

## Reply



To the Editor,

We thank Dr. Özdemir for his careful reading of our article, and pointing out some of the probiotics' effects on mechanisms affecting allergy development such as their direct effect on maturing gut barrier (intestinal mucosa structure/function) and development of tolerogenic dendritic cells resulting in transformation of the local intestinal and systemic immune response.<sup>1,2</sup> These favorable effects elicited by probiotics in allergic children are consistent with the current concept of nutritional immunology, explaining not only the treatment of allergic symptoms but also developing tolerance. Quite a few studies have demonstrated the role that probiotics play in relation to allergic airway diseases such as asthma and allergic rhinitis (AR); in those studies, pulmonary function and clinical symptom scores for asthma and AR improved, and a significant change in blood and/or immunologic parameters of AR patients supplemented with probiotics were additionally demonstrated.<sup>1,2</sup> We concluded that probiotics have shown more promise, albeit limited, in the primary prevention of allergic disease rather than in the treatment of established disease.<sup>3</sup> Recently, data from the PubMed database and published studies indicate that prebiotics, probiotics, or synbiotics intake improved quality of life score in patients with allergic conditions.<sup>4</sup> However, it was noted that markedly differing heterogeneity between studies made direct comparison difficult. Most apparently, there was no significant change in blood or immunologic parameters in the probiotic group. This suggests that probiotics may be useful in allergic disease, but the present data is not sufficient to allow for any treatment recommendations,<sup>4–6</sup> and insufficient to support any assumed safety of probiotic use in healthy newborns.<sup>1</sup> Other organizations support this treatment reservation at the present time. The ESPGHAN Committee on Nutrition is concerned that the available data are not sufficient to support the safety of probiotics in healthy newborns and very young infants with immature defense systems, infants with immunocompromised systems, premature infants, and infants with congenital heart disease.<sup>7</sup> Dietary supplements with probiotic effects have been reported to reduce the incidence of necrotizing enterocolitis and all-cause mortality in preterm infants.<sup>8</sup> However, there is an enhanced sense of need for extra precautions to be followed when

using probiotics in immunocompromised patients, including premature infants, due to an increased risk of adverse effects and, in rare cases, infection caused by fungal contamination.<sup>9,10</sup>

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