

## Adult day services boosts beneficial stress hormones in caregivers

UNIVERSITY PARK, Pa. -- Family caregivers show an increase in the beneficial stress hormone DHEA-S on days when they use an adult day care service for their relatives with dementia, according to researchers at Penn State and the University of Texas at Austin. DHEA-S controls the harmful effects of cortisol and is associated with better long-term health.

"This is one of the first studies to show that DHEA-S can be modified by an intervention, which, in our case, was the use of an adult day care service," said Steven Zarit, Distinguished Professor of Human Development and Family Studies, Penn State. "The study is also one of the first to demonstrate that interventions to lower stress on caregivers, such as the use of adult day care services, have an effect on the body's biological responses to stress. We know that caregivers are at increased risk of illness, because of the long hours of care they provide and the high levels of stress. These findings suggest that use of adult day care services may protect caregivers against the harmful effects of stress associated with giving care to someone with dementia."

The researchers studied 151 caregivers of family members with dementia who attend an adult day care service at least two days a week. For eight consecutive days, the caregivers collected their own saliva five times each day and kept a diary of the times at which they collected the saliva. They kept these saliva samples refrigerated until they could be shipped back to the laboratory. During the evenings of each of the eight days, interviewers from the Penn State Survey Research Center called the participants and asked them about the daily stressors they had encountered as well as their mood.

The team's results suggest that caregivers of family members with dementia who use adult day care services at least two times a week have increased DHEA-S levels on the day following the adult day service visit. The results appear on-line in the American Journal of Geriatric Psychiatry.

"Prior research has found that higher DHEA-S levels are protective against the physiological damaging effects of stressor exposure and may reduce risks of illness," Zarit said. "We have found that regular use of adult day care services may help reduce depletion of DHEA-S and allow the body to mount a protective and restorative response to the physiological demands of caregiving. These results suggest the value of broadening the focus of caregiver interventions to include their impact on relevant biological risk factors associated with chronic stress and disease."

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Other authors on the paper include Courtney Whetzel, research associate in biobehavioral health, Penn State; Kyungmin Kim, postdoctoral fellow, University of Austin at Texas; Elia Femia, research associate in human development and family studies, Penn State; David Almeida, professor of human development and family studies, Penn State; Michael Rovine, professor of human development and family studies, Penn State; and Laura Cousino Klein, associate professor of biobehavioral health, Penn State.

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