



Developing and pilot testing a frailty-focused education and communication training workshop

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ABSTRACT

Objective: To describe development and pilot testing of a multi-modal frailty-focused education and communication training workshop for health care clinicians.

Methods: Pilot testing was conducted via two workshops (#1: face-to-face [2019], #2: virtual [2020]). Participants: convenience sample of clinicians and students who volunteered. Workshop #1 included registered nurses working in an acute care and one medical student ($N = 14$); #2: nursing students enrolled in an APRN program. **Design:** Pre/post observational study. **Data analysis:** descriptive statistics, paired t -tests and Wilcoxon rank test.

Results: Statistically significant increases in frailty knowledge (#1: $p = 0.02$, $d = 0.44$; #2: $p = 0.006$, $d = 0.55$) and self-reported competency with older adult interactions (#1: $p < 0.001$, $d = 0.62$; #2: $p = 0.001$, $d = 0.63$) were reported for both workshops. Post course evaluations of the workshop were positive, with scores ranging from 3.5–3.9 (range: 0–4) for increased understanding of the concept of frailty, communication to support health-related behavior, and best practice empathic communication skills.

Conclusion: The FCOM workshop was successful. Participants gained knowledge and skills for use in working with older adults across the aging continuum from non-frail to frail.

Innovation: Our FCOM training workshop expands prior communication training on shared decision-making with frail individuals to a broader population of all older adults.

1. Introduction

Global life expectancy increased by more than 6 years between 2000 and 2019, however, global burden of disease is also climbing as disability-adjusted life years (DALYs) for diabetes increased by more than 80% and more than doubled for Alzheimer's disease [1]. Deaths from heart disease increased from 2 million to 8.9 million, and Alzheimer's disease became the seventh leading cause of death [1].

Frailty is a state of vulnerability to stressors that reflects biological aging and is characterized by loss of physiologic reserve that leads to functional decline, disability, disease states, and death [2–4]. Frailty reflects the loss of homeostatic mechanisms related to aging that can be mitigated if addressed prior to a point of no return or pre-death phase, thus, education and counseling about frailty is paramount. Leading experts in aging [5–8] and editors of top scientific journals [9–11] have called for resources that facilitate communication about aging/frailty that might equip individuals with knowledge that empowers them to engage in lifestyle change aimed

at preventing disease and disability and/or increasing readiness for end of life. Communication about aging and frailty is understudied [12] and education/communication technologies for managing frailty are not yet ready for practical use [13]. Tools that are relevant to transitions from hospital to primary care are non-existent [14]. Our team developed and tested an educational tool (booklet) on aging and frailty among community-dwelling older adults; a full description of the tool is reported in a prior publication [15]. We subsequently developed a 2-day training workshop (based on the education tool) for health care providers/clinicians on frailty-focused communication (FCOM) to educate and facilitate communication and patient/provider engagement [16]. We pilot tested the FCOM workshop in both face-to-face and virtual formats. The aims of pilot testing were to examine pre/post: 1) knowledge of aging and frailty, 2) application of simulation-based communication skill practices, and 3) self-reported competency in interacting with older adults on the topic of aging and frailty. This paper describes our 2-day, multi-modal FCOM workshop and reports on pilot testing undertaken with health care clinicians.

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2. Methods

2.1. Designing a prototype FCOM Workshop

The workshop and course content were developed from scientific literature and by experts in each content area following International Patient Decision Tool Standards (IPDAS) collaboration guidelines [17,18]. Table 1 provides a summary of the content/topics addressed on Days 1 and 2 of the workshop, and Table 2 presents the workshop learning objectives with training content (referenced) listed below each objective. Both the face-to-face and the virtual workshops allotted time for supplemental topics (i.e., habit formation, implicit bias) that could be customized to particular settings/audiences. The university's Institutional Review Board approved the workshop and pilot testing (#190069, #190930), and informed consent was obtained from workshop participants.

