Adverse Childhood Experiences (ACEs) Among Kansas Adults

Ghazala Perveen, MBBS, PhD, MPH
Director of Science & Surveillance/Health Officer
Bureau of Health Promotion
Kansas Department of Health & Environment

Introduction

What are the Adverse Childhood Experiences?

• Childhood experiences of abuse, neglect & family dysfunction

What is their impact?

• These incidents harm social, cognitive & emotional functioning of children;

• Dramatically upset the safe, nurturing environments children need to thrive.
The ACE Study

One of the largest study to assess associations between childhood maltreatment health & well-being later in life

Collaboration the Centers of Disease Control & Kaiser Permanente’s Health Appraisal Clinic in San Diego, CA

Initial phase 1995 - 1997
ACE Study - Conceptual Framework

- Conception
- Adverse Childhood Experiences
- Social, Emotional, & Cognitive Impairment
- Adoption of Health-risk Behaviors
- Disease, Disability, and Social Problems
- Early Death
- Death

Scientific Gaps
The ACE Study & Additional Research

ACE Study findings ➔ certain experiences are major risk factors for the leading causes of death, illness & poor quality of life

ACE Prospective Study (>17,000 participants) ➔ is still underway

Additional population based research ➔ Behavioral Risk Factor Surveillance System (BRFSS) to assess the relationships between ACEs & health outcomes
Assessment of Relationships Between ACEs & Health Outcomes In Kansas

- Understanding of relationship between ACEs & health outcomes at population level
  - 2014 KS BRFSS
- Sharing & discussion of the population based findings
  - State wide partners
- Discussion for addressing the issue with state wide partners
  - Planning of state wide prevention efforts
Kansas BRFSS

- Random digit dial telephone (landline and cell phone) survey of health-related risk behaviors, chronic health conditions & use of preventive services among non-institutionalized adults 18 years & older adults - conducted annually since 1992

- Sample size: 10,000+ in even years, 20,000+ in odd years

- Core section & state added section
ACE Module for KS BRFSS

CDC developed a standardized ACE Module in 2008

KS BRFSS included ACE Module in 2014 Survey

Module comprised of 11 questions

8 categories of ACEs are assessed by the module

Categories reflect childhood abuse or household dysfunction
ACE Categories

Childhood Abuse

- Physical abuse
- Sexual abuse
- Emotional abuse

Household Dysfunction

- Household member who was depressed, mentally ill, or suicidal
- Alcohol or drug abuse in household
- Incarcerated household member
- Violence between adults in the household
- Parental divorce or separation
ACE Categories & Questions

- All questions refer to the time period before you were 18 years of age. Now, looking back before you were 18 years of age -

### Physical Abuse
- How often did your parent or an adult in your home ever hit, beat, kick, or physically hurt you in any way? Do not include spanking.
- Responses: *Never/Once/More than once*

### Sexual Abuse
- How often did anyone at least 5 years older than you or an adult ........
- ...ever touch you sexually?
- ...try to make you touch them sexually?
- ...force you to have sex?”
- Responses: *Never/Once/More than once*
ACE Categories & Questions

- All questions refer to the time period before you were 18 years of age. Now, looking back before you were 18 years of age -

<table>
<thead>
<tr>
<th>Emotional Abuse</th>
<th>Mentally Ill Household Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How often did your parent or an adult in your home ever swear at you, insult you or put you down</td>
<td></td>
</tr>
<tr>
<td>• Responses: <em>Never/ Once/More than once</em></td>
<td>• Did you live with anyone who was depressed, mentally ill or suicidal?</td>
</tr>
<tr>
<td></td>
<td>• Responses: <em>Yes/ No</em></td>
</tr>
</tbody>
</table>
ACE Categories & Questions

- All questions refer to the time period before you were 18 years of age. Now, looking back before you were 18 years of age -

<table>
<thead>
<tr>
<th>Substance Abuse in Household</th>
<th>Incarcerated Household Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Did you live with anyone who …..</td>
<td></td>
</tr>
<tr>
<td>• …was a problem drinker or alcoholic?</td>
<td></td>
</tr>
<tr>
<td>• … used illegal street drugs or who abused prescription medications?</td>
<td></td>
</tr>
<tr>
<td>• Responses: Yes/No</td>
<td></td>
</tr>
</tbody>
</table>

• Did you live with anyone who served time or was sentenced to serve time in a prison, jail or other correctional facility?
• Responses: Yes/No
**ACE Categories & Questions**

- All questions refer to the time period before you were 18 years of age. Now, looking back before you were 18 years of age -

<table>
<thead>
<tr>
<th>Violence in Household</th>
<th>Parental Separation or Divorce</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up?</td>
<td>• Were your parents separated or divorced?</td>
</tr>
<tr>
<td>• Responses: <em>Never/Once/More than once</em></td>
<td>• Responses: <em>Yes/No</em></td>
</tr>
</tbody>
</table>
Analysis of ACE Module Data

- Development of ACE Score
  - Calculated based on the 8 categories of ACEs assessed
  - Exposure to any single category counts as one point toward score
  - Final score is a sum of total number of points (range: 0 to 8)
  - Measure of **cumulative** exposure to ACEs, not frequency or severity
Analysis of ACE Module Data

- Weighted survey procedures used to calculate overall and subpopulation prevalence estimates of each ACE category & ACE score – SAS software 9.3

- Prevalence estimates of various health risk behaviors & health conditions also examined by ACE score
Results of ACE Module Data

- Prevalence estimates
- Prevalence estimates of health risk behaviors and health conditions by ACE score
Results of ACE Module Data

- Prevalence Estimates of ACEs
Prevalence of Adverse Childhood Experiences (ACEs) among Kansas adults, by category, KS BRFSS 2014

- Emotional abuse: 32.9%
- Parental separation/divorce: 26.5%
- Substance abuse in household: 21.8%
- Mentally ill household member: 16.0%
- Physical abuse: 15.4%
- Violence between adults in household: 15.0%
- Sexual abuse: 9.7%
- Incarcerated household member: 6.7%
Prevalence of Adverse Childhood Experiences (ACEs) among Kansas adults, KS BRFSS 2014

Percent

Number of Adverse Childhood Experiences Reported (ACE SCORE)

0 49.3%
1 20.0%
2 11.1%
3 6.8%
4 5.0%
5 3.6%
6 2.3%
7 1.3%
8 0.5%
Prevalence of no, low and high ACEs among Kansas adults, KS BRFSS 2014

- 0 (No ACE): 49.3%
- 1 to 2 (Low ACE): 31.1%
- 3+ (High ACE): 19.5%
Prevalence of high (3+) ACE score among Kansas adults, by age group, KS BRFSS 2014

- 18-24 years: 21.3%
- 25-34 years: 24.0%
- 35-44 years: 24.3%
- 45-54 years: 21.8%
- 55-64 years: 18.6%
- 65+ years: 9.2%
Prevalence of high (3+) ACE score among Kansas adults, by annual household income, KS BRFSS 2014

<table>
<thead>
<tr>
<th>Annual Household Income</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $15,000</td>
<td>31.6%</td>
</tr>
<tr>
<td>$15,000 to $24,999</td>
<td>26.0%</td>
</tr>
<tr>
<td>$25,000 to $34,999</td>
<td>20.2%</td>
</tr>
<tr>
<td>$35,000 to $49,999</td>
<td>17.2%</td>
</tr>
<tr>
<td>$50,000 or more</td>
<td>17.1%</td>
</tr>
</tbody>
</table>
Prevalence of high (3+) ACE score among Kansas adults, by education level, KS BRFSS 2014

- Less than HS: 25.2%
- HS graduate or G.E.D.: 19.8%
- Some college: 21.6%
- College Graduate: 14.3%
Prevalence of high (3+) ACE score among Kansas adults, by race/ethnicity, KS BRFSS 2014

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH White</td>
<td>18.5%</td>
</tr>
<tr>
<td>NH Black</td>
<td>21.1%</td>
</tr>
<tr>
<td>NH Other/Multi</td>
<td>25.7%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>24.3%</td>
</tr>
</tbody>
</table>
Prevalence of high (3+) ACE score among Kansas adults, by gender, KS BRFSS 2014

Percentage

Men 17.1%
Women 21.9%
Results of ACE Module Data

- Prevalence of Health Risk Behaviors and Health Conditions by ACE Score
Prevalence of current smoking among Kansas adults, by ACE score, KS BRFSS 2014

- 0 (No ACE): 13.9%
- 1 to 2 (Low ACE): 16.4%
- 3+ (High ACE): 30.4%
Prevalence of **binge drinking** among Kansas adults, by ACE score, KS BRFSS 2014

<table>
<thead>
<tr>
<th>ACE Score Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (No ACE)</td>
<td>13.6%</td>
</tr>
<tr>
<td>1 to 2 (Low ACE)</td>
<td>16.9%</td>
</tr>
<tr>
<td>3+ (High ACE)</td>
<td>19.2%</td>
</tr>
</tbody>
</table>
Prevalence of depression among Kansas adults, by ACE score, KS BRFSS 2014

ACE Score Group
- 0 (No ACE): 11.1%
- 1 to 2 (Low ACE): 18.3%
- 3+ (High ACE): 37.8%
Results of ACE Module Data

- Risk Behaviors and Health Conditions – comparison between adults who did not experience any ACEs & those with high (3+) ACE scores
Results of ACE Module Data

- Compared with those who did not experience any ACEs, Kansas adults with high (3+) ACE scores showed significantly higher prevalence for the following risk behaviors & health conditions:
  - Poor mental health
  - Poor physical health
  - Current asthma
  - COPD
Results of ACE Module Data

- No significant differences were observed among ACE score subgroups for the following risk behaviors & health conditions:
  - Overweight/obesity
  - Leisure time physical activity
  - Diabetes
  - Cancer
  - Heart attack
  - Stroke
  - Kidney Disease
Summary of Results

ACEs are prevalent
1 in 2 KS adults experience at least one ACE.

High ACE scores (3+)
among younger adults; among women

High ACE scores (3+)
among those with lower educational attainment

High ACE scores (3+)
among those with lower annual household income

High ACE scores (3+)
Among non-Hispanic other and multiracial adults; among Hispanics
Summary of Results

- When compared to adults with no ACE, the adults with high ACE scores have **higher prevalence of**
  - Smoking; Binge drinking
  - Current Asthma;
  - COPD
  - Poor physical health; Poor mental health
  - Depression

- Kansas data mirror findings in other states
Public Health Implications

- KS data highlight need to increase awareness of ACEs as a public health issue
- ACE prevention may have beneficial effects on long-term health of Kansans
- Collaboration between state wide partners will be required to address this complex issue.
Next Steps For Analysis & Reporting of KS BRFSS ACE Module Results

- Assessment of relationships of ACEs with health risk behaviors & health conditions while taking into account (statistically adjusting for) age, gender, race/ethnicity, education and income Modelling Analysis

- Full report will be released Spring 2016
Contact Information

Ghazala Perveen, MBBS, PhD, MPH
Health Officer/Director of Science and Surveillance
Bureau of Health Promotion
Kansas Department of Health & Environment
gperveen@kdheks.gov

Ericka Welsh, PhD, MPH
Senior Chronic Disease Epidemiologist
Bureau of Health Promotion
Kansas Department of Health & Environment
ewelsh@kdheks.gov
Questions?

Contact:
Ghazala Perveen, MBBS, PhD, MPH
Health Officer/Director of Science and Surveillance

gperveen@kdheks.gov

Ericka Welsh, PhD, MPH
Senior Chronic Disease Epidemiologist

everelsh@kdheks.gov