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


Kim, J. (2016). Effects of Buddhist ontology focused (BOF) meditation: Pilot study with mothers of children with developmental disabilities on their EEG and psychological well-beings. Asia Pacific Journal of Counselling and Psychotherapy. [link]


**METHODS**

Articles developing empirical procedures to advance the measurement and methodology of mindfulness


Medical University of South Carolina (T. Killeen, PI). Mindfulness meditation for the treatment of women with PTSD and SUD. NIH/NIDA project #5R01DA040968-02. [link]


VA Puget Sounds Healthcare System (D. Kearney, PI). A trial of loving kindness meditation and cognitive processing therapy for PTSD. Veterans Affairs project #5101CX000857-03. [link]
Physician compassion is a key element in good doctor-patient relationships. Nevertheless, nearly 50% of doctors and patients feel that medical care is often insufficiently compassionate. Between 20-70% of physicians suffer from compassion fatigue, a state of emotional exhaustion and diminished empathy brought on by the unceasing demands of patient care. As a consequence, medical educators are interested in finding ways to enhance compassion in medical students who are in training to become future physicians. Fernando et al. [Mindfulness] tested whether a set of audio-guided mindfulness exercises could increase medical students’ compassionate behaviors, and whether the exercises had differential effects depending on the students’ self-compassion levels.

The researchers recruited 83 medical students (54% female, average age=21) for what they were told was a study of “emotional and clinical decision making.” The students completed a self-report measure of self-compassion, a personality disposition that involves self-kindness, recognition of one’s common humanity, and mindful awareness. The students were then randomly assigned to listen to 10-minute audio recordings of either experiential mindfulness exercises or a speech on civic service. The mindfulness recording included an explanation of mindfulness and exercises involving mindfulness of the breath and of emotions. The students completed the Toronto Mindfulness Scale (TMS) after hearing the recordings.

Participants were then presented with a series of hypothetical clinical scenarios involving interactions with “difficult” patients. Participants rated how much they liked, wanted to help, and felt caring towards the patients, and their degree of subjective closeness to them. They also decided how much consultation time to allot to each of the patients. After being told the study was finished, the research assistant requested participants to help with an unrelated administrative task. The participants’ willingness to help with the task served as an objective measure of compassionate behavior.

Listening to the mindfulness recording resulted in higher TMS Decentering scores (a measure of one’s ability to disidentify from thoughts and feelings) than did listening to the civic service speech (partial $\eta^2=0.13$). Self-compassion scores were positively associated with liking the hypothetical patients (partial $\eta^2=0.05$), but listening to the mindfulness recording was not. However, students who listened to the civic service speech and were higher in self-compassion liked the patients more than those who listened to the speech and were low in self-compassion; there was no similar difference based on self-compassion for the students who listened to the mindfulness recording (partial $\eta^2=0.05$). The mindfulness recording increased their caring when students were low in self-compassion, and reduced their caring when they were high in self-compassion (partial $\eta^2=0.08$). Feelings of emotional closeness were associated with higher self-compassion for those who heard the civic service speech, but the mindfulness recording increased feelings of closeness for students who were lower in self-compassion (partial $\eta^2=0.09$). The mindfulness recording increased the likelihood of helping the research assistant when students were high in self-compassion, but not when they were less self-compassionate (partial $\eta^2=0.09$).

The study shows that brief mindfulness exercises can enhance decentering in medical students. The effects of the brief mindfulness recording on compassion to others seem to be moderated by pre-existing levels of self-compassion. While the
exercises facilitated caring for and liking the hypothetical patients when the students were low in self-compassion, it decreased aspects of compassion towards the patients when the students were high in self-compassion. The mindfulness exercises increased the likelihood of the students helping the research assistant, but only when the students were high in self-compassion. The study is limited by the very brief nature of its mindfulness recording.

Healthcare costs in the United States rose to over 17% of the Gross Domestic Product in 2015. Employers are increasingly turning to workplace-based lifestyle interventions to control employee healthcare costs. Mindfulness-based interventions (MBIs) are sometimes offered in workplaces to enhance employee self-care and decrease illness-causing stress. How well do workplace-based MBIs succeed in lowering employee healthcare utilization costs? Using a quasi-experimental design, Klatt et al. [Complementary Therapies in Medicine] retrospectively analyzed 5-year healthcare utilization and the associated costs for participants in a workplace-based MBI and a workplace-based didactic diet-and-exercise program. The researchers then compared these utilization rates and costs with those of matched controls drawn from a health care database.

A sample of 170 faculty and staff members from a large Midwestern university was recruited and randomly assigned to either a MBI or the diet-and-exercise (DE) intervention. The participants were selected, in part, on the basis of their high C-reactive protein levels (3.0-10.0 mg/ml), which are a known risk factor in cardiovascular disease. The MBI was an 8-week program modeled after MBSR, but truncated to fit a lunch hour schedule. The weekly workplace-based group meetings lasted 1 hour, recommended home practice was 20 minutes per day, yoga consisted of standing and chair yoga, and a 2-hour retreat replaced the usual “all day” session. The DE intervention consisted of a series of 8, 1-hour-long, group didactic sessions focusing on nutrition, diet, and exercise along with associated home readings. After the experiment was concluded, an additional cohort of 258 “controls” was selected from the university health plan database by matching the study participants as closely as possible on age, gender, relative health risk, and prior healthcare utilization. For statistical reasons, the researchers compared the MBI and DE interventions to the matched controls and not to each other.

The researchers analyzed university health plan records for participants and controls for the 5-year period after the interventions were completed. At the end of 5 years, both intervention groups had significantly fewer primary care visits than controls and trended towards fewer hospital visits and lower overall healthcare costs. Total MBI healthcare costs averaged $17,591, compared to $21,487 for DE participants and $25,788 for controls. On the other hand, MBI and DE participants used significantly more pharmacy prescriptions with significantly higher pharmacy costs. MBI participants spent an average of $7,286 on an average of 100 prescriptions per person compared to $10,398 for 94 prescriptions for DE participants and $4,729 for 3 prescriptions for controls.

The study shows a non-significant trend toward the workplace interventions lowering overall healthcare costs, with MBI participants averaging $8,197 less over 5 years than matched controls. MBI and DE participants were significantly less likely to visit their primary care doctors and trended towards being less likely to be hospitalized, but filled significantly more prescriptions. The study is limited by the possibility that the control cohort was not completely equivalent to the intervention groups, despite propensity matching. After all, the participants had volunteered for the intervention and made the commitment to attend, while the controls were passively selected from a database.