Adverse Childhood Experiences (ACEs)
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**ABUSE**
- Physical
- Emotional
- Sexual

**NEGLECT**
- Physical
- Emotional

**HOUSEHOLD DYSFUNCTION**
- Mental Illness
- Incarcerated Relative
- Mother treated violently
- Substance Abuse
- Divorce
Early Childhood Adversity - Impact on Brain, Body and Behavior

1. Early experiences influence the developing brain.
2. Chronic stress can be toxic to developing brains.
3. Significant early adversity can lead to lifelong problems.
4. Early intervention can prevent the consequences of early adversity.
5. Stable, caring relationships are essential for healthy development.

❖ Critical Period – Some experiences are more impactful early in life than later in life, and therefore it argues for investing in what happens in the first 3-5 years.
Fight or Flight Response

- **Hypothalamus**
- **CRH**
- **Pituitary gland**
- **ACTH**
- **Cortisol**
- **Adrenal gland**

- **dilated pupils**
- **trembling**
- **pale or flushed skin**
- **rapid heart beat and breathing**
Extreme Neglect Diminishes Brain Power

Significant Adversity Impairs Development in the First Three Years

Children with Developmental Delays

Number of Risk Factors

Source: Barth et al. (2008)
The Adverse Childhood Experiences Study

- The largest study of its kind ever done to examine the health and social effects of adverse childhood experiences over the lifespan (Felitti & Anda).

### Categories of Adverse Childhood Experiences

#### Abuse, by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological (by parents)</td>
<td>11%</td>
</tr>
<tr>
<td>Physical (by parents)</td>
<td>11%</td>
</tr>
<tr>
<td>Sexual (anyone)</td>
<td>22%</td>
</tr>
</tbody>
</table>

#### Household Dysfunction, by Category

<table>
<thead>
<tr>
<th>Category</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance Abuse in family</td>
<td>26%</td>
</tr>
<tr>
<td>Mental Illness in family</td>
<td>19%</td>
</tr>
<tr>
<td>Domestic Violence</td>
<td>13%</td>
</tr>
<tr>
<td>Imprisoned Household Member</td>
<td>3%</td>
</tr>
<tr>
<td>Loss of parent</td>
<td>23%</td>
</tr>
</tbody>
</table>

Adverse Childhood Experiences Score

Number of categories of childhood experiences are summed

<table>
<thead>
<tr>
<th>ACE Score</th>
<th>Prevalence (after Wave 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>33%</td>
</tr>
<tr>
<td>1</td>
<td>25%</td>
</tr>
<tr>
<td>2</td>
<td>15%</td>
</tr>
<tr>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td>5 or more</td>
<td>11%</td>
</tr>
</tbody>
</table>

- Approximately *two-thirds* have at least one ACE
- More than *one-third* have experienced 2 – 4 ACE categories
Risk Factors for Adult Heart Disease are Embedded in Adverse Childhood Experiences

Source: Dong et al, 2004
Childhood Experiences and Adult Alcoholism

% Alcoholic

ACE Score

0 1 2 3 4+
Childhood Experiences Underlie Chronic Depression

% With a Lifetime History of Depression

- Women
- Men

ACE Score

0 | 1 | 2 | 3 | >=4
Childhood Experiences Underlie Suicide

% Attempting Suicide

ACE Score

0 1 2 3 4+

0 5 10 15 20 25
ACE Score and Intravenous Drug Use

% Have Injected Drugs

ACE Score

N = 8,022  p<0.001
ACE Score and Serious Job Problems

Graph showing the percentage of people with job problems based on ACE (Adverse Childhood Experiences) Score. The x-axis represents the ACE Score range from 0 to 4 or more, and the y-axis represents the percentage of people with job problems ranging from 0 to 18.
ACE Score and Hallucinations

*Adjusted for age, sex, race, and education.
ACE Response: Individually

❖ Safe, Stable, Nurturing Relationships

1. Safe : Free from harm
2. Stable: Degree of consistency
3. Nurturing: Compassionate, responsive caregiver(s)
ACE Response - Community

1. Provide information: Raise awareness
2. Enhance Knowledge & Skills
3. Be a caring adult. Be intentional
4. Contribute to community Program
5. Enhance Access. Reduce Barriers
6. Support Family-Friendly Public Policies
7. Change Consequences (Incentives & Disincentives)
Factors that counteract the overactive stress response:

1. Sleep
2. Regular exercise
3. Nutrition
4. Mindfulness
5. Mental health
6. Healthy relationship

***IT IS POSSIBLE TO HEAL
There is no keener revelation of a society’s soul than the way in which it treats its children.

~ Nelson Mandela
Information & Resources

• ACE Study findings and information
  - www.acestudy.org or www.cdc.gov
• National Scientific Council on the Developing Child at Harvard University
  - www.developingchild.net
• Academy of Pediatrics
  - www.brightfutures.aap.org
Thank you!!