

# Effect of long term consumption of probiotic milk on infections in children attending day care centres: double blind, randomised trial

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## Abstract

### Objective

To examine whether long term consumption of a probiotic milk could reduce gastrointestinal and respiratory infections in children in day care centres.

### Design

Randomised, double blind, placebo controlled study over seven months.

### Setting

18 day care centres in Helsinki, Finland.

### Participants

571 healthy children aged 1-6 years: 282 (mean (SD) age 4.6 (1.5) years) in the intervention group and 289 (mean (SD) age 4.4 (1.5) years) in the control group.

### Intervention

Milk with or without *Lactobacillus* GG. Average daily consumption of milk in both groups was 260 ml.

### Main outcome measures

Number of days with respiratory and gastrointestinal symptoms, absences from day care because of illness, respiratory tract infections diagnosed by a doctor, and course of antibiotics.

### Results

Children in the *Lactobacillus* group had fewer days of absence from day care because of illness (4.9 (95% confidence interval 4.4 to 5.5) v 5.8 (5.3 to 6.4) days, 16% difference, P=0.03; age adjusted 5.1 (4.6 to 5.6) v 5.7 (5.2 to 6.3) days, 11% difference, P=0.09). There was also a relative reduction of 17% in the number of children suffering from respiratory infections with complications and lower respiratory tract infections (unadjusted absolute % reduction -8.6 (-17.2 to -0.1), P=0.05; age adjusted odds ratio 0.75 (0.52 to 1.09), P=0.13) and a 19% relative reduction in antibiotic treatments for respiratory infection (unadjusted absolute % reduction -9.6 (-18.2 to -1.0), P=0.03; adjusted odds ratio 0.72 (0.50 to 1.03), P=0.08) in the *Lactobacillus* group.

### Conclusions

*Lactobacillus* GG may reduce respiratory infections and their severity among children. The effects of the probiotic *Lactobacillus* GG were modest but consistently in the same direction.

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