Thinking upstream: Applicability of brief motivational interviewing to prevent falls in older adults

Kathlynn Northrup-Snyder, PhD, RN
Hiroko Kiyoshi-Teo, PhD, RN
Oregon Public Health Association
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FALL PREVENTION

• 1/3 of older adults fall every year\(^1\)
• Leading cause of unintentional injury, deaths, and disability in older adults\(^1\)
• International public health issue\(^2\)
• Falls increase perceived risk for falling & reduce physical activities impacting individual prevention efforts\(^3\)

GAPS IN RESEARCH & PRACTICE

• Lack of patient engagement in fall prevention recommendations\(^1\)
• Multifactorial programs are beneficial\(^2\) yet,
• Preliminary study \(^1\)\(^3\)
  • 50%: Remembered receiving fall prevention education
  • 29%: Considered themselves to be at high risk for falling
• Preliminary study \(^2\)\(^4\)
  • 13%: Identify as “doing it all,” “not going to change,” or “I give up”
  • 46%: Identify at least 3 fall prevention activities or fall risks
  • 46%: Identified limitations or need for change but not changing yet

4. Unpublished
MOTIVATIONAL INTERVIEWING

MI is a well-established patient-centered behavior change communication approach in healthcare. Skills focus:

- Collaboration using tools such as a Menu of Options
- Empathy with transparency, genuineness and acceptance (non-judgment)
- Partnership through patient-driven insights for change
- Eliciting Change Talk using OAR (open ended questions, affirmations & reflections)
- Softening Sustain Talk (reduce barriers and facilitate)


STUDY AIM

Enhance patient engagement in fall prevention with cognitively oriented older adults by using motivation-based education.

• Evaluate the effectiveness of motivation-based education on fall preventative knowledge, attitudes, and behaviors.
• Evaluate the applicability of motivation-based communication to standard fall education by bedside nurses.
  • non-significant difference between groups
  • Qualitatively evaluate the use of MI skills specific to population
  • Analyze sub-behaviors using stages of change
SETTING/SAMPLE

- Three medical-surgical floors at a Northwestern hospital
  - Initial data collection at bedside
  - 3 month follow-up at home via phone
- Inpatients ($\geq 24\text{ hrs}$)
- Age $\geq 65$
- At high risk for falling (Morse Falls Scale $\geq 45$)
- Cognitively oriented ($\geq \text{AAO} \times 3$)
METHODS

• Randomized Control Trial (N=67)
  • Control group received Fall Prevention Education
  • Intervention group also received MI (audio was recorded)  n=31
• Measures:
  • Modified Fall Prevention Behavior (FAB)\textsuperscript{1-4}
  • Measures to examine motivation:
    • Importance and Confidence Ruler\textsuperscript{5}
    • Short Fall Efficacy Scale-International (FESI)\textsuperscript{6}
    • Patient Activation Measure (PAM)\textsuperscript{7}
    • A qualitative assessment of Stages of Change\textsuperscript{8} from audio transcriptions

METHODS- CONTINUED

• Measures of MI proficiency
  • A sample (8 of 19) of audio recordings were assessed using Motivational Interviewing Treatment Integrity Coding Manual 4.2.1 (MITI) by a member of MINT Motivational Interviewing Network of Trainers.

5. VA Portland Health Care System patient teaching resource
# RESULTS: DEMOGRAPHICS

<table>
<thead>
<tr>
<th>N=67</th>
<th>Mean (SD)/ Frequency (%) (#)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong></td>
<td>97.0% (65)</td>
<td></td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td>73.13 (6.35)</td>
<td></td>
</tr>
<tr>
<td><strong>Admission due to a fall</strong></td>
<td>11.9% (8)</td>
<td></td>
</tr>
<tr>
<td><strong>Morse Fall Scale</strong></td>
<td>68.36 (15.41)</td>
<td>≥45 indicate high fall risk</td>
</tr>
<tr>
<td><strong>Montreal Cognitive Assessment Basic Score</strong></td>
<td>25.58 (2.89)</td>
<td>&lt;22 indicate mild cognitive impairment</td>
</tr>
<tr>
<td><strong>Fell in last 3 months</strong></td>
<td>52.2% (35)</td>
<td>23 people had injury</td>
</tr>
<tr>
<td><strong>Fell in last year (excludes recent 3 months)</strong></td>
<td>44.7% (30)</td>
<td>11 people had injury</td>
</tr>
</tbody>
</table>
# RESULTS: PRIMARY OUTCOMES

