

Ouwehand, A.C., Tiihonen, K., Saarinen, M., Putaala, H., & Rautonen, N., (2008). Influence of a combination of *Lactobacillus acidophilus* NCFM and lactitol on healthy elderly: intestinal and immune parameters. British Journal of Nutrition, not known, 1-10.

#### Abstract

With increasing age, a number of physiological changes take place which are reflected in immune and bowel function. These changes may relate to the commonly assumed age-related changes in intestinal microbiota; most noticeably a reduction in bifidobacteria. The current study aimed at modifying the intestinal microbiota with a potential synbiotic on selected immune and microbiota markers. Healthy elderly subjects were randomised to consume during 2 weeks either a placebo (sucrose) or a combination of lactitol and *Lactobacillus acidophilus* NCFM twice daily in a double-blind parallel trial. After the intervention, stool frequency was higher in the synbiotic group than in the placebo group and a significant increase in faecal *L. acidophilus* NCFM levels was observed in the synbiotic group, after baseline correction. In contrast to the generally held opinion, the study subjects had faecal *Bifidobacterium* levels that were similar to those reported in healthy young adults. These levels were, nevertheless, significantly increased by the intervention. Levels of SCFA were not changed significantly. Of the measured immune markers, PGE<sub>2</sub> levels were different between treatments and IgA levels changed over time. These changes were modest which may relate to the fact that the volunteers were healthy. Spermidine levels changed over time which may suggest an improved mucosal integrity and intestinal motility. The results suggest that consumption of lactitol combined with *L. acidophilus* NCFM twice daily may improve some markers of the intestinal microbiota composition and mucosal functions.