Integrating Mindfulness Into Psychology and Medicine: Growing Evidence and Emerging Mechanisms for How to Better Treat Stress-Related Disorders

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Stress is associated with many of the most common and costly mental and medical conditions facing society today. From depression, anxiety, insomnia, and chronic pain to obesity, diabetes, high blood pressure, and asthma, the perception of stress, and the biological pathways through which stress perceptions are conveyed throughout the body, afford a unique opportunity for psychologists to integrate mindfulness into health care and medicine. Mindfulness—which can be defined as awareness of one’s experience in the present moment with acceptance—is traditionally cultivated through meditation practice. Since the conception of mindfulness-based stress reduction (MBSR) by Jon Kabat-Zinn and colleagues in the 1970s, a variety of other mindfulness-based interventions (MBIs), such as mindfulness-based cognitive therapy (MBCT) and mindfulness-based relapse prevention (MBRP), have since been developed to treat and prevent stress-related disorders. Given the prevalence of stress in society, and the high rate of comorbidity among stress-related mental and medical conditions, taking a collaborative, mindfulness-based approach to care, in which psychologists and other health-care providers encourage patients to actively participate in their own health and healing, holds significant potential for better treating stress-related disorders and potentially saving costs (Ruff & Mackenzie, 2009).

There are many psychological and biological pathways through which stress, and particularly chronic stress, can increase susceptibility to mental and medical conditions. These pathways range from repetitive negative thinking, in the form of worry, rumination, or catastrophizing, for example, to the neural underpinnings of self-referential thoughts and emotions, including “default mode network” processing and limbic system activation. Consequently, organs and cells receive neural and biochemical signals to produce stress-related physical symptoms, such as muscle tension, gastrointestinal upset, headache, fatigue, vasconstriction and high blood pressure, among others. Therefore, better treatment and prevention of stress-related symptoms and illness can benefit from thoughtful integration of mindfulness, psychology, and medicine. Moreover, as psychologists, being mindful not only of the mind-brain-body connection but also the innate potential for each person to become more aware of his or her experience of stress and how stress might affect health and behavior, means we can take a leading role in the integration process. From a practical standpoint, there are many ways in which psychologists can teach clients how to become more mindful, including (1) being conversant with current research findings that directly relate to a client’s mental or medical condition; (2) offering brief mindfulness skills training in session if one has some personal experience with mindfulness, and/or offering longer, group-based MBIs if one acquires more extensive professional training; and (3) directing patients to resources where they can learn more about the science and practice of mindfulness, perhaps inspiring patients to explore daily mindfulness practice as a form of “participatory” medicine (Santorelli, 2000).

Mindfulness training programs in psychology and medicine are typically secular, psychoeducational, and rooted in self-regulation theory. Specifically, by learning to self-regulate the mind, brain, body, and behavior through regular meditation practice, one can fundamentally shift one’s perception of stress and therefore manage stress-related mental and physical symptoms and possibly prevent stress-related disorders. Growing evidence from increasingly rigorous clinical trials has consistently shown a benefit of MBIs for reducing symptoms of stress, anxiety, depression, and pain on the one hand, and for increasing qualities of mindfulness, psychological well-being, coping, and quality of life on the other (Goyal et al., 2014; Greeson & Eisenlohr-Moul, 2015; Khoury et al., 2013).

Some of the established and purported mechanisms by which MBIs exert clinical effects include changes in brain structure, function, and connectivity; changes in physiological stress reactivity; changes in cognitive and somatosensory perception and emotion regulation; greater control of behavioral impulses; and a shift in self-view (Greeson, Garland, & Black, 2014). Despite relatively consistent effects on self-reported symptoms, however, the efficacy of specific MBIs on objective measures of specific mental and medical disorders remains to be established, as do many of the underlying mechanisms for how MBIs work. For example, the ongoing Serenity Study (www.serenitystudy.org)—an NIH-funded, multisite trial at the University of Pennsylvania (Penn) and Kent State University—is testing whether an 8-week, MBSR program can lower elevated blood pressure by teaching individuals to better regulate their reactions to emotional stress and by facilitating healthy lifestyle behaviors, including regular exercise, a low fat and low sodium diet, and good quality sleep. Another ongoing clinical trial at Penn, called Serenity N.O.W. (New Opportunities for Wellness), is investigating changes in stress and mood symptoms, immunity, and inflammation, after an 8-week MBSR program, among depressed individuals living with HIV.
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who also have increased risk of cardiovascular disease. Finally, a new study at Penn funded by The Institute for Integrative Health (www.tiih.org), is exploring whether 8-weeks of mindfulness meditation training in stressed, but generally healthy, adults is associated with lower levels of stress hormones, proinflammatory cytokines, and gene expression involved in controlling inflammation.

Taken together, these and similar ongoing clinical studies will help to strengthen the evidence base for specific mindfulness training programs to treat specific stress-related conditions, while elucidating the psychological, biological, and behavioral mechanisms by which MBIs may benefit mind-body health. In the meantime, psychologists can work together with physicians and other health-care providers to (1) educate patients about the current compelling evidence for mindfulness as a stress reduction practice; (2) teach patients the basic skills of mindfulness (i.e., present-focused attention and nonjudging awareness) if they are open, interested, and receptive; and (3) point patients to self-help resources, including meditation classes, books, CDs, and free MP3s online and via smartphone applications (see Resources below).

A practical tip when teaching mindfulness is to "teach what you know." Psychologists, and other health-care providers, can learn the basics of mindfulness practice themselves, using the same resources referenced here. Another tip for psychologists is to embody the core qualities of mindfulness (e.g., attention, awareness, acceptance, and kindness/compassion) as best one can, knowing that others can recognize and model the expression of mindfulness in us. Working together, then, psychology and medicine can better treat stress-related disorders by integrating mindfulness into clinical care, educating patients about mindfulness research relevant to their symptoms or conditions, sharing resources and training opportunities to explore mindfulness as a means of self-regulation, and, ultimately, using the mind-brain-body connection to heal.

Resources

Mindfulness for Beginners. Book and accompanying CD by Jon Kabat-Zinn.

Mindfulness applications (apps) for smartphone or Internet use. http://www.mindful.org/free-mindfulness-apps-worthy-of-your-attention/


Penn Behavioral Health, 4-week Mindfulness Skills Course for Penn Employees. http://www.pennbehavioralhealth.org/mindfulness.aspx


References


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