2.2. Communication skills for discussing aging/frailty

Along with educational content about frailty and review of the FCOM booklet, the other major component of FCOM is communication—specifically, how to discuss aging and frailty, which is often a sensitive topic, with various audiences—older adults, caregivers, family members, and professionals caring for adults. Frailty is a difficult conversation topic for many providers, further complicated by the lack of understanding about the continuum of aging from a biological perspective. FCOM supports shared decision-making; FCOM conversations can range from healthy lifestyle change to preparing for end-of-life. The objective of the communication skills component of FCOM training was to provide skills spanning this continuum.

The approach with FCOM is to package communication skills using a Motivational Interviewing (MI) context. “Motivational Interviewing is a collaborative conversation style for strengthening a person's own motivation and commitment to change (p.12).” [19,20] Core communication skills of MI are referred to as the acronym OARS—open-ended questions, affirmations, reflections and summaries [19].

Empathetic listening is essential to executing these skills because it honors the thoughts and feelings of the other person. Empathetic listening entails the ability to discern others' thoughts and feelings with some degree of accuracy, thus enabling the clinician to put themselves in another's shoes [70]. Simplifying communication skills using the OARS framework allows participants to easily grasp and execute skills within a relatively short time.

Motivational Interviewing style and skills are a departure from how many healthcare providers interact with clients by directing the conversation or telling the client what to do and missing the opportunity to engage the client and inviting them to participate in the conversation [19,60].

Table 1
Summary of 2-day FCOM Workshop Content.

Day 1	Day 2
<ul style="list-style-type: none"> • Introductions, demographic surveys • Knowledge of frailty quiz • Self-reported measures of competency in interacting with older adults about aging and frailty • Content on concept of frailty <ul style="list-style-type: none"> ○ Models of frailty ○ Mechanisms of biological aging ○ Frailty screening • Review of booklet- “Aging: Important Things to Know” • Communication skills with demonstration of best practices <ul style="list-style-type: none"> ○ OARS (open-ended questions, affirming, reflection, summarizing) ○ Engaging in difficult conversations 	<ul style="list-style-type: none"> • (Optional) customized supplemental content <ul style="list-style-type: none"> ○ Habit formation ○ Implicit bias • Demonstration of communication skills by course faculty based on frailty status <ul style="list-style-type: none"> ○ Non-frail older adult ○ Pre-frail older adult ○ Frail older adult • Participant practice of communication skills <ul style="list-style-type: none"> ○ Two options <ol style="list-style-type: none"> 1) Older simulated participants 2) Peer-to-peer role play

Table 2

Objectives and Components of Frailty-focused Communication (FCOM) Training.

<p>Objective A: To inform and equip health care professionals with a foundational understanding of the concept of frailty and mechanisms of biological aging that lead to chronic disease states, functional decline and death</p> <ol style="list-style-type: none"> 1. Knowledge and awareness of biological aging and frailty [2,3,7,21-25] <ul style="list-style-type: none"> • Definition of frailty and three prominent models of frailty (Fried Phenotype, Rockwood Frailty Index, Intrinsic Capacity [World Health Organization]) [4,26-28] • Mechanisms/hallmarks of biological aging (genomic instability, telomere length, epigenetic/DNA methylation, mitochondrial function, proteostasis, stem cell exhaustion) [23,29-31] • Age-related physiologic adaptations in cardiorespiratory fitness and associations with mitochondrial function, functional capacity, chronic diseases, and healthspan [31-40] <ul style="list-style-type: none"> ○ Systems: Respiratory, cardiovascular, musculoskeletal [31,41,42] ○ Chronic disease states: COPD, heart failure, cancer [40,43,44] <p>Objective B: To teach communication skills targeted to adults aged 50 to 85+ aimed at advancing layperson understanding of aging and frailty within the continuum from living well to dying well</p> <ol style="list-style-type: none"> 2. Frailty-focused communication (FCOM booklet) [15] <ul style="list-style-type: none"> • Trajectories of frailty and association with age-related falls [45,46] • Outcome after injury in older adults based on frailty status [47,48] • Bioenergetics of frailty and importance of physical activity [49-53] • Anticipatory care and the final phase of life [54-56] • Focus areas (safety, nutrition, physical activity, relationships/community, sleep, health care decisions, finances and legal, mind/body health) for age-related goal setting [15,57-59] 3. Communication skills <ul style="list-style-type: none"> • Motivational interviewing as a communication style [19,60] • Targeted communication skills: open-ended questions, affirmation, reflection, summarizing [19,60] • Empathy [61] • Difficult conversations about aging [62-64] <p>Objective C: To conduct simulation-based learning towards acquisition of communication skills for dialogue about aging and frailty with older adults</p> <ol style="list-style-type: none"> 4. Use of simulated participants to create and enhance real world, person-centered communication [65] <ul style="list-style-type: none"> • Training older simulated participants for aging roles: non-frail, pre-frail, frail [66] • Creation of setting-based scenarios • The SP training process [67] • Debriefing and evaluation [68] 5. Use of peer-to-peer role play to practice communication skills [69] <ul style="list-style-type: none"> • Creation of setting-based scenarios • Role play, debriefing and evaluation
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Motivational Interviewing style is one that guides, rather than directs, and includes partnership, compassion, acceptance and evocation [19] and seeks to build growth-fostering client-provider relationships characterized by empathy, mutuality and empowerment [20,71].

