

Early intervention and prevention of allergic diseases

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Abstract

Food Allergy (FA) is now one of the most common chronic diseases of childhood often lasting throughout life and leading to significant worldwide healthcare burden. The precise mechanisms responsible for the development of this inflammatory condition are largely unknown; however, a multifactorial aetiology involving both environmental and genetic contributions is well accepted. A precise understanding of the pathogenesis of FA is an essential first step to developing comprehensive prevention strategies that could mitigate this epidemic. As it is frequently preceded by atopic dermatitis and can be prevented by early antigen introduction, the development of FA is likely facilitated by the improper initial presentation of antigen to the developing immune system. Primary oral exposure of antigens allowing for presentation via a well-developed mucosal immune system, rather than through a disrupted skin epidermal barrier, is essential to prevent FA. In this review, we present the data supporting the necessity of 1) an intact epidermal barrier to prevent epicutaneous antigen presentation, 2) the presence of specific commensal bacteria to maintain an intact mucosal immune system and 3) maternal/infant diet diversity, including vitamins and minerals, and appropriately timed allergenic food introduction to prevent FA.

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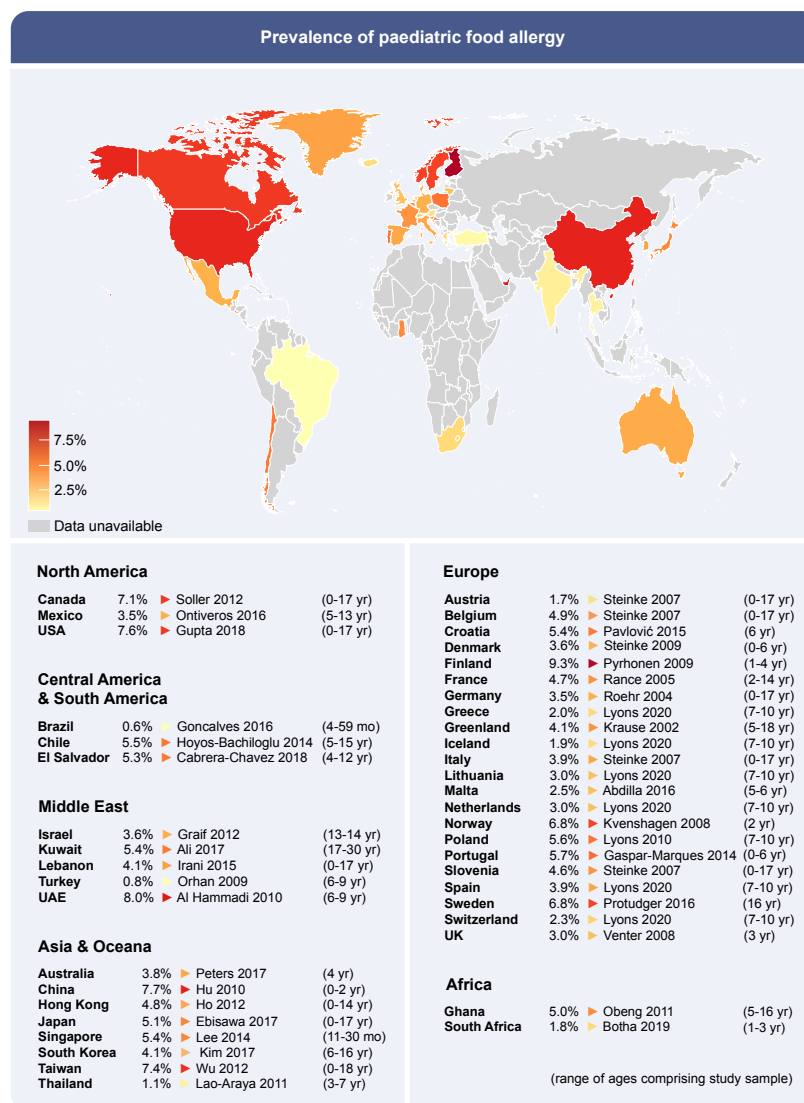


Figure 1_Brough et al.

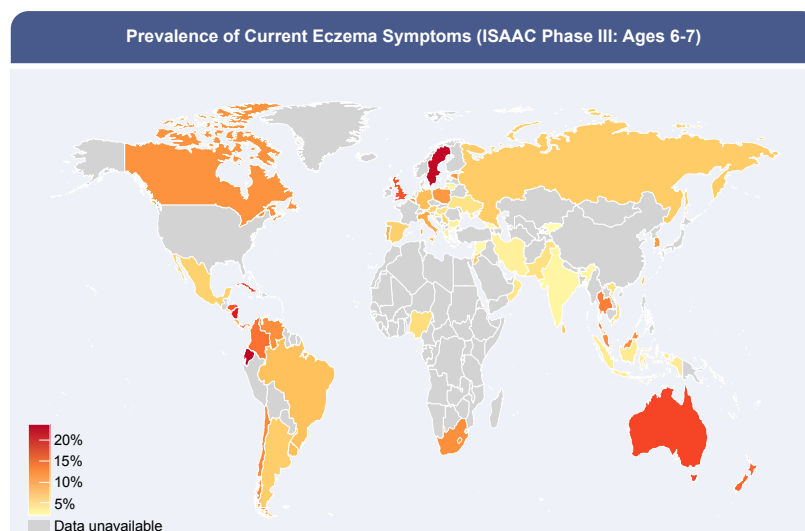


Figure 2_Brough et al.

