
Children's Environmental Health Research Findings
August 2014

Topic: Asthma, rhinoconjunctivitis, and eczema

Title: Does migration affect asthma, rhinoconjunctivitis and eczema prevalence? Global findings from the International Study of Asthma and Allergies in Childhood.

Conclusion: Recent migration to high prevalence/affluent countries is associated with a lower prevalence of allergic diseases.

Authors: Garcia-Marcos L, Robertson CF, Ross Anderson H, Ellwood P, Williams HC, Wong GW; the ISAAC Phase Three Study Group

Citation: Int J Epidemiol. 2014 Jul 23

Abstract:

Background: Immigrants to Westernized countries adopt the prevalence of allergic diseases of native populations, yet no data are available on immigrants to low-income or low-disease prevalence countries. We investigated these questions using data from the International Study of Asthma and Allergies in Childhood. Methods: Standardized questionnaires were completed by 13-14-year-old adolescents and by the parent/guardians of 6-7-year-old children. Questions on the symptom prevalence of asthma, rhinoconjunctivitis and eczema, and a wide range of factors postulated to be associated with these conditions, including birth in or not in the country and age at immigration, were asked. Odds ratios for risk of the three diseases according to immigration status were calculated using generalized linear mixed models. These were adjusted for: world region; language and gross national income; and individual risk factors including gender, maternal education, antibiotic and paracetamol use, maternal smoking, and diet. Effect modification by gross national income and by prevalence was examined. Results: There were 326,691 adolescents from 48 countries and 208,523 children from 31 countries. Immigration was associated with a lower prevalence of asthma, rhinoconjunctivitis and eczema in both age groups than among those born in the country studied, and this association was mainly confined to high-prevalence/affluent countries. This reduced risk was greater in those who had lived fewer years in the host country. Conclusions: Recent migration to high prevalence/affluent countries is associated with a lower prevalence of allergic diseases. The protective pre-migration environment quickly decreases with increasing time in the host country.