During the workshop, after first addressing listening and use of silence, faculty provided instruction of OARS (open-ended questions, affirmations, reflections and summaries) with content, exercises and demonstrations of skills. Open-ended questions are more familiar in everyday conversation than reflecting and workshop participants are more comfortable, and quickly pick up, the use of open-ended questions. Open-ended questions are an invitation for the client to say more than they would if offered a closed question. For example, a nurse might ask an older adult, “What do you know works best for you when you are trying to make a change?” Simplifying the content by encouraging use of questions beginning with the word, “what” or “how,” allowed workshop participants to easily execute the skill with only two words to remember when forming most of their questions.

Reflections, affirmations, and summaries are all types of reflections, and content was presented as a bundle during the workshop. The importance of reflections, affirmations and summaries is so the client knows she/he is

heard though stating back what was said. Each of these skills provide the opportunity for the client to hear their own voice rather than the clinician providing opinion and advice. For example, after a preliminary discussion about diabetes management, the provider may reflect back to a client, “You are working hard to manage your diabetes and it’s been challenging taking on a new diet.” As Bem [72] states, people are more persuaded by what they hear themselves say than by what someone tells them.

2.3. Demonstration and skills practice

Targeted exercises and skill practices were threaded throughout the training. Upon completion of OARS training, instructors demonstrated the skills in an interview format. Participants listened to the demonstration and tallied when they heard each skill used. This enabled participants to identify and distinguish the skills and how they sound when used together. Participants subsequently practiced specific skills in brief practices in groups of two or three throughout the workshop and practices were debriefed with course faculty. The final practices used scenarios in longer interviews to demonstrate application of OARS and Motivational Interviewing style. Feedback from faculty focused on use of OARS and highlighted learning that occurred during the experience through a consistently applied debriefing format (i.e., How did that go for you? What did you do well? What did you find difficult? I noticed you did X, Y, Z well. What learning are you taking away from this practice?).

At the conclusion of the final practice, the entire group reconvened to debrief the experience so participants could hear how their experience was the same, or different, from others.

2.4. Conducting pilot testing

Pilot testing of the FCOM training workshop was conducted via a face-to-face format (workshop #1–2019: $N = 14$) and a virtual format (workshop #2–2020: $N = 15$). **Participants:** Participants included a convenience sample hospital-based nurses ($N = 12$), nurse practitioner students ($N = 13$), mental health counseling graduate students ($N = 3$), and one medical student. **Procedures:** Both workshops were held over two days following similar agendas for content shown in Table 1. Workshop #1 (2019) emphasized communication skills relevant to bedside nurses who work with hospitalized patients and their families and included customized/supplemental content on implicit bias in healthcare. Workshop #2 (2020) emphasized communication skills relevant to community-dwelling older adults and included customized/supplemental content on habit formation to facilitate goal setting and lifestyle change. Workshop #2 was intended to prepare participants for a planned project working with English-speaking older adults living in a local income-assisted senior apartment community.

