

# Letter to the Editor

## Is microbiome a target for the management of allergy associated diseases in children?

Dear Editor,

We have read with interest the recent review on the management of allergy associated diseases in children<sup>1</sup>. In the last few decades, allergy associated diseases like allergic rhinitis, asthma, food allergy, etc. are progressively increasing worldwide. Changes in personal or maternal smoking habits, types of dwelling, adaptation to Western dietary habits, reduced infection rates, decreased family size and hygiene, air pollution, work exposure or changed microbiome due to occidental style of life might be the possible causes<sup>2</sup>. In case of food allergy, one of the most prominent public health problems, especially in children, allergens like egg, tree nuts and cow milk are the most commonly reported culprits. In this context, Zhu et al<sup>1</sup>. reported various strategies for the management, like oral immune therapy and use of hypo-allergenic diet, but the curative therapy is far. Regarding allergic asthma, the authors discussed the role of immunotherapy-based treatments, as oral immunotherapy<sup>3</sup>. For allergic rhinitis MP-AzeFlu, an intranasal antihistamine, has been reported efficient<sup>4</sup>. The pathogenesis of atopy is multifactorial and remains unclear. Its development involves multiple genes, an altered innate and adaptive immune response, epidermal epithelial dysfunction and is influenced by several environmental risk factors. The actual historical period is characterized for the life sciences from an exciting and growing interest for the role of the microbiota on human health<sup>5</sup>. Alterations in the gut microbiome, defined dysbiosis, affect the immune system balance, contributing to the natural courses of several diseases<sup>6</sup>. Infancy has been identified as important and vulnerable period in the development of the gut microbiome, which shapes an individual's disposition to atopy<sup>7</sup>. Since the possible application of probiotics to the therapeutic management of allergic diseases has been the focus of several recent studies<sup>7,8</sup>, it would be interesting to discuss in future papers this potential promising therapeutic strategy.

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### Conflict of interest

The authors declare no conflicts of interest.

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