Suicidal ideation and function after hip fracture among adults 65 years and older

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Background

Hip fractures are significant, debilitating medical events in later life

• 300,000 older adults suffer a hip fracture each year in the U.S.
• One year after a hip fracture:
  • 50% die
  • 30-60% experience declines in function and/or mobility
  • 10-20% are institutionalized

The year after a hip fracture may be a critical time for suicide risk

• Many suicide risk factors are elevated in the year after a hip fracture, including pain, depression and anxiety, and functional impairment
• Lifetime history of hip fracture is associated with increased risk for suicidal ideation and suicide death in later life
• The relationship between hip fractures and suicidal thoughts and behaviors may be partially mediated by disability and depression

Objectives

1) Describe rates and characteristics of SI during the first year after a hip fracture to healthy controls.
2) Identify demographic, psychosocial, and physical health predictors of SI after a hip fracture.
3) Examine the relationship between functional ability and SI during the 12 months after hip fracture.

Methods

Design:
• Secondary analysis of data from a longitudinal study on risk factors for late-life depression
• Hip fracture patients (HF): 60+ years, surgical repair for hip fracture
• Healthy controls (HC): 60+ years, no recent hip fracture or hospitalization or major illness
• Excluded: current major depressive episode, antidepressive medications, mod-severe cognitive impairment, nonambulatory, metastatic cancer

Primary Measures:
• Depressive: Montgomery Asberg Depression Rating Scale (MADRS); Scores: 0-50
• Functional Recovery Score (FRS); ADL, IADL, mobility; Scores: 0-100 (dependent-independence)
• Depression Rating Scale (MADRS); Scores: 0-10
• Divorced: current major depressive episode, antidepressive medications, mod-severe cognitive impairment, nonambulatory, metastatic cancer

Data Analysis
• Aim 1 & 2: chi square and logistic regression (SI dichotomized: 0=no SI, 1=any SI)
• Aim 3: logistic regression, mixed effects growth models, bootstrap mediation analysis
  • SAS University Edition; Process Macro (Hayes)

Results

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Participating Characteristics, Mean (SD) range or % (n)

<table>
<thead>
<tr>
<th>Patients with Hip Fracture (n)</th>
<th>Healthy Controls (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years</td>
<td>78.5 (8.7)</td>
</tr>
<tr>
<td>Female sex</td>
<td>75.1 (n=370)</td>
</tr>
<tr>
<td>Education, years</td>
<td>13.0 (2.9; 2.6)</td>
</tr>
<tr>
<td>Race</td>
<td>White</td>
</tr>
<tr>
<td>Black or African American</td>
<td>5.9 (n=29)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.6 (n=1)</td>
</tr>
<tr>
<td>Hispanic ethnicity</td>
<td>0.2 (n=1)</td>
</tr>
<tr>
<td>Married Status</td>
<td>493</td>
</tr>
<tr>
<td>Never married</td>
<td>6.7 (n=33)</td>
</tr>
<tr>
<td>Married</td>
<td>37.9 (n=187)</td>
</tr>
<tr>
<td>Separated</td>
<td>0.6 (n=3)</td>
</tr>
<tr>
<td>Divorced</td>
<td>9.9 (n=49)</td>
</tr>
<tr>
<td>Widowed</td>
<td>44.8 (n=223)</td>
</tr>
<tr>
<td>Baseline Functional Recovery Score</td>
<td>94.8 (9.8; 16-100)</td>
</tr>
<tr>
<td>Baseline Montgomery Asberg Depression Rating Scale Score (0-10 item version)</td>
<td>3.2 (4.3; 0-9)</td>
</tr>
</tbody>
</table>

Prevalence and characteristics of suicidal ideation during 52-week follow-up

• 14.8% of patients and 5.9% of healthy controls during 52-week follow-up (X2=15.8, p=0.02)
• Highest rates of SI at week 1 (6.3%) and week 52 (6.8%)
• Of patients endorsing SI at week 1, 85% were new onset

Suicide attempts should not in any way be welcomed, suicidal thoughts , suicidal ideation and function after hip fracture among adults 65 years and older

• Primarily passive in nature (MADRS < 6); 2 cases reporting a suicide plan and wish to die without intent

Conclusions & Future Directions

• Incident (passive) SI may be common and normative in the week after a hip fracture. → assess safety and mood; enhanced social support, supportive psychotherapy as needed
• Older age and higher neuroticism were associated with greater odds of SI after a hip fracture. → emphasize stress coping skills (relaxation breathing), scaffold problem-solving as needed
• Function associated with SI later (not earlier) in recovery process. Why? → those with poorer function have reduced activity?
• Functional supports may be less available (e.g., PT complete)? → finding ways to improve functional recovery early (enhanced PT)
• Help patients cope with functional changes (e.g., problem-solving, ACT-based, instrumental support)

Key References