

Yogic breathing shows promise in reducing symptoms of post-traumatic stress disorder

11 September 2014, by Jill Ladwig

One of the greatest casualties of war is its lasting effect on the minds of soldiers. This presents a daunting public health problem: More than 20 percent of veterans returning from the wars in Iraq and Afghanistan have post-traumatic stress disorder, according to a 2012 report by RAND Corp.

A new study from the Center for Investigating Healthy Minds at the Waisman Center of the University of Wisconsin-Madison offers hope for those suffering from the disorder. Researchers there have shown that a breathing-based meditation practice called Sudarshan Kriya Yoga can be an effective treatment for PTSD.

Individuals with PTSD suffer from intrusive memories, heightened anxiety, and personality changes. The hallmark of the disorder is hyperarousal, which can be defined as overreacting to innocuous stimuli, and is often described as feeling "jumpy," or easily startled and constantly on guard.

Hyperarousal is one aspect of the [autonomic nervous system](#), the system that controls the beating of the heart and other body functions, and governs one's ability to respond to his or her environment. Scientists believe hyperarousal is at the core of PTSD and the driving force behind some of its symptoms.

Standard treatment interventions for PTSD offer mixed results. Some individuals are prescribed antidepressants and do well while others do not; others are treated with psychotherapy and still experience residual affects of the disorder.

Sudarshan Kriya Yoga is a practice of controlled breathing that directly affects the [autonomic nervous system](#). While the practice has proven effective in balancing the autonomic nervous system and reducing symptoms of PTSD in tsunami survivors, it has not been well studied until

now.

The CIHM team was interested in Sudarshan Yoga because of its focus on manipulating the breath, and how that in turn may have consequences for the autonomic nervous system and specifically, hyperarousal. Theirs is the first randomized, controlled, longitudinal study to show that the practice of controlled breathing can benefit people with PTSD.

"This was a preliminary attempt to begin to gather some information on whether this practice of yogic breathing actually reduces symptoms of PTSD," says Richard J. Davidson, founder of CIHM and one of the authors of the study. "Secondly, we wanted to find out whether the reduction in symptoms was associated with biological measures that may be important in hyperarousal."

These tests included measuring eye-blink startle magnitude and respiration rates in response to stimuli such as a noise burst in the laboratory. Respiration is one of the functions controlled by the autonomic nervous system; the eye-blink startle rate is an involuntary response that can be used to measure one component of hyperarousal. These two measurements reflect aspects of mental health because they affect how an individual regulates emotion.

The CIHM study included 21 soldiers: an active group of 11 and a control group of 10. Those who received the one-week training in yogic breathing showed lower anxiety, reduced respiration rates and fewer PTSD symptoms.

Davidson would like to further the research by including more participants, with the end goal of enabling physicians to prescribe treatment based on the cognitive and emotional style of the individual patient.

"A clinician could use a 'tool box' of psychological

assessments to determine the cognitive and emotional style of the patient, and thereby determine a treatment that would be most effective for that individual," he says. "Right now, a large fraction of individuals who are given any one type of therapy are not improving on that therapy. The only way we can improve that is if we determine which kinds of people will benefit most from different types of treatments."

That assessment is critical. At least 22 veterans take their own lives every day, according to the U.S. Department of Veterans Affairs. Because Sudarshan Kriya Yoga has already been shown to increase optimism in college students, and reduce stress and anxiety in people suffering from depression, it may be an effective way to decrease suffering and, quite possibly, the incidence of suicide among veterans.

Provided by University of Wisconsin-Madison

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