

Mihatsch *et al.*, Prebiotic oligosaccharides reduce stool viscosity and accelerate gastrointestinal transport in preterm infants. *Acta Paediatr Suppl.* 2006; 95(7):843-8.

Abstract

Aim: To investigate whether a mixture of prebiotic non-digestible oligosaccharides (GosFos; referring to galacto- and fructo-oligosaccharides) would improve feeding tolerance in preterm infants on full enteral formula feeding. We hypothesized that GosFos would: (1) reduce stool viscosity and (2) accelerate gastrointestinal transport.

Methods: In a placebo-controlled double-blind trial 20 preterm infants on full enteral nutrition (gestational age 27 (24-31) weeks, postnatal age 42 (11-84) days, and weight at study entry 1570 (1080-2300) g) were randomly allocated to have their feedings supplemented with either GosFos (1 g/100 mL) or placebo for 14 days. Stool viscosity was measured by high-pressure capillary rheometry. Gastrointestinal transport time was assessed as the time from feeding carmine red to its appearance in the diaper. The hypotheses were tested as a priori ordered hypotheses. Data are shown as median (range).

Results: Birth weight, gestational age, postnatal age, and weight at study entry did not differ between groups. GosFos significantly reduced both stool viscosity, as measured by extrusion force (32 (2-67) versus 158 (24-314) N), and gastrointestinal transit time (12 (4-33) versus 26 (5-52) h). No adverse effects were observed.

Conclusion: Formula supplementation with GosFos reduced stool viscosity and accelerated gastrointestinal transport. Further trials are required to investigate whether GosFos facilitates enteral feeding advancement and early enteral nutrition thereby eventually reducing the incidence of catheter-related nosocomial infections and improving long-term outcome.