Probiotics: a new therapy for cold and influenza-like symptoms

The object of this study was to determine whether probiotic consumption has a prophylactic benefit in preventing fever, rhinorrhea, cough incidence and antibiotic use in healthy children.

Methods
In this double-blind, placebo controlled study, 326 eligible healthy children aged 3–5 years were assigned randomly to receive placebo, Lactobacillus acidophilus NCFM or L. acidophilus in combination with Bifidobacterium animalis subsp. lactis Bi-07. The test products were consumed twice daily, over a 6-month period from November 2005 to May 2006. A minimal difference of 20–40% in incidence of influenza-like symptoms was examined between the placebo group and either probiotic group. A difference of 15–20% was also considered between the two treatment groups.

Results
Relative to the placebo group, single and combination probiotics reduced fever incidence by 53.0% and 72.7%, coughing incidence by 41.4% and 62.1%, and rhinorrhea incidence by 28.2% and 58.8%, respectively. Fever, coughing and rhinorrhea duration fell significantly, relative to placebo. Antibiotic use was reduced relative to placebo, and subjects receiving probiotics had significant reductions in days absent from group childcare, compared with subjects receiving placebo.

Conclusions
Daily dietary probiotic supplementation for 6 months was a safe effective way to reduce fever, rhinorrhea and cough incidence and duration and antibiotic prescription incidence, as well as the number of missed school days attributable to illness, for children aged 3–5 years.

Editorial comment
Previous studies examined strain-specific probiotic effects [1], while this trial used a placebo group. The one-strain product group exhibited a reduced incidence of fever and cough, whereas the two-strain combination group exhibited a reduced incidence of fever, cough, rhinorrhea and any other symptom. A regular, long-term intake of various symbiotics may improve health by reducing the incidence and severity of respiratory diseases during the cold season in particular with several symbiotic preparations containing three to five strains of probiotic bacteria [2]. Microbial products improved immunological status, lowering levels of Interleukin (IL)-1, increasing the production of interferon-γ and IL-12 and activating nuclear factor-κB, with the global effect of reducing sensitisation and the incidence of allergies [3]. Winter and spring were chosen for trials since viruses are known to vary between the common cold seasons. This is the first study that enhances the positive influence of probiotic bacteria in significantly reducing the incidence of upper respiratory infections (URTI). In two different studies [4, 5] on healthy adult patients, no influence was observed on the overall incidence of URTIs whereas in this trial treatment with a two-strain combination produced a more pronounced effect, especially in rhinorrhea. The reduction of the incidence and severity of symptoms of cold and influenza-like infections may be due to the stimulation of cellular immunity: leukocytes, lymphocytes, in particular T-lymphocytes including CD4+ and CD8+ cells, as well as monocytes, were significantly increased when compared with placebo [5]. In conclusion, since probiotics have demonstrated no adverse effect reactions, their consumption has a potential utility in reducing the need for antibiotic use early in life and as a prophylactic therapy against the onset of cold and influenza symptoms.

G. Gorlato, M. Canciani, Udine, Italy

References