

Varcoe, J., Zook, C., Sui, J., Leighton, S., Busta, F., & Brady, L., (2002). Variable response to exogenous *Lactobacillus acidophilus* NCFM[®] consumed in different delivery vehicles. Journal of Applied Microbiology, 93, 900–906.

Abstract

Aims: To study the effects of the delivery vehicle for *Lactobacillus acidophilus* on the human faecal microbiota. Our hypotheses were that (i) the delivery vehicle would influence faecal lactobacilli numbers and (ii) consumption of *Lact. acidophilus* would influence the populations of *Bifidobacterium* and hydrogen sulphide-producing bacteria.

Methods and Results: Ten subjects each received *Lact. acidophilus* with skim milk or water. *Lactobacillus*, *Bifidobacterium* and hydrogen sulphide-producing bacterial populations were analysed before, during and after each treatment. Regardless of the vehicle, faecal lactobacilli populations changed during treatment. Bifidobacteria and the hydrogen sulphide-producing bacteria underwent no statistically significant population changes. Intra- and intersubject variability was observed.

Conclusions: The vehicle in which *Lact. acidophilus* was delivered did not influence faecal lactobacilli numbers. Consumption of *Lact. acidophilus* did not influence the populations of *Bifidobacterium* and hydrogen sulphide-producing bacteria. The lactobacilli populations of subjects were variable. The fed lactobacilli did not appear to colonize the gastrointestinal tract.

Significance and Impact of the Study: We provide evidence that (i) there was no collective advantage to using skim milk as a delivery vehicle vs water; (ii) exogenous *Lact. acidophilus* did not affect endogenous bifidobacteria or hydrogen sulphide-producing bacteria; (iii) data should be carefully examined before pooling for analysis and (iv) continuous feeding was required to maintain an elevated lactobacilli population.