Overview of the Adverse Childhood Experiences (ACE) Study

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www.acestudy.org
Adoption of Health-risk Behaviors

Social, Emotional, & Cognitive Impairment

Disease, Disability and Social Problems

Early Death

Adverse Childhood Experiences

Scientific gaps

Death

Conception
The Adverse Childhood Experiences (ACE) Study

Examines the health and social effects of ACEs throughout the lifespan among 17,421 members of the Kaiser Health Plan in San Diego County

What do we mean by Adverse Childhood Experiences?

- childhood abuse and neglect
- growing up with domestic violence, substance abuse or mental illness in the home, parental discord, crime
ACE Study Design

Survey Wave I
(N = 9,508)
Index

Follow-up
(N = 17,421)

Survey Wave II
(N = 8,667)

Utilization

All medical evaluations
abstracted from both waves

Mortality
National Death

Morbidity
Hospital Discharge
Outpatient Visits

Emergency room visits
Pharmacy
# Adverse Childhood Experiences Are Common

**Household dysfunction:**

<table>
<thead>
<tr>
<th>Experience</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance abuse</td>
<td>27%</td>
</tr>
<tr>
<td>Parental sep/divorce</td>
<td>23%</td>
</tr>
<tr>
<td>Mental illness</td>
<td>17%</td>
</tr>
<tr>
<td>Battered mother</td>
<td>13%</td>
</tr>
<tr>
<td>Criminal behavior</td>
<td>6%</td>
</tr>
</tbody>
</table>

**Abuse:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological</td>
<td>11%</td>
</tr>
<tr>
<td>Physical</td>
<td>28%</td>
</tr>
<tr>
<td>Sexual</td>
<td>21%</td>
</tr>
</tbody>
</table>

**Neglect:**

<table>
<thead>
<tr>
<th>Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional</td>
<td>15%</td>
</tr>
<tr>
<td>Physical</td>
<td>10%</td>
</tr>
</tbody>
</table>
Adverse Childhood Experiences Rarely Occur in Isolation...

They come in groups.
Domestic Violence and the Risk of Other ACEs...
Prevalence of Childhood Abuse by Frequency of Witnessing Domestic Violence

Frequency of witnessing domestic violence:
- Never
- Once, Twice
- Sometimes
- Often
- Very often

Childhood Abuse

- Emotional
- Physical
- Sexual

Percent (%)
ACEs tend to come in groups…

<table>
<thead>
<tr>
<th>Additional ACEs (%)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>≥5</th>
</tr>
</thead>
</table>

*If you had:*

A battered mother  

|                  | 95 | 82 | 64 | 48 | 52 |
Adverse Childhood Experiences Score
Complex Trauma--Trauma “Dose”

Number of individual types of adverse childhood experiences were summed…

<table>
<thead>
<tr>
<th>ACE score</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>33%</td>
</tr>
<tr>
<td>1</td>
<td>26%</td>
</tr>
<tr>
<td>2</td>
<td>16%</td>
</tr>
<tr>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>4 or more</td>
<td>16%</td>
</tr>
</tbody>
</table>
The ACE Score and the Prevalence of Severe Obesity
(BMI \geq 35)
ACEs and Mental Health...
The ACE Score and the Prevalence of Attempted Suicide

The graph shows the percentage of attempted suicide cases by ACE (Adverse Childhood Experiences) Score.

- The y-axis represents the percent attempted (%).
- The x-axis represents the ACE Score.
- The bars indicate the prevalence of attempted suicide for different ACE score levels:
  - 0 ACE scores: 1%
  - 1 ACE score: 6%
  - 2 ACE score: 8%
  - 3 ACE score: 10%
  - 4+ ACE scores: 19%
The ACE Score and a Lifetime History of Depression

Percent depressed (%)

ACE Score

Women
Men

0 1 2 3 >=4
ACEs and Violent Victimization as an Adult...
ACE Score and the Risk of Being a Victim of Domestic Violence

Women

Men

Risk of Victimization (%)

ACE Score

0 1 2 3 4 >5 0 1 2 3 4 >5

0 5 10 15
ACE Score and Drug Abuse

Ever addicted to drugs

ACE Score

Percent With Health Problem (%)

Ever had a drug problem

Ever injected drugs

ACE Score

0 1 2 3 4 >=5

Percent With Health Problem (%)
The ACE Score and the Prevalence of Ischemic Heart Disease

ACE Score

Percent (%)

0 1 2 3 4 5 6

>=4

ACE Score

Percent (%)
One Perspective on the Direct Health Care Costs of ACEs:
The Burden of Prescription Drug Use
Prescription Drugs in the United States (2003)

- nearly $180 billion spent
- 11% of total national health expenditures
- more than four times the amount spent in 1990
ACE Score and Rates of Antidepressant Prescriptions

Prescription rate (per 100 person-years)

ACE Score

0 1 2 3 4 >=5
ACE Score and Rates of Prescribed Antidepressant Medications by Age, 1997-2004

Relative rates are adjusted for age, sex, race/ethnicity, and education. Adults with an ACE Score of 0 are the referent.
Adverse Childhood Experiences as a Clinical and Public Health Issue

ACEs:
- are endemic
- highly interrelated
- have a cumulative stressor effect
- effects are biologically plausible
Adverse Childhood Experiences
As a National Health Issue

ACEs have a strong influence on:
- adolescent health
- reproductive health
  - smoking
  - alcohol abuse
  - illicit drug abuse
- sexual behavior
  - mental health
  - risk of revictimization
- stability of relationships, homelessness
- performance in the workforce
Adverse Childhood Experiences
As a National Health Issue

ACEs increase the risk of:
- Heart disease
- Chronic Lung disease
- Liver disease
- Suicide
- Injuries
- HIV and STDs
- and other risks for the leading causes of death
The Adverse Childhood Experiences (ACE) Study

Summary of Findings:

- Adverse Childhood Experiences (ACEs) are very common

- ACEs are strong predictors of health risks and disease from adolescence to adulthood

- This combination of findings makes ACEs one of the leading, if not the leading determinant of the health and social well-being of our nation
Bridging The Chasm

Child health as it stands today

- Breakthroughs in molecular genetics and biology:
  - Mental illness
  - Substance abuse
  - Violence

- Improved recognition and treatment of:
  - Mental illness
  - Substance abuse
  - Domestic violence
  - Child abuse

Mass education about child development & parenting:
- Media
- Schools

Documenting the societal burden of child health as it stands today

New directions in prevention and treatment

Child health as it could be
Involving those who don’t yet realize that they are working on issues that represent the “downstream” wreckage of child abuse and neglect--and other adverse childhood experiences--in the effort to bridge the chasm.

Routine screening for trauma is needed