Adverse Childhood Experiences in an Opioid Dependent Population

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Introduction

- The Adverse Childhood Experiences (ACE) score is a standardized metric calculated as the sum of yes/no questions about abuse, neglect, and household dysfunction. (Table 1)
- The initial ACE study was conducted with a general population at a large HMO; their responses are available through the CDC (Figure 1).
- ACEs are correlated with risk factors for several leading causes of death in adults.
- Exposure to childhood abuse and household dysfunction is associated with problems related to drug use and addiction.

Little is known about how ACEs affect the risk and trajectory of opioid use.
- The purpose of this study is to explore the relationship between ACEs and opioid-dependent patients’ ACE scores, and three landmarks of opioid use: age of opioid initiation, current injection drug use (IDU), and lifetime overdose (LOD).

Methods

- Persons seeking inpatient opioid detoxification were approached at admission to Stanley Street Treatment and Resources (SSTAR) between May 2015 and December 2015 to participate in a survey.
- The 11-item questionnaire was administered by study staff and was designed to record participant demographics, drug use, medical and mental health history, and ACEs.
- ACE scores were calculated as the sum of ten yes/no questions.

Table 1. ACE Questionnaire

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
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<tbody>
<tr>
<td>1. Did a parent or other adult in the household often swear at you, insult you, put you down, or humiliate you? Or did they make you afraid that you might be physically hurt?</td>
<td>1</td>
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<tr>
<td>2. Did a parent or other adult in the household often push, grab, slap, or throw something at you? Or did they ever hit you so hard that you had marks or were injured?</td>
<td>1</td>
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<tr>
<td>3. Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way? Or did they try to actually have oral, anal or vaginal sex with you?</td>
<td>1</td>
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<tr>
<td>4. Did you often feel that no one in your family loved you or you thought you were important or special? Or did you feel close to each other, or support each other?</td>
<td>1</td>
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<tr>
<td>5. Did you often feel that you didn’t have enough to eat, had to wear dirty clothes, and had no one to take you or take you to the doctor if you needed it?</td>
<td>1</td>
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<tr>
<td>6. Were your parents ever separated or divorced?</td>
<td>1</td>
</tr>
<tr>
<td>7. Did you live with anyone who was a problem drinker or alcoholic or who used street drugs?</td>
<td>1</td>
</tr>
<tr>
<td>8. Was a household member ever a problem drinker or alcoholic?</td>
<td>1</td>
</tr>
<tr>
<td>9. Did a household member go to prison?</td>
<td>1</td>
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Results

- A multivariate ordinary least squares regression model was used to estimate the adjusted association of the ACE’s score with age of opioid initiation; tests of significance and 95% confidence interval estimates were based on heteroskedastic Huber-White standard errors.
- Multivariate logistic regression was used to estimate the adjusted association of ACE score with the likelihood of recent IDU and lifetime drug overdose.
- The ACE was positively and significantly associated with the likelihood of reporting recent IDU (OR = 1.14, 95% CI 1.05; 1.23, p < .01) (Figure 3)
- The ACE was positively and significantly associated with experiencing a drug overdose (OR = 1.15, 95% CI 1.07; 1.24, p < .01) (Figure 4)

Conclusions

- Opioid dependent individuals report higher rates of ACEs than the general population.
- ACEs are associated with an earlier age of opioid initiation.
- Opioid dependent individuals who report adverse childhood experiences may be at greater risk for injection drug use and overdose.
- Higher ACE scores may be correlated with severity of opioid dependence, and ACE screening may be useful in identifying a high risk opioid dependent population.
- Understanding this connection should be the focus of future research.

References


Disclosure

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Figure 1. Distribution of ACE Scores

Figure 2. Predicted Mean (and 95% Confidence Interval Limits) of Age of Opioid Initiation by Adverse Childhood Experiences (n = 457)

Figure 3. Predicted Probability (and 95% Confidence Interval Limits) of Recent IDU by Adverse Childhood Experiences (n = 457)

Figure 4. Predicted Probability (and 95% Confidence Interval Limits) of Lifetime Overdose by Adverse Childhood Experiences (n = 457)