
Abstract
OBJECTIVE:
The incidence of nosocomial infections, predominantly gastrointestinal and respiratory, in children in developed countries is high, ranging from 5% to 44%. There is no effective strategy for preventing these infections. The objective of our study was to investigate the role of Lactobacillus GG (LGG) in preventing nosocomial gastrointestinal and respiratory tract infections at a pediatric hospital.

METHODS:
We conducted a randomized, double-blind, placebo-controlled trial of 742 hospitalized children. They were randomly allocated to receive for their hospitalization LGG at a dose of 10(9) colony-forming units in 100 mL of a fermented milk product (LGG group, n = 376) or placebo that was the same postpasteurized fermented milk product without LGG (placebo group, n = 366).

RESULTS:
In the LGG group, compared with the placebo group, we found a significantly reduced risk for gastrointestinal infections (relative risk [RR]: 0.40 [95% confidence interval (CI): 0.25-0.70]; number needed to treat: 15 [95% CI: 9-34]), respiratory tract infections (RR: 0.38 [95% CI: 0.18-0.85]; number needed to treat: 30 [95% CI: 16-159]), vomiting episodes (RR: 0.5 [95% CI: 0.3-0.9]), diarrheal episodes (RR: 0.24 [95% CI: 0.10-0.50]), episodes of gastrointestinal infections that lasted >2 days (RR: 0.40 [95% CI: 0.25-0.70]), and episodes of respiratory tract infections that lasted >3 days (RR: 0.4 [95% CI: 0.2-0.9]). Groups did not differ in hospitalization duration (P = .1).

CONCLUSIONS:
LGG administration can be recommended as a valid measure for decreasing the risk for nosocomial gastrointestinal and respiratory tract infections in pediatric facilities.