2.5. Data collection/analysis

Descriptive data included demographics (age, gender, race/ethnicity, profession) of participants and prior education/experience in discussing end of life issues. Paired t -tests and Wilcoxon Signed Rank tests were used to examine pre – /post-workshop differences for knowledge of frailty and self-reported competence in communication skills related to aging and frailty. Instruments for data collection (supplementary material A) were developed by investigators, tested for acceptability by nurses and communication experts, and approved by the university’s Center for Effective Health Communications. Open-ended qualitative responses and workshop evaluations were collected post workshop and reviewed by three investigators (DL, SM, CAM). Reported quotes were extracted to exemplify typical responses and were not intended for formal qualitative analysis. Finally, over a three-month period following the workshop, participants from workshop #2 documented their experiences in discussing aging and frailty with community-dwelling older adults who participated in a health and wellness program for seniors residing in income-assisted housing ($N = 16$, mean age: 68.3 [SD 6.0]). Seventy percent of the older adults were African American, 50% were female, and 50% screened positive for frailty.

Excerpts, representative of common responses, were extracted for the manuscript and were not intended to be reported as a formal analysis.

3. Results

3.1. Quantitative

Characteristics of workshop participants are shown in Table 3. All but one workshop participant was female and most ($N = 23$, 79.3%) were white; median age was 32.0 (SD 11.1). Prior experience in discussing topics related to end of life varied, however, most ($N = 21$, 72.4%) had discussed advance directives with family members or close friends.

Table 4 summarizes pre/post measures of frailty knowledge, competence with communication skills and course evaluations. Participants’ knowledge of frailty increased in both workshops (Workshop #1- median: pre [5.0, IQR: 4.0–5.3]; post [5.6, IQR: 4.8–6.3], $d = 0.44$, $p = 0.02$; Workshop #2- median: pre [5.8, IQR: 5.0–7.0]; post [7.6, IQR: 6.75–8.0], $d = 0.55$, $p = 0.006$). Self-reported competency in communication skills for aging/frailty also increased (Workshop #1- median: pre [16.0, IQR: 11.8–24.0]; post [29.0, IQR: 26.0–32.3], $d = 0.62$, $p < 0.001$; Workshop #2- median: pre [33.2, IQR: 29–35]; post [42.0, IQR: 40.75–44], $d = 0.63$ $p = 0.001$).

Participants’ ratings of the FCOM workshop addressed the extent to which the workshop increased their understanding of course content using Likert scales (Table 5). Understanding the concept of frailty (mean: 3.8, SD 0.4), as well as contents of the FCOM booklet (mean: 3.7, SD 0.5) were rated relatively high with an upper limit of 4.0. Likewise, communication skills focused on support for behavior change (mean: 3.6, SD 0.5), discussion of focus areas (mean: 3.6, SD 0.5), and use of best practice empathic communication skills (mean: 3.7, SD 0.5) were rated relatively high.

3.2. Open-ended qualitative responses

Both workshop evaluations included space for open-ended qualitative responses including “I was surprised...”, “Now I know...”, “I can’t wait to try...”, and “I’m still...”. These open-ended stems allowed participants to examine their learning, contemplate application of new skills, and reflect on the need to develop further competence to incorporate new knowledge and communication skills into their client interactions.

For example, responses to “I can’t wait to try...” exemplify eagerness to apply new frailty knowledge, specific best practice communication skills, and specific areas participants wanted to apply through the following quotes: “I can’t wait to try...

“discussing frailty scale with my older relatives and patients.” (42yo, F, Asian, med/surg acute care).

Table 3
Characteristics of FCOM Workshop participants.

	Total ($N = 29$)	2019 ($N = 14$)	2020 ($N = 15$)
Age (mean, SD)	32.0 (11.1)	34 (13)	30.1 (9.2)
Gender (N,%)			
Male	1 (3.4%)	0 (0%)	1 (6.7%)
Female	28 (96.6%)	14 (100%)	14 (93.3%)
Race/Ethnicity (N, %)			
White	23 (79.3%)	11 (78.6)	12 (80.0%)
Black	1 (3.4%)	1 (7.1%)	0 (0%)
Asian	3 (10.3%)	2 (14.3%)	1 (6.7%)
Hispanic/Latino	2 (6.9%)	0 (0%)	2 (13.3%)
Profession (N, %)			
Nursing	25 (86.2%)	13 (92.9%)	12 (80%)
Counseling	3 (10.3%)	0 (0%)	3 (20%)
Medicine	1 (3.4%)	1 (7.1%)	0 (0%)
Prior Education (N, %)			
Discussing bad news	10 (34.5%)	1 (7.1%)	9 (60%)
Discussing end of life	9 (31.0%)	4 (28.6%)	5 (33.3%)
Discussing advance directive with family Member or close friend	21 (72.4%)	11 (78.6%)	10 (66.7%)

Table 4
Pre and post measures of frailty knowledge and competency with interaction.

