Adverse Childhood Experiences and Opioid Misuse

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3 Waves of the Rise in Opioid Overdose Deaths

- **Wave 1:** Rise in Prescription Opioid Overdose Deaths
- **Wave 2:** Rise in Heroin Overdose Deaths
- **Wave 3:** Rise in Synthetic Opioid Overdose Deaths

Other Synthetic Opioids
- e.g., Tramadol and Fentanyl, prescribed or illicitly manufactured

Commonly Prescribed Opioids
- Natural & Semi-Synthetic Opioids and Methadone

Heroin


https://www.cdc.gov/drugoverdose/epidemic/index.html
Adverse childhood experiences

Abuse
- Emotional abuse
- Physical abuse
- Sexual abuse

Neglect
- Emotional neglect
- Physical neglect

Household challenges
- Mother treated violently
- Household substance use
- Mental illness in household
- Parental separation or divorce
- Criminal household member

Violence Prevention. About the CDC-Kaiser Study. Available at: https://www.cdc.gov/violenceprevention/acestudy/about.html
Life course Perspective

Parent’s Childhood
 Adverse Childhood Experiences

Parent’s Adulthood
 Opioid Misuse Disorder/Opioid Overdose

Child’s Experiences
 Adverse Childhood Experiences
Life course Perspective

Parent’s Childhood
- Adverse Childhood Experiences

Parent’s Adulthood
- Opioid Misuse Disorder/Opioid Overdose

Child’s Experiences
- Adverse Childhood Experiences
ACEs and substance misuse disorders

### Table 1: Health and social problems shown to have a graded relationship to the ACE Score

<table>
<thead>
<tr>
<th>Type of Problem</th>
<th>Outcomes Associated with Adverse Childhood Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalent Diseases</strong></td>
<td>Ischemic heart disease, cancer, chronic lung disease, skeletal fractures, sexually transmitted diseases, and liver disease.</td>
</tr>
<tr>
<td><strong>Risk Factors for Common Diseases/Poor Health</strong></td>
<td>Smoking, alcohol, illicit drug use, injected drug use, obesity, promiscuity, multiple somatic symptoms, poor self-rated health, high perceived risk of AIDS.</td>
</tr>
<tr>
<td><strong>Poor Mental Health</strong></td>
<td>Depressive disorders, anxiety, hallucinations, panic reactions, sleep disturbances, memory disturbances, poor anger control, risk of perpetrating or being a victim of domestic violence.</td>
</tr>
<tr>
<td><strong>Sexual and Reproductive Health</strong></td>
<td>Early age at first intercourse, sexual dissatisfaction, teen pregnancy, unintended pregnancy, teen paternity, fetal death.</td>
</tr>
<tr>
<td><strong>General Health and Social Problems</strong></td>
<td>High perceived stress, difficulty with job performance, relationship problems, marriage to an alcoholic.</td>
</tr>
</tbody>
</table>
ACEs and Opioid Dependence

• Case-control study
  • 967 individuals with opioid dependence
  • 346 individuals without opioid dependence

• Results:
  Among women
  • Multiple incidents of sexual abuse (OR 3.3; 95%CI 1.8, 6.2)
  • Known perpetration (OR 3.0; 95%CI 1.5, 5.9)
  • Parental separation < 7yrs (OR 1.9; 95%CI 1.1-3.1)
  Among men
  • Physical abuse (OR 1.6; 95%CI 1.0-2.4)
  • Emotional abuse (OR 1.9; 95%CI 1.0-3.4)

Child maltreatment and prescription opioid use

![Graph showing log odds ratio (95% CI) for different types of childhood abuse.]

- Childhood emotional abuse
- Childhood physical abuse
- Childhood sexual abuse
- Any childhood abuse

Adjusted for respondent sex, age, race/ethnicity, and resident parent receipt of public assistance

Underlying mechanisms

Child maltreatment $\rightarrow$ Prescription opioid use or opioid use disorders
Self-medication hypothesis

Child maltreatment → Depressive symptoms → Prescription opioid misuse
Self-medication hypothesis

Child maltreatment → Pain → Prescription opioid misuse
Statistical analysis

Childhood abuse and neglect → Adolescent depressive symptoms

Adolescent depressive symptoms → Adolescent pain

Adolescent pain → Early adulthood prescription opioid misuse

Early adulthood prescription opioid misuse → Childhood abuse and neglect
Results

Parameter estimates are standardized and adjusted for age, sex, race/ethnicity, and receipt of public assistance.

