



# ACE Scores and Frequency of Emergency Room Utilization

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## QUESTION

In patients that visit the emergency room, does having an ACE score greater than or equal to one compared to having an ACE score of zero influence the frequency of emergency room utilization?



ADVERSE CHILDHOOD EXPERIENCES

## BACKGROUND

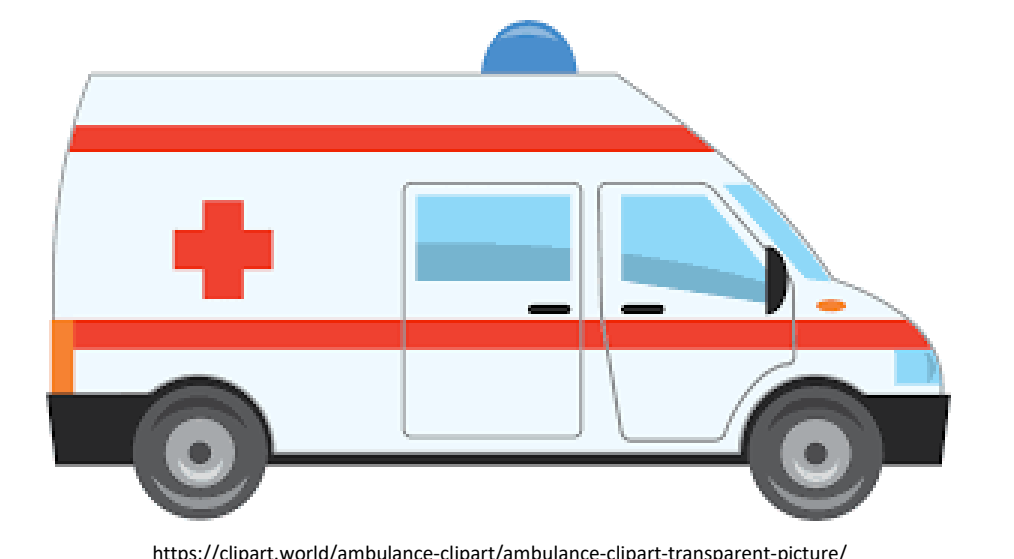
- Adverse Childhood Experiences (ACEs) are traumatic experiences which include abuse, neglect, and household dysfunction that occur before the age of 18 (Casa Mental Health, 2022).
- ACE scores are calculated by a survey of 10 criteria in which an individual can qualify for none, one, or multiple adverse experiences (Casa Mental Health, 2022).
- Five of the top 10 leading causes of death are associated with ACEs (CDC, 2019).
- According to the Center for Disease Control and Prevention (CDC), 61% of adults have an ACE score of 1 or more (2019).
- Annually in the United States, 130 million people visit the ER (CDC, 2021).

STUDY	DESCRIPTION	RESULTS
The Relationship Between Adverse Childhood Experiences, the Frequency and Acuity of Emergency Department Utilization and Primary Care Engagement (Diaz et al., 2022)	Level V, cross-sectional study which had patients complete the ACE questionnaire and the Medical Expenditure Panel Survey to assess the relationship between ACE scores and frequency of emergency room visits.	Results showed patients with an ACE score of four or greater were more likely to have three or more ER visits in the last 12 months.
The Impact of Adverse Childhood Experiences on Health Service Use Across the Life Course Using a Retrospective Cohort Study (Bellis et al., 2017)	Level IV, retrospective cohort study which aimed to assess the relationship between ACE scores and frequency of ER visits. Data was collected via survey and in-person interviews.	ER visits more than doubled in patients with an ACE score of 4 or greater compared to patients with an ACE score of 0. Analysis showed there is a relationship between increased ER visits and ACE in the 18–29-year-old age group; however, in the 60-69 age group there was not an independent relationship between ER visits and ACE scores.
The Impact of Adverse Childhood Experiences on Healthcare Utilization in Children (Koball et al., 2021)	Level V, correlation study, data was extracted retrospectively from the electronic health record with the goal of examining the impact of ACEs on children's healthcare utilization, medical diagnoses, and pharmacological treatment.	The study showed higher incidence rates of ER and urgent care (UC) visits in patients with an ACE score of 1 or greater than patients with an ACE score of 0.
Adverse Childhood Experiences and Healthcare Utilization of Children in Pediatric Emergency Departments (Okeson et al., 2022)	Level IV, cohort study, survey data was collected from caregivers in two pediatric emergency departments (PEDs) with the aim of determining the prevalence of ACEs and the relation of healthcare utilization patterns in children seen in PEDs.	This study showed there was a lower prevalence of children in PEDs with and ACE score of 0. It was also concluded that for each additional ACE, the odds of being seen in the PED increased by 18% and was statistically significant with a P-value of 0.002.
The Relationship Between Adverse Childhood Experiences, Healthcare Utilization, Cost of Care and Medical Comorbidities (Koball et al., 2019)	Level IV retrospective study that evaluated the effects of ACEs in correlation to Healthcare Utilization, cost of healthcare services, and diagnosed medical comorbidities.	Patients with a higher ACE score visited the UC and ER more frequently than those with a moderate ACE score (1-4). These patients also have increased cost in healthcare utilization and diagnosis of medical comorbidities.
Adverse Childhood Experiences and Access and Utilization of Health Care (Alcala et al., 2017)	Level II randomized control trial (RCT) that examined the effects of patients ACEs scores and their frequency of utilization of healthcare services.	Results showed that patients with high ACEs scores had a higher frequency of utilization of healthcare services.

*This work is not original. This is an evidence-based practice brief that includes published research conducted by professionals. Guidance was provided by Stephanie Burkholder and Melissa Kukulski, professors of NU307: Evidence-Based Practice Research Methods.*

## CONCLUSION

- All six studies concluded there is a relationship between increased frequency of ER visits and ACE scores of 1 or more compared to an ACE score of 0.
- Frequency of ER visits increases with increased ACE scores
- These results were consistent among the adult and pediatric populations
- Although each article shared a common conclusion it was recommended in each article that further research be conducted



## APPLICATION

- Utilize motivational interviewing and Trauma and Violence Informed Care (TVIC)
- Primary care clinics should provide the ACE questionnaire so that it may be documented in the electronic health record (EHR)
- If there is not an ACE score in the EHR, ER nurses can have the patients take the ACE questionnaire during triage
- Nurses can use interdisciplinary collaboration with social workers to refer to primary care or other specialties as needed as well as outside resources such as support groups
- Hospitals should provide opportunities for further education regarding ACE scores, TVIC, and motivational interviewing through providing access to new research as well as seminars for staff