

Adverse Childhood Experiences and health outcomes across life

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- I have no financial disclosures or conflicts.
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What is the connection between childhood adversity and disease?

CHILDHOOD TRAUMA AND HEALTH
EFFECTS FOR A LIFETIME

Let's dive in and change our world.

HEALTH BEGINS WITH HOPE.

What is an ACE?

- Abuse
 - Emotional (Verbal)
 - Physical
 - Sexual
- Neglect
 - Physical
 - Emotional
- Household dysfunction:
 - Mental illness, divorce, maternal incarceration, substance abuse, violence directed towards the mother

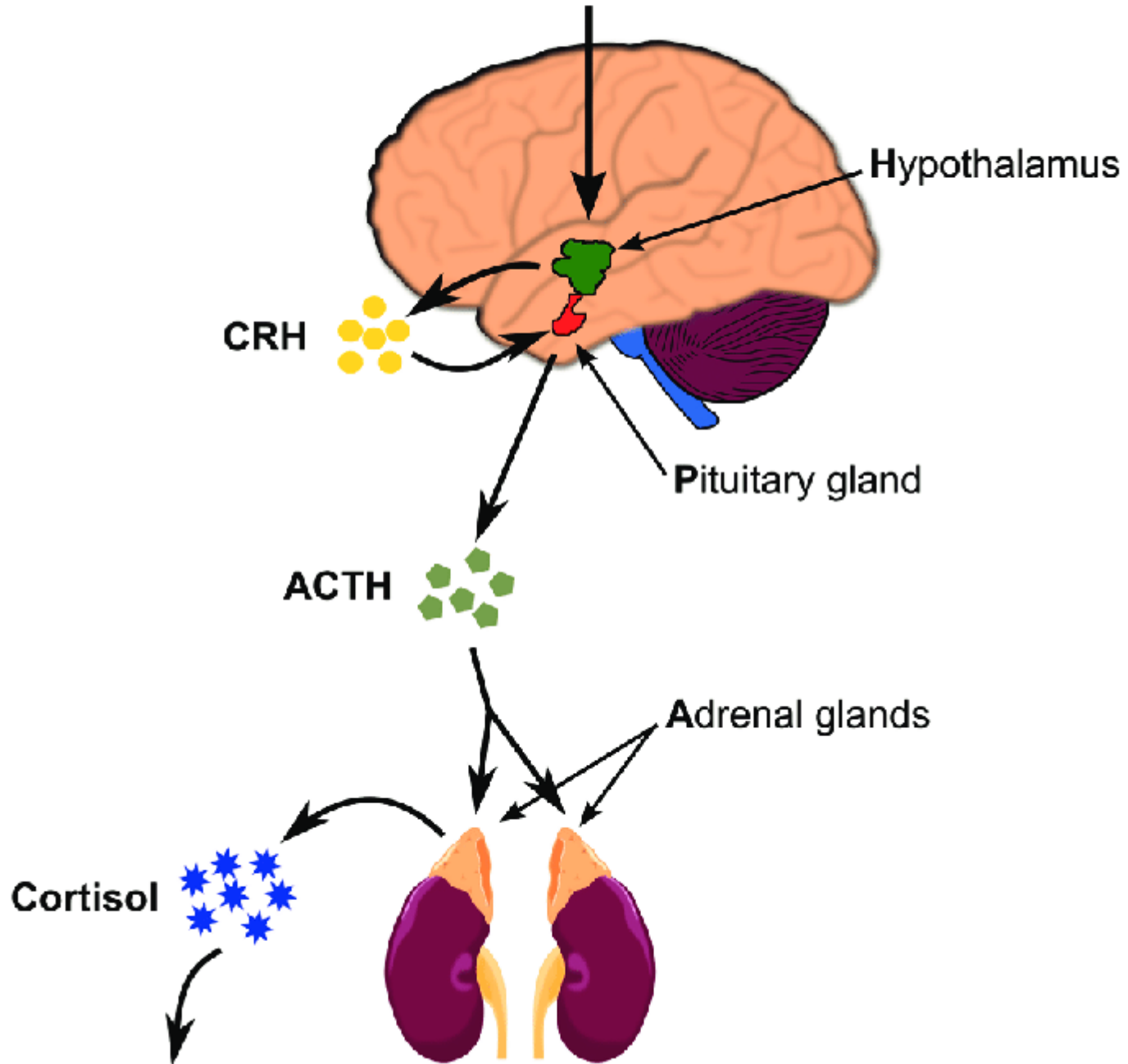
Felitti, Anda et. Al

**”RELATIONSHIP OF CHILDHOOD ABUSE
AND HOUSEHOLD DYSFUNCTION TO
MANY OF THE LEADING CAUSES OF
DEATH IN ADULTS.”** *AMERICAN
JOURNAL OF PREVENTATIVE MEDICINE,
1998*

