

Arslanoglu *et al.*, Early Supplementation of Prebiotic Oligosaccharides Protects Formula-Fed Infants against Infections during the First 6 Months of Life. *J. Nutr.* 2007; 137: 2420–2424.

#### Abstract

A mixture of neutral short chain galactooligosaccharides and long chain fructooligosaccharides (scGOS/lcFOS) has been shown to have prebiotic and immunomodulatory effects comparable to human milk oligosaccharides. This can be translated into clinical practice as a potential to prevent infections and allergy. The hypothesis of this study was that this specific prebiotic mixture could have a preventive effect against infections during the first 6 mo of life. In a prospective, randomized, double-blind, placebo-controlled trial, healthy term infants with a parental history of atopy were fed either prebiotic supplemented (8 g/L scGOS/lcFOS) or placebo-supplemented (8 g/L maltodextrin) hypoallergenic formula during the first 6 mo of life. The primary outcome measures were infectious episodes, number of infections requiring antibiotics, and incidence of infections. During the study period, infants in the scGOS/lcFOS group had fewer episodes of all types of infections combined ( $P = 0.01$ ). They also tended to have fewer upper respiratory tract infection episodes ( $P = 0.07$ ) and fewer infections requiring antibiotic treatment ( $P = 0.10$ ). Similarly, the cumulative incidence of recurring infections was significantly lower in the scGOS/lcFOS group. The cumulative incidence of any recurring infection and recurring respiratory infections was 3.9 and 2.9% in the scGOS/lcFOS group and 13.5 and 9.6% in the placebo group, respectively ( $P < 0.05$ ). Oligosaccharide prebiotics reduced the number of infectious episodes and the incidence of recurring, particularly respiratory, infections during the first 6 mo of life. Although the exact mechanism of action is under investigation, it is very likely that the immune modulating effect of this prebiotic mixture through intestinal flora modification is the principal mechanism for the observed infection prevention early in life.