

case-control study were attributable to evidence of allergic sensitization to ascariasis, while two thirds of acute bronchospasm in an urban setting was attributable to house dust mite IgE. Helminths may, therefore, be the primary target of allergic responses in traditional rural populations and such responses may be subject to immune regulation leading to a milder clinical course of allergic diseases. In contrast, in urbanizing populations where the introduction of sanitation may lead to the gradual disappearance of helminth infections, aeroallergens may emerge as the primary allergic sensitizers, and because such responses may be subject to less rigorous regulation, could cause more severe disease. Prospective studies from birth in populations undergoing the process of urbanization are helping to define the role of exposures to helminth parasites and other childhood parasitic infections in the changing epidemiology of allergic disease in LICs.

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Parasitic infections and allergies



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Abstract: The hygiene hypothesis has been proposed to explain temporal trends of increasing allergy prevalence in high-income countries and in urbanizing populations in low-income countries (LICs). Improvements in hygiene and reductions in exposures to childhood infectious diseases are considered to cause increased allergy through a failure to educate appropriately the developing immune system leading to inadequate regulation of allergic inflammation. Parasite infections are extremely common in poor populations in LICs and a high prevalence of parasites, particularly helminth parasites, has been put forward to explain the low prevalence of allergy in rural populations of LICs. Data from epidemiological studies in populations infected with helminth parasites have provided strong evidence that exposures to helminth infections attenuate atopy and Th2 inflammatory responses directed against aeroallergens. Further, helminth exposures appear to modify the effects of atopy on allergic diseases (i.e. asthma, rhinitis, and eczema). However, exposures to some parasites with a life cycle phase of pulmonary migration may increase the risk of wheeze. For example, half the cases of wheeze in a rural