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

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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]

1. Bergen, G. Falls and Fall Injuries Among Adults Aged ≥65 Years — United States, 2014. *MMWR Morb. Mortal. Wkly. Rep.* **65,** (2016).
2. World Helath Organization. Falls: Fact sheet. WHO (2016). Available at: http://www.who.int/mediacentre/factsheets/fs344/en/.
3. Zijlstra, G. a. R. et al. Prevalence and correlates of fear of falling, and associated avoidance of activity in the general population of community-living older people. Age Ageing 36, 304–309 (2007).

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*

1. RAND corporation. Preventing Falls in Hospitals | Agency for Healthcare Research & Quality (AHRQ). http://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/index.html. Accessed June 25, 2015.
2. Choi, M. & Hector, M. Effectiveness of Intervention Programs In Preventing Falls: A Systematic Review of Recent 10 Years and Meta-Analysis. J. Am. Med. Dir. Assoc.13,188.e13 - 188.e21 (2012).
3 Kiyoshi-Teo, H., Carter, N. & Rose, A. Fall prevention practice gap analysis: Aiming for targeted improvements. *Medsurg Nurs.* (in press)
4. Unpublished

MOTIVATIONAL INTERVIEWING[1]

MI is a well-established patient-centered behavior change communication approach in healthcare[1-3] 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)

- Centers for Disease Control and Prevention (CDC, 2016) Guide "Talking About Fall Prevention with Your Patients." https://www.cdc.gov/steadi/materials.html

1. Miller, W. & Rollnick, S. *Motivational Interviewing: Helping People Change, 3rd Edition*. (The Guilford Press, 2012).
2. Lundahl, B. *et al.* Motivational interviewing in medical care settings: a systematic review and meta-analysis of randomized controlled trials. *Patient Educ. Couns.* **93,** 157–168 (2013).
3. Söderlund, L. L., Madson, M. B., Rubak, S. & Nilsen, P. A systematic review of motivational interviewing training for general health care practitioners. *Patient Educ. Couns.* **84,** 16–26 (2011).
4. Copeland, L., McNamara, R., Kelson, M. & Simpson, S. Mechanisms of change within motivational interviewing in relation to health behaviors outcomes: a systematic review. *Patient Educ. Couns.* **98,** 401–411 (2015).

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 (≥ 24 hrs)
- Age ≥65
- At high risk for falling (Morse Falls Scale≥45)
- Cognitively oriented (≥ AAO *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)***[1-4]
  - Measures to examine motivation:
    - ***Importance and Confidence Ruler***[5]
    - ***Short Fall Efficacy Scale-International (FESI)***[6]
    - ***Patient Activation Measure (PAM)***[7]
    - ***A qualitative assessment of Stages of Change***[8] ***from audio transcriptions***

1. Clemson, L., Cumming, R. G. & Heard, R. The development of an assessment to evaluate behavioral factors associated with falling. *Am. J. Occup. Ther. Off. Publ. Am. Occup. Ther. Assoc.* **57,** 380–388 (2003).

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)** [9] by a member of MINT Motivational Interviewing Network of Trainers.

2. Clemson, L., Bundy, A. C., Cumming, R. G., Kay, L. & Luckett, T. Validating the Falls Behavioural (FaB) scale for older people: a Rasch analysis. *Disabil. Rehabil.* **30,** 498–406 (2008).
3. Finlayson, M. L., Peterson, E. W., Fujimoto, K. A. & Plow, M. A. Rasch Validation of the Falls Prevention Strategies Survey. *Arch. Phys. Med. Rehabil.* **90,** 2039–2046 (2009).
4. Filiatrault, J. *et al.* Development and validation of a French Canadian version of the falls Behavioral (FaB) Scale. *Disabil. Rehabil.* **36,** 1798–1803 (2014).
5. VA Portland Health Care System patient teaching resource
6. Kempen GIJM, Yardley L, Haastregt JCMV, et al. The Short FES-I: a shortened version of the falls efficacy scale-international to assess fear of falling. *Age Ageing*. 2008;37(1):45-50. doi:10.1093/ageing/afm157.
7. Hibbard JH, Greene J. What The Evidence Shows About Patient Activation: Better Health Outcomes And Care Experiences; Fewer Data On Costs. *Health Aff (Millwood)*. 2013;32(2):207-214. doi:10.1377/hlthaff.2012.1061.
8. Prochaska, J. O. & Velicer, W. F. The transtheoretical model of health behavior change. *Am. J. Health Promot. AJHP* **12,** 38–48 (1997).
9. Moyers, T.B., Manuel, J.K., & Ernst, D. (2014). *Motivational Interviewing Treatment Integrity Coding Manual 4.1*. Unpublished manual.

RESULTS: DEMOGRAPHICS

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

RESULTS: PRIMARY OUTCOMES

N=67	Mean (SD)	Comments
Fall prevention behavior score (FAB)	2.96 (0.42)	1-4 possible scores. 4=always implementing fall prevention behaviors
The level of **importance**	9.12 (1.97)	1-10 possible score. 10=extremely important
The level of **confidence**	7.23 (2.49)	1-10 possible score. 10=extremely confident
Self-efficacy score (FESI)	17.8 (6.69)	1-28 possible score. 28=having the most concerns related to falling
Patient activation score (PAM)	64.3 (13.59)	1-100 possible score. 100=most activated to engage with his/her healthcare

RESULTS: COMPARISON

N = 67	Fall <3 months Mean (SD)	No fall <3 months Mean (SD)	Significance *: p<.05
Fall prevention behaviors (FAB)	**3.08 (0.37)**	2.84 (0.46)	p=.036*
Importance	**9.71 (0.68)**	8.56 (2.75)	p=.034*
Confidence	**6.56 (2.60)**	7.86 (2.32)	p=.044*
Self-efficacy score (FESI)	19.06 (6.32)	16.76 (6.74)	P=.173
Patient activation score (PAM)	65.51 (13.87)	63.32 (13.67)	P=.531

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

MITI summary scores	Range	Mean
Cultivating Change Talk (scale 1-5)	3	3
Softening Sustain Talk (scale 1-5)	3	3
Partnership (scale 1-5)	3 - 4	3.44
Empathy (scale 1-5)	3 - 4	3.33
%Complex Reflections CR/(SR + CR) prefer >50%	25 - 89.4	43.67%
Reflection to Question Ratio (prefer 2 or 3:1)	0.8 - 1.7	1.45
Total MI-adherent (Seeking Collaboration + Affirm + Emphasizing Autonomy)	5 - 12	7.22
Total MI non-adherent (persuade + confront)	0 - 7	2.66

Fall prevention "Coaching" material

"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:

• Allow plenty of time to get to the bathroom by planning ahead	• Wear your glasses and hearing aides

Fall Prevention Behaviors N=29 transcripts	Sum (%) of Responses	Pre-C *Precontemplation*	C *Contemplation*	P *Preparation*	A *Action*	M *Maintenance*
Wear your glasses and hearing aids	5 (17%)	0%	0%	0%	10%	7%
Turn lights on at night	11 (38%)	0%	0%	0%	10%	28%
Keep things close	11 (38%)	0%	3%	0%	3%	31%
Exercise/therapy	15 (52%)	10%	10%	24%	3%	3%
Rise slowly and check for dizziness	15 (52%)	0%	3%	3%	28%	17%
Planning ahead	19 (66%)	0%	7%	7%	21%	31%
Ask/wait for assist	20 (69%)	3%	7%	10%	45%	3%
Know what hazards exist	20 (69%)	0%	7%	17%	28%	17%
Walking Aids Use-walker	20 (69%)	21%	7%	7%	31%	3%
Walking Aids Use-cane	22 (76%)	10%	7%	7%	31%	21%
Being careful/ minimize hazards	27 (93%)	3%	14%	14%	38%	24%

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

Low Confidence	Explore Feelings	MI strategies- always engage, evoke, OAR	Behavioral goals

Confidence-
 	
concerns with trust for body
	Hopeless
	Helpless
	Frustrated
		• Explore
		  • issues of self-efficacy/ autonomy over body-health care
		  • what patient is currently doing to manage/ reduce falls
		• Self-efficacy to raise confidence in trust and reaction to the situation
		• "Looking back- when did you have a similar surprise from your body & what did you do?"
		• Affirmations of knowing self, decision making skills, & capacity for adapting
		• Emphasize body control-choice of procedures or health care direction
			Build trust of self/body through strengthening, balance, medications, or control of other medical conditions
			
			And
			
			Fall prevention **specific to patient condition**

A BALANCE OF FEELINGS & BELIEFS

Low Confidence	Explore Feelings	MI strategies- always engage, evoke, OAR	Behavioral goals

Confidence-
 	
acceptance of fall risk,
 	
yet not using fall prevention strategies.
	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 <u>NOT doing</u>, or <u>can do MORE of</u>

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!

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