

**CONCLUSIONS.** In a nonselected population of mothers, consumption of probiotics decreased the cumulative incidence of AD but had no effect on asthma, allergic rhinoconjunctivitis, or atopic sensitization.

**REVIEWER COMMENTS.** This study found that probiotic bacteria given to the mother during pregnancy and early lactation might prevent AD in the child. Previous randomized controlled trials that used various probiotics have involved administration directly to all or the majority of children. The results of this study are exciting in that treatment of the mother over a limited period of time seemed to make a difference in the cumulative incidence of AD and severity of atopic dermatitis in affected children.

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### **Synbiotics Prevent Asthma-Like Symptoms in Infants With Atopic Dermatitis**

van der Aa LB, van Aalderen WM, Heymans HS, et al; Synbad Study Group. *Allergy*. 2011;66(2):170-177

**PURPOSE OF THE STUDY.** Infants with atopic dermatitis (AD) are at high risk of developing asthma. These researchers sought to examine the effect of early intervention with synbiotics, a combination of probiotics and prebiotics, on the prevalence of asthma-like symptoms in infants with AD.

**STUDY POPULATION.** Ninety term infants less than 7 months of age with AD were recruited from 2005 to 2007 in the Netherlands. Inclusion criteria included an AD score (Severity Scoring of Atopic Dermatitis [SCORAD]) of >15, exclusive formula feeding at the time of enrollment, no other major medical problems, and no use of probiotics or immunomodulatory medications during the 4 weeks before enrollment.

**METHODS.** In a double-blind, placebo-controlled multicenter trial, infants were randomly assigned to receive an extensively hydrolyzed formula with *Bifidobacterium breve* M-16V and a galacto-oligosaccharide/fructo-oligosaccharide mixture or the same formula without the synbiotics during a 12-week period. After 1 year, the prevalence of respiratory symptoms and asthma medication use was evaluated by using a validated questionnaire, and the total serum immunoglobulin E (IgE) level and level of specific IgE against aeroallergens were determined.

**RESULTS.** Seventy-five children completed the 1-year follow-up evaluation. The prevalence of "frequent wheezing" and "wheezing and/or noisy breathing apart from colds" was significantly lower in the synbiotic than

in the placebo groups (13.9% vs 34.2% [absolute risk reduction (ARR): -20.3%] and 2.8% vs 30.8% [ARR: -28.0%], respectively). Significantly fewer children in the synbiotic than in the placebo group had started to use asthma medication after baseline (5.6% vs 25.6% [ARR: -20.1%]). There were no differences in total IgE levels between groups. However, no children in the synbiotic group and 5 children (15.2%) in the placebo group developed an elevated IgE level against cat (ARR: -15.2%).

**CONCLUSIONS.** This study found a significant benefit in the prevention of asthma-like symptoms in infants with AD followed for 1-year after a 12-week trial of a synbiotic mixture.

**REVIEWER COMMENTS.** Results of this prospective study support the concept that a specific probiotic and prebiotic mixture might be effective in reducing the prevalence of asthma-like symptoms in the near term. Variable results have been noted in other studies that used only probiotics. Larger clinical studies and a longer longitudinal follow-up period to determine whether this mixture might ultimately prevent the development of asthma are needed.

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### **Reduced Occurrence of Early Atopic Dermatitis Because of Immunoactive Prebiotics Among Low-Atopy-Risk Infants**

Grüber C, van Stuijvenberg M, Mosca F, et al; MIPS 1 Working Group. *J Allergy Clin Immunol*. 2010;126(4):791-797

**PURPOSE OF THE STUDY.** To determine whether the supplementation of prebiotics and immunoactive oligosaccharides can prevent the development of atopic dermatitis in infants.

**STUDY POPULATION.** Term weaned infants younger than 8 weeks without a family history of atopy in a parent or sibling were recruited from several northern European study centers.

**METHODS.** This was a double-blind, placebo-controlled, randomized, prospective study. Infants were randomly assigned to the prebiotics group (PG), control group (CG), or exclusively breastfed group (BG). Infants in the PG received a nonhydrolyzed cow's milk-based formula with a specific mixture of short- and long-chain oligosaccharides (ratio 9:1, 85% of mixture) and pectin-derived acidic oligosaccharides (15% of mixture). The PG and CG received a starter formula for the first 6 months of life, and then a follow-on formula was

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