
The effects of mindfulness-based stress reduction on sleep disturbance: a systematic review

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CRD summary

The authors concluded that limited evidence suggested mindfulness-based stress reduction interventions (MBSR) may improve sleep, but more research was required. Despite limitations of this review, the authors' conclusions appeared reasonable.

Authors' objectives

To evaluate the effects of mindfulness-based stress reduction (MBSR) interventions on sleep disturbance.

Searching

MEDLINE (from 1966), Allied and Complementary Medicine Database (from 1985), CINAHL (from 1982), PsycINFO (from 1985), Digital Dissertations and Cochrane Central Register of Controlled Trials were searched to 2006 for studies reported in English. Search terms were reported. Reference lists of identified studies and reviews were screened.

Study selection

Studies that evaluated the effects of multiple sessions of MBSR and reported pre- and post-intervention values for measures of sleep quality or duration were eligible for inclusion. Studies that evaluated multicomponent interventions were excluded. The review classified interventions as MBSR if they used a group format, involved meditative exercises and home practice and aimed at lifelong practice. The review included two studies that did not describe their intervention as MBSR, but which met the criteria.

Most of the included studies were in patients with chronic disease (including cancer, fibromyalgia and organ transplant). Most patients were women. The mean age ranged from 46 to 57 years. The duration of MBSR interventions ranged from 6 to 10 weeks. The studies used a variety of outcome measures including the validated Pittsburgh Sleep Quality Index (PSQI), a one-item questionnaire and sleep diaries. Control interventions, where they existed, were inactive.

Two reviewers independently selected studies.

Assessment of study quality

Studies were apparently assessed for percentage of completers, blinding and the equivalence of control groups. The authors did not state how the validity assessment was performed.

Data extraction

The authors stated neither how data were extracted for the review nor how many reviewers performed the data extraction.

Methods of synthesis

The studies were grouped by outcome measure and combined in narrative synthesis. The relationship between the amount of home practice and sleep outcome measures was assessed.

Results of the review

Seven studies were included (n=483): three studies with a control group (n=325) and four uncontrolled studies (n=158). Treatment groups ranged in size from 16 to 115.

Two studies reported drop-out rates of 45% and 34%. All of the controlled studies used unblinded and non-equivalent control groups.

Four uncontrolled studies reported that MBSR was associated with a statistically significant improvement in measures of sleep quality or duration.

The three controlled studies reported no statistically significant difference in sleep measures between treatment and control groups.

Two of the three studies that assessed the relationship between the amount of home practice and sleep outcome measures reported a positive relationship.

Authors' conclusions

Limited evidence suggested that MBSR may improve sleep, but more research was required.

CRD commentary

The review question was stated and inclusion criteria for intervention and outcomes were defined. Inclusion criteria for participants and study design were broad. Several relevant sources were searched. Attempts were made to minimise publication bias, but no attempt was made to minimise language bias and so other relevant studies may have been missed. Appropriate methods were used to minimise reviewer error and bias during the study selection process, but data extraction methods were not reported. Some aspects of validity were reported. The decision to combine data in a narrative synthesis was understandable given the diversity of the outcome data, but no information was given about the magnitude of the treatment effect. Evidence was based on poor-quality studies, predominantly in participants with chronic disease and undefined sleep problems; it was, therefore, very limited. Despite the limitations of this review, the authors' conclusions appeared reasonable.

Implications of the review for practice and research

Practice: The authors did not state any implications for practice.

Research: The authors stated that there was a need for adequately powered randomised controlled studies that evaluated the effects of standardised MBSR interventions (and paid attention to the home practice element), used active control interventions, assessed standardised sleep measures and adequately described the type and severity of patients' sleep problems.

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