Status of psychological trials in breast cancer patients: a report of three meta-analyses
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CRD summary
The authors concluded that short-term treatments, with a focus on coping, might be more suitable for patients with early breast cancer, while patients with advanced breast cancer might benefit from longer interventions that emphasise support. The authors' cautious conclusions were based on subgroup analyses and, although the variables were predefined, these conclusions should be regarded as suggestions rather than definite.

Authors' objectives
To assess the clinical efficacy of psychological interventions on anxiety, depression, and quality of life in patients with breast cancer.

Searching
MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL), PsycLIT, Biological Abstracts, CANCERLIT, CINAHL, and HealthSTAR were searched for publications in any language. Search dates varied across sources, spanning 1966 to January 2004. Search terms were reported. There were no language or publication status restrictions. Reference lists of two meta-analyses, all identified trials, and one academic textbook were handsearched.

Study selection
Randomised controlled trials (RCTs) that evaluated the efficacy of a psychological or behavioural intervention on psychiatric or psychological morbidity (anxiety, depression, and/or quality of life) were eligible for inclusion. Patients had to be women with a histologically confirmed diagnosis of breast carcinoma at any stage and to have undergone surgery. Trials had to include at least two arms (an intervention and a control), with those randomised to the control arm receiving minimal treatment judged not to impact on psychological morbidity. Trials that examined interventions aimed at alleviating surgical distress were excluded.

In the included trials, the treatment duration varied and ranged from four to 78 hours. Patient ages ranged from 25 to 73 years. Patient morbidity was low in most of the trials. The treatments varied and included: cognitive-behavioural interventions, supportive-expressive therapies, guided imagery and relaxation, biofeedback, and educational interventions; most of them were group interventions. The outcome measures included: anxiety, depression, and quality of life. Trials used different methods to measure these outcomes.

The authors did not state how many reviewers assessed studies for inclusion.

Assessment of study quality
Two reviewers independently assessed trial quality using the Cook and Campbell, and Jadad quality criteria. The key criteria assessed the adequacy of randomisation, description of drop-outs or withdrawals, treatment according to a manual, uniformity of treatment, sample size, and control for potential demoralisation of patients. Trials could score a maximum of seven points.

Data extraction
Data on trial outcomes, type of psychometric tool used, and mean changes from before to after treatment were extracted independently by two reviewers. Disagreements were resolved by consensus.

Methods of synthesis
Pooled standardised mean differences with 95% confidence intervals were calculated using random-effects and fixed-effect models. Homogeneity was assessed using X² tests and forest plots. Publication bias was assessed using a funnel plot and by computation of Rosenthal's fail-safe N. Sensitivity analysis was performed to assess the impact of trial quality on the outcomes. Subgroup analysis was performed to test the interaction between predefined variables (prognosis, and treatment type, method, and duration) and treatment effects.
Results of the review

Eighteen RCTs were included and eight of them had a quality score of five or more and were considered to be of good quality.

Anxiety (n=1,278 patients, 14 RCTs): Psychological or behavioural interventions, compared with control, were associated with a significant reduction in anxiety (SMD -0.40, 95% CI -0.72 to -0.08). The $X^2$ test indicated significant heterogeneity (p<0.00001), but no evidence of publication bias was found.

Depression (n=1,324, 14 RCTs): The interventions, compared with control, were associated with a significant reduction in depression (SMD -1.01, 95% CI -1.48 to -0.54). The $X^2$ test indicated significant heterogeneity (p<0.00001) and evidence of publication bias was present.

Quality of life (n=623, seven RCTs): The interventions did not have any effect on the quality of life (SMD 0.74, 95% CI 0.12 to 1.37). The $X^2$ test indicated significant heterogeneity (p<0.00001) and the detection of publication bias was not reliable, with the small number of trials.

Mixed results were reported for the subgroup analyses and these details were reported in the paper.

Authors' conclusions

Short-term treatments with a focus on coping might be more suitable for patients with early breast cancer, while patients with advanced breast cancer appeared to benefit from longer interventions that emphasised support.

CRD commentary

The review question was clearly stated. Several relevant databases were searched and attempts were made to locate unpublished papers. The data extraction and quality assessment were conducted by two people, reducing the risk of reviewer error and bias, but it was unclear whether similar steps were taken in selecting trials. Trial quality was assessed, using appropriate criteria, and the results were used to explore heterogeneity. Significant heterogeneity across trials was present for a number of analyses, making the reliability of the pooled results uncertain.

The authors' cautious conclusions were based on subgroup analyses and, although the variables were predefined, the conclusions should be regarded as suggestions rather than definite.

Implications of the review for practice and research

Practice: The authors stated that group therapy might be more effective than individual therapy in the treatment of anxiety or depression.

Research: The authors stated that future psycho-oncology trials should: use methods that enhance their internal validity; include a group of patients who are distressed to compare with patients treated before distress; investigate the impact of timing of treatment; and compare couple-based with group-based interventions.

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