	Pre-workshop	Post-workshop	Effect size (Cohen's d)	p-value
Frailty Knowledge (med, IQR)				
2019 (N = 14)	5.0 (4.0–5.3)	5.6 (4.8–6.3)	0.44	0.02
2020 (N = 15)	5.8 (5.0–7.0) ^a	7.6 (6.75–8.0) ^b	0.55	0.006
Self-reported competency with patient/resident interactions (med, IQR)				
2019 (N = 14), 9 items	16.0 (11.8–24.0)	29.0 (26.0–32.3)	0.62	<0.001
2020 (N = 15), 11 items	33.2 (29–35)	42.0 (40.75–44)	0.63	0.001

^a N = 15

^b N = 14.

“being quiet and trying more open-ended questions.” (31 yo, F, White, med/surg acute care).

I'm still...

“feeling like it will take lots of practice to be proficient in OARS.” (40 yo, F, White, acute care nurse practitioner).

“learning how to have hard conversations about end of life with the aging population.” (32 yo, F, White, outpatient clinic).

3.3. Debriefing

Debriefing simulation-based learning experiences is vital for participants to reflect on the experience, critically evaluate their actions and apply learning to real world settings. Debriefing is best conducted as close to the simulation as possible to capture participant's thoughts, emotions, and actions while fresh in their minds [68]. Debriefing discussions from both the face-to-face (using SPs) and virtual workshops (peer-to-peer) illustrated participant's enthusiasm for applying new knowledge and skills to practice settings and understanding of the effort needed to become familiar with content and comfortable using new communication skills.

3.4. Application of workshop skills

After completion of the virtual workshop, participants in Workshop #2 were introduced (virtually) to older adult client(s) enrolled in a local health and wellness program. The participants made phone calls to the older adults periodically throughout the health and wellness program to offer support and encouragement and to use communication skills learned in the workshop. After each phone call with their client(s), workshop participants completed an electronic survey documenting interactions and topics discussed. Excerpts of documented statements provide a snapshot of interactions that occurred. Objectives of the conversations were to build rapport with clients, assist in developing health and wellness goals and follow-up on progress toward goals.

“We went over her definition of frailty, her experience with frailty and aging (especially related to her pain and mobility), her current exercise/how her environment influences her activity, the use of spirituality during hard times, future session topics, and COVID.” (24 yo, F, White, med/surg acute care).

Other workshop participants effectively conveyed MI style through their presence and use of OARS with clients, “The participant didn't seem receptive at first, but I used silence and let her talk as she felt ready.”

Table 5
FCOM post course evaluation.

The FCOM Workshop increased my understanding of...	Total(N = 29)	2019 (N = 14) (Range: 1–4)	2020 (N = 14) (Range: 0–4)
The concept of frailty	3.8 (0.4)	3.71 (0.5)	3.9 (0.4)
Contents of the FCOM booklet	3.7 (0.5)	3.64 (0.5)	3.8 (0.4)
Principles of health communication and how to support health related behavior	3.6 (0.5)	3.5 (0.5)	3.8 (0.4)
Eight focus areas for proactive planning and anticipatory care for the final phase of life	3.6 (0.7)	3.71 (0.5)	3.5 (0.9)
Use of best practice empathic communication skills	3.6 (0.5)	3.57 (0.5)	3.7 (0.5)
(NURSE: <u>N</u> ame the emotion; <u>U</u> nderstand the emotion; <u>R</u> espect the client; <u>S</u> upport the client; and <u>E</u> xplore further)			

“She shared during our thirty-minute phone call today that, ‘I feel like I've known you forever.’ Participant is very receptive to the program and speaks openly about her health habits, her adjustment to the new apartment (she shared that she feels much more ‘at peace’ with the new living environment), and her barriers to living her healthiest life.” (24 yo, F, White, med/surg acute care).

