

Study supports using virtual environment to teach mind/body techniques

March 30 2012

A small study from Massachusetts General Hospital (MGH) researchers found that online virtual communities may be an effective way to train patients in meditation and other mind/body techniques. The ability to learn and practice approaches that elicit the relaxation response – a state of deep rest that has been shown to alleviate stress-related symptoms – in a virtual environment could help surmount several barriers that can restrict participation.

"Our finding that a medical intervention – in this case teaching a mind/body approach that includes the relaxation response – can be delivered via a [virtual environment](#) is important because these environments are are richer and more rewarding than simply using interactive web sites," says Daniel Hoch, MD, PhD, of the Benson-Henry Institute for Mind Body Medicine at MGH (<http://www.massgeneral.org/bhi/>), corresponding author of the report appearing in the open-access journal *PLoS One*.

Hoch explains that, while practices that elicit the relaxation response have been shown to benefit individuals with a wide variety of health problems, the traditional way of teaching these practices – face-to-face meetings over several weeks – can present significant difficulties for patients, particularly those with limited mobility. In addition, individuals who are uncomfortable with group programs may prefer the anonymity of a virtual educational setting. While Internet-based programs have been used for mental health screening and support programs, Hoch and his colleagues were not aware of any prior efforts to systematically study

a virtual mind-body intervention.

To test whether delivering such a program through a virtual environment was feasible, the research team chose Second Life, a three-dimensional "virtual world" in which users interact by means of online avatars that can communicate basic body language and emotional states. Several patient support groups, including groups for individuals with neurologic disorders, have established Second Life communities to share information and experiences. To adapt traditional face-to-face teaching methods to a virtual environment, Hoch brought experienced Benson-Henry clinicians together with experts in applications of Second Life to design the program.

Because learning to use Second Life can be challenging, the study only enrolled healthy individuals who had experience in the virtual environment. Participants enrolled in groups of up to 10 individuals and participated in twice-weekly virtual meetings led by an experienced Benson-Henry clinician. The clinician taught different methods of eliciting the relaxation response, guided participants through their practice, answered questions and discussed the participants' experiences. Group members were asked to elicit the relaxation response for at least 20 minutes each day – either in front of the computer with their avatar in the Second Life virtual teaching area or in another quiet setting – and received audio and video files and other supporting information. Before and after the eight weeks of online sessions, participants completed standard questionnaires assessing stress and other psychological symptoms.

The full study was completed by 24 individuals in three groups, all receiving the same training program. Although the small size of the study made it difficult to arrive at statistically significant results, overall participants showed reductions in depression- and anxiety-related symptoms. They also reported being very satisfied with the virtual

environment, and several commented that they could not have taken part without the online option. Although most admitted that a face-to-face teaching environment would be even better, they also noted that the time required to travel to in-person meetings would have presented difficulties.

"Several participants have let us know, several months later, that they continue to use techniques they learned in these sessions to reduce stress in their everyday lives," Hoch says. "The Second Life technology is changing rapidly and its creators have scaled back their interest in educational and clinical activities, so we're now hoping to explore the ability to have secure patient interactions in web-browser-based environments. One of the applications that I feel holds a great deal of promise is using this approach to help patients with post-traumatic stress, so I'm hopeful we'll have the opportunity to try that in the near future."

"Social networks and online communities represent an important element of support, information and motivation for many patients," adds Joseph Kvedar, MD, director of the Center for Connected Health (<http://www.connected-health.org/>), Partners HealthCare, and a co-author of the *PLoS One* report. "Connected health strategies are creating new opportunities to deliver quality care, for patients and providers to communicate effectively and help motivate and educate patients to stay on track with their treatment plan."

Provided by Massachusetts General Hospital

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