

# **Meta-analysis of probiotics for the prevention of traveler's diarrhea (Abstract)**

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## **Summary**

### Background

Traveler's diarrhea (TD) is a common health complaint among travelers. Rates of TD can range from 5% to 50%, depending on the destination. The use of probiotics for this disease remains controversial. The objective of this study was to compare the efficacy of probiotics for the prevention of TD based on published randomized, controlled clinical trials.

### Methods

PubMed, Google Scholar, metaRegister, NIH registry of clinical trials and Cochrane Central Register of Controlled Trials were searched from 1977 to 2005, unrestricted by language. Secondary searches of reference lists, authors, reviews, commentaries, associated diseases, books and meeting abstracts. Inclusion criteria included: randomization, controlled, blinded, efficacy trials, in humans, peer-reviewed journals. Exclusion criteria were: pre-clinical, safety, phase 1 studies in volunteers, reviews, duplicate reports, trials of unspecified probiotics, trials of prebiotics, and inconsistent outcome measures.

### Results

Twelve of 940 screened studies met the inclusion and exclusion criteria. The pooled relative risk indicates that probiotics significantly prevent TD (RR=0.85, 95% CI 0.79,0.91,  $p<0.001$ ).

### Conclusion

Several probiotics (*Saccharomyces boulardii* and a mixture of *Lactobacillus acidophilus* and *Bifidobacterium bifidum*) had significant efficacy. No serious adverse reactions were reported in the 12 trials. Probiotics may offer a safe and effective method to prevent TD.

**Keywords:** Randomized; Clinical trials; Saccharomyces; Lactobacillus; Bifidobacterium; Streptococcus

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