

Probiotics May Prevent Antibiotic-Associated Diarrhea

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Medscape Medical News 2002. © 2002 Medscape

June 13, 2002 — The probiotics *Lactobacilli* and *Saccharomyces boulardii* were better than placebo in preventing antibiotic-associated diarrhea, according to a meta-analysis of 9 trials reported in the June 8 issue of the *British Medical Journal*.

"Probiotics have proved useful in preventing diarrhea, but the number of clinical trials is limited and further controlled trials using different probiotics are needed," write Frederic Barbut and Jean Luc Meynard, from Hôpital Saint-Antoine in Paris, in an accompanying editorial. "The key measure for preventing antibiotic-associated diarrhea, however, is to limit antibiotic use."

Theoretical advantages of probiotics include relatively low cost and few adverse effects, as well as increasing commercial availability as capsules and yogurt-based drinks.

In this meta-analysis, the investigators identified 9 randomized, double-blind, placebo-controlled trials of probiotics by searching MEDLINE between 1966 and 2000, and the Cochrane Library. The results of these searches included 2 studies investigating the effects of probiotics in children, 4 using the yeast *S boulardii*, 4 using *Lactobacilli*, 1 using a strain of enterococcus-producing lactic acid, and 3 using a combination of probiotic strains of bacteria.

The odds ratio favoring active treatment over placebo in preventing diarrhea associated with antibiotics was 0.39 (95% confidence interval [CI], 0.25-0.62; $P < .001$) for the yeast and 0.34 (CI, 0.19-0.61; $P < .01$) for *Lactobacilli*. The combined odds ratio was 0.37 (CI, 0.26-0.53; $P < .001$).

"Our meta-analysis of 9 trials shows that biotherapeutic agents may be useful in preventing antibiotic-associated diarrhea, but it provides little support for a role of probiotics in the treatment of such diarrhea," write Aloysius L. D'Souza and colleagues from the Imperial College School of Medicine and Hammersmith Hospital in London. "A further large trial in which probiotics are used as preventive agents should look at the costs of and need for routine use of these agents."

Study limitations noted by the authors include the small number of trials in the meta-analysis and different antibiotics used in the trials, which may have altered the risk of diarrhea and response to the probiotics.

BMJ. 2002;324:1361-1364, 1345-1346

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