
Mindfulness-based interventions for chronic pain: a systematic review of the evidence

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CRD summary

This review concluded that there was insufficient evidence to determine whether mindfulness-based interventions could be more efficacious than non-specific interventions such as social support and educational groups for the reduction of pain and depressive symptoms in patients with chronic pain. Given the limited quality and quantity of available evidence, this conclusion appears to be reliable.

Authors' objectives

To review controlled studies investigating the efficacy of mindfulness-based interventions for the reduction of pain and/or the improvement of depressive symptoms in patients with chronic pain

Searching

MEDLINE, Web of Knowledge and The Cochrane Library were searched to July 2009 for relevant publications in English. Search terms were reported. Reference lists of retrieved articles were examined for further relevant publications.

Study selection

Controlled studies of mindfulness-based interventions in patients suffering from chronic pain were eligible for inclusion in the review. Studies had to report quantitative data for at least one measure of pain and/or depression.

Included studies compared mindfulness-based interventions against waiting list controls, social support group, progressive muscle relaxation/gentle stretching and cognitive behavioural therapy (CBT). Participants had fibromyalgia, musculoskeletal pain, rheumatoid arthritis, chronic low back pain or various other types of chronic pain. Mindfulness-based intervention treatment intensity ranged from 90 to 150 minutes per session over eight to 10 weeks, with or without an additional day-long retreat.

Assessment of study quality

Two authors independently assessed study quality on a five-point scale of randomisation process, handling of dropouts/withdrawals and blinding. Studies that scored 3 or more were considered to be moderate to high quality. Disagreements were resolved by consensus.

Data extraction

Two authors independently extracted data on key study characteristics and outcomes. Disagreements were resolved by consensus.

Methods of synthesis

Studies were combined in a narrative synthesis.

Results of the review

Ten studies were included in the review: six randomised controlled trials (491 participants) and four non-randomised studies (460 participants). Five studies scored 3 points on the quality assessment scale. Length of follow-up ranged from the end of treatment to three years.

Pain (seven studies): Four studies found significantly greater improvements for mindfulness-based interventions than the comparison group (waiting list or progressive muscle relaxation). One study with three arms (mindfulness-based interventions, CBT and a support group) found mindfulness-based interventions to be superior to the support (educational) group but inferior to CBT. Two further studies found no significant difference between mindfulness-based interventions plus qigong and educational or between mindfulness-based interventions and massage/waiting list.

Depression (six studies): Four studies found significantly greater improvements for mindfulness-based interventions than a comparison group (waiting list or progressive muscle relaxation). But other studies reported no significant benefit

for mindfulness-based interventions relative to CBT or an educational support group (whether the mindfulness-based intervention was delivered alone or in combination with qigong).

Further findings on coping with pain, physical function, stress reduction and quality of life were discussed in the article.

Authors' conclusions

There was insufficient evidence to determine whether mindfulness-based interventions could be more efficacious than non-specific interventions such as social support and educational groups for reduction of pain and depressive symptoms in patients with chronic pain.

CRD commentary

The review question was supported by appropriate selection criteria. The authors made efforts to minimise errors and bias during data extraction and study quality assessment. It was unclear whether the search missed relevant studies due to the restriction to studies in English but it seems unlikely that such studies would dramatically change the overall conclusions of the review.

The authors concluded that there was insufficient evidence to determine whether mindfulness-based interventions could be more efficacious than non-specific interventions. This conclusion appears reliable given the large differences between studies in diseases and types of comparator and the inconsistency of observed effects.

Implications of the review for practice and research

Practice: None stated.

Research: The authors state a need for larger properly powered studies that used standardised mindfulness-based interventions in homogeneous patient samples with appropriate outcome measures.

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