The Effect of a Virtual Pain Coach on Older Adults’ Pain Communication: A Pilot Study

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Introduction

- 27 million US adults have osteoarthritis (Lawrence et al., 2008)
- Osteoarthritis is associated with debilitating pain (Caporali et al., 2005)
- More than 12% of adults age 60 and older have osteoarthritis knee pain (Dillon et al., 2006)
Introduction

- Person to person coaching interventions have resulted in significant pain reduction for cancer patients (Miaskowski, et al., 2004; Oliver, et al., 2001)
  - Resource intensive cost is a drawback
- Only a few pain studies have tested communication content or techniques (Aiazaguena et al., 2007; Chassany et al., 2006)
  - Results have not supported clinically significant, cost effective interventions to improve pain outcomes
Aim

- The aim of this study was to pilot test a virtual pain communication coaching for the effect on older adults’ communication of their osteoarthritis pain and pain management needs.
Communication Accommodation Theory

- Describes motivations and behaviors of people as they adjust their communication in response to their own needs and the behavior of the person they are talking with.
Communication Accommodation Theory

- Interpretability and discourse management are specific strategies that people can use to enhance communication.
  - Interpretability strategies involve use of terminology that clearly and explicitly relates important information to the practitioner.
  - Discourse management involves selecting the topic, and contributing to the discussion by taking your turn.
Design

- A randomized posttest-only double blind three-group design was used with the three groups consisting of:
  - Pain communication video + virtual coach
  - Pain communication video + video coach
  - Pain communication video only
Sample

- 30 community living adults
- Age ≥ 60 years
- Self-reported pain from osteoarthritis
- Absence of malignant pain
- English speaking
Procedure

- Informed consent
- Brief Pain Inventory-Short Form (BPI-SF)
  - Pain intensity
  - Functional interference from pain
- Randomized to one of 3 communication conditions:
  - Pain communication video + virtual practitioner coach
  - Pain communication video + video practitioner coach
  - Pain communication video only
Pain Communication Video

- Consisted of a 3-minute video of the female practitioner describing the types of osteoarthritis pain information important to share with health care practitioners.
Virtual Coach

- Computer generated representation
- Professionally dressed female practitioner appearing in exam room
- Instructed participants to talk about pain
- Ability to detect pauses and encourage elaboration about pain
Virtual Coach Statements

- “Tell me about your pain, aches, soreness, or discomfort.”
- “Very good. Is there anything else you would like to tell me about your pain, aches, soreness, or discomfort?”
- “You have shared lots of helpful information about your pain. It is very important that you now tell your healthcare practitioner your pain information so that you can get your pain reduced to a mild or lower level.”
Video Practitioner Coach

- A videotaped practitioner
- Verbalized same three statements as virtual coach
- Separate videos but same sequence of statements
Procedure

- Following the respective intervention, older adults responded out loud to the videotaped practitioner’s question, as if speaking to their own practitioner
  - “Tell me about your pain, aches, soreness, or discomfort”
- Responses were audio-taped, transcribed, and content analyzed
Content Analysis

- Two independent, trained raters
15 Criteria

- Type of pain
- Quality
- Source
- Location
- Intensity
- Duration/time course
- Affect
- Personal lifestyle
- Functional status
- Current pain treatments
- Effectiveness of prescribed treatments
- Prescription analgesic side effects
- Weight management to ideal body weight
- Exercise regimen or physical therapy and/or occupational therapy
- Indications for surgery
Results

- The sample consisted of:
  - 16 women and 14 men
  - All non-Hispanic and White
  - Mean age 71.9 (SD = 9.36)
  - 83.3% had a high school education
  - 70% under practitioner treatment for arthritis
  - 66.7% under practitioner treatment for pain
Pain Characteristics

- % of pain relief from Tx
  - M = 64.5% (SD = 29.83%)

- Pain Intensity
  - M = 4.9 (SD = 1.90)

- Functional Interference from Pain
  - M = 5.3 (SD = 2.46)
Random Assignment

- Analyses testing for random assignment supported no significant pre-existing differences between the 3 groups.
Results

- Comparison of groups for the number of items of distinctive important pain information described in response to the practitioner pain question:
  - Virtual Coach: $M = 6.3$ ($SD = 3.17$)
  - Video Coach: $M = 3.0$ ($SD = 2.08$)
  - No Coach: $M = 5.2$ ($SD = 2.40$)

$F(2,25) = 2.69$, $p = .09$, $\eta^2 = .03$
Discussion

- The virtual coach group described on average 1 additional item of pain information than those in the other two groups.

- One additional item of important pain information could indicate pain management changes that result in reduced pain.
Practice in talking about clinically important pain information and taking turn in a pain discussion might be an important discourse management strategy for increasing older adults’ pain communication with their practitioners.
Discussion

- The type of pain information communicated by participants might be more important than the amount of pain information.

- Some information might have greater clinical relevance depending on the older adults’ clinical presentation.
Limitations

- Pilot study
- The sample was too small to test for group differences in types of pain content
- A larger sample could be powered to detect group differences
- Unequal sample size between groups
- Homogenous sample
Practice Implications

- This study provides preliminary evidence that a virtual pain communication coach along with a brief pain communication videotape assists older adults with osteoarthritis pain to communicate a clinically significant greater amount of information about their pain.
Practice/Research Implications

- The virtual nature of the coaching intervention avoids the resource intensive nature of individual coaching interventions
Interventions Without Communication Component

- A randomized trial of a six-week internet-based arthritis self-management program revealed only a 0.65 point (0 – 10 scale) greater pain reduction with adults continuing to report moderately intense pain (Lorig, Ritter, Laurent, & Plant, 2008).
Feasible, innovative interventions are needed to assist older adults to communicate more effectively about their pain so they can obtain clinically significant pain relief.