Systematic review of psychological therapies for cancer patients: overview and recommendations for future research
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Authors' objectives
To evaluate the effectiveness of psychological therapies at reducing cancer patients' morbidity and mortality.

Searching
MEDLINE, PsycLIT, HealthPLAN and AMED were searched through December 1998; the search terms were provided. In addition, the bibliographies of all located, relevant papers were checked for further potentially relevant references. This process was performed iteratively, until no new potentially relevant references were identified. The review authors also contacted relevant research groups within the Cochrane Collaboration and other key authors (known or suggested by others) for relevant but currently unpublished studies. Only English language reports were included.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs) were included.

Specific interventions included in the review
Studies had to evaluate the effectiveness of psychological interventions in cancer patients. The included studies evaluated a variety of psychological therapies which targeted: anxiety; depression; general or overall affect; hostility; stress or distress; overall functional ability or quality of life; coping or control skills; vocational or domestic adjustment; interpersonal or social relationships; sexual or marital relationships; nausea; vomiting; pain; fatigue; overall physical symptoms; conditioned nausea; conditioned vomiting; survival; and immune outcomes.

Participants included in the review
The authors included studies of patients with cancer. The participants in these studies varied in their age, cancer site, disease stage and concurrent treatment(s).

Outcomes assessed in the review
To be included, the studies had to evaluate psychosocial, side-effect, immune or survival outcomes. A variety of outcomes were measured in the included studies, depending on the condition at which the psychological therapies were aimed.

How were decisions on the relevance of primary studies made?
Two individuals were trained in applying all the eligibility and classification systems. Both coders rated the first 350 papers considered eligible for inclusion. Agreement between the coders was assessed using the kappa statistic.

Assessment of study quality
Each RCT was rated against 10 indicators of internal validity: concealment of allocation, randomisation, blinding of the patients, blinding of care-providers, balancing of groups, monitoring of care-provider adherence, details on loss to follow-up, percentage of patients not in the analyses, intention to treat analysis, and blinded measurement of outcomes. A trial received a score of 3 points for each indicator entirely fulfilled, 2 points for each mostly fulfilled, 1 point for each mostly not fulfilled, and 0 points for each not fulfilled at all or with insufficient information for assessment. Consequently, each trial could achieve a maximum total score of 30 points. The quality of a trial was considered good if it had a total score greater than 20 points, fair if it scored 11 to 20 points, and poor if it scored less than 11 points. Around 10% of the papers that discussed intervention studies were randomly selected for double coding of their study characteristics and, where relevant, methodological quality. Agreement between the coders was assessed using the kappa statistic.
Data extraction
Two reviewers extracted the data.

Methods of synthesis
How were the studies combined?
Recommendations were made on the basis of a 'vote-count' approach, where the number of statistically significant trials for each type of intervention was compared with the total number of trials evaluating that intervention. Where the majority of studies were statistically significant and in favour of the intervention, a recommendation 'tentatively for' that intervention was made. Where the majority of studies were statistically non significant, a recommendation 'tentatively against' the intervention was made. When there was no clear majority, a recommendation of 'neither for nor against' was made. The included studies were further discussed in a narrative synthesis.

How were differences between studies investigated?
The authors did not formally assess heterogeneity, although differences between the included studies in terms of design and outcomes were discussed in the narrative summary.

Results of the review
One hundred and fifty-five RCTs were identified. Of these, a total of 82 provided sufficient data and were of sufficient methodological quality for inclusion in the review of effectiveness.

Thirty-four RCTs reported psychosocial outcomes, 28 RCTs reported physical side-effects, 10 reported conditioned side-effects, and 10 reported survival or immune outcomes.

The included RCTs scored between 11 and 21 points on study quality, of which only one was considered 'good quality' (81 were of 'fair' quality)

Overall, the recommendations were 'tentatively against' or 'neither for nor against' the majority of evaluated interventions on the majority of outcomes. Recommendations 'tentatively for' eight interventional approaches were made on certain outcomes:

group therapy for coping or control (4 studies; 3 statistically significant);
non-therapist-delivered interventions for stress or distress (1 study; statistically significant);
unstructured counselling for general affect, quality of life or functioning, and social relationships (2 studies; both statistically significant for each outcome);
structured counselling for stress or distress (1 study; statistically significant), quality of life or functioning (1 study; statistically significant) and social relationships (2 studies; both statistically significant);
guided imagery or visualisation for quality of life or functioning (1 study; statistically significant);
self-practice for conditioned nausea and conditioned vomiting (1 study; statistically significant for each outcome);
hypnosis for conditioned nausea and conditioned vomiting (1 study; statistically significant for each outcome);
music therapy for anxiety and general affect (1 study; statistically significant for each outcome).

Authors' conclusions
The authors concluded that, despite a body of literature that spans more than 40 years and includes more than 150 RCTs, it was not possible to make strong recommendations about the effectiveness of psychological intervention strategies on improving the outcomes of cancer patients.
CRD commentary
The scope of this review was broad and unfocused, which made it difficult for the authors to draw any firm conclusions. Limiting inclusion to only RCTs for the 'effectiveness review' was appropriate, but other inclusion criteria were less strictly defined. The search for relevant literature made use of several different sources and was appropriate to the review's objectives. The validity assessment was carried systematically, using a scale based upon published criteria. Most of the relevant data were extracted from the primary studies, though specific data regarding outcomes (other than statistical significance) was lacking. Two reviewers carried out the validity assessment and data extraction on a sample of papers to check for consistency, although it appears that the remaining papers were only assessed and extracted by a single reviewer; this may have introduced bias.

The narrative summary of the included studies was appropriate given the clear heterogeneity between the studies in terms of the interventions and outcomes. However, the use of 'vote count' meant that important information, such as the magnitude of any effect size, was neglected. Also, the review might have failed to detect the effects of certain therapies, owing to the identification of only one or two small trials that were inadequately powered to detect a small but clinically relevant effect. Considering the evidence presented, the authors’ cautiousness in not making any firm conclusions seems to have been appropriate.

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

Research: The authors made several recommendations for future research for specific therapies. More generally, they suggested how future trials could maximise their internal validity by describing the minimal standards that should be required in this field.

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