Life course Perspective

Parent’s Childhood

Adverse Childhood Experiences

Parent’s Adulthood

Opioid Misuse Disorder/Opioid Overdose

Child’s Experiences

Adverse Childhood Experiences

- Household substance use
- Mother treated violently
- Mental illness in household
- Criminal household member
- Parental separation or divorce
Parents use of opioids

Past 4 week prescription medication use

Percent

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th>Parent</th>
<th>Non-parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription opioids</td>
<td>6.7</td>
<td>6.7</td>
<td>3.9</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>2.3</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>6.5</td>
<td>6.5</td>
<td>6.9</td>
</tr>
</tbody>
</table>

Parents use of opioids

Medical conditions potentially precipitating prescription opioid use

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percent Parents</th>
<th>Percent Non-parents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifetime cancer diagnosis</td>
<td>1.5</td>
<td>1.1</td>
</tr>
<tr>
<td>Surgery in last 4 weeks</td>
<td>2.2</td>
<td>1.7</td>
</tr>
<tr>
<td>Injury in last 4 weeks</td>
<td>2.8</td>
<td>4.0</td>
</tr>
<tr>
<td>Serious injury in last 12 months</td>
<td>11.9</td>
<td>14.0</td>
</tr>
</tbody>
</table>

Parents use of opioids

Demographic characteristics

- Less than high school: 13.6\% (Parents with recent prescription opioid use: 10.9\%), 27.2\% (Parents without recent prescription opioid use: 20.2\%)
- Completed high school: 47.8\% (Parents with recent prescription opioid use: 50.0\%), 11.4\% (Parents without recent prescription opioid use: 18.9\%)
- Some college or trade school: 1.8\% (Parents with recent prescription opioid use: 50.0\%), 28.2\% (Parents without recent prescription opioid use: 28.2\%)
- Completed college or more: 44.1\% (Parents with recent prescription opioid use: 50.0\%), 28.2\% (Parents without recent prescription opioid use: 28.2\%)

Parents use of opioids

Lifetime substance abuse, dependence, and misuse

- Alcohol abuse or dependence: 26.3% (Parents with recent prescription opioid use), 21.0% (Parents without recent prescription opioid use)
- Marijuana abuse or dependence: 16.7% (Parents with recent prescription opioid use), 11.0% (Parents without recent prescription opioid use)
- Other drug abuse or dependence: 14.2% (Parents with recent prescription opioid use), 6.7% (Parents without recent prescription opioid use)
- Prescription medication misuse: 29.7% (Parents with recent prescription opioid use), 14.5% (Parents without recent prescription opioid use)
- Prescription opioid misuse: 26.3% (Parents with recent prescription opioid use), 11.8% (Parents without recent prescription opioid use)
- Prescription tranquilizer misuse: 16.8% (Parents with recent prescription opioid use), 6.6% (Parents without recent prescription opioid use)

Conclusions

• Significantly higher percent of parents had recent prescription opioid use compared to non-parents
  • Parents did not report a higher prevalence of conditions with the potential to precipitate prescription opioid use

• Significantly higher percent of parents with recent prescription opioid use reported financial hardship and substance misuse or dependence compared to parents without such use
  • Implications for parent and child wellbeing
Opioid dependence and parenting

• Recent review 12 studies

• Children of parents with opioid dependence demonstrate:
  • Greater disorganized attachment
  • More avoidance

• Mothers with opioid dependence demonstrate:
  • More irritability, ambivalence, disinterest
  • Greater difficulty interpreting cues

Opioid overdose and child welfare reports

Fig. 2. Modeled mean maltreatment reports and overdose deaths for all available US counties (n = 2963), controlling for median income, percent non-Hispanic white population, percent children in single parent households, percent owner occupied housing and violent crime rate.

Opioid prescriptions and child removals

Conclusions

• Adverse childhood experiences are associated with substance use disorders, and opioid use disorders specifically.
• Opioid use disorders are associated with concurrent adverse experiences for the children of individuals with the disorders.
• Opioid use disorders impact parenting behaviors.
• Opioid use is associated with child welfare involvement.