

Correspondence

Probiotics for the treatment or prevention of eczema*To the Editor:*

Lee et al¹ provide a timely review of the effects of probiotic supplementation for the prevention or treatment of eczema. However, their review fails to meet published standards for the quality of systematic reviews on several criteria, and this has led to inappropriate conclusions.²

First, their literature search was not sufficiently comprehensive and failed to identify important trials relevant to their review. At the time of their literature search in July 2007, there were 3 randomized controlled trials of probiotics for treating eczema that had been published in peer-reviewed journals but were not included in their review.³⁻⁵

A second issue is the clarity of their reporting. The methods of trial selection and data extraction were not adequately described, and it is unclear what the inclusion and exclusion criteria were for this review or whether 2 independent investigators undertook this process in parallel, as recommended by many authorities.

Third, there is no evidence of an *a priori* design in their report. This means that they have used the outcome measures of the clinical trial publications rather than defining the most important outcome measures themselves. The result is a mix of investigator-assessed outcome measurement (SCORAD score) and mechanistic data without any outcome measure assessed by the study participants or their parents.

Fourth, the methods used in their meta-analyses are inappropriate. For prevention studies, they included data from the same subjects 3 times over (Kalliomaki 2001, Kalliomaki 2003, and Rautava 2002), which led to an exaggeration of the clinical benefit of probiotics for eczema prevention. In the meta-analyses of probiotic treatment studies, the data from crossover and parallel-group trials are combined without consideration for the difference in study design, and for the study of Viljanen, data from one third of study participants have been excluded from meta-analysis (see their Fig 2, comparisons 3 and 4).

These defects in methodologic rigor have led to an exaggeration of the clinical benefits of probiotics for eczema prevention. They have also led to an overestimation of the likelihood that probiotics are effective for treating established eczema, which is in contrast to our more rigorous systematic review of probiotics for treating eczema.⁶ Finally, the authors state that prenatal and postnatal probiotic treatments are safe, without making any formal assessment of adverse events reported in the clinical trials that they reviewed. In view of a recent report of fatal bowel ischemia and previous

reports of probiotic sepsis, this form of treatment cannot be considered free from risk in all patient groups.⁷

We recognize the value of systematic reviews to inform clinical practice and policy-making decisions. The methodologic quality of such reviews is, however, of fundamental importance, and poor-quality reviews can be misleading. The review of Lee et al¹ does not do justice to the published literature regarding the effects of probiotics for the treatment or prevention of eczema.

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