Mindfulness-based stress reduction as supportive therapy in cancer care: systematic review
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CRD summary
This well-conducted review determined the effectiveness of mindfulness-based stress reduction (MBSR) for supportive therapy in patients with cancer. It concluded that MBSR has the potential to be clinically useful, although further research is needed. Limitations in the evidence presented suggest that the authors may have overstated the potential benefit of MBSR. Further research is warranted.

Authors’ objectives
To review the effectiveness of mindfulness-based stress reduction (MBSR) therapy for cancer supportive care.

Searching
MEDLINE, EMBASE, AMED, CISCOM, CINAHL, PsycINFO, British Nursing Index and the Cochrane Library (including the Cochrane Complementary Medicine Field Trials Registry) were searched for studies indexed up to May 2004; the search terms were reported. Unpublished and ongoing studies were identified by searching the National Research Register and ClinicalTrials.gov, and by contacting experts. The reference lists of relevant articles were also checked. No language restrictions were imposed.

Study selection
Study designs of evaluations included in the review
All study designs, including qualitative studies, were eligible for inclusion.

Specific interventions included in the review
Studies of MBSR therapy as an explicit intervention, mindfulness meditation therapy alone, or mindfulness meditation as part of a modified psychological intervention, were eligible for inclusion. The included studies varied in the number of sessions, duration of sessions, content and cointerventions. The comparators included usual care, various stress management activities and waiting-list controls.

Participants included in the review
Studies of participants with a primary diagnosis of cancer were eligible for inclusion. The included studies were of participants with mixed cancer diagnoses, and those with cancer of the breast or prostate alone. Studies of those with cancer and their partners were also included.

Outcomes assessed in the review
Studies that reported subjective well-being, quality of life and physical functioning (pain and mobility), physiological measures (stress, anxiety or coping) and physical measures (blood tests, saliva samples for tumour markers or immunological function) were eligible for inclusion.

How were decisions on the relevance of primary studies made?
Two reviewers independently determined the relevance of included studies.

Assessment of study quality
Each included study underwent a critical appraisal, but the exact criteria used were not reported. The validity factors reported on included randomisation procedure, use of sample size calculation, loss to follow-up, compliance, statistical analysis, and description of the intervention and control groups.

Two reviewers independently performed the critical appraisal. Any disagreements were resolved by discussion or, where necessary, by contacting a third reviewer.
Data extraction
Two reviewers independently extracted the data from each included study. Any disagreements were resolved by discussion or, where necessary, by contacting a third reviewer. Data were extracted on the study methodology and results using a standardised data extraction and critical appraisal (DECA) form.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative, grouped by study design.

How were differences between studies investigated?
Differences between the studies were apparent from inspection of the tabulated studies.

Results of the review
Three randomised controlled trials (RCTs) and seven uncontrolled studies were included in the review.

Most of the included studies had methodological limitations: small sample size, lack of a control group, and poor reporting of sampling and recruitment methods, reasons for losses to follow-up, and specific details of the MBSR intervention.

RCTs. One study showed no statistically significant difference between MBSR and control in mood or stress though a significant relationship was shown between class attendance and beneficial outcome, although this was not a between-groups comparison. One study showed no difference in sleep efficacy, but a significant relationship was shown between MBSR practice and a beneficial effect over time (the outcome for which there was a beneficial outcome was unclear and this seemed to be a within-group comparison). The results of one study are not yet available.

Uncontrolled studies.
Most of the uncontrolled studies showed some improvement in outcome (including function, fatigue, relaxation, pain and mood) following MBSR.

Authors’ conclusions
MBSR has the potential to be a clinically useful self-administered intervention for cancer patients. Further research is needed to determine its efficacy, feasibility and safety in cancer patients.

CRD commentary
The review addressed a clear research question that was supported by defined inclusion criteria. Several relevant databases were searched for relevant studies, and attempts were made to locate unpublished studies and minimise language bias; this led to the inclusion of both published and unpublished studies. Methods were used to minimise bias in the study selection, validity assessment and data abstraction processes. Although the review did not report specific details of the validity assessment, adequate details on study methodology were reported and a commentary on the clinical relevance of intervention and practical issues of each included study was provided. There were adequate details on each study and these highlighted the clinical and methodologically differences across studies. The authors also discussed, in detail, methodology and practical application of the studies.

Overall, this was a well-conducted systematic review. However, in their conclusion, the authors may have overstated the potential of the evidence to support the use of MBSR, given that the benefit seemed apparent in the uncontrolled studies and not the RCTs.

Implications of the review for practice and research
Practice: The authors stated that nurses should only consider the integration of MBSR into practice in the context of methodologically rigorous research.

Research: The authors stated that further research needs to consider the appropriateness and feasibility of MBSR for patients with different characteristics, and to evaluate MBSR in comparison with other interventions as part of standard care or with other treatment packages. The effectiveness of core elements of MBSR should also be compared.

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