People who engage in compassion meditation may benefit by reductions in inflammatory and behavioural responses to stress that have been linked to depression and a number of medical illnesses

Data from a new study suggests that individuals who engage in compassion meditation may benefit by reductions in inflammatory and behavioral responses to stress that have been linked to depression and a number of medical illnesses. The study's findings are published online at http://www.sciencedirect.com/ and in the medical journal Psychoneuroendocrinology.

"While much attention has been paid to meditation practices that emphasize calming the mind, improving focused attention or developing mindfulness, less is known about meditation practices designed to specifically foster compassion," says Geshe Lobsang Tenzin Negi, PhD, who designed and taught the meditation program used in the study. Negi is senior lecturer in the Department of Religion, the co-director of Emory Collaborative for Contemplative Studies and president and spiritual director of Drepung Loseling Monastery, Inc.

This study focused on the effect of compassion meditation on inflammatory, neuroendocrine and behavioral responses to psychosocial stress, and evaluated the degree to which engagement in meditation practice influenced stress reactivity.

"Our findings suggest that meditation practices designed to foster compassion may impact physiological pathways that are modulated by stress and are relevant to disease," explains Charles L. Raison, MD, clinical director of the Mind-Body Program, Emory University's Department of Psychiatry and Behavioral Sciences, Emory School of Medicine, and a lead author on the study.

Sixty-one healthy college students between the ages of 17 and19 participated in the study. Half the participants were randomized to receive six weeks of compassion meditation training and half were randomized to a health discussion control group.

Although secular in presentation, the compassion meditation program was based on a thousand-year-old Tibetan Buddhist mind-training practice called "lojong" in Tibetan. Lojong practices utilize a cognitive, analytic approach to challenge an individual's unexamined thoughts and emotions toward other people, with the long-term goal of developing altruistic emotions and behavior towards all people. Each meditation class session combined teaching, discussion and meditation practice.

The control group attended classes designed by study investigators on topics relevant to the mental and physical health of college students such as stress management, drug abuse and eating disorders. In addition, a variety of student participation activities were employed such as mock debates and role-playing.

Both groups were required to participate in 12 hours of classes across the study period. Meditators were provided with a meditation compact disc for practice at home. Homework for the control group was a weekly self-improvement paper.

After the study interventions were finished, the students participated in a laboratory stress test designed to investigate how the body's inflammatory and

neuroendocrine systems respond to psychosocial stress.

No differences were seen between students randomized to compassion meditation and the control group, but within the meditation group there was a strong relationship between the time spent practicing meditation and reductions in inflammation and emotional distress in response to the stressor.

Consistent with this, when the meditation group was divided into high and low practice groups, participants in the high practice group showed reductions in inflammation and distress in response to the stressor when compared to the low practice group and the control group.

"It will require conducting stress tests before and after meditation training in order to conclusively show it was the practice of compassion meditation that resulted in reduced stress responses," says study co-author Thaddeus W.W. Pace, PhD, assistant professor, Department of Psychiatry and Behavioral Sciences at Emory.

"But these initial results are quite exciting," says Pace. "If practicing compassion meditation does reduce inflammatory responses to stress it might offer real promise as a means of preventing many conditions associated with stress and with inflammation including major depression, heart disease and diabetes."

Raison concurs. "Based on the promising findings from this study we are planning to offer compassion meditation classes to patients at Emory Winship Cancer Institute, and have partnered with the Emory Predictive Health Institute to study potential long term effects of compassion meditation on health and well-being," says Raison.

Academic summary

Meditation practices may impact physiological pathways that are modulated by stress and relevant to disease. While much attention has been paid to meditation practices that emphasize calming the mind, improving focused attention, or developing mindfulness, less is known about meditation practices that foster **compassion**. Accordingly, the current study examined the effect of **compassion** meditation on innate immune, neuroendocrine and behavioral responses to psychosocial stress and evaluated the degree to which engagement in meditation practice influenced stress reactivity. Sixty-one healthy adults were randomized to 6 weeks of training in **compassion** meditation (n = 33) or participation in a health discussion control group (n = 28) followed by exposure to a standardized laboratory stressor (Trier social stress test [TSST]). Physiologic and behavioral responses to the TSST were determined by repeated assessments of plasma concentrations of interleukin (IL)-6 and cortisol as well as total distress scores on the Profile of Mood States (POMS). No main effect of group assignment on TSST responses was found for IL-6, cortisol or POMS scores. However, within the meditation group, increased meditation practice was correlated with decreased TSST-induced IL-6 (r_p = −0.46, p = 0.008) and POMS distress scores (r_p = −0.43, p = 0.014). Moreover, individuals with meditation practice times above the median exhibited lower TSST-induced IL-6 and POMS distress scores compared to individuals below the median, who did not differ from controls. These data suggest that engagement in **compassion** meditation may reduce stress-induced immune and behavioral responses, although future studies are required to determine whether individuals who engage in **compassion** meditation techniques are more likely to exhibit reduced stress reactivity.