this study.

Keywords : asthma, caries, children, school-based
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