

Adverse Childhood Experiences and Subjective Cognitive Decline: An Analysis of the Behavioral Risk Factor Surveillance System.



Rachel M. Terry, B.S., OMS III,¹ Sadie E. Schiffmacher, B.S., OMS II,² Avery A. Dutcher, B.S., OMS III,¹ Julie M. Croff, Ph.D.,³⁻⁵ Martina J. Jelley, M.D.,⁶ Micah L. Hartwell, Ph.D.,^{2,7}

1. Oklahoma State University Center for Health Sciences, Office of Medical Student Research, Tulsa, Oklahoma 2. Oklahoma State University College of Osteopathic Medicine at the Cherokee Nation, Office of Medical Student Research, Tahlequah, Oklahoma 3. National Center for Wellness and Recovery, Tulsa, Oklahoma 4. Oklahoma State University Center for Health Sciences, Center for Integrative Research on Childhood Adversity, Tulsa, Oklahoma 5. Oklahoma State University Center for Health Sciences, Center for Rural Health, Tulsa, Oklahoma 6. University of Oklahoma School of Community Medicine, Department of Internal Medicine, Tulsa, Oklahoma 7. Oklahoma State University Center for Health Sciences, Department of Psychiatry and Behavioral Sciences, Tulsa, Oklahoma

INTRODUCTION

- Declines in cognitive functioning impede maintenance of a healthy, active, and independent lifestyle.
- Net cost of care for the most severe cognitive declines (i.e. dementia) was nearly twice (1.75 times) as much as the costs of care for a person without dementia.¹
- Alzheimer’s Disease impacted 6.2 million older Americans in 2021.² Alzheimer’s diagnoses are estimated to grow to 13.8 million by 2060.
- As rates of dementia in the U.S. are estimated to increase, it is necessary to explore potential contributing factors of cognitive decline in order to establish preventative measures.
- The aim of this study was to determine the association between Adverse Childhood Experiences (ACE) and Subjective Cognitive Decline (SCD).

METHODS

- Data was obtained from the 2019 and 2020 Behavioral Risk Factor Surveillance Survey (N=18,096 ; ≥ 45 yrs).
- We assessed accumulation of ACEs and their association with SCD, and among individuals reporting only one ACE, we used logistic regression to compare the likelihood reporting SCD and symptomology among the 8 categories of adversity.

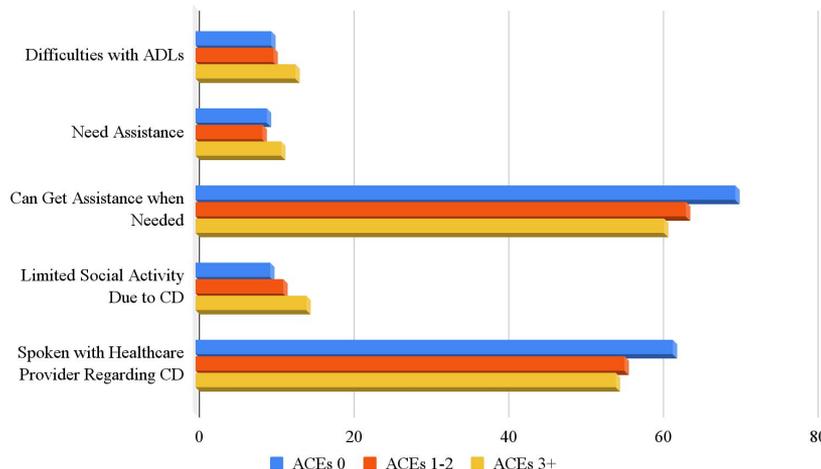
Table 1. ACE Domains

1. Family Mental Illness
2. Substance Abuse in the Household
3. Incarcerated Family Member
4. Parental Separation or Divorce
5. Intimate Partner Violence
6. Emotional Abuse
7. Physical Abuse
8. Sexual Abuse

RESULTS

- Among included respondents, 10.14% reported experiencing SCD.
- More ACEs were reported among those with SCD (M=2.61, SD=2.56) compared to those without SCD (M=1.44, SD=1.91).
- Those with higher ACEs scores were significantly less likely to have spoken with a healthcare provider about their cognitive decline.
- Individuals reporting 1 ACE of either family mental illness, family substance abuse, family incarceration, emotional abuse, or physical abuse had significantly greater odds of reporting memory loss compared to individuals with no ACEs.

Figure 1: Prevalence of Individuals Experiencing Cognitive Decline Reporting Frequent Impedance of Life Activities by Number of Adverse Childhood Events



CLINICAL RECOMMENDATIONS

- Individuals reporting only 1 ACE of sexual abuse were less likely to discuss cognitive impairment with their physician.
- Individuals aged 55-64 years old were at the greatest risk of reporting cognitive decline symptoms.
- This finding supports screening interventions for individuals who may be at an increased risk of developing cognitive decline.
- Among individuals being treated for chronic conditions where early childhood trauma has occurred, screening may need to be done earlier.
- Intervention and preventative programs targeting ACEs may lower the incidence and prevalence of SCD in future generations.

CONCLUSION

- Having multiple ACEs was significantly associated with higher odds of cognitive decline and associated limitation of social activity and inversely associated with getting help when it is needed. Further, many ACE domains were associated with SCD—a novel addition to the literature and the methodology used herein.
- Interventions focused on improving cognitive health and preventing cognitive decline should consider the potential role of ACEs among affected populations
- Future studies should examine how implementation of preventative measures for ACEs in childhood impacts cognitive decline in adulthood.

REFERENCES

1. Jutkowitz, E., Kane, R. L., Gaugler, J. E., MacLachose, R. F., Dowd, B., & Kuntz, K. M. (2017). Societal and Family Lifetime Cost of Dementia: Implications for Policy. *Journal of the American Geriatrics Society*, 65(10), 2169–2175. 2. 2021 Alzheimer’s disease facts and figures. (2021). *Alzheimer’s & Dementia: The Journal of the Alzheimer’s Association*, 17(3), 327–406.