Traumatic Events and Suicidal Behavior

Results from a national mental health survey

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Suicidal ideation
Prevalence: 11-14%

Suicide attempts
Prevalence: 2.8-4.6%
Risk?
Risk Factors

Sociodemographics

Poor family relationships

Mental disorders

Comorbidity

Chronic physical illness
Traumatic events

- Controversy around relationship to suicidal behavior

Two Main Areas:
- Combat trauma
- Interpersonal trauma
  - childhood sexual abuse, rape
Research in this area

Fergusson et al.
- Longitudinal
- Childhood trauma led to greater risk of disorder, which led to increased risk of suicidal behavior

Molnar et al.
- Childhood sexual abuse and suicidal behavior
- Relationship between trauma and suicide partially mediated by psychiatric disorders
Limitations of previous work

- Primary care sample
- Particular types of trauma
- Generalizability
1. Does a direct link exist between traumatic events and suicidal behavior?
2. Dose-response relationship?

3. Do traumatic events occur prior to onset of suicidal behavior?
National Comorbidity Survey (NCS)

- US nationally representative data, N=5877
- Based on a stratified, multistage area probability sample of non-institutionalized civilian US population
- Ages 15-54
- Response rate of 82.4%
- Used the Composite International Diagnostic Interview (CIDI)
### Measures in the NCS

- Covers a range of traumas
- Respondents can endorse multiple traumas
- Can look at impact of each of 11 traumas independently

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>Combat experience</td>
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<tr>
<td>2.</td>
<td>Life-threatening accident</td>
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<tr>
<td>3.</td>
<td>Fire, flood, natural disaster</td>
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<td>4.</td>
<td>Witnessed bad injury/death</td>
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<td>Raped</td>
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<td>10.</td>
<td>Threatened with a weapon, held captive, or kidnapped</td>
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<td>11.</td>
<td>Suffered great shock in hearing of someone else’s traumatic experience</td>
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Suicidal behaviors

“Have you ever seriously thought about committing suicide?”

“Have you ever attempted suicide?”
Age of onset

“How old were you the first time [it] happened?”

• Asked for all traumatic events except child abuse and neglect
### Analyses

- Statistical weight employed
- Multiple logistic regression
- Stratified by gender

<table>
<thead>
<tr>
<th>AOR - 1</th>
<th>AOR - 2</th>
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<tbody>
<tr>
<td>Sociodemographics</td>
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<tr>
<td>Psychiatric disorders</td>
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<td>Physical conditions</td>
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<td>3 or more disorders</td>
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<td></td>
<td><strong>Other traumatic events</strong></td>
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Age on onset analyses

• Prevalence of traumatic event prior to suicidal behavior

• Paired samples t-tests
  – Mean age of onset of traumatic event vs. mean age of onset of suicidal behavior
<table>
<thead>
<tr>
<th>Traumatic event</th>
<th>Men No lifetime suicidal ideation (n = 2429)</th>
<th></th>
<th>Women No lifetime suicidal ideation (n = 2436)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>n (%) AOR-1b (95% CI) AOR-2f (95% CI)</td>
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<tr>
<td>Combat experience</td>
<td>132 (5.9) 0.98 (0.57 - 1.71) 1.01 (0.57 - 1.80)</td>
<td>1 (---) 1.32 (0.103 - 1.70) * 1.24 (0.92-1.68)</td>
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<tr>
<td>Non-interpersonal events</td>
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<tr>
<td>Suffered great shock</td>
<td>272 (9.2) 1.01 (0.55 - 1.85) 0.86 (0.44-1.66)</td>
<td>315 (11.5) 152 (22.7) 1.32 (0.103 - 1.70) * 1.24 (0.92-1.68)</td>
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<tr>
<td>Life-threatening accident</td>
<td>588 (22.3) 1.27 (0.90 - 1.80) 1.22 (0.88-1.68)</td>
<td>301 (11.6) 125 (19.9) 1.22 (0.76 - 1.96) 1.15 (0.68-1.96)</td>
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<tr>
<td>Fire/flood/natural disaster</td>
<td>429 (16.4) 1.44 (0.96 - 2.15) 1.38 (0.91-2.08)</td>
<td>324 (13.3) 127 (19.7) 1.07 (0.73 - 1.56) 0.92 (0.63-1.34)</td>
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<tr>
<td>Witnessed bad injury/death</td>
<td>152 (3.3) 1.03 (0.76 - 1.39) 0.91 (0.67-1.23)</td>
<td>165 (6.3) 165 (23.5) 1.20 (0.87 - 1.59) 1.05 (0.76-1.45)</td>
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<tr>
<td>Interpersonal events</td>
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<tr>
<td>Raped</td>
<td>17 (0.5) 10 (1.9) 1.73 (0.85 - 3.94) 1.12 (0.26-4.09)</td>
<td>157 (5.4) 149 (22.3) 1.05 (0.26-3.04) ** 1.73 (1.13-2.65) **</td>
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<tr>
<td>Sexually molested</td>
<td>64 (2.1) 31 (7.0) 1.61 (0.66 - 3.94) 1.73 (0.53-3.09)</td>
<td>271 (8.9) 177 (25.8) 2.05 (1.41 - 2.97) ** 1.75 (1.20-2.54) **</td>
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<tr>
<td>Physical attack/assault</td>
<td>272 (9.6) 99 (19.9) 1.00 (0.63 - 1.58) 0.79 (0.47-1.32)</td>
<td>155 (4.3) 156 (16.0) 1.99 (1.02 - 3.86) 1.68 (0.76-3.75)</td>
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<tr>
<td>Physically abused as a child</td>
<td>80 (2.4) 56 (11.9) 2.78 (1.34 - 5.02) ** 2.01 (1.02-3.98) *</td>
<td>114 (3.4) 98 (14.9) 1.96 (1.08 - 3.64) * 1.43 (0.79-2.57)</td>
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<tr>
<td>Seriously neglected as a child</td>
<td>47 (1.2) 48 (10.6) 3.53 (1.73 - 7.20) ** 2.58 (1.11-5.99) *</td>
<td>72 (2.3) 66 (10.1) 1.62 (0.92 - 2.87) 1.15 (0.85-2.04)</td>
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<tr>
<td>Threatened with a weapon, held captive or kidnapped</td>
<td>455 (17.2) 131 (34.1) 1.59 (1.06 - 2.40) * 1.54 (1.01-2.33) *</td>
<td>179 (6.2) 114 (30.7) 1.07 (0.72 - 1.58) 0.85 (0.60-1.44)</td>
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<tr>
<td>Number of events</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>No events</td>
<td>880 (40.0) 75 (19.3) 1.00 (---) 1.00 (---)</td>
<td>1095 (50.4) 114 (24.1) 1.00 (---) 1.00 (---)</td>
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<tr>
<td>1 - 2 events</td>
<td>1029 (41.1) 139 (38.9) 1.44 (---) 1.44 (---)</td>
<td>1019 (39.3) 247 (42.9) 1.68 (---) 1.68 (---)</td>
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</tr>
</tbody>
</table>
| 3 or more events                        | 519 (18.9) 177 (41.8) 1.96 (1.20 - 3.21) ** | 322 (10.3) 233 (33.0) 2.28 (1.45 - 3.60) ** 2.28 (1.45-3.60) **
Example of results