<table>
<thead>
<tr>
<th>N=67</th>
<th>Mean (SD)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall prevention behavior score (FAB)</td>
<td>2.96 (0.42)</td>
<td>1-4 possible scores. 4=always implementing fall prevention behaviors</td>
</tr>
<tr>
<td>The level of <strong>importance</strong></td>
<td>9.12 (1.97)</td>
<td>1-10 possible score. 10=extremely important</td>
</tr>
<tr>
<td>The level of <strong>confidence</strong></td>
<td>7.23 (2.49)</td>
<td>1-10 possible score. 10=extremely confident</td>
</tr>
<tr>
<td>Self-efficacy score (FESI)</td>
<td>17.8 (6.69)</td>
<td>1-28 possible score. 28=having the most concerns related to falling</td>
</tr>
<tr>
<td>Patient activation score (PAM)</td>
<td>64.3 (13.59)</td>
<td>1-100 possible score. 100=most activated to engage with his/her healthcare</td>
</tr>
</tbody>
</table>
In comparison between those who fell “>3m, < 1 year” to those who did not have a fall during that period, these differences were not statistically significant.
## MITI CODING RESULTS

<table>
<thead>
<tr>
<th>MITI summary scores</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivating Change Talk (scale 1-5)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Softening Sustain Talk (scale 1-5)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Partnership (scale 1-5)</td>
<td>3 - 4</td>
<td>3.44</td>
</tr>
<tr>
<td>Empathy (scale 1-5)</td>
<td>3 - 4</td>
<td>3.33</td>
</tr>
<tr>
<td>%Complex Reflections CR/(SR + CR) prefer &gt;50%</td>
<td>25 - 89.4</td>
<td>43.67%</td>
</tr>
<tr>
<td>Reflection to Question Ratio (prefer 2 or 3:1)</td>
<td>0.8 - 1.7</td>
<td>1.45</td>
</tr>
<tr>
<td>Total MI-adherent (Seeking Collaboration + Affirm + Emphasizing Autonomy)</td>
<td>5 - 12</td>
<td>7.22</td>
</tr>
<tr>
<td>Total MI non-adherent (persuade + confront)</td>
<td>0 - 7</td>
<td>2.66</td>
</tr>
</tbody>
</table>
“What’s important to you?”
Falls are common in hospitals and at home

I want to talk about things that matters to me:

| Be independent to take care of myself | Be able to do more things that I enjoy |
| Get better and stronger               | Need less visits to hospitals           |

I want to talk about my fall risks:

| My knees gives out                     | My medications make me fall |
| Being dizzy or loosing balance while standing | Not wanting to ask for help or wait for help |
| Moving before thinking                | My surroundings are not safe |

I want to talk about practical ways to keep me safe:

<p>| Allow plenty of time to get to the bathroom by planning ahead | Wear your glasses and hearing aidaes |</p>
<table>
<thead>
<tr>
<th>Fall Prevention Behaviors</th>
<th>Sum (%) of Responses</th>
<th>Pre-C</th>
<th>C</th>
<th>P</th>
<th>A</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear your glasses and hearing aids</td>
<td>5 (17%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Turn lights on at night</td>
<td>11 (38%)</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>10%</td>
<td>28%</td>
</tr>
<tr>
<td>Keep things close</td>
<td>11 (38%)</td>
<td>0%</td>
<td>3%</td>
<td>0%</td>
<td>3%</td>
<td>31%</td>
</tr>
<tr>
<td>Exercise/therapy</td>
<td>15 (52%)</td>
<td>10%</td>
<td>10%</td>
<td>24%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Rise slowly and check for dizziness</td>
<td>15 (52%)</td>
<td>0%</td>
<td>3%</td>
<td>3%</td>
<td>28%</td>
<td>17%</td>
</tr>
<tr>
<td>Planning ahead</td>
<td>19 (66%)</td>
<td>0%</td>
<td>7%</td>
<td>7%</td>
<td>21%</td>
<td>31%</td>
</tr>
<tr>
<td>Ask/wait for assist</td>
<td>20 (69%)</td>
<td>3%</td>
<td>7%</td>
<td>10%</td>
<td>45%</td>
<td>3%</td>
</tr>
<tr>
<td>Know what hazards exist</td>
<td>20 (69%)</td>
<td>0%</td>
<td>7%</td>
<td>17%</td>
<td>28%</td>
<td>17%</td>
</tr>
<tr>
<td>Walking Aids Use-walker</td>
<td>20 (69%)</td>
<td>21%</td>
<td>7%</td>
<td>7%</td>
<td>31%</td>
<td>3%</td>
</tr>
<tr>
<td>Walking Aids Use-cane</td>
<td>22 (76%)</td>
<td>10%</td>
<td>7%</td>
<td>7%</td>
<td>31%</td>
<td>21%</td>
</tr>
<tr>
<td>Being careful/ minimize hazards</td>
<td>27 (93%)</td>
<td>3%</td>
<td>14%</td>
<td>14%</td>
<td>38%</td>
<td>24%</td>
</tr>
</tbody>
</table>
BARRIERS

• Assistive Devices:
  • 106: "Sometimes I don’t because I think I don’t need it."
  • 117: "Asking me to consider a walker is too much. I would rather be in a wheelchair, because the walker indicates you’re an old thing …"
  • 101: At home I can’t use my walker in the house because it’s too big to go between everything.

• Waiting for help
  • 110: "I'm stubborn."
  • 202: "Well I’m old and set in my ways and …you have to be able to take care of yourself on your own.

• Know what hazards exist
  • 133: No, the stuff is piled up so high you can’t fall over. …I was gonna crate everything up and then I got sick.

• Exercise:
  • 137: "Walking. I can't even stand. I'm physically too unreliable."
## A Balance of Feelings & Beliefs

<table>
<thead>
<tr>
<th>Low Confidence</th>
<th>Explore Feelings</th>
<th>MI strategies- always engage, evoke, OAR</th>
<th>Behavioral goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence-</td>
<td>Hopeless Helpless</td>
<td>Explore</td>
<td>Build trust of</td>
</tr>
<tr>
<td>concerns</td>
<td>Frustrated</td>
<td>• Explore</td>
<td>self/body</td>
</tr>
<tr>
<td>with trust</td>
<td></td>
<td>• issues of self-efficacy/ autonomy over</td>
<td>through</td>
</tr>
<tr>
<td>for body</td>
<td></td>
<td>• what patient is currently doing to</td>
<td>strengthening,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Self-efficacy to raise confidence in</td>
<td>balance,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ‘Looking back- when did you have a</td>
<td>medications,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Affirmations of knowing self, decision</td>
<td>or control of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Emphasize body control-choice of</td>
<td>other medical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>procedures or health care direction</td>
<td>conditions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>And</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Fall prevention</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>specific to</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>condition</td>
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<th>Behavioral goals</th>
</tr>
</thead>
</table>
| **Confidence-** | Pride, Self-image, Embarrassment, Mind over matter, Self-reliant, Stubborn- (rephrase to Persistent) | • Explore  
  • feelings associated with falling or resistance to prevention strategies  
  • what patient is currently doing to manage/ reduce falls  
  • new behaviors they would be willing to add  
  • Affirmations of current skills & strategies, and their “warrior” spirit related to strength, resilience, planning, etc.  
  • Emphasize choice of fall prevention strategies | Fall prevention specific to patient home or situation and Affirming what they are already doing well. |
SUGGESTED AFFIRMATIONS

- Brave
- Cautious
- Cheerful
- Competent
- Conscientious
- Cooperative
- Courageous
- Creative
- Critical thinker
- Curious
- Decisive
- Dependable
- Diligent
- Discreet
- Enthusiastic
- Honest
- Humorous
- Imaginative
- Industrious
- Intelligent
- Motivated
- Observant
- Optimistic
- Orderly
- Organized
- Original
- Patient
- Persistent
- Resourceful
- Resilient
- Strong
- Tolerant
- Warrior
- Strong
CONCLUSIONS

• Older adults value fall prevention (importance & behaviors)
• Recent fall experience impact:
  • Fall prevention behaviors (↑)
  • Importance (↑) and confidence (↓)
• MI has strong potential to impact adult views of Fall Prevention-
  • Break down large behavior to relevant sub-behaviors
  • Approach client with Stage of Change in mind
  • Consider pro/con feelings of each issues
  • Affirm & Reflect strengths of client

Opportunity for behavior change!
CONCLUSIONS

• Identify areas of ambivalence for behavior change

• “Coach” based on *stages of change and MI*
  
  • 222-”a good idea for nurses to talk to patients, ... about their ability to get up on their own, walk on their own, *try to understand what the patient needs* like things like a walkers, etc. And *don’t just automatically assume they are likely to fall but to actually talk to them to determine the level.*”

• Find and create next steps for what they are _NOT_ doing, or _can do MORE of_
LIMITATIONS

• Sample size
• Limited to high fall-risk patients
• Self-reported data
• Social desirability bias
• Difficulty with audio equipment
• Beginning proficiency MI interviewer

NOTE: This presentation represents baseline data for a randomized control trial using Motivational Interviewing
Thank you!
northup@ohsu.edu
kiyoshi@ohsu.edu