Why Child Abuse Makes People Sick
The Lifetime Health Effects of Adverse Childhood Experiences

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Parent Factors
- May be an abuse survivor
- Possible current depression
- Possible substance abuse
- Possible partner violence

Child Factors
- May be at risk for abuse and neglect
- May show sequelae of maltreatment

Physical injury
Other health effects of family violence

“Adult disease prevention begins with reducing early toxic stress”

Neuroscience, Molecular Biology, and the Childhood Roots of Health Disparities: Building a New Framework for Health Promotion and Disease Prevention
Jack P. Shonkoff; W. Thomas Boyce; Bruce S. McEwen. JAMA. 2009;301(21):2252-2259

Family Violence as a Public Health Issue

Centers for Disease Control and Prevention
American Medical Association
American Academy of Pediatrics
American College of Obstetrics & Gynecology
American Psychological Association
World Health Organization
“An increasing amount of research in neuroscience, social epidemiology, and the behavioral sciences suggests that a reduction in the number and severity of early adverse experiences will lead to a decrease in the prevalence of a wide range of health problems.”

**Adverse Childhood Experiences (ACEs)** are related to the leading causes of premature mortality and preventable death in adults


Patients with 4 or more ACEs had higher rates of:
- Ischemic heart disease
- Cancer
- Stroke
- Chronic bronchitis
- Emphysema
- Diabetes
- Skeletal fractures
- Hepatitis

**Number of ACEs Reported**

<table>
<thead>
<tr>
<th>Number of ACEs Reported</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>0</td>
<td>36%</td>
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<tr>
<td>1</td>
<td>26%</td>
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<tr>
<td>2</td>
<td>16%</td>
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<tr>
<td>3</td>
<td>10%</td>
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<td>4 or more</td>
<td>13%</td>
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**Adverse Childhood Experiences (ACE) include:**
- Child Sexual Abuse
- Child Physical Abuse
- Child Emotional Abuse
- Witnessing Intimate Partner Violence
- Parental substance abuse
- Parental criminal activity
- Parental mental illness
- Parental divorce

**Survey of Mothers’ Sleep and Fatigue**
Kendall-Tackett & Hale

- Online survey of 6,410 mothers with infants aged 0-12 months (Mean infant age=6.96 months)
Survey of Mothers' Sleep and Fatigue Full Sample (N=6,410)

- Hit or slapped hard enough to leave a mark: 34%
- Raped as teen or adult: 13%
- Total Contact CSA: 25%
- Parent depressed: 36%
- Parent hit, bitten or kicked: 16%
- Parental substance abuse: 32%

Meta-analysis of 24 studies (N=48,801)
- Physical and sexual child abuse increased the risk of metabolic disorders including obesity and diabetes
- Effects appeared to be stronger for women

Data from Nurses' Health Study II shows physical and sexual abuse in childhood/teens increased the risk of Type 2 diabetes
- Adjusted for age, race, body type at 5, parental education, and parental history

Severity of abuse increased symptoms
- 50% increase in risk for severe physical abuse
- 69% increase in risk for repeated forced sex

BMI also influenced by past abuse
- Physically and sexually abuse girls had higher BMIs
- Trajectories grew wider as the girls grew
- Particularly for those who experienced repeated forced sex
• Higher rates of STDs, including HIV
• Earlier and more unintended pregnancies
• More sleep problems
• More metabolic syndrome and diabetes
• More cardiovascular disease
• Higher rates of autoimmunity


• Childhood and adult abuse is associated with at least five types of chronic pain
  – Back Pain
  – Headaches/TMJ
  – Pelvic Pain/Interstitial Cystitis
  – Irritable Bowel Syndrome
  – Fibromyalgia
• Many of these co-occur

Girdler et al. Health Psychol 2007; 26(2); 210-213; Leserman & Grossman Trauma Viol Abuse 2007; 8(3): 331-343

• Higher rates of healthcare use
• Higher healthcare costs
• More reported symptoms
• Overall less satisfaction with their health

Felitti, Acad Pediatr 2009; 9(3); 131-132

Domains of Functioning Impacted by Adverse Childhood Experiences

• Physiological
• Behavioral
• Cognitive
• Social
• Emotional

• Trauma changes the body
  – Dysregulated, hyper-responsive stress response
    • Catecholamine
    • HPA Axis (cortisol)
    • Proinflammatory cytokines
  – Sleep disturbances
  – Lowered pain threshold
  – Increased cardiac reactivity

Proinflammatory Cytokines

Physiological Factors

Catecholamine

HPA Axis
**Catecholamine**

- Epinephrine
- Norepinephrine
- Dopamine

**HPA Axis**

- Hypothalamus
- CRH (CRF)
- Pituitary
- ACTH
- Adrenal cortex
- Cortisol

**Proinflammatory Cytokines**

- IL-1β
- IL-6
- TNF-α

- Independent effect of childhood maltreatment on C-reactive protein 20 years later
- Dunedin Multidisciplinary Health and Development Study (N=1,037)
- White blood cell count and fibrinogen also elevated
- Dose-response effect of severity of abuse on inflammation

Danese et al., Proc Nat Acad Sci U S A 2007;104(4), 1319-1324

- In a community sample, 68% of sexual abuse survivors reported having sleep difficulties
- 45% had repetitive nightmares

Teegen (1999). In PTSD in Lifespan Perspective. Hogrefe & Huber

**In a primary-care sample**

- 52% of sexual abuse survivors reported that they could not sleep at night
- 36% reported nightmares
- 53% reported intrusive symptoms sudden thoughts or images of past events

Hulme, Child Abuse Neglect 2000, 24: 1471-1484
Meta-analysis of sleep duration and obesity (36 studies, N=634,511)
Children and adults
Short sleep duration (< 5 hours) related to obesity worldwide

Cappuccio et al. Sleep 2008: 31; 619-626

Subclinical sleep disorders also increase risk for CVD, hypertension, Type-2 diabetes, metabolic syndrome and all-cause mortality

Suarez & Goforth. 2010 In Psychoneuroimmunology of Chronic Disease: American Psychological Association

Even short periods of sleep deprivation can elevate cortisol and glucose levels, and increase insulin resistance


Sleep disorders, such as primary insomnia and obstructive sleep apnea, increase inflammatory markers, such as CRP, IL-6 and TNF-α

Suarez & Goforth. 2010 In Psychoneuroimmunology of Chronic Disease: American Psychological Association

Behavioral Factors
- Eating Disorders/Obesity
- Substance Abuse
- Smoking
- High-risk sexual behavior
- Suicide attempts
- Sleep problems

Study of 4,641 middle-aged women (Mean age=52 years)
Childhood physical and sexual abuse doubled the odds of both depression and obesity

Rohde et al., Child Abuse Negl 2008: 32; 878-887
• Sample of 250 at-risk women (87% African American)
  Women who experienced child neglect had lower self-esteem, lower rates of condom use, & more HIV-risky behavior


Cognitive Factors I: Beliefs about Self
• Shame/self-blame
• Attributional style
• Self-efficacy
• Health perception

Cognitive Factors II: Beliefs about Others
• Internal Working Model
• Mistrust & Hostility
• Rejection Sensitivity
• Religiosity

In a sample from primary care, 52% of sexual abuse survivors indicated that they could not trust others compared with 17% of the non-abused women

Hulme, Child Abuse Neglect 2000, 24: 1471-1484

• Prospective study of 135 patients with no symptoms of diabetes (75 men, 60 women)
  Women with higher levels of depression and hostility had higher fasting insulin, glucose & insulin resistance
  – Independent of BMI, age, fasting triglycerides, exercise, or ethnicity

Suarez, Health Psych 2006; 25: 484-492.

