Disparities in Mental Health and Mental Health Coping Resources Between Rural and Nonrural Lung Cancer Survivors

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Disclosure Information

I have no financial relationships to disclose

and

I will not discuss off label use and/or investigational use in my presentation
Healthy People 2020

• An overarching goal....

  – Achieve health equity, eliminate disparities, and improve the health of all groups
Health Disparities

• ‘Differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups” (NCI, 2005)
Disease Burden?

- Physical Morbidity
- Social Morbidity
- Psychological Morbidity (i.e., poor mental health)
Population Groups?

- Race/ethnicity
- Sex
- Sexual identity
- Age
- SES
- Geographic location (i.e., rural vs nonrural/urban)

(From Healthy People 2020)
Cancer-Related Health Disparities: Most Common Research Areas

<table>
<thead>
<tr>
<th></th>
<th>Incidence</th>
<th>Mortality</th>
<th>5-Yr Survival</th>
<th>Disease Burden (e.g., Psychological Morbidity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td>Geographic location (e.g., rural vs nonrural)</td>
<td>XXX</td>
<td>XXX</td>
<td>XXX</td>
<td>?? ???? ?? ????</td>
</tr>
</tbody>
</table>
Conclusion....

We know little about potential disparities in mental health outcomes in cancer survivors linked to residing in a rural area
Rationale for Study

• Cancer dx, tx, and recovery associated with variety of stressors that can impact MH

• Reason to believe cancer survivors residing in rural areas…..
  
  – May experience more stress in association with their “cancer experience” (i.e., dx, tx, recovery)

  – May have fewer resources to cope with that stress
Study Aims

• Identify differences between rural and nonrural lung cancer survivors in MH outcomes

• Identify differences between rural and nonrural lung cancer survivors in potential MH resources
Study Methods

• Design: Cross-sectional

• Sampling: Population-based; SEER Kentucky Cancer Registry

• Study Sample: (n=144)
  – Non-small cell lung cancer survivors
  – Approximately 12 to 15 months post-dx
  – Rural (n=76) and nonrural (n=68)

• Assessment: Mail Questionnaire and Telephone Interview
• Definition of Rural vs. Nonrural:
  – Based on county of residence
  – Based on USDA 2003 Rural-Urban Continuum Codes
    • All US counties assigned code of 1-9
    • Codes based on size of county population center and adjacency to counties
      with significant population core (i.e., metro counties)
    • Rural counties defined as codes 6-9
    • Nonrural counties defined as codes 1-5

• Rural counties characterized by small population center (< 20,000) and/or nonadjacency to metro county
Study Measures: MH Outcomes

- MOS-36
  - Mental Health
  - Social Functioning
- Hospital Anxiety and Depression Scale (HADS)
  - Anxiety
  - Depression
  - Total Distress
- NCCN Distress Thermometer Rating and Problem List
- Benefit-Finding Questionnaire
Study Measures: MH Resource Variables

• **Intrapersonal**
  – Dispositional optimism
  – Efficacy Beliefs, Attitudes, Social Norms regarding MH resource use
  – Education

• **Interpersonal**
  – Social support
  – Social constraint
Study Measures: MH Resource Variables (cont)

- **Informational**
  - Home computer access
  - Use of internet and e-mail

- **Tangible**
  - Discretionary income
  - Insurance coverage for MH services
  - MH professional, cancer support group ≤ 30 miles
Comparison of Rural and Nonrural Survivors on Demographic and Clinical Variables

<table>
<thead>
<tr>
<th></th>
<th>Rural (n=76)</th>
<th>Nonrural (n=68)</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Female</td>
<td>50%</td>
<td>51%</td>
</tr>
<tr>
<td>% Minority</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>% Partnered</td>
<td>54%</td>
<td>58%</td>
</tr>
<tr>
<td>Age (years)</td>
<td>62.1 (7.5)</td>
<td>63.5 (7.5)</td>
</tr>
<tr>
<td># physical comorbidities</td>
<td>3.6 (2.1)</td>
<td>3.0 (1.6)</td>
</tr>
</tbody>
</table>

* p < .05   ** p < .01
## Comparison of Rural and Nonrural Survivors on Intrapersonal & Interpersonal MH Resources