Using sexual molestation as traumatic event

- Women
- Suicidal ideation

Sociodemographics
Psychiatric disorders
Physical conditions
Comorbidity
Other traumatic events

Sexually molested

AOR = 1.75

Suicidal ideation

**adjusted odds ratio significant at \( p < .01 \)
Suicidal ideation for men

- Adjusted odds ratio

**Non-interpersonal Events**
- Combat exposure
- Shock
- Accident
- Natural disaster
- Witness injury or death

**Interpersonal Events**
- Rape
- Sexual molestation
- Physical attack
- Physical abuse
- Neglect
- Kidnap, hostage

Adjusted for sociodemographics, psychiatric disorders, physical conditions, comorbidity, other traumatic events
Suicidal ideation for women

Non-interpersonal Events
- Combat exposure
- Shock
- Accident
- Natural disaster
- Witness injury or death

Interpersonal Events
- Rape
- Sexual molestation
- Physical attack
- Physical abuse
- Neglect
- Kidnap, hostage

Adjusted for sociodemographics, psychiatric disorders, physical conditions, comorbidity, other traumatic events

Adjusted odds ratio
- non-significant
- significant at p<.05
- significant at p<.01
Suicidal ideation for men and women

Adjusted for sociodemographics, psychiatric disorders, physical conditions, comorbidity
Suicide attempts for men and women

Adjusted for sociodemographics, psychiatric disorders, physical conditions, comorbidity
## Age of onset

<table>
<thead>
<tr>
<th>Traumatic event</th>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td><strong>Non-interpersonal events</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suffered great shock</td>
<td>298 (91.0)</td>
<td>367 (83.7)</td>
</tr>
<tr>
<td>Life-threatening accident</td>
<td>681 (93.4)</td>
<td>359 (85.4)</td>
</tr>
<tr>
<td>Fire/flood/natural disaster</td>
<td>482 (95.8)</td>
<td>407 (93.5)</td>
</tr>
<tr>
<td>Witnessed bad injury/death</td>
<td>973 (94.1)</td>
<td>456 (88.7)</td>
</tr>
<tr>
<td><strong>Interpersonal events</strong></td>
<td></td>
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</tr>
<tr>
<td>Raped</td>
<td>27 (100.0)</td>
<td>241 (78.2)</td>
</tr>
<tr>
<td>Sexually molested</td>
<td>93 (97.4)</td>
<td>418 (94.8)</td>
</tr>
<tr>
<td>Physical attack/assault</td>
<td>323 (91.6)</td>
<td>196 (77.3)</td>
</tr>
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<td>Threatened with a weapon, held captive or kidnapped</td>
<td>541 (93.1)</td>
<td>223 (84.1)</td>
</tr>
</tbody>
</table>
Not all traumas are equal!

Interpersonal trauma highly associated with suicidal behavior

- Physical contact with victim’s body
- Level of intrusiveness
- Use of force
Multiple traumatic events have a cumulative effect on suicidal behavior.

Age of onset of trauma prior to age of onset of suicidal behavior.
Limitations

• Not completed suicides
  - But these are the best predictors

• Lay interviewers
  - Would be better with clinicians

• Cross-sectional, retrospective
  - No causal inference

• Generalizability
  - Elderly and children may differ

• Borderline personality disorder
  - Assessed antisocial personality disorder
Conclusions

Significant association between trauma exposure and suicidal behavior demonstrated...

Most important to note: interpersonal traumas & multiple traumas

Trauma onset earlier than suicidal behavior

But future studies needed!!