Development and evaluation of multimedia and technology-enhanced components of a telehealth SCI self-management intervention

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Pilot Overview

• 2 phase pilot study to support translation of our in-person Peer Navigator intervention (Newman et al, 2014) for online & telehealth delivery as PHOENIX.

• PHOENIX is a peer navigator delivered, telehealth supported, SCI self-management intervention.
  – One component focuses on the prevention of secondary conditions i.e. pressure ulcers & UTIs
Specific Aims

• **AIM 1:** Phase 1: Develop, in collaboration with our community partners, multi-media educational content for 2 PHOENIX modules on prevention of secondary conditions after SCI for delivery through a telehealth platform using tablet computers
  – **Aim 1a.** Produce 2 instructional videos on prevention of common secondary conditions (pressure ulcers and urinary tract infections)
  – **Aim 1b.** Build course infrastructure and upload videos and other relevant multimedia content (i.e. website links, etc) in iTunes U platform
Specific Aims

- **AIM 2**: Phase 2: Conduct feasibility, usability, and acceptability testing of educational materials developed in Aim 1, and tablet computers for telehealth use
  - **Aim 2a.** Evaluate end users’ perceived usability of and satisfaction with multimedia educational content and tablet computer interface using both quantitative and qualitative approaches
  - **Aim 2b.** Evaluate the two-way video capabilities of the tablet computers to support participant-PN interaction
Aim 1: Creating the Content

The PHOENIX Task Force

Taking Nursing to a Higher Level
Creating the Content

- Determining reliable sources of information
- Script writing
- Shooting & editing the video
- Course set up in iTunes U
- Initial feedback on video & iTunes U course
Video Production
A. What are pressure sores?

The skin is the largest organ on the human body. Healthy skin protects us from bacteria and viruses that can make us sick, helps maintain our body temperature, and provides our sense of touch and ability to feel hot and cold.

B. Stages of Pressure Sores

“Pressure ulcers” (or “pressure sores”) are classified as Stages 1 through 4 based on which layers of skin and tissue are involved.

Stage 2 — At this stage, the skin breaks open, wears away, or forms an ulcer. The sore expands into deeper layers of the skin. It can look like a scrape (abrasion), blister, or a shallow crater in the skin. Sometimes this stage looks like a blister filled with clear fluid. At this stage, some skin may be damaged beyond repair or may die.

Stage 3 — At this stage, considered severe, the sore gets worse and extends into the tissue beneath the skin, forming a deeper crater. Fat may show in the sore, but not muscle, tendon, or bone.

C. Preventing Pressure Sores

How can I avoid getting a pressure sore?
Do regular pressure relief (also

D. Manual Wheelchair Pressure Relief Techniques

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Aim 2: Testing

• Hands on use of the iPad
• Data collection includes a combination of self-report survey, observation, & interview data.
  – Demographic and injury data
  – Technology acceptance and internet availability
  – System Usability scale
  – Standardized User Experience Questionnaire (Sauro, 2015)
  – Open ended interview questions
Sample

- N=10
- Studies evaluating user/technology interface found that 80% of usability problems can be found with only 5 participants and almost all high-severity usability problems can be identified with 3 participants.

(Parmanto et al, 2013; Virzi, 1992)
Results

• Usability & Satisfaction Surveys

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• Suggestions:
  • Increase font size of iTunes U content
  • Create video to orient user to iTunes U
Results

• “The videos got you motivated and held your attention.”
• “I liked that it showed them messing with a car, it showed that you can still do stuff in a wheelchair.”
• “The videos were funny and I liked the sitcom format [of the UTI video].”
• “[The video chat] was cool. He could be in New York and we could still connect.”
• Suggestions for some content to add.
Conclusions

• Participants were receptive and satisfied with the iPad and iTunes U platform.
  – Using an established platform likely minimized usability issues

• Participants responded favorably to the educational videos
  – Community engagement in developing materials promoted relevance of content and presentation to users
Humor and Health Education? Really?

There’s nothing funny about a urinary tract infection. Yet a new video on UTI prevention after spinal cord injury resembles a TV sitcom, complete with a laugh track.

Inappropriate? Insensitive? Ineffective? Researcher Susan Newman doesn’t think so. Dr. Newman, a certified rehabilitation registered nurse, is an Associate Professor in the College of Nursing at the Medical University of South Carolina and a board member of the South Carolina Spinal Cord Injury Association. The video is one of two that were recently produced through a study funded by the South Carolina Spinal Cord Injury Research Fund. “It’s a serious topic and we wanted to take potentially pretty dry information and present it in a way that’s engaging. Could it be done in a way that’s entertaining?” she said.

The second video starts off in black and white with six years. “The core of PHOENIX is reaching out and providing people with spinal cord injuries with health education and community resources through peer navigators,” she explained.

John Bryant reacts to photos of worsening pressure ulcers in the video on skin care.

In prior studies Dr. Newman paired up men and women with spinal cord injury with trained peer navigators (individuals successfully living with spinal
Pressure Ulcer Prevention Video

- https://vimeo.com/180117807/480591fb41

UTI Prevention Video

- https://vimeo.com/180117269/522b654ba5
Thank you!

References:


