A New Era for Mind–Body Medicine

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Fifty years ago, meditation was considered fringe, and the idea that it had any role in medical treatment, absurd. Nevertheless, one of us (H.B.) published research demonstrating that meditation and similar practices (initially from India and later from other cultures) reduced oxygen consumption, lowered blood pressure and heart rate, and initiated a cascade of physiological effects that were the opposite of what occurs during the stress response.[1] This coordinated set of physiological changes was termed the "relaxation response," and a general, secular procedure was described to elicit it. Coincidentally, this work took place in the same laboratory that had been occupied by Walter Cannon 50 years earlier when he described the stress, or "fight or flight," response.

Today, meditation and other mind–body practices, such as yoga and mindfulness, are growing in popularity, with 14% of the U.S. adult population reporting having used these techniques within the previous year.[2] Historically, these tools have been used to promote human flourishing, insight, peace, enlightenment, and connection to something larger than oneself. Today, many people are drawn to these practices for their perceived physical and mental health benefits and stress relief. All religious traditions and cultures have some form of meditative or other mind–body practice, but the current explosion of interest in these practices has largely occurred within a secular context.

Concurrent with this growing public interest is emerging research describing various neurobiologic, physiological, and genomic changes associated with mind–body practices, particularly meditation, including activation of specific brain regions, increased heart-rate variability, and suppression of stress-induced inflammatory pathways, among others (see Supplementary Appendix for a list of relevant studies). Though some of these changes appear to occur with multiple techniques, others may be technique-specific. More research is needed to understand the implications of these findings.

In 1964, John Stoeckle and colleagues concluded that 60 to 80% of visits to primary care physicians have a stress-related component.[3] Stress is ubiquitous, and its role when excessive or persistent as a major contributor to morbidity and mortality is well recognized.[4] At the Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital, for example, we routinely receive referrals to our Stress Management and Resiliency Training (SMART) Program from primary care physicians and specialists who have seen their patients benefit from these practices. Since many patients are initially skeptical, we counsel them regarding how stress may be exacerbating their symptoms, how mind–body techniques can reduce the stress response, and what to reasonably expect (e.g., you cannot blank your mind with meditation, and mind wandering is normal). With guidance and consistent practice, most patients feel less stressed, experience a greater sense of well-being, and are less bothered by the symptoms that brought them in. Some patients also note a greater sense of spiritual connectedness.

Belief in these techniques is not necessary to realize benefit. Indeed, randomized, controlled trials have suggested improved health outcomes and quality of life in multiple physical and mental health conditions that are related to or exacerbated by stress, including chronic pain, anxiety, depression, cancer-related fatigue, tobacco addiction, inflammatory bowel disease, and cardiovascular disease, though these tools may not be helpful in the setting of substance use disorder. Moreover, preliminary findings suggest that integrating these tools into the health care system may reduce health care utilization and may be cost-effective.

Nonetheless, not everyone is ready to embrace these tools: some patients may have concerns about certain practices contravening their religious beliefs; others are not ready to engage in the effort required to maintain a regular practice; still others have been conditioned to request a pill for every ailment. Moreover, these tools may not be appropriate for some patients. For example, patients with severe mental illness may have difficulty learning the necessary skills — or risk losing touch with reality when they engage in some of these practices.

Despite these barriers, many patients are keen to learn more about mind–body tools. Given the available data and the favor-

able side-effect profiles of these practices, we believe that mind–body medicine should be recognized as potential primary and secondary prevention and, where possible, routinely incorporated into primary care. It is not surprising that it hasn't been seen in this light, given that our health care system has been predominantly built on a reactive disease-treatment model rather than a proactive health-enhancement model. Realization of the potential cost savings and health improvements afforded by mind–body medicine would require insurance companies to cover these services and an educational system to train health care professionals in their appropriate use. Many medical schools now offer mind–body medicine electives, but only a few have made education in these practices a required part of the curriculum. Currently, few Americans have access to these tools in a medical setting, and even those who do must often pay for them out of pocket.

Given the ubiquity of stress, high rates of anxiety and depression among young people, and the necessity of learning effective coping skills as part of an essential health-promoting lifestyle (a need that is poorly addressed by our current education system), we believe it also makes sense for these tools to be widely integrated into primary and secondary education. Schools that have incorporated them have noted improvements in cognitive and socioemotional outcomes for students.[5]

In addition to the potential physical and mental health benefits of meditation, we envision potential societal benefits. Meditation and related tools promote empathy and mindful presence among health care professionals, thereby enhancing the quality of care. Historically, cultivation of these mindful and contemplative practices throughout a society promoted tolerance and mutual understanding, enhancing the social fabric. Research suggests that, on an individual level, mind–body practices can promote prosocial behavior. Could wide-scale use of these tools by people spanning the sociodemographic strata of our country help promote healing of some of the divisions that currently challenge us?

Western medicine has produced revolutionary health benefits through advances in pharmacotherapies and procedures. It now faces enormous challenges in battling stress-related noncommunicable diseases. More Americans than ever are taking prescription medications for chronic health conditions, many of which have a lifestyle component. Chronic pain, often perpetuated by psychosocial stress, has become an epidemic that our pharmaceutical arsenal is poorly equipped to handle, and medical costs continue to soar.

Mind–body therapies can be a helpful adjunct in managing chronic pain and other stress-related noncommunicable diseases by fostering resilience through self-care. Though they are not a panacea, they can do much to improve well-being and reduce symptoms and the physiological effects of stress. As we continue to develop models for integrating these tools into our health care and education systems, we have an important opportunity and obligation to study these experiments so that we can learn how best to personalize these approaches and maximize their public health potential. We need to understand whether particular approaches are more likely to help certain people, temperaments, or conditions; whether psychological or genetic factors predict who will respond best to certain practices; what constitutes optimal "dosing"; and to what extent these practices can shift the course of disease and reduce the need for pharmaceuticals and expensive tests and procedures. More robust, well-controlled prospective clinical trials are needed, as well as additional implementation and comparative effectiveness trials and basic research into the putative cellular underpinnings of mind–body health effects. There is much work to be done, but we believe the future is promising for mind–body medicine.

Disclosure forms provided by the authors are available at NEJM.org.

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