Effectiveness of probiotics in the treatment of irritable bowel syndrome
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CRD summary
The authors concluded that probiotics may improve symptoms in patients with irritable bowel syndrome, but that benefits were uncertain and further research was required. The authors' cautious conclusion appeared to reflect the evidence presented, but the limited search, lack of reporting of review methods and an incomplete validity assessment made it difficult to comment on reliability.

Authors' objectives
To evaluate the effectiveness of probiotics in providing global relief in patients with irritable bowel syndrome (IBS).

Searching
MEDLINE was searched from inception to October 2007. Search terms were reported. In addition, reference lists of articles were screened.

Study selection
Blinded, placebo-controlled trials that compared probiotics with placebo in adults with irritable bowel syndrome were eligible for inclusion. Studies in children were excluded. The review assessed global symptoms, abdominal pain and distension, flatulence, colonic transit time, bowel habits and bacterial counts.

The included studies evaluated a variety of different probiotics (details were reported). Where reported, patients included people with Rome I and II criteria, Manning criteria, diarrhoea-predominant irritable bowel syndrome and constipation-predominant irritable bowel syndrome. Most patients in most studies were female (range 60 to 100 per cent). In most studies the mean age ranged from 40 to 49 years; in one study patients were aged 25 to 70 years. Studies used different methods to assess outcomes; symptom scores were measured subjectively by patients or clinicians. In most studies, the duration of treatment was eight weeks or less.

The authors stated neither how papers were selected for the review nor how many reviewers performed the selection.

Assessment of study quality
Only blinded RCTs were included. The authors did not state that they assessed any other aspect of validity.

Data extraction
The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction. For each study, the level of statistical significance was presented for reported outcomes.

Methods of synthesis
The studies were grouped by outcome and combined in a narrative synthesis. Details were also presented in tables.

Results of the review
Fourteen RCTs were included (n=1,258). Sample size ranged from 12 to 362.

Significant improvements were reported for probiotic groups compared to placebo in seven of 11 studies that assessed global symptoms, five of eight studies that assessed abdominal pain or distension and four of five studies that assessed flatulence. Results from four studies that assessed transit time or bowel habits were mixed.

Authors' conclusions
Probiotics may improve symptoms in patients with irritable bowel syndrome, but benefits were unclear and further research was required.
CRD commentary
The review question was clearly stated. Inclusion criteria were defined for study design, intervention and control and participants. Limiting the search to studies identified in one database plus references may have missed other relevant studies and risked publication bias. It was not clear if attempts were made to minimise language bias. Methods used to select studies and extract data were not described, so it was not known whether efforts were made to reduce reviewer errors and bias. Only studies that used some level of blinding were eligible, but no other aspect of study validity was assessed and so results from these studies and any synthesis may not be reliable. In view of the diversity among studies, a narrative synthesis was appropriate. The authors’ cautious conclusion appeared to reflect the evidence presented, but the limited search, lack of reporting of review methods and the incomplete validity assessment made it difficult to comment on reliability.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further research was required to evaluate probiotics in patients with constipation-predominant irritable bowel syndrome, and to assess long-term standardised outcomes using validated scales (including quality of life). Studies should be long-term, blinded and apply strict specified dietary restrictions.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.