

NAPCRG 52nd Annual Meeting — Abstracts of Completed Research 2024.

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Title

Impact of Toxic Stress, Inadequate Sleep, and Depressive Disorders on Cognitive Decline in US Elderly Adult Population

Priority 1 (Research Category)

Behavioral, psychosocial, and mental illness

Presenters

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Abstract

Context: Despite individual studies highlighting the detrimental impact of adverse childhood experiences (ACEs), insufficient sleep, and depression on cognitive function, a detailed understanding of their combined impact on subjective cognitive decline remains poorly understood.

Objective: To investigate the influence of ACEs, insufficient sleep, and depression on subjective cognitive decline in elderly adult population.

Study Design and Analysis: A cross-sectional study that incorporated multivariable Poisson regression models to estimate the adjusted prevalence ratio (aPR) with 95% confidence intervals.

Setting or Dataset: We utilized the CDC state-specific Behavioral Risk Factor Surveillance System (BRFSS) data from 2020 and 2022.

Population Studied: Community-dwelling adults 65 years & older from the selected states that collected all the three optional modules including the ACEs, cognitive decline, and inadequate sleep (N=21,722) in BRFSS data.

Intervention/Instrument: For the ACE score, we totaled the number of adverse experiences for each participant, which included abuse (physical, emotional, sexual), neglect (emotional and physical), and household challenges. For depression, we used the self-reported depressive disorder which includes either depression, major depression, dysthymia, or minor depression.

Outcome Measures: Cognitive decline: A single-question survey assesses whether participants have experienced increased confusion or memory loss over the past one year.

Results: Our study sample had an average age of 73.3 years, with majority being female (57.4%). In adjusted analysis, individuals with ACE scores of 1, 2, 3, 4, 5, 6, 7, and 8 show significant ($p \leq 0.001$) prevalence ratios of 1.42, 1.80, 2.0, 1.66, 1.83, 2.27, 2.60, and 3.56 for cognitive decline, respectively, compared to those who have never experienced ACEs. Individuals with depressive disorder was positively associated with cognitive decline (aPR: 2.65, 95% CI: 2.26, 3.11, $p < 0.001$). We did not find a significant association between sleep time and cognitive decline (aPR: 1.02, $p = 0.34$).

Conclusions: Our study reveals a significant link between ACEs and cognitive decline among elderly adults, with higher ACE scores indicating a greater risk. Additionally, depressive disorder shows a positive association with cognitive decline. However, insufficient sleep did not demonstrate a significant relationship with cognitive decline in this population.

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