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Nonrural</th>
<th>Effect Size (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimism</td>
<td>14.3 (4.1)</td>
<td>15.6 (4.4)</td>
<td>.31 *</td>
</tr>
<tr>
<td>Education</td>
<td>10.7 (2.9)</td>
<td>12.9 (3.0)</td>
<td>.69 ***</td>
</tr>
<tr>
<td>MH Help-Seek Efficacy</td>
<td>3.9 (0.5)</td>
<td>4.1 (0.4)</td>
<td>.39 **</td>
</tr>
<tr>
<td>MH Use Attitude</td>
<td>3.8 (0.6)</td>
<td>3.9 (0.5)</td>
<td>.16</td>
</tr>
<tr>
<td>MH Use Social Norm</td>
<td>3.8 (0.6)</td>
<td>3.9 (0.5)</td>
<td>.18</td>
</tr>
<tr>
<td>Cancer Info-Seek Efficacy</td>
<td>2.2 (0.9)</td>
<td>2.5 (0.7)</td>
<td>.34 **</td>
</tr>
<tr>
<td>Social Support</td>
<td>33.1 (8.6)</td>
<td>33.9 (7.9)</td>
<td>.09</td>
</tr>
<tr>
<td>Social Constraint</td>
<td>25.6 (11.4)</td>
<td>21.2 (7.6)</td>
<td>.44 ***</td>
</tr>
</tbody>
</table>

* p<.10  ** p < .05;  ***p < .01
### Comparison of Rural and Nonrural Survivors on Tangible and Informational MH Resources

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Nonrural</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Psychologist &lt; 30 miles</td>
<td>67%</td>
<td>75%</td>
<td>0.68</td>
</tr>
<tr>
<td>% Support group &lt; 30 miles</td>
<td>25%</td>
<td>49%</td>
<td>0.35 **</td>
</tr>
<tr>
<td>% With Household computer</td>
<td>50%</td>
<td>70%</td>
<td>0.43 **</td>
</tr>
<tr>
<td>% Use computer for internet</td>
<td>54%</td>
<td>79%</td>
<td>0.32 **</td>
</tr>
<tr>
<td>% Use computer for email</td>
<td>40%</td>
<td>68%</td>
<td>0.32 **</td>
</tr>
<tr>
<td>% Use Internet “quite a bit”</td>
<td>11%</td>
<td>36%</td>
<td>0.22 ***</td>
</tr>
<tr>
<td>% Use Email “quite a bit”</td>
<td>7%</td>
<td>36%</td>
<td>0.13 ***</td>
</tr>
<tr>
<td>% With MH Insurance Coverage</td>
<td>39%</td>
<td>59%</td>
<td>0.43 **</td>
</tr>
<tr>
<td>% Always $$ left after bills paid</td>
<td>28%</td>
<td>43%</td>
<td>0.52 *</td>
</tr>
</tbody>
</table>

* *p<.10  ** *p < .05  *** *p<.01
## Comparison of Rural and Nonrural Survivors on MH Outcomes

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Nonrural</th>
<th>Effect Size (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOS-Mental Health</td>
<td>63.0 (23.0)</td>
<td>73.2 (21.7)</td>
<td>.44 ***</td>
</tr>
<tr>
<td>MOS-Social Function</td>
<td>64.3 (31.9)</td>
<td>72.2 (26.0)</td>
<td>.28 *</td>
</tr>
<tr>
<td>HADS-Anxiety</td>
<td>7.4 (4.6)</td>
<td>5.7 (3.6)</td>
<td>.40 **</td>
</tr>
<tr>
<td>HADS-Depression</td>
<td>6.4 (4.2)</td>
<td>4.4 (3.5)</td>
<td>.50 ***</td>
</tr>
<tr>
<td>HADS-Total</td>
<td>13.9 (8.0)</td>
<td>10.1 (6.6)</td>
<td>.49 ***</td>
</tr>
<tr>
<td>Global Distress (DT)</td>
<td>4.2 (3.0)</td>
<td>3.4 (2.9)</td>
<td>.24</td>
</tr>
<tr>
<td># MH Problems (DT)</td>
<td>2.1 (2.1)</td>
<td>1.8 (1.9)</td>
<td>.12</td>
</tr>
<tr>
<td>Benefit-Finding</td>
<td>61.7 (16.7)</td>
<td>58.5 (14.8)</td>
<td>.20</td>
</tr>
</tbody>
</table>

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Study Conclusions

- Rural cancer survivors report fewer potential MH resources
  - Intrapersonal
  - Interpersonal
  - Informational
  - Tangible

- Not surprisingly, rural cancer survivors report poorer MH outcomes

- Efforts should be made to enhance availability and use of appropriate MH resources, both formal and informal, among rural cancer survivors
Thanks To My Collaborators…. 

Rachel Steffens, M.S.
Jaclyn Nee, M.P.H.
Thomas Tucker, Ph.D.

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Why might rural cancer survivors possess fewer MH resources?: An incomplete list...

• Poorer access to formal MH resources
• Attitudes, beliefs, & norms less supportive of using formal and informal MH resources
• Small, close knit communities create privacy concerns regarding using MH resources or even talking about MH concerns
• Poorer health insurance coverage, particularly for MH services
• Less access to cancer information (e.g., less internet access)
• Less discretionary income
Formal and Informal Resources MH Resources: Access, Use, Efficacy, Attitude, Norm

- Psychologist or other mental health professional
- Minister, priest, rabbi or other religious leader
- Close friend or family member
- Cancer survivor group
- Another cancer survivor
- Psychoactive medications