Authors' objectives
To evaluate the efficacy of mind-body therapies for the treatment of gastrointestinal (GI) disorders.

Searching
An initial broad search (described in the report) was used to scope the mind-body literature. This informed a subsequent search focused on interventions for GI problems: MEDLINE, EMBASE, HealthSTAR, AMED, MANTIS, Psychological Abstracts, the Science Citation Index, the Social Sciences Citation Index and CINAHL were searched. The search dates and strategies were provided in the report. The reference lists in review articles and selected publications were examined for additional studies.

Study selection
Study designs of evaluations included in the review
Studies with a controlled trial design were eligible. Randomised controlled trials and controlled clinical trials were included in the review.

Specific interventions included in the review
Mind-body therapies recognised by the U.S. National Centre for Complimentary and Alternative Medicine were eligible. The interventions included were biofeedback, relaxation therapy, behavioural therapy, cognitive therapy, guided imagery, hypnosis, placebo as therapy and multimodal (combination) therapies. The nature of these therapies was described in the report.

Participants included in the review
Participants with GI problems were eligible. Adults and children were included. The GI conditions included irritable bowel syndrome, faecal incontinence or encopresis, constipation, nausea or vomiting, ulcers, ulcerative colitis, abdominal pain and GI distress.

Outcomes assessed in the review
The inclusion criteria were not defined. The actual outcome measures included physical and psychological test outcomes. The outcomes were summarised as benefit in the review.

How were decisions on the relevance of primary studies made?
Two reviewers independently assessed the studies that were identified, and resolved any disagreements by consensus.

Assessment of study quality
The studies were scored for quality using the instrument developed by Jadad et al. A score of 3 or more out of a possible 5 was rated as good quality. The authors do not state how the papers were assessed for quality, or how many of the reviewers performed the quality assessment.

Data extraction
The data were extracted using a standard form. The authors do not state how many of the reviewers performed the data extraction. Data were extracted on the outcomes reported, the method of measurement and the length of the interval over which the outcomes were measured.

Methods of synthesis
How were the studies combined?
A narrative synthesis was undertaken.

**How were differences between studies investigated?**
The studies were not combined statistically because of heterogeneity among the patients and outcomes. The studies were grouped in the narrative synthesis by type of intervention. Differences in the population, interventions and outcomes were tabulated. Differences in study quality were highlighted in the text and the quality scores for each study were tabulated.

**Results of the review**
Fifty-three studies were included.

Only 15 of the included studies were of good quality (a Jadad score of at least 3 out of 5). Forty studies had insufficient power to detect even a large effect size (i.e. fewer than 25 patients in each group).

Two out of 4 studies in adults reported a significant benefit with biofeedback compared with no biofeedback, although both were of a poor quality. Seven studies in children showed no benefit (5 were of a poor quality). Six studies with some form of biofeedback in all treatment groups reported mixed results.

Six out of 7 studies reported benefit with hypnosis compared with no hypnosis. One study showed some benefit with hypnotherapy compared to an audiotape. All were of a poor quality.

Six out of 8 studies reported a benefit of relaxation therapy compared with no relaxation therapy. All except one study were of a poor quality.

All 8 studies of behavioural therapy reported a benefit compared with no behavioural therapy (6 studies; 4 of a poor quality) or other interventions or standard care (2 studies; one of good quality, Jadad score 4).

Four studies reported a significant benefit with cognitive therapy versus no cognitive therapy. Three studies were of a poor quality.

One of 2 studies reported a significant benefit with guided imagery compared with no guided imagery. Both studies were rated as good quality (Jadad score 3).

One study of placebo therapy (rather than placebo control) was included. It showed no significant benefit compared with medication in diverticular disease. The quality of this study was rated as good (Jadad score 3).

Various multimodal therapies were tested in 5 studies. Their findings were described in detail in the report.

**Authors’ conclusions**
There is no evidence to support the efficacy of biofeedback in children, while for adults the evidence is mixed. There are some data to support the efficacy of relaxation therapy, behavioural therapy, cognitive therapy and guided imagery for certain GI conditions. No conclusions could be drawn from the studies of hypnosis, because of their poor quality.

**CRD commentary**
The review question was selected from a wider body of literature on mind-body therapies for the treatment of health conditions. The report states the inclusion criteria used for the study design, participants and interventions, but not outcomes, and describes how they were derived. Several databases were searched and the strategies used were reported. Unpublished data do not appear to have been sought, so there could be publication bias in the review. The study selection process was performed in duplicate to minimise bias, and relevant characteristics of the included studies were tabulated clearly. The quality of the included studies was assessed using a validated tool, and study quality was taken into account in the results.

A narrative synthesis was appropriate given the differences between the studies, as would be expected from a broad
review question about a complex intervention that did not pre-define the outcomes of interest. The results from each study were described in detail in the report; the interested reader should refer to that rather than rely on the summary of the number of studies that reported benefit versus the number that did not. The authors’ conclusions are rightly cautious given that the validity of most of the included studies was doubtful. Applicability of the findings may be limited by the choice of eligible interventions to those recognised by one body in the USA.

**Implications of the review for practice and research**

**Practice:** The authors state that there is no evidence to support the efficacy of biofeedback therapy for children, and that for adults the evidence is inconsistent. There is some, but not conclusive, evidence of benefit associated with relaxation, behavioural and cognitive therapies and guided imagery.

Research: The authors state that future studies need to recruit adequate numbers from well-defined and clinically homogeneous populations. The studies should be randomised, blinded (where possible) and record outcomes that are meaningful to patients. Mind-body interventions should be compared with other potentially effective therapies and a convincing control. The reporting of the studies also needs to be improved.

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