Toxic Stress and the HPA axis

- **Positive stress:** mild to moderate and short lived stress response, necessary for positive development.
- **Tolerable stress:** more severe stress response but limited in duration which allows for recovery
- **Toxic stress:** extreme, frequent, or extended activation of the body's stress response without the buffering presence of a supportive adult.

Environmental stressor



THE EFFECTS OF HIGH CORTISOL LEVELS



Higher
blood pressure



Lowers body's
ability to fight off
disease and
infections



Increases blood sugar
levels, which may
affect people with
diabetes or a
family history of
diabetes

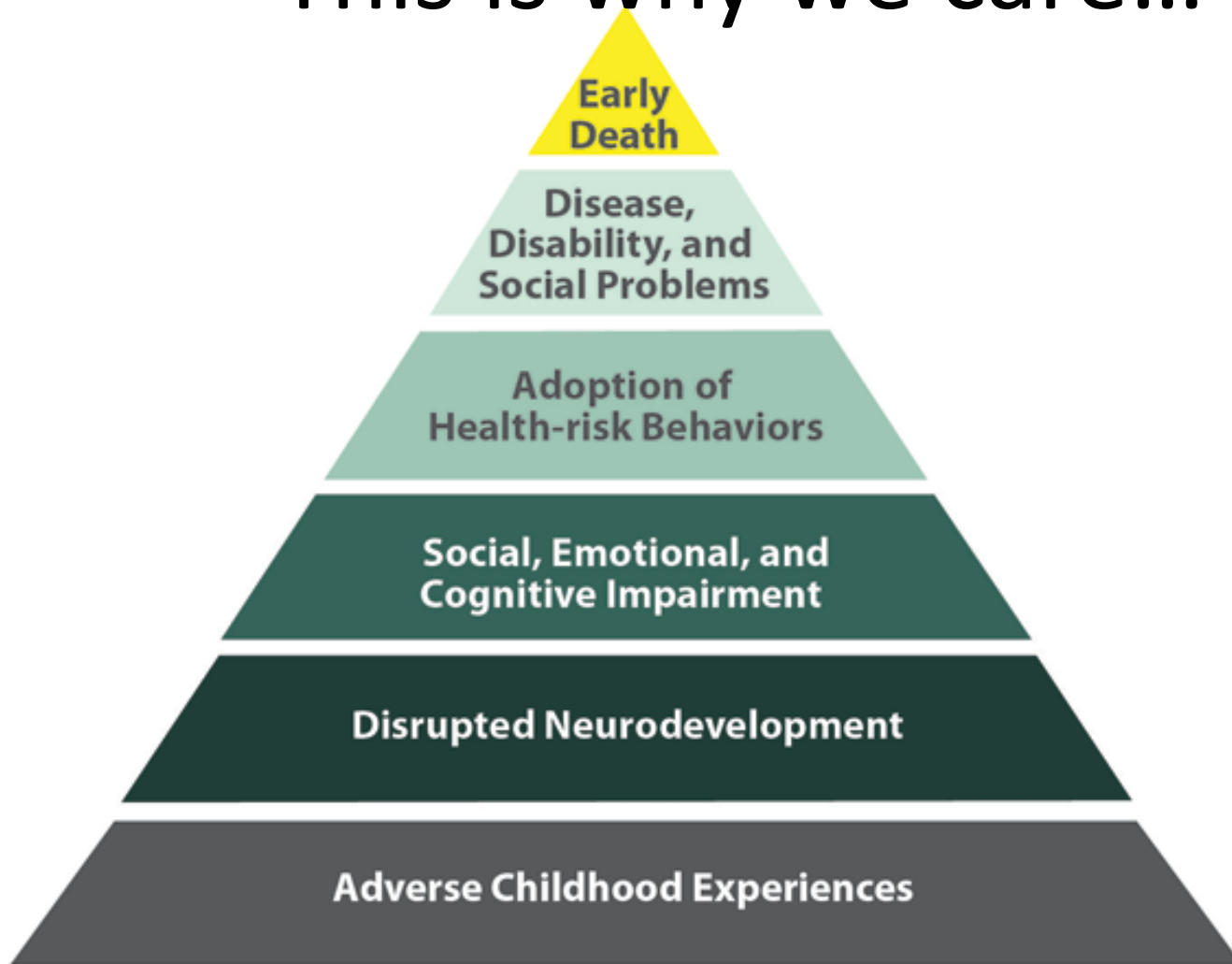


Causes increase
in fat storage,
especially around
the abdomen

All of which can contribute to an increased chance of heart problems.

- [ACE study infographics](#)

This is why we care...



Mechanism by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

- 5.13 times as likely to suffer from depression
- 2.42 times as likely to have chronic obstructive pulmonary disease (COPD)
- 2.93 times as likely to smoke
- 3.23 times as likely to binge drink

- 12.2 times as likely to attempt suicide
- 10.3 times as likely to use injection drugs
- 7.4 times as likely to be an alcoholic

- 2.2 times as likely to have ischemic heart disease
- 2.4 times as likely to have a stroke
- 1.9 times as likely to have cancer
- 1.6 times as likely to have diabetes

And if nothing else motivates, \$\$ will

- Lifetime cost of non-fatal maltreatment (5 of 10 ACEs) incurred annually in the UA is \$401 billion
- \$366.6 billion quality-adjusted life year reduction
 - Generic measure of disease burden which includes both quantity and quality of life lived.
- \$22.4 billion health care costs
- \$4.2 billion special education
- \$4.1 billion child welfare
- \$3.5 billion criminal justice

What *can* Be Done About ACES?

These wide-ranging health and social consequences underscore the importance of preventing ACEs before they happen. **Safe, stable, and nurturing relationships and environments** (SSNREs) can have a positive impact on a broad range of health problems and on the development of skills that will help children reach their full potential. Strategies that address the needs of children and their families include:

Voluntary home visiting programs can help families by strengthening maternal parenting practices, the quality of the child's home environment, and children's development.
Example: Nurse-Family Partnership



Home visiting to pregnant women and families with newborns



Parenting training programs



Intimate partner violence prevention



Social support for parents



Parent support programs for teens and teen pregnancy prevention programs



Mental illness and substance abuse treatment



High quality child care



Sufficient Income support for lower income families

- First and foremost, PREVENT the occurrence of adverse childhood events
- Collect annual state-level data on the prevalence of ACEs
 - Iowa is through BRFSS
- Increase awareness about ACEs and their impact on health and wellness
- Increase access to health care, including mental health services, for all
- Try to prevent the adoption of health risk behaviors as responses to ACEs
- Support efforts to identify evidence-based practices to identify and respond to ACEs
- Advance efforts to integrate behavioral and physical health care practices
- Finally, help to ameliorate the disease burden among adults whose health problems may represent a long-term consequence of ACE's.

My Dream: Wellness Center for Youth

- <https://centerforyouthwellness.org/our-story/>
- Multi-disciplinary, in office but also well integrated in the community.

Resources the CYW clinical model:

- Home visits
- Education
- Psychotherapy
- Wellness nursing
- Psychiatry
- Biofeedback
- Other referrals

Where can we start? Screening

- “Ace-Q user guide for health professionals”
- ACE-Q user guide and questionnaires
 - Centerforyouthwellness.org/cyw-aceq
 - Screening recommended at 1st visit, 9 month, 24 month, then yearly.
 - Score 0-3 no intervention
 - Score 1-3 + symptomatology
 - Score >4

National Resources

- “VetoViolence” – online + facebook
- “Essentials for Childhood” guide by CDC
- “The Deepest Well” By Nadine Burke Harris
- National conference biannually. 2019 details pending.
- ACE-Q user guide and questionnaires in our offices
 - Cetnerforyouthwellness.org/cyw-aceq
 - Screening recommended at 1st visit, 9 month, 24 month, then yearly.
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“Essentials for Childhood”

- https://www.cdc.gov/violenceprevention/pdf/essentials_for_childhood_framework_k.pdf
- **Safety:** The extent to which a child is free from fear and secure from physical or psychological harm within their social and physical environment.
- **Stability:** The degree of predictability and consistency in a child’s social, emotional, and physical environment.
- **Nurturing:** The extent to which a parent or caregiver is available and able to sensitively and consistently respond to and meet the needs of their child.
- *Safe, stable, nurturing relationships and environments are important to promote. There is reason to believe they can help to:*
 - Reduce the occurrence of CM and other adverse childhood experiences
 - Reduce the negative effects of CM and other adverse childhood experiences
 - Influence many physical, cognitive, emotional outcomes throughout a child’s life
 - Reduce health disparities
 - Have a cumulative impact on health

Local resources:

References:

- <https://www.cdc.gov/violenceprevention/childabuseandneglect/acestudy/index.html>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4074672/>
- <http://www.ajpm-online.net/article/PIIS0749379798000178/abstract>
- Peterson, C., Florence, C., & Klevens, J. (2018). The economic burden of child maltreatment in the United States, 2015. *Child abuse & neglect*, 86, 178-183. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention. 2015 non-fatal child maltreatment estimates
- <https://www.cdc.gov/brfss/index.html>
- [https://www.acesconnection.com/g/california-essentials-for-childhood-initiative/fileSendAction/fcType/0/fcOid/421404957667866421/filePointer/421404957667866555/fodoid/421404957667866551/HiddenCrisis Report 1014.pdf](https://www.acesconnection.com/g/california-essentials-for-childhood-initiative/fileSendAction/fcType/0/fcOid/421404957667866421/filePointer/421404957667866555/fodoid/421404957667866551/HiddenCrisis%20Report%201014.pdf)
- https://www.cdc.gov/violenceprevention/pdf/essentials_for_childhood_framework.pdf

CDC and Kaiser: the original study

- Conducted at Kaiser Permanente 1995 – 1997 with 17,000 participants who were asked and their health maintenance examination to complete a confidential survey asking about their childhood experiences, current health status, and current behaviors.
- "Relationship of Childhood Abuse and Household Dysfunction to many of the leading causes of death in adults." *American Journal of Preventative Medicine, 1998*
- <http://www.ajpm-online.net/article/PIIS0749379798000178/abstract>

- Persons who had experienced four or more categories of childhood exposure, compared to those who had experienced none, had 4- to 12-fold increased health risks for alcoholism, drug abuse, depression, and suicide attempt; a 2- to 4-fold increase in smoking, poor self-rated health, 50 sexual intercourse partners, and sexually transmitted disease; and a 1.4- to 1.6-fold increase in physical inactivity and severe obesity. The number of categories of adverse childhood exposures showed a graded relationship to the presence of adult diseases including ischemic heart disease, cancer, chronic lung disease, skeletal fractures, and liver disease.

- In logistic regression models (which included age, gender, race, and educational attainment as covariates) we found a strong, dose-response relationship between the number of childhood exposures and each of the 10 risk factors for the leading causes of death that we studied ($P < .001$). We also found a significant ($P < .05$) dose-response relationship between the number of childhood exposures and the following disease conditions: ischemic heart disease, cancer, chronic bronchitis or emphysema, history of hepatitis or jaundice, skeletal fractures, and poor self-rated health.

- example, nicotine is recognized as having beneficial psychoactive effects in terms of regulating affect⁴⁹ and persons who are depressed are more likely to smoke.^{50,51} Thus, persons exposed to adverse childhood experiences may benefit from using drugs such as nicotine to regulate their mood.^{49,52}
- Consideration of the positive neuro regulatory effects of health-risk behaviors such as smoking may provide bio-behavioral explanations for the link between adverse childhood experiences and health risk behaviors and diseases in adults. In fact, we found that exposure to higher numbers of categories of adverse childhood experiences increased the likelihood of smoking by the age of 14, chronic smoking as adults, and the presence of smoking-related diseases. Thus, smoking, which is medically and socially viewed as a “problem” may, from the perspective of the user, represent an effective immediate solution that leads to chronic use.