Title: Atopic sensitization in Maldivian childhood asthmatics

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Body: Background: Evaluation of various triggers of childhood asthma aids better management. There is to date no data on common allergens in childhood asthma in Maldives. Objective: We aimed to evaluate atopic sensitization in allergic children attending our clinic. Methods: Demography and allergy patterns of children with specific symptoms of allergy were noted. Total serum IgE, and specific IgE to 29 common food and aeroallergens were determined in each child. The values were compared in asthmatic and non-asthmatic allergic children. Results: 205 out of 255 allergic children had childhood asthma. Their mean age, sex, total IgE did not differ from those with non-asthma allergies. Atopic dermatitis, allergic rhinitis and allergic conjunctivitis were seen in 75.1, 73.7 and 46.8% of these children. 88.2% of asthmatic children were positive to atleast one allergen. Higher sensitization was to house dust mites, egg white, wheat, cow’s milk and banana. Number and type of atopic sensitization did not differ in wheezing and non-wheezing children; except for mugwort grass sensitization which was significantly more in those with wheeze. Children with asthma alone (n=20) tended to be less atopic compared to those with asthma and other allergies (Atopy index of 4.92±1.42 vs 9.09± 0.67 respectively, p=0.06). Conclusion: Atopic sensitization is common in asthma in Maldivian children. Children with sole asthma tended to be less atopic compared to asthmatics with other allergies. Genes, environmental pollutants and developmental causes to varying extent could be plausible reasons for non-atopic wheeze.