

“Relationship between Cellular Aging, Perceived Stress, & Resilience in Black and African American Family Caregivers of Persons with Dementia”

Background

For most individuals living with Alzheimer’s disease and related dementia (ADRD), informal caregivers (CGs) provide support and assistance with daily living activities. However, as the demands of caregiving intensify, providing care takes a substantial toll on caregivers. Furthermore, chronic caregiving has been associated with an increased risk of accelerated cellular aging, depression, anxiety, and cardiovascular dysfunction. As the proportion of Black and African Americans living with ADRD increases, more people from this community will become ADRD caregivers and impacted by the effects of chronic caregiving.

Methods

This secondary analysis used collected questionnaires and biologic samples to examine relationships between perceived stress, cellular aging (telomere length), and resilience (mood symptoms and coping) in Black and African American family caregivers of persons living with ADRD enrolled in a psychoeducational and exercise intervention study. Total telomere length was measured using quantitative PCR. The Perceived Stress Scale (PSS), Pittsburgh Sleep Quality Index (PSQI), Center for Epidemiologic Studies Depression (CESD), State-Trait Anxiety Inventory (STAI), and Ways of Coping (WOC) questionnaires were collected. Pearson correlations and linear regression were used to examine relationships between perceived stress, cellular aging, and measures of resilience, controlling for age, gender, comorbidities, and sleep.

Results

Caregivers were 55 ± 10 years of age, mostly women (86%), well-educated (71%), and 71% lived with the AD care recipient. The mean telomere length was 72.9 ± 41.2 . The total telomere length was negatively associated with age ($r = -.350$, $p = .003$) and perceived stress ($\beta = -.258$, $p = .003$). Perceived stress was positively associated with Confronting Coping ($\beta = .258$, $p < .001$), Distancing ($\beta = .160$, $p = .049$), Escape-Avoidance ($\beta = .412$, $p < .001$), worse sleep quality (PSQI) ($r = .400$, $p < .001$), anxiety symptoms (STAI) ($\beta = .631$, $p < .001$) and depressive symptoms (CESD) ($\beta = .646$, $p < .001$).

Discussion:

This study found that perceived stress was associated with measures indicative of lower resiliency in ADRD CGs. Higher stress was associated with shortened telomere length, higher levels of depressive and anxiety symptoms, and worse sleep. Stress was also associated with all three negative coping mechanisms in WOC, with no associations with positive coping. Together these findings demonstrate a need for culturally appropriate psychoeducational interventions that attenuate the effects of chronic caregiving in the Black and African American community.