The Characterization of Pressure Ulcer Prevention and Management via Focus Group: Perspectives of Consumers and Rehabilitation Professionals

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Introduction

Pressure ulcers provide a significant problem for individuals that utilize a wheelchair as their primary mode of mobility. Pressure ulcers have significant negative monetary, health and quality of life implications.1 By monitoring the frequency, duration, and magnitude of pressure relieving activities, we can minimize the likelihood of developing a pressure ulcer.

The purpose of this project is to collect and analyze baseline qualitative data about seated pressure management via two unique focus groups: a consumer group and a rehabilitation professional group. The baseline information will guide the decision-making process for further development and implementation of a mobile seat interface pressure measurement system designed to aid in the prevention of pressure ulcers.

Methods and Procedures

Methods

A qualitative research design based on focus groups was utilized to identify themes as they relate to pressure management in both the clinical and community settings. The baseline information will guide the decision-making process for further development and implementation of a mobile seat interface pressure measurement system designed to aid in the prevention of pressure ulcers.

Procedures

An advisory board of rehabilitation professionals was convened to develop the line of questioning prior to initiation of the focus groups, and to validate theme development following the focus group activities.

Focus Group Activities

Activity 1: Facilitators provided an overview of pressure ulcers and the current recommendations for pressure ulcer prevention utilizing health professional and consumer guides.1,2

Activity 2: Participants provided their perspectives associated with pressure ulcer education and prevention, as well as the development of technology to reduce the likelihood of developing a pressure ulcer.

Activity 3: Facilitators introduced the Healthy Chair (Dynamic Controls) system to the participants.

Activity 4: The Healthy Chair system records data locally via a datalogger (Figure 1) by recording data from a pressure sensor mat (Figure 4) under the seat cushion cover. The current pressure status is then transmitted to an iPod Touch via Bluetooth (Figures 2 and 3). Participants provided their perspectives associated with pressure ulcer prevention with respect to the Healthy Chair.

The rehabilitation professionals and consumers identified the key components of a clinical pathway for appropriate utilization of the device in both the clinical and community settings.

The first focus group centered on individuals with a disability who utilize a wheelchair as their primary mode of mobility (consumers), while the other centered on rehabilitation professionals.

An occupational therapist and rehabilitation engineer facilitated the focus group activities. The focus group was broken up into 4 activities: 3 in the morning session and 1 in the afternoon session. A scribe was present to record all activities. Furthermore, audio and video were recorded.

The transcripts were analyzed by the research team using qualitative analysis techniques with oversight by the study advisory board. Following that, a member of the advisory board contacted each participant to ask follow-up questions related to the focus group activities and confirm the themes developed during the focus group.

Participants

Eight consumers provided informed consent to participate in the study (5 men, 3 women) with a mean age of 43 years (s.d.16). In terms of their primary mode of mobility, three participants use an ultralight manual wheelchair (ULWC), three individuals use an ULWC with powered assist wheels (PAPAW), and two individuals utilize rehabilitation power wheelchairs with rehabilitation seating.

Seven rehabilitation professionals (3 PT, 3 OT, 1 RN) with experience in pressure management provided consent to participate in the study. There were 4 men and 3 women with a mean age of 45 years (s.d. 11). The participants had been practicing as rehabilitation professionals on average for 17 years (s.d. 13) and had on average 13 years (s.d. 12) of pressure management experience.

Results/Themes

Rehabilitation Themes

| Education | • All received education on pressure management from numerous sources
  | • The majority of the training came as post-professional training via on-job experiences, conferences and manufacturer-in-services

| Training and Pathway | • The rehabilitation professionals perceive that the information they provide is not of value to the consumer until they get a pressure ulcer. These perceptions were validated by the consumer focus group.
  | • Utilize a diverse range of technology for personal and professional use
  | • