

Relaxation response-based program may reduce participants' future use of health services

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A collective meditation in Sri Lanka. Image: Wikipedia.

Many studies have showed that eliciting the relaxation response - a physiologic state of deep rest induced by practices such as meditation, yoga and prayer - not only relieves feelings of stress and anxiety but also affects physiologic factors such as blood pressure, heart rate and oxygen consumption. Now a study from the Institute for Technology Assessment and the Benson-Henry Institute (BHI) for Mind Body Medicine - both at Massachusetts General Hospital (MGH) - finds that individuals participating in a relaxation-response-focused training program used fewer health care services in the year after their participation than in the preceding year. The report is being published in the open-access journal

PLOS ONE.

"Our study's primary finding is that programs that train patients to elicit the relaxation response - specifically those taught at the BHI - can also dramatically reduce [health care](#) utilization," says James E. Stahl, MD, of the MGH Institute for Technology Assessment, who led the study.

"These programs promote wellness and, in our environment of constrained [health care resources](#), could potentially ease the burden on our health delivery systems at minimal cost and at no real risk."

Previously affiliated with the Benson-Henry Institute, Stahl is now based at Dartmouth-Hitchcock Medical Center.

The relaxation response was first described more than 40 years ago by Herbert Benson, MD, founder and director emeritus of the BHI and a co-author of the current study. The physiologic opposite of the well-documented fight-or-flight response, the relaxation response is elicited by practices including meditation, deep breathing and prayer and has been shown to be helpful in the treatment of stress-related disorders ranging from anxiety to hypertension. The paper's authors note that stress-related illnesses such as anxiety and depression are the third highest causes of health expenditures in the U.S. after heart disease and cancer, which also are affected by stress.

In order to analyze the potential impact of mind body interventions like the relaxation response on the utilization of health care services, the researchers examined information available through the Research Patient Data Registry (RPDR) of Partners HealthCare, a system incorporating MGH, Brigham and Women's Hospital and other Boston-area facilities. Through the RPDR - which provides de-identified information on clinical services provided within the Partners system - the research team gathered data on individuals participating in the BHI Relaxation Response Resiliency Program (3RP) from 2006 to 2014. The program combines elicitation of the [relaxation response](#) with social

support, cognitive skills training and positive psychology designed to build resiliency.

Data regarding more than 4,400 3RP participants' use of Partners system services in the years before and after their participation was compared with information from a demographically matched control group of almost 13,150 Partners patients over a similar two-year period. To address the possibility that 3RP participants had been more frequent users of health services in the year before their participation, the researchers also compared a subgroup of almost 1,200 3RP participants that excluded those with the highest pre-participation utilization levels with a subgroup of 222 controls whose initial healthcare utilization exactly matched those of the 3RP participants in the first of the two studied years.

Based on the number of health-care encounters in the studied period - which included interactions [health care providers](#) in any setting, imaging studies, lab tests and procedures - the 3RP participants had an average reduction of 43 percent in their use of [health care services](#) in the year after their participation. The control group had an overall but not statistically significant increase in service utilization in the second year. The utilization-matched 3RP subgroup had a reduction of around 25 percent across all clinical services. Clinical areas in which 3RP participation was associated with the greatest reduction in service utilization were neurologic, cardiovascular, musculoskeletal and gastrointestinal. The investigators estimate that the price of participating in programs like 3RP would be made up in costs savings in a matter of four to six months or less.

Stahl notes that the results of this investigation need to be validated by a prospective study that would also explore where and when best to use mind body interventions like the Benson-Henry Relaxation Response Resiliency Program. "I think of it this way; there are many gates to

wellness, but not everyone is ready to walk through a particular gate at a given time. From a public health perspective, it is better to be prepared to offer these tools to people in their customary settings than to wait for them to seek out these interventions. For that reason, we feel that mind body interventions - which are both low-cost and essentially risk-free - should perhaps be incorporated into regular preventive care."

Benson adds, "From the outset, our primary goal has been to enhance the health and well being of people by counteracting the harmful effects of stress and alleviating the many diseases that are caused or exacerbated by stress. The challenge now is to disseminate these findings, which we feel will be of great interest to health care payors and policy makers." Benson is the Mind/Body Professor of Medicine at Harvard Medical School, and Stahl is an associate professor of Medicine at the Geisel School of Medicine at Dartmouth Hitchcock Medical Center.

More information: *PLOS ONE*,
[dx.plos.org/10.1371/journal.pone.0140212](https://doi.org/10.1371/journal.pone.0140212)

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