Prevalence of Current Eczema Symptoms (ISAAC Phase III: Ages 13-14)

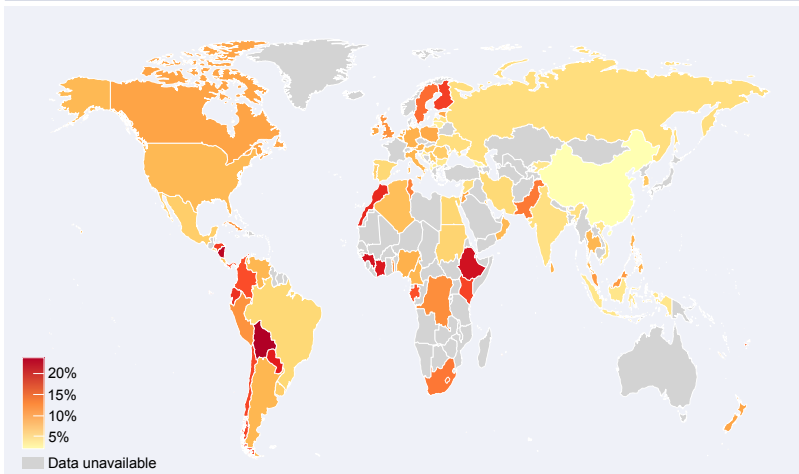


Figure 3_Brough et al.

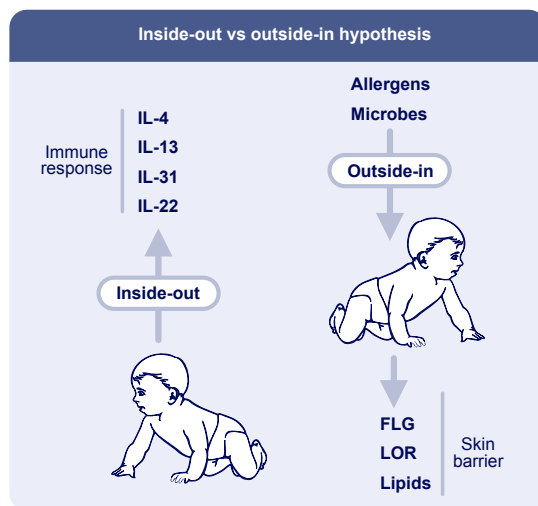


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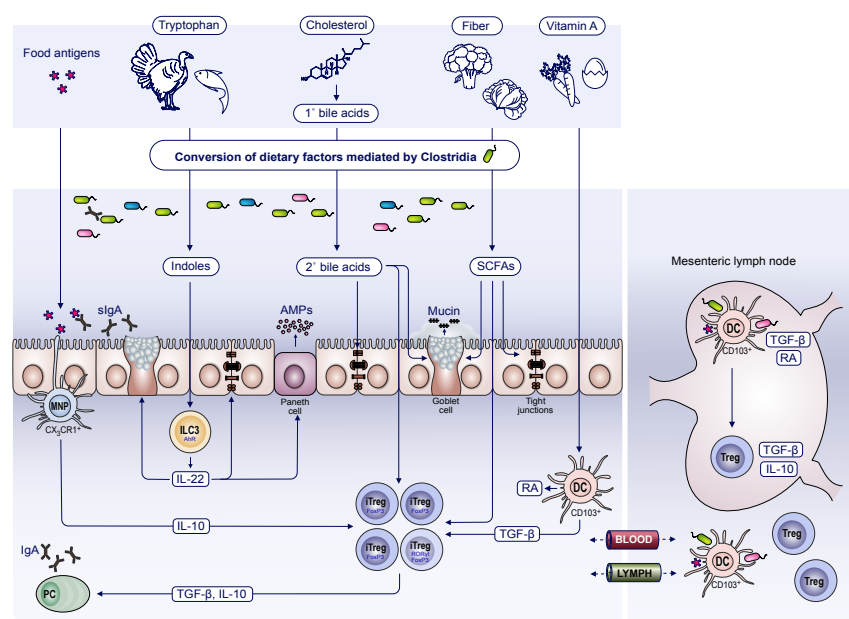


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