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OHIO STATE STUDY: ICU NURSES BENEFIT FROM WORKPLACE INTERVENTION TO REDUCES STRESS

COLUMBUS, Ohio – A study by researchers at [The Ohio State University Wexner Medical Center](#) found that a workplace mindfulness-based intervention reduced stress levels of employees exposed to a highly stressful occupational environment.

Members of a surgical intensive care unit at the large academic medical center were randomized to a stress-reduction intervention or a control group. The 8-week group mindfulness-based intervention included mindfulness, gentle stretching, yoga, meditation and music conducted in the workplace. Psychological and biological markers of stress were measured one week before and one week after the intervention to see if these coping strategies would help reduce stress and burnout among participants.

Results of this study, published in the [Journal of Occupational and Environmental Medicine](#), showed that levels of salivary [alpha]-amylase, an index of sympathetic activation of the nervous system – also known as the fight or flight response – were significantly decreased from the first to second assessments in the intervention group. The control group showed no changes. Psychological components of stress and burnout were measured using well-established self-report questionnaires.

“Our study shows that this type of mindfulness-based intervention in the workplace could decrease stress levels and the risk of burnout,” said one of the authors, [Maryanna Klatt](#), associate clinical professor in the department of Family Medicine at Ohio State’s Wexner Medical Center. Chronic stress and stress reactivity have been found associated with increased levels of salivary [alpha]-amylase.

“What’s stressful about the work environment is never going to change. But what we were interested in changing was the nursing personnel’s reaction to those stresses. We measured salivary alpha amylase, which is a biomarker of the sympathetic nervous system activation, and that was reduced by 40 percent in the intervention group.”

Klatt, who is a trained mindfulness and certified yoga instructor, developed and led the mindfulness-based intervention for 32 participants in the workplace setting. At baseline, participants scored the level of stress of their work at

7.15 on a scale of 1 to 10, with 10 being the most stressful. The levels of work stress did not change between the first and second set of assessments, but their reaction to the work stress did change.

When stress is part of the work environment, it is often difficult to control and can negatively affect employees' health and ability to function, said lead author [Dr. Anne-Marie Duchemin](#), research scientist and Associate Professor Adjunct in the department of Psychiatry and Behavioral Health at Ohio State's Wexner Medical Center.

"People who are subjected to chronic stress often will exhibit symptoms of irritability, nervousness, feeling overwhelmed; have difficulty concentrating or remembering; or having changes in appetite, sleep, heart rate and blood pressure," Duchemin said. Although work-related stress often cannot be eliminated, effective coping strategies may help decrease its harmful effects." "The changes in the levels of salivary alpha-amylase suggest that the reactivity to stress was decreased after the 8 week group intervention".

This study was funded in part by the [OSU Harding Behavioral Health Stress, Trauma and Resilience \(STAR\) Program](#), part of [Ohio State's Neurological Institute](#). The STAR program serves as a resource for psychological trauma education and training. STAR supports innovative, interdisciplinary research focused on the causes, biological and behavioral markers, prevention and treatment approaches related to psychological trauma.

Other Ohio State researchers involved in this study are Beth Steinberg, Donald R. Marks and Kristin Vanover.

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