Psychosomatics 2014:55:386–391

Original Research Reports

Exploring the Effectiveness of a Modified Comprehensive Mind-Body Intervention for Medical and Psychologic Symptom Relief

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Background: *Chronic illnesses are a major current health concern associated with elevated stress and increased health care costs.* **Objective:** *The objective of this study was to describe the preliminary effectiveness of a modified, multimodal 8 week mind-body intervention on reducing physical and psychological symptoms in patients with chronic physical, mental and comorbid health issues.* **Methods:** *Two hundred and twenty six adults enrolled in a mind-body group program and completed pre and post program assessments (63% completer rate), including the Medical Symptoms Checklist (MSCL), Health Promoting Lifestyle Profile (HPLP-II), and Symptom Checklist 90R (SCL-90R).* **Results:** *Significant improvement was found on 9 of 23 medical symptoms ($p < .002$), all health promoting lifestyle behaviors ($p < .001$), and all mental health symptoms ($p < .001$).* **Conclusions:** *These results indicate that a multimodal mind-body intervention might be useful as a complementary or adjunct therapy for treatment of chronic medical symptoms. Future research is needed to test the intervention using a randomized controlled trial.*

(Psychosomatics 2014; 55:386–391)

INTRODUCTION

In the United States, more than 90 million people have long-term illnesses, which are a major health concern and cause of two-thirds of all deaths.[1] Symptoms of long-term illnesses ebb and flow over time despite treatment, and they are frequently associated with psychologic distress, loss of productivity, and disability.[2,3] Long-term illnesses are also expensive to manage medically. Approximately 75% of the 2.2 trillion dollars that the United States spends yearly on health care goes toward treating long-term health conditions, which amounts to approximately $7421 per person. According to the Centers for Medicare and Medicaid Services, the out-of-pocket cost for patients came to $889 per individual in 2010, 5.3% higher than it was in 2006. In spite of the impetus provided by these high costs, medical treatments for long-term illnesses continue to fall short, and most patients struggle with related physical and psychologic symptoms throughout their lives.

A large body of research connects long-term illness to stress.[4–7] This relationship is bidirectional, in that excessive stress can trigger and intensify

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medical symptoms,[8–10] and the burden of medical symptoms, including financial demands, in turn, increases stress.[11,12] One method of counteracting stress is the relaxation response (RR),[13] a hypometabolic state opposite to the stress response that is elicited by mind-body techniques, such as meditation, tai chi, and yoga. Elicitation of the RR has been shown to reduce heart rate, oxygen consumption, and blood pressure, and to increase heart rate variability.[13–16]

Regular elicitation of the RR is a major component of mind-body interventions, which employ a variety of techniques designed to enhance the mind's capacity to affect bodily functions and symptoms. These interventions have been found to be effective in managing many long-term medical conditions, including cardiac problems, diabetes, long-term pain, headache, insomnia,[17] irritable bowel syndrome, and temporal mandibular joint disorder.[18,19] Mind-body treatments have been effective in reducing medication used to manage long-term illness, e.g., in hypertension.[20] Intriguingly, mind-body practice has also been shown to elicit positive changes in gene expression—affecting pathways involved in energy metabolism, mitochondrial function, insulin secretion, telomere maintenance, inflammatory response, and stress response—in a way that may counteract cellular damage related to long-term psychologic stress.[21,22] By improving the patients' ability to cope with stress, mind-body treatments are well suited to improving the management and experience of long-term illness.

Samuelson et al.[23] have shown that the twelve 2-hour sessions outpatient group program at the Benson Henry Institute (BHI) of Mind-Body Medicine at Massachusetts General Hospital was associated with significant posttreatment improvements in medical symptom frequency, health-promoting behaviors, and psychologic symptoms in an uncontrolled effectiveness trial. Consistent with current emphasis on providing briefer, cost-effective group interventions, the mind-body treatment was abbreviated and modified. The modified mind-body program consists of eight 2-hour sessions. The aim of the modified program was to promote resiliency by reducing stress through the regular elicitation of the RR. The program is supported by cognitive (adaptive thinking) and behavioral (nutrition, exercise, sleep, and social support) skills, as well as elements of positive psychology (such as humor and empathy). Our mind-body program is predicated on the contention that the relaxation, cognitive, and positive psychology skills are complementary. The relaxation skills address the physiologic symptoms and also prepare patients for learning and for using cognitive-driven and positive psychology–driven skills, which serve to increase coping.

The purpose of this study was to examine the clinical effectiveness of the newly adapted mind-body program in reducing physical and psychologic symptoms among outpatients referred to the BHI's mind-body program by their health care providers for management of their long-term medical symptoms.

MATERIALS AND METHODS

Participants

Participants were 361 patients with long-term medical, psychiatric, or a combination of medical and psychiatric conditions, from the BHI. Most patients were referred to the program by their primary care physician, whereas the rest were self-referred or referred from other providers. The study was approved by our Institutional Review Board. Participants had to be 18 years or older, English speaking, and free of active substance abuse problems. A total of 226 participants completed both pre-program and post-program self-report measures (63% completion rate) and were included in the main analyses. Groups were led by 2 nurse practitioners with over 9 years of experience in the field of mind-body medicine.

The Mind-Body Program

The BHI mind-body program is a comprehensive outpatient program based on the principles and practice of mind-body medicine. The program consists of 8, weekly, 2-hour sessions and is designed to buffer the effects of daily stress and increase resilience through the teaching of self-care strategies. The crux of the clinical program is the elicitation of the RR in each session, using a variety of methods, including single-pointed meditation, imagery, mindful awareness, contemplation, and yoga. The program incorporates educational information about the mind-body connection, training to develop mind-body awareness, cognitive and behavioral skills (e.g., cognitive restructuring), and skills incorporated from positive psychology (e.g., cultivation of positive emotions, use of humor, empathy, and learning from prior experiences).