

Research Brief

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ASSOCIATIONS OF PERCEIVED STRESS, DEPRESSIVE SYMPTOMS, AND CAREGIVING WITH INFLAMMATION: A LONGITUDINAL STUDY

Keywords: caregiving, family caregiving, stress, depression, inflammation

Purpose of the Study: To better understand if perceived stress and depression are associated with bodily inflammation over time among family caregivers.

Key Findings:

- ✓ Overall, family caregivers had higher levels of perceived stress and depression than non-caregivers. However, there were limited associations between perceived stress/depression and inflammation.
- ✓ Inflammation was associated with some demographic and health characteristics, including age, race, obesity, and use of medications for hypertension and diabetes.

Major Policy/Practice Implication: Programs to support family caregivers, such as support groups and respite care, may help mitigate some stress and depression among caregivers, as well as help them build resiliency to manage the difficult aspects of caregiving.

IMPORTANT BACKGROUND INFORMATION

Family caregiving is often described as a stressful and depression-inducing experience. Some research has linked stress and depression to bodily inflammation, though results on the relationships between stress, depression, and inflammation are mixed. Even more, most studies evaluate the association between depression and inflammation at a single point in time, which may not reflect complex life experiences that can instigate chronic depression, such as caregiving for a chronically ill family member. This study evaluates the relationships between perceived stress, depression, and physical inflammation markers among family caregivers over several years.

STUDY METHODS

This study uses data from two national, long-term studies—the Reasons for Geographic and Racial Differences in Stroke (REGARDS) and the Caregivers Transitions Study (CTS). Participants in REGARDS took part in interviews and in-home physical assessments from 2003 to 2007. Participants had follow-up interviews and in-home assessments from 2013 to 2016. At follow-up, 239 participants were caregivers (who were not caregivers at the start of the study), and agreed to participate in the CTS study. These participants were matched with 241 non-caregivers who mirrored them in age, health status, etc. Researchers used statistical methods to control for demographic and health factors in the data analysis.

KEY FINDINGS

- ✓ **Researchers found limited associations between perceived stress, depression, and inflammation.** Overall, caregivers had higher levels of perceived stress and depression than non-caregivers. However, there were not any significant associations between depression and inflammation among caregivers, and limited associations between perceived stress and inflammation. Researchers observed that a larger increase in perceived stress from baseline (before caregiving) to follow-up (during caregiving) was associated with an increase in the inflammation of one biomarker, IL-10. Non-caregivers demonstrated a significant decrease in inflammation in the same biomarker. Perceived stress and depression were not significantly associated with inflammation in any other biomarkers.

Our findings showed that although caregivers had much higher increases in perceived stress and depressive symptoms after the onset of caregiving compared to an individually matched comparison group of non-caregivers, perceived stress and depressive symptoms on all occasions (baseline, follow-up, and change over time) were inconsistently related to increased inflammatory biomarker levels, either for non-caregivers or for incident caregivers.

- ✓ **Inflammation was associated with some demographic and health characteristics,** including age, race, obesity, and use of medications for hypertension and diabetes.

PRACTICE AND POLICY IMPLICATIONS

The inconsistent associations between perceived stress, depression, and inflammation show that family caregiving is a complex and varied experience. While perceived stress and depression increased after the onset of caregiving, these increases were inconsistently associated with bodily inflammation. Perhaps, the positive aspects of family caregiving, such as connection and purpose, help caregivers build resiliency that buffers inflammation.

For researchers: Continue to investigate the **relationships between family caregiving, mental health, and physical health**, particularly how positive aspects of family caregiving may foster resilience and/or buffer negative health outcomes.

For policy makers and providers: Reframe the narrative around family caregiving as a complex and nuanced experience, rather than focusing only on the chronic stress of the experience. Provide policy and financial support to family caregiver programs, such as support groups and **respite care**.

ORIGINAL ARTICLE

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This policy brief was written by Chelsea Goldstein, MGS and Lindsay Peterson, Ph.D. of the University of South Florida, School of Aging Studies and Florida Policy Exchange Center on Aging.

For further information contact the study author, Joanne Elayoubi, at elayoubij@usf.edu.