

BENEO's Orafti[®]Synergy1 proves its beneficial physiological and prebiotic effects in newborns

The results of a new study demonstrate, that the supplementation of an infant formula with BENEEO's Orafti[®]Synergy1 (oligofructose-enriched inulin) has a favourable prebiotic effect and is well tolerated by babies. This study was led by Prof. Gigi Veereman-Wauters (Pediatric Gastroenterology and Nutrition at UZ Brussels, Belgium) and conducted at the Queen Paola and Middelheim Hospitals ZNA Antwerp, Belgium, in cooperation with BENEEO-Institute.

The study demonstrates that BENEEO's Orafti[®]Synergy1 supplementation in infant formulae designated for neonates is modifying the microflora composition by increasing bifidobacteria, which resulted in a flora composition that resembled that of breast-fed babies. In addition to numerous conducted studies acknowledging the beneficial effects on digestive health, and in particular on the microflora composition, the recent study also evidences the safety and good tolerance of the oligofructose-enriched inulin in neonates, and opens new opportunities for this prebiotic in the area of infant feeding.

"The early colonization of the babies' microflora is playing a pivotal role in many aspects of the babies' health, and the normal healthy gastrointestinal microflora, which includes bifidobacteria to a large extend is notably protecting the newborn against infections. Therefore, since many years, there is an interest in adding prebiotics to infant formulae, with the aim to provide physiological benefits that mimic those observed in breast-fed babies", explains Prof. Veereman-Wauters the study's importance. The results of this new study confirm the prebiotic effect of Orafti[®]Synergy1 in a population that was hardly investigated until now, i.e. newborns. The babies were indeed included in the study within their first days of life.

The study¹ – Bifidobacteria comparable to breast-fed babies

The study is a prospective, randomised, double-blind, controlled intervention study including 110 healthy neonates, receiving different prebiotics included in an infant formula, during four weeks.

¹ Veereman-Wauters G, Staelens S, Van de Broek, Plaskie K, Wesling F, Roger LC, McCartney AL, Assam P (2011) Physiological and bifidogenic effects of prebiotic supplements in infant formulae. J. Pediatr. Gastroenterol. Nutr 52(6):763-771

The babies received a control (unsupplemented) infant formula, or a formula enriched with Orafti®Synergy1 at two different concentrations (0.4 or 0.8 g/dl), or a formula enriched with galacto-oligosaccharide and fructo-oligosaccharide in a 90:10 relation (0.8 g/dl). A group of breast-fed babies was also included in the study as reference group.

Results of this study show that the tolerance and safety profiles were good for all supplemented formulae; proper growth was observed in all groups as well. The prebiotics had positive effects on some of the measured physiological parameters, by softening stool consistency, while babies in the control group had the hardest stools.

Orafti®Synergy1 intake (0.8 g/dl) further increased bifidobacteria level in babies' stools in a significant way, after two and four weeks of intake. Very interestingly, the level of bifidobacteria (measured by FISH methodology) was comparable to that of breast-fed babies. All other measured bacteria weren't affected by the prebiotic intake.

Reaching for the gold standard of breastfeeding

In the domain of infant nutrition, breastfeeding is considered the gold standard of nutrition and is strongly recommended as the preferred mode of feeding. As infant formulae (as well as breast milk), represent the sole source of nutrients during the first months of a baby's life, these formulae must respond to the highest standards, notably with a composition as well as with functional and physiological benefits that come as close as possible to those of human milk. Other important aspects to consider in the development of infant formulae are their safety and their ability to promote normal growth and development. Among other compounds, mother's milk contains a substantial amount of oligosaccharides that most probably account for the bifidobacteria-predominant colonization observed in the microflora of breast-fed versus formula-fed infants.

Anke Sentko, Vice President Nutrition Communication and Regulatory Affairs BENE0: "We are delighted to have conducted the study together with Prof Veereman-Wauters and her team as experienced and recognized partner. The results show once again that BENE0's prebiotics are based on sound science, support a healthy microflora which is particularly important in infants and thus prove beneficial even in a very sensitive population like newborns are."

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The BENEО-Institute is an organisation which brings together BENEО's expertise from Nutrition Science, Nutrition Communication and Regulatory Affairs teams. It acts as an advisory body for customers and partners reaching from ingredient approval, physiological effects and nutritional composition to communication and labelling. The key nutritional topics that form the basis of the **BENEО-Institute's** work include weight management, digestive health, bone health, physical and mental performance, the effects of a low glycaemic diet in the context of healthy eating and disease prevention, as well as dental health.

The **BENEО-Institute** facilitates access to the latest scientific research and knowledge throughout all nutritional and regulatory topics related to BENEО ingredients. It provides BENEО customers and partners with substantiated guidance for some of the most critical questions in the food industry. BENEО is a division of the Südzucker Group, employs almost 900 people and has production units in Belgium, Chile, Germany and Italy.

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