• Marital hostility increased systemic inflammation
  • Hostility also impaired wound healing
  – High-hostile couples had 60% slower wound healing

Kiecolt-Glaser et al., Arch Gen Psychiatry 2005, 62: 1377-1384
• Women in unsatisfying marriages had an increase in cardiovascular risk over 13-year study
  – Related to low HDL, high triglycerides, BMI, blood pressure, depression and anger

Gallo et al., Health Psych 2003, 22: 453-463

• Insecure Attachments
• Quality of Current Relationships
• Divorce
• Social Isolation
• Co-Dependent Style
• Low Income
• Homelessness
• Revictimization

Social Factors

• Social pain is processed in the same part of our brains, and is experienced in the same way, as physical pain
• Recent studies have found that we physically experience threats to our relationships as threats to our survival


• Throughout our evolutionary history, being socially connected increased our chances of survival
• Being part of the group provided resources, protection, and safety


Anterior Cingulate Cortex

• The separation-distress panic/grief system appears to be located in similar areas of the brain across all mammals
  – Anterior cingulate cortex

• Social pain or losses during childhood can predispose people to chronically elevated psychic pain for the rest of their lives

Eisenberger, 2011 Social pain (53-78); Panksepp, 2011 Social pain (11-51), Amer Psychol Assn.

• Depression
• PTSD

Negative mental states upregulate stress
• Depression
• Hostility
• Perceived low social status

Negative Mental States
Inflammation
Chronic Disease

• Chronic stress, depression and hostility increases the risk of:
  - Coronary heart disease
  - Myocardial infarction
  - Metabolic syndrome and diabetes
  - Neurodegenerative diseases

Kiecolt-Glaser et al., Arch Gen Psychiatry 2005, 62, 1377-1384;
Wilson et al., J Am Geriatrics Soc 2003, 50, 2041-2056

Inflammation
Metabolic syndrome and insulin resistance
Cardiovascular disease

Haffner & Taegtmeyer, Circulation 2003; 108: 1541-1545
• Community sample of 3,568 women (ages 18-64)
• Women with a history of CSA and CPA had increased prevalence of:
  • Severe depression
  • Joint pain
  • Nausea and vomiting
  • Fair/poor health

Bonomi et al. Child Abuse Negl 2008: 32; 693-701

• 921 men and women from Finland
• In women, depressive symptoms associated with increased risk of metabolic syndrome
• Metabolic syndrome in childhood predicted higher depressive symptoms in adulthood

Pulkki-Raback et al., Health Psychol 2009: 28; 108-116

• Dunedin Multidisciplinary Health and Development (N=1,037)
• At 32 years, those who experienced adverse childhood experiences (low SES, maltreatment or social isolation) had higher rates of:
  - Major depression
  - Systemic inflammation
  - Having at least 3 metabolic risk markers


• Canadian Community Health Survey (N=36,984)
• PTSD significantly associated with cardiovascular disease, respiratory diseases, chronic pain conditions, gastrointestinal illnesses, and cancer


• How can practitioners respond?

Pandora’s Box
Provider-level Barriers
- No time during appointments
- Lack of knowledge about topic
- Belief that FV is not within scope of practice
- Not comfortable with topic
- No place to refer
- Afraid to make the problems worse for families

Institutional Barriers
- Lack of support for follow up
- Lack of continuity of care
- Lack of commitment and/or resources for family violence services

What helps?
- Parent support
  - Home visitation
  - Peer support
  - Access to local resources
  - Breastfeeding support
  - Screen for maternal depression
  - Refer to services for partner violence

Trauma treatments
- EMDR (EMDR.org)
- Cognitive-behavioral therapy
- Medications

CAM Treatments
- Omega-3s (EPA and DHA)
- Exercise
- Sleep interventions
Office-level interventions
- Have materials available on partner violence, depression, child abuse, family support
- Have posters, pins and other materials that indicates a willingness to talk about family violence

Clinician Self-Care
- Supervision
- Team approach
- Vicarious traumatization
- Therapy

CDC Report on Adverse Childhood Experiences

From Health Canada

Additional Resources
- Family Violence Prevention Fund – EndAbuse.org
- Crimes against Children Research Center – UNH.edu/CCRC
- Child Trauma Institute – ChildTrauma.com
- Adverse Childhood Experiences Study – ACEStudy.org

For more information on health effects of childhood abuse