Interventions
Articles testing the applied science and implementation of mindfulness-based interventions


Pérez-Fernández, J. I., Salaberria, K., & Ruiz de Ocenda, Á. (2022). Mindfulness-Based Pain Management (MBPM) for Chronic Pain: A Randomized Clinical Trial. Mindfulness. [link]


Wang, L., Chen, X., Peng, Y., ... & Gu, C. (2022). Effect of a 4-Week Internet-Delivered Mindfulness-Based Cancer Recovery Intervention on the Symptom Burden and Quality of Life of Patients With Breast Cancer: Randomized Controlled Trial. Journal of Medical Internet Research. [link]


Ghanbari Noshari, M., Kempton, H. M., & Kreplin, U. (2022). Mindfulness or expectancy? The label of mindfulness leads to expectancy effects. Counselling and Psychotherapy Research. [link]

among a racially/ethnically diverse population. *Sleep Health.* [link]


**Methods**

*Articles developing empirical procedures to advance the measurement and methodology*


**Featured Articles**


**Highlights**

By Seth Segall, Ph.D.


None reported.
Many older adults suffer from chronic arthritic knee pain. Over 700,000 Americans undergo total knee replacement surgery every year. While most patients benefit from knee replacement, up to a third of patients report persistent post-operative pain. Pester et al. [Pain Medicine] conducted a pilot trial to test whether a brief mindfulness-based program reduces postoperative pain levels in a sample of patients undergoing total knee replacement.

The study recruited a sample of 22 Boston-area patients (age = 68 years; 55% female; 82% Caucasian) planning to undergo knee replacement and willing to participate in a mindfulness training intervention with a matched control sample of 22 Boston-area patients (age = 66 years; 55% female; 91% Caucasian) participating in a larger knee replacement study not involving mindfulness training. The samples were matched on age, arthritis diagnosis, stable medication dosage, and English language proficiency as well as the absence of a variety of comorbid conditions (substance abuse, sleep disorder, autoimmune disease, neuropathy, dementia, and psychosis).

The mindfulness program was called Mindfulness-Based Cognitive Behavioral Therapy and was delivered in four single-hour sessions. The first and last sessions were delivered in person, and the second and third sessions were delivered via telephone. The first two sessions were delivered pre-surgically and the last two sessions post-surgically. All sessions were taught by a clinical pain psychologist. The program included in-session practice and homework involving the body scan, sitting meditation, and lovingkindness meditation as well as cognitive-behavioral psychoeducation focusing on pacing physical activity, coping strategies, and avoiding catastrophizing about pain. The control group received knee surgery care treatment as usual.

Participants were assessed at baseline, six-weeks, and 3-and-6 months post-surgically on self-report measures of pain severity, catastrophizing, and interference with activities of daily living as well as measures of depression, and anxiety.

The results indicated that the mindfulness group showed a significantly lower pain score than controls at six weeks (partial η²=.12) with a non-significant trend towards reduced pain interference in their daily activities compared to controls (partial η²=.08). An analysis of within-group effects at six weeks showed the mindfulness group experienced significantly reduced pain levels compared to their own baseline (partial η²=.33) but controls did not (partial η²=.00). The groups did not differ at 3- and 6-month follow-up when both groups showed significant large reductions in pain over baseline. This was to be expected given most post-surgical pain resolves on its own over time.

The mindfulness group showed a significant reduction in pain catastrophizing scores at six weeks compared to their own baseline, but the control group did not. There were no between-group or within-group changes in depression and anxiety. Reductions in pain catastrophizing scores were significantly associated with reductions in pain severity scores (r=.51).

The study shows that brief mindfulness training that includes elements of cognitive-behavioral therapy can reduce post-operative pain and speed recovery immediately after total knee replacement surgery. It appears this effect is due, at least in part, to a reduction in pain catastrophizing. The study is limited by its lack of randomization, small sample size, and reliance on a standard care control.
Sarcoidosis is a relatively rare multisystem immune disorder that causes inflamed lumps of tissue (called granulomas) to form and adhere to various body organs. Common symptoms include fatigue, lack of energy, shortness of breath, cough, and skin rashes/nodules. Treatment may involve the use of nonsteroidal anti-inflammatory drugs, corticosteroids, pulmonary rehabilitation, and/or physical training.

Kahlmann et al. [Lancet Respiratory Medicine] tested whether an online version of Mindfulness-Based Cognitive Therapy (eMBCT) reduces stress and fatigue in patients with sarcoidosis.

The study randomly assigned 99 Dutch adults with sarcoidosis (average age = 50 years; 59% female) who scored >21 points on a fatigue scale to receive standard care plus eMBCT or standard care alone. eMBCT is an 8-session online mindfulness-based cognitive therapy program initially designed to treat fatigue in cancer patients. Participants were deemed to have completed the program if they completed 6 of the 8 sessions within a six-month window. They were also encouraged to engage in additional audio-guided home practice 30-minutes a day, 6 days a week.

Seventy-eight percent of the participants who began eMBCT completed at least 6 sessions in six months. It should be also noted, however, that a third of the potential participants assigned to eMBCT declined participation following an initial explanation of what the program entailed. Many thought it too time-consuming or had negative associations with mindfulness. This high decline rate (and the COVID pandemic) caused researchers to change their assignment protocol midway through, assigning a higher proportion of participants to the eMBCT than initially planned.

Participants were assessed at baseline, after program completion (or for controls at 3 months) and at three months after completion (or for controls at six-month follow-up). The study primary outcome was a change in fatigue ratings. Secondary outcomes were changes in sarcoidosis health status, anxiety, depression, and mindfulness (Frieburg Mindfulness Inventory).

Results showed that by post-intervention, the fatigue levels in the eMBCT group decreased significantly from baseline (-4.5 points) while controls showed no such significant decline (-0.9 points). At six-month follow-up, eMBCT participants largely maintained their improvement (-4.0 from baseline), while controls slightly improved (-1.9 from baseline).

At post-intervention, 60% of the eMBCT group had a clinically meaningful improvement in fatigue level (defined by either a ≥ 4 point or 10% change) while only 26% of the controls had a clinically meaningful improvement.

Patients in the eMBCT group also showed significantly larger decreases in anxiety and depression and improvements in mindfulness and overall health status than controls at post-intervention and follow-up.

The study supports eMBCT as an effective treatment for reducing sarcoidosis-related fatigue. The study is limited by its reliance on a treatment-as-usual control instead of an active comparator. The fact that many mindfulness and control patients were assessed at different time intervals relative to the completion of the intervention also complicates study interpretation.