

A synbiotic mixture of scGOS/lcFOS and *Bifidobacterium breve* M-16V increases faecal *Bifidobacterium* in healthy young children

CONCLUSION

A young child formula (YCF) supplemented with short chain galactooligosaccharides & long chain fructooligosaccharides (scGOS/lcFOS, ratio 9:1) and *Bifidobacterium breve* M-16V positively influences the development of the faecal microbiota in healthy toddlers by supporting higher levels of *Bifidobacterium*.

The synbiotic supplementation is also accompanied with a more acidic intestinal milieu and softer stools.

STUDY BACKGROUND

Little is known about the impact of nutrition on the toddler gut microbiota. The plasticity of the toddler gut microbiota indicates that nutritional modulation beyond infancy could potentially impact its maturation.

STUDY OBJECTIVES

To investigate the effect of consuming young child formula (YCF) supplemented with prebiotic scGOS/lcFOS (ratio 9:1) and probiotic *Bifidobacterium breve* M-16V on the development of the faecal microbiota in healthy young children.

STUDY DESIGN

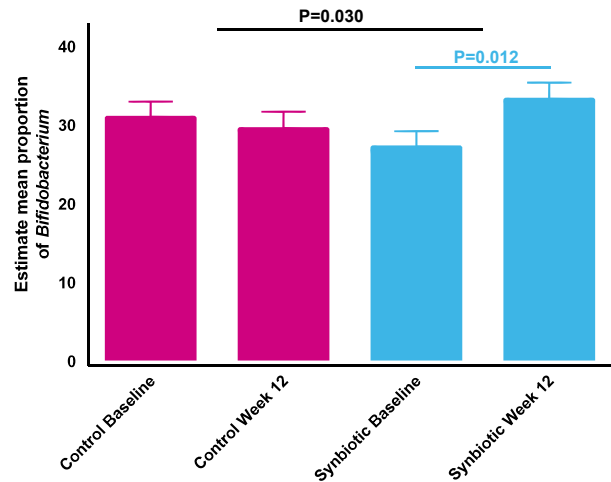
A randomized, double-blind, controlled intervention study. 129 Thai children aged 1-3 years were randomly assigned to one of two young child formula (YCF) groups for 12 weeks:

- with 0 g scGOS/lcFOS [Control Group] (n=64)
- with 0.95 g/ 100ml scGOS/lcFOS and 1.8×10^7 cfu/g *B. breve* M-16V [Synbiotic Group](n=65)



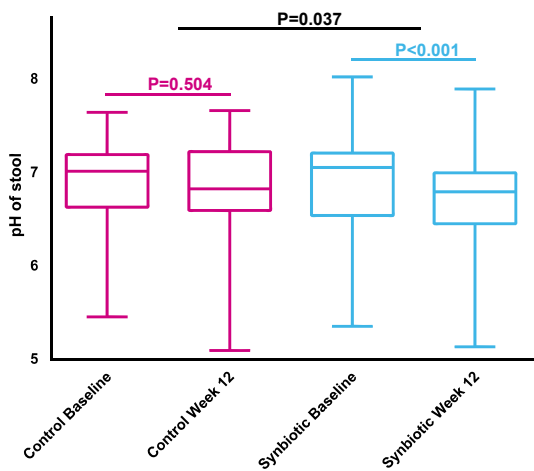
Key results

Between baseline (week 0) and end of intervention (12 weeks) the proportion of *Bifidobacterium* increased significantly in the Synbiotic group (mean 27.3 to 33.3%, linear mixed model t-test: $P=0.012$). This change in proportion of *Bifidobacterium* in the Synbiotic group was statistically significantly different compared to the change from baseline to week 12 in the Control group (linear mixed model t-test: $P=0.03$).

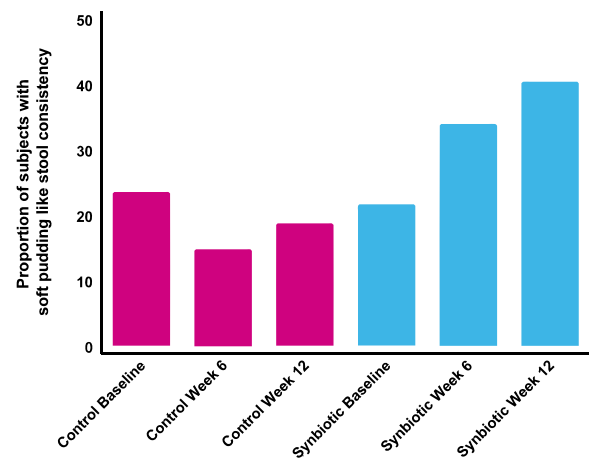


The consumption of young child formula (YCF) supplemented with synbiotics increased the proportion of *Bifidobacterium* in healthy young children.

Bifidobacterium has been depicted as an important childhood host microbial partner and most likely have an influential role in supporting the healthy development of the host.



The pH value decreased in the Synbiotic group from a median of 7.05 at baseline to 6.79 at week 12 (Wilcoxon signed-rank test: $P<0.001$). The difference in the change from baseline between the Synbiotic and the Control group was statistically significant (Van Elteren test, controlling for site: $P=0.037$).



In the Synbiotic group, there were more subjects with the soft pudding like stool consistency compared to the Control group at both week 6 (33.87 vs 14.75%) and week 12 (40.32 vs 18.64%).

Synbiotic supplementation was accompanied with a lower faecal pH, creating or maintaining an acidic intestinal milieu which in turn might protect against the growth of opportunistic pathogens.

Synbiotic supplementation was associated with a softer pudding-like stool consistency.

synbiotics = scGOS/lcFOS and B. breve M-16V

Reference

Kosuwon P, Lao-araya M, Uthaisangsook S, Lay C, Bindels J, Knol J, Chatchatee P. A synbiotic mixture of scGOS/lcFOS and *Bifidobacterium breve* M-16V increases faecal *Bifidobacterium* in healthy young children. *Benef Microbes*. 2018 Apr 10:1-12. doi: 10.3920/BM2017.0110