

Arslanoglu, *et al.*, Early Dietary Intervention with a Mixture of Prebiotic Oligosaccharides Reduces the Incidence of Allergic Manifestations and Infections during the First Two Years of Life. *J. Nutr.* 2008; 138: 1091–1095.

Abstract

A mixture of neutral short-chain galactooligosaccharides (scGOS) and long-chain fructooligosaccharides (lcFOS) has been shown to reduce the incidence of atopic dermatitis (AD) and infectious episodes during the first 6 mo of life. This dual protection occurred through the intervention period. The present study evaluated if these protective effects were lasting beyond the intervention period. In a prospective, randomized, double-blind, placebo-controlled design, healthy term infants with a parental history of atopy were fed either a prebiotic-supplemented (8 g/L scGOS/lcFOS) or placebo-supplemented (8 g/L maltodextrin) hypoallergenic formula during the first 6 mo of life. Following this intervention period, blind follow-up continued until 2 y of life. Primary endpoints were cumulative incidence of allergic manifestations. Secondary endpoints were number of infectious episodes and growth. Of 152 participants, 134 infants (68 in placebo, 66 in intervention group) completed the follow-up. During this period, infants in the scGOS/lcFOS group had significantly lower incidence of allergic manifestations. Cumulative incidences for AD, recurrent wheezing, and allergic urticaria were higher in the placebo group, (27.9, 20.6, and 10.3%, respectively) than in the intervention group (13.6, 7.6, and 1.5%) ($P < 0.05$). Infants in the scGOS/lcFOS group had fewer episodes of physician-diagnosed overall and upper respiratory tract infections ($P < 0.01$), fever episodes ($P < 0.00001$), and fewer antibiotic prescriptions ($P < 0.05$). Growth was normal and similar in both groups. Early dietary intervention with oligosaccharide prebiotics has a protective effect against both allergic manifestations and infections. The observed dual protection lasting beyond the intervention period suggests that an immune modulating effect through the intestinal flora modification may be the principal mechanism of action.