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


Lattimore, P. (2019). Mindfulness-based emotional eating awareness training: taking the emotional out of eating. Eat Weight Disord. [link]


ASSOCIATIONS

Articles examining the correlates and mechanisms of mindfulness


Keng, S.L., Ang, Q. (2019). Effects of mindfulness on negative affect, body dissatisfaction, and disordered eating urges. Mindfulness. [link]


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**REVIEWS**

*Articles reviewing content areas of mindfulness or conducting meta-analyses of published research*


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**TRIALS**

*Research studies newly funded by the National Institutes of Health (March 2019)*

Northwestern University at Chicago (D. Victorson, PI). *Reducing the effects of active surveillance stress, uncertainty, and rumination through engagement in mindfulness education*. NIH/NCI project #5R01CA193331-04. [link]
Highlights

A summary of select studies from the issue, providing a snapshot of some of the latest research

Most patients with mild-to-moderate psychological problems are diagnosed and treated in primary care rather than mental health settings. Many of these patients also suffer from physical disorders, or from physical symptoms caused or made worse by psychological factors. Mindfulness-based programs that reduce anxiety and depression and promote self-care are useful supplements to primary care treatments; however, existing barriers hinder their successful implementation. These barriers include limitations on staff time and training, staff unfamiliarity with mindfulness, and problems with insurance reimbursement.


The researchers randomly assigned 81 primary care patients (69% female; average age = 44; 78% Caucasian; 44% meditation naive) with anxiety, depressive, stress- or trauma-related disorders to either a Mindfulness Training for Primary Care (MTPC) program or a low-dose comparison group. If participants were already receiving psychological help in the primary care setting, they continued to receive it as usual.

MTPC is an 8-week group program based on Mindfulness-Based Cognitive Therapy that incorporates elements of self-compassion training, values clarification, and relapse prevention. MTPC and low dose comparison group participants were asked to develop a self-care plan together with their primary care providers during the sixth week of the program. MTPC group leaders were either appropriately trained mental health clinicians or primary care physicians, with the groups being tailored to meet the insurance requirements of each discipline.

The low dose comparison control consisted of a one-hour didactic/experiential introduction to mindfulness with information on how to access community and digital mindfulness resources. Low dose comparison participants were also placed on a 6-month MTPC waiting list. All participants were assessed at baseline and again at 8-weeks on self-report measures of anxiety, depression, perceived stress, self-efficacy, self-control, mindfulness (Five Facet Mindfulness Questionnaire), and self-compassion.

MTPC participants showed significant pre-post decreases in anxiety (d = -0.72), stress (d = -0.81), and depression (d = -0.40), as well as significant pre-post increases in self-efficacy (d = 0.43), self-compassion (d = 1.01), and mindfulness (d = 0.93). The low dose comparison participants showed a significant decrease in stress (d = -0.50). Three between-group differences reached statistical significance, with the MTPC group showing a greater decrease in anxiety and a greater increase in self-compassion and mindfulness than the controls. Based on self-ratings, MTPC participants were significantly more likely to have taken steps towards implementing their six-week self-care plan than low dose comparison participants (35% compared to 11%).

Over the course of 14 months, primary care physicians made 344 referrals to the program, with about a quarter of referred individuals actually enrolling. Most visits were paid for by insurance, although some patients were upset at unexpected out-of-pocket costs and copays. 65% of MTPC participants attended at least 6 of the 9 group sessions with 67% of MTPC participants and 70% of low dose comparison participants completing post-intervention assessments. The majority of MTPC participants (92%) who completed the final assessments said they would recommend the program to a friend. The only adverse event attributable to MTPC was a panic attack experienced by one participant during the 7-hour retreat.
This study provides evidence for the initial efficacy of delivering an insurance-reimbursable mindfulness program within a primary care setting. MTPC patients demonstrated a greater decrease in anxiety and larger increases in mindfulness and self-compassion than controls. The study is limited by its reliance on self-report measures, its lack of an attention-matched control, and its relatively high final questionnaire non-completion rate.

Little is known about the impact of many years of mindfulness practice on the body’s response to stress. Robb et al. [Complementary Medicine Research] conducted a pilot study that measured salivary cortisol levels in a group of long-term mindfulness practitioners. Salivary cortisol is a biological measure that is highly reactive to stress. The researchers predicted that morning cortisol levels would be lowest for meditators with the most meditative experience.

Salivary cortisol levels typically peak during the first hour after waking up, and then decline throughout the rest of the day. Morning cortisol levels tend to be higher when under acute stress, and tend to be lower in states of exhaustion and burnout following long-term stress.

The authors recruited 83 certified Mindfulness-Based Stress Reduction (MBRSR) teachers (73% female; 96% Caucasian; average age = 58; 92% with graduate degrees) to participate in the study. The participants completed an online questionnaire assessing a variety of health and lifestyle variables, perceived stress, and the extent of their meditation practice. They were then asked to produce a saliva sample upon first waking up, followed by 3 additional samples collected at 15-minute intervals. The total amount of cortisol produced during the first 45 minutes after awakening was then estimated using area under the curve (AUC) calculations.

The results showed that participants in the upper quartile of meditative experience (>26 years) had significantly higher (48%) total estimated morning cortisol amounts than those in the lowest (<10 years) quartile. The relationship between years of meditative experience and total morning cortisol remained significant when meditation experience was treated as a continuous variable.

In a closer examination of the data, this difference between participants in the upper and lower quartiles of meditative experience only remained significant when comparing the early risers (those who woke up before 6:30 AM). Highest-quartile early-risers’ cortisol levels were 202% higher than their lowest-quartile early-riser compatriots. In comparison, the highest-quartile late-risers’ cortisol levels were 40% lower than their lowest-quartile late-rising compatriots. This interaction effect between years of meditative experience and the hour participants woke up on cortisol levels fell short of statistical significance. Cortisol awakening response levels were unrelated to self-reported levels of perceived stress.

These results show that mindfulness meditators with the greatest number of practice years who wake up early have the highest total morning cortisol levels, thus contradicting the researchers’ expectations. Still, the meaning of these results is not clear. Cortisol levels are notoriously affected by many variables. It is not always evident whether higher cortisol levels indicate being more highly stressed, being less burned out, having a better adaptive response to stress, being more prepared to meet the demands of the day, or some other factor.

The researchers conclude that the results are intriguing enough to warrant further investigation. The study is limited by only measuring the cortisol awakening response and not looking at the slope of cortisol levels throughout the day. A complete daily slope might differentiate whether higher morning levels are due to increased stress or decreased burnout. Cortisol samples were obtained at home by participants which increases the possibility of collection error.
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