4. Discussion and conclusions

4.1. Discussion

The workshop provided participants content and practice in essential frailty knowledge and best-practice communication skills. We were able to successfully transition from face-to-face classroom style instruction to a virtual format. There were no significant differences in post-test scores between the two formats. Although long hours in virtual learning environments is challenging, we found using a variety of tools within the platform allowed participants to remain engaged.

Communication skills training for clinicians has been reported for oncology [73,74] and traumatic brain injury [75], however, to our knowledge the FCOM training is the first communication training that directly addresses communication skills specific to aging and frailty. Due to the need for aging/frailty communication training, our next transition will be development of an online training platform so more individuals working with, and caring for, older adults have access to content on models of frailty, frailty screening, resources for older adults, and communication guides to engage older adults in conversations about the aging continuum that leads to frailty. A recent systematic review of information and communication technologies for managing frailty showed that current technologies are not ready for actual work environments [13]. Readiness will require rigorous content evaluation and acceptability testing, as well as evaluation of training technologies for feasibility, efficacy and implementation. We hope to accomplish these aims in our future work.

Although frailty communication training is in its infancy, advances have been made in primary care settings to identify deficit accumulation that leads to frailty, thus, enabling providers to promote evidence-based interventions to improve patient outcomes. The electronic frailty index (eFI) supports identification of frailty, based on existing electronic health record data. The eFI entails 36 deficits derived from commonly used medical record codes and clinical terms that identify functional and cognitive limitations, medical diagnoses, hearing/vision impairments, history of falls, and

weight loss [76]. Convergent validity of the eFI has been established with the frailty phenotype, standard frailty index, Clinical Frailty Scale, and Edmonton Frail Scale [77,78]. Regular systematic monitoring of patients via the eFI provides a cost effective method for early identification of problems, thus enabling earlier recommendation of preventive interventions to delay progression of frailty trajectories.

Our study has limitations, including the small sample size, use of non-validated knowledge assessment and self-competency tools, and testing among a limited sample of nurses and students in health care professions. Testing of the workshop among other disciplines (e.g., physicians, physical therapists) and practicing providers (nurse practitioners, primary care providers) will be necessary to determine the value and efficacy of frailty communication training among other health care providers who interact with older adults on a daily basis. Tailoring and customizing the workshop based on type of discipline may be necessary.

4.2. Innovation

Our FCOM training workshop is innovative because it expands prior communication training on shared decision-making (SDM) with frail individuals [79,80] to a broader population of all older adults (age 50+). The FCOM approach promotes goal setting around proactive measures to mitigate frailty while compensatory mechanisms are still intact to improve health and wellbeing and delay decline and disability. Similar to earlier SDM models that promote development of a knowledge base, practical training of clinicians, facilitation of communication and inter-professional education, our FCOM workshop targets health care clinicians who work with older adults across the aging continuum from living well/robust to dying well. FCOM promotes dialogue between patients and providers and encourages goal setting/decision-making by older adults in focus areas specific to aging. Moreover, FCOM training provides a literacy-friendly resource (FCOM booklet) to give to patients to facilitate conversations. Early discussions about aging and frailty might facilitate a shift from traditional disease-oriented discussions to patient-centered approaches with patients at various stages of aging (robust, pre-frail, frail).

4.3. Conclusion

Not only does FCOM provide structure and skills for providers to engage older adults in conversation about a sensitive topic, frailty, another value of our FCOM approach is the relational and psychological effects on clients/patients. The FCOM workshop encourages the “most ancient of healthcare skills” (p. 125) [81] for meaningful interactions with patients... the concept of listening:

“[The client] opened up during our session and voiced that in the past, he has not been able to get adequate sleep and rest due to the places he has been living. He was vulnerable during the session and I thanked him for sharing personal information and feeling that this was a space to do so.” (24 yo, F, White, outpatient clinic).

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Declaration of Competing Interest

This manuscript represents independent work by the authors. All authors have no conflicts of interest to disclose.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.pecinn.2021.100013>.

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