Intergenerational Effects of Incarceration: Is Parental Incarceration Associated with Risky Sexual Behavior in Young Adults?

Gianna Le, M.D., M.P.H.
UC Berkeley, School of Public Health

Conference on Adolescent Health
April 11, 2019
1,561,500 prisoners

"War on Drugs" sentencing policies

Carson, EA. Bureau of Justice Statistics (2015); The Sentencing Project (2012)
• 54% parents with minor children
• 10 million children with incarcerated parents
  • 1 in 57 white children
  • 1 in 9 black children
• Mothers are growing prison population

Adverse Outcomes in Children of Incarcerated Parents

**Behavioral / Cognitive**
- Poor school performance
- Delinquency & conduct problems
- Substance use
- Learning disability
- Developmental delay

**Mental health**
- Depression
- Anxiety
- PTSD
- ADHD

**Physical Health**
- Overall poor health
- Asthma
- Cholesterol
- Migraines
- HIV/AIDS

Akesson et al (2012); Kjellstrand (2011); Murray & Farrington (2005); Kinner (2007); Roettger (2010); Turney (2014); Lee et al (2013)
Mechanism Linking Parental Incarceration to Childhood Adverse Outcomes

- Trauma of parent-child separation
- Shift in Family Structure
- Inadequate Parenting
- Economic Strain

Adverse Health Outcomes:

- Early adolescence (age 11-13)
- Middle adolescence (age 14-16)
- Late adolescence (age 17-19)

- Over half of children with incarcerated parents are under age 10
- One third of children reach age 18 while parents are incarcerated
- 20% experience first parental incarceration between age 13-17

Akesson et al (2012); Miller (2006); Arditti (2005); Cai (2014); Glaze & Maruschuk (2010)
Public Health Significance

- Risky behaviors emerge during adolescence / young adulthood
- Young people (aged 13-24):
  - 20% of new HIV diagnoses
  - over 50% of STIs
- No large scale studies on risky sexual behavior in children of incarcerated parents
- Inform targeted interventions
Research Questions

1) Is the history of parental incarceration associated with risky sexual behavior and sexually transmitted infections in young adults?

*Hypothesis:* Having a parent ever incarcerated increases the likelihood of sexual risk outcomes in young adults.

2) Does this association vary by parental gender?
The National Longitudinal Study of Adolescent to Adult Health (Add Health)

Wave 1: 1994
Grades 7-12

Wave III: 2001-2002
ages 18-26 (73%)

Wave IV: 2008-2009
ages 24-32 (76%)

High schools + feeder schools
Methods: Exposure

Parental Incarceration History

“Has your biological mother/father ever spent time in jail or prison?”

Parental Incarceration History

- Neither
- Mother Only
- Father Only
- Both Parents
Methods: Outcomes

Early Sexual Initiation
“How old were you the first time you had vaginal intercourse?
• Under age 15

Inconsistent Condom Use
“On how many of these occasions did you/your partner use a condom?”

Positive STI Test
Urine sample for chlamydia & gonorrhea
Methods: Confounders

- Gender
- Race
- Public assistance use
- High school graduate status
- Maltreatment
Wave 1
Study Population
n = 6504

- 1390 loss to follow up
- 305 missing data

Wave 4
Complete Data on Parental Incarceration
n = 4809

- 837 missing data

Wave 3
Complete Data on Sexual Risk Outcomes
n = 3972

Methods: Statistical Analysis

• Corrected chi-squared tests for covariates by parental incarceration and sexual risk outcomes

• Series of logistic regression models
  Model 1: Parental incarceration history (binary)
  Model 2: Parental incarceration status (categorical)
Results: Who are the young adults in the study?

- Parent in jail or prison: 15%
- First sex before age 15: 15%
- Inconsistent condom use: 63%
- Positive STI test: 4%
Results: Early Sexual Initiation

Model 1: Parental Incarceration History (Binary)

- Crude OR: OR = 2.1, p < 0.001
- Adjusted OR: AOR = 1.4, p = 0.01

Model 2: Parental Incarceration Status (categorical)

- Neither: AOR = 3.6, p < 0.001
- Mother Only: AOR = 1.3, p = 0.1
- Father Only: AOR = 1.3, p = 0.5
- Both

*Models adjusted for gender, race, public assistance use, maltreatment history, high school graduate status*
**Results: Inconsistent Condom Use**

**Model 1: Parental Incarceration History (binary)**

- **Crude OR**: OR = 1.2, P = 0.06
- **Adjusted OR**: AOR = 1.1, P = 0.45

**Model 2: Parental Incarceration History (categorical)**

- **Model 2: Parental Incarceration History (categorical)**
- **Non-Adjusted OR**
  - **Neither**: AOR = 3.4, P = 0.03
  - **Mother Only**: AOR = 1.0, P = 0.84
  - **Father Only**: AOR = 0.8, P = 0.99

*Models adjusted for gender, race, public assistance use, maltreatment history, high school graduate status*
Results: Positive STI Test

Model 1: Parental Incarceration History (binary)

Crude OR

Adjusted OR

OR = 2.5
p < 0.001

AOR = 2.0
p = 0.01

Model 2: Parental Incarceration Status (categorical)

Neither

Mother Only

Father Only

Both

AOR = 5.5
p < 0.05

AOR = 1.7
p = 0.06

AOR = 1.7
p = 0.18

*Models adjusted for gender, race, public assistance use, maltreatment history, high school graduate status.
Discussion

Parental incarceration is associated with early sexual initiation and STI outcomes

- Adverse childhood experiences linked to early sex\(^1\)
- Parental absence is associated with risky health behaviors\(^2,3\)
- Parental incarceration unique trauma

Maternal incarceration is associated with all outcomes at larger magnitude

- Removal of mothers may carry more profound effect
- Paternal absence and early sex \(^3,4\)

Theories linking early stress to risky sexual behavior

- Social learning
- Family stress
- Evolutionary biology
Limitations

• Missing key characteristics of incarcerated parent
• Sexual risk restricted to vaginal intercourse
• Condom use doesn’t account for partner type
• Recall bias and social desirability from self-reported data
• Selection bias from school-based sampling

Strengths

• First quantitative study examining parental incarceration and sexual risk
• Assessed incarcerated parent’s gender and timing of first incarceration
• Generalizable
• Used objective STI tests
Future Directions

RESEARCH

• Characteristics of incarcerated parent
  • Residential status
  • Duration and frequency incarceration
• Family / household relationships
• Compare parental absence and incarceration
Future Directions

SCHOOLS
• Target sexual health education and support services

CLINICS
• Screen for parental incarceration history
• Sexual health counseling and STI screening to at-risk pediatric population

CRIMINAL JUSTICE
• Improve child visitation programs especially for mothers
• Alternative sentencing for small offenses
THANK YOU!

- Kim Harley, PhD
- Maureen Lahiff, PhD
- Julie Deardorff, PhD
- UC Berkeley Maternal Child Health c/o 2017 & 2018
State & Federal Prison Population by Offense, 2014

Federal
- 7.3% Violent
- 6% Drug
- 35.9% Immigration
- 15.9% Weapons
- 11.1% Other
- 0.7% Other

State
- 53.2% Violent
- 15.7% Drug
- 19.3% Property
- 11% Public Order
- 0.8% Other


Number of People in Federal Prisons for Drug Offenses, 1980-2014

<table>
<thead>
<tr>
<th>Year</th>
<th>Drug Offenses</th>
<th>All Offenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>4,749</td>
<td>9,491</td>
</tr>
<tr>
<td>1985</td>
<td>22,037</td>
<td>35,555</td>
</tr>
<tr>
<td>1990</td>
<td>24,297</td>
<td>56,909</td>
</tr>
<tr>
<td>1995</td>
<td>46,667</td>
<td>83,669</td>
</tr>
<tr>
<td>2000</td>
<td>74,276</td>
<td>131,739</td>
</tr>
<tr>
<td>2005</td>
<td>160,524</td>
<td>186,545</td>
</tr>
<tr>
<td>2010</td>
<td>97,800</td>
<td>192,663</td>
</tr>
<tr>
<td>2014</td>
<td>96,500</td>
<td>192,663</td>
</tr>
</tbody>
</table>

Covariates by Parental Incarceration

By Race

- White, NH
- Hispanic
- Black, NH
- Native American, NH
- Asian, NH
- Mixed, NH

Parent Ever Incarcerated

P < 0.001

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, NH</td>
<td>12.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>18.4</td>
</tr>
<tr>
<td>Black, NH</td>
<td>24.8</td>
</tr>
<tr>
<td>Native American, NH</td>
<td>12.8</td>
</tr>
<tr>
<td>Asian, NH</td>
<td>2.4</td>
</tr>
<tr>
<td>Mixed, NH</td>
<td>16.8</td>
</tr>
</tbody>
</table>
Covariates by Sexual Risk Outcomes

By Race

- White, NH
- Hispanic
- Black, NH
- Native American, NH
- Asian, NH
- Mixed, NH

First sex under age 15

Positive STI test

P < 0.001
Covariates

- Age
- Gender
- Race
- Pub assistance
- Maltreatment
- Education
- Foster care
- Alcohol intoxication
- Parental educational attainment (mothers)
- Household characteristic
Conclusion

• Parental incarceration is another mechanism into greater disadvantage for families and children
• Mass incarceration likely contributed to intergeneration impact of health disparities across the life spectrum
• Policies to increase health equity for children of incarcerated parents must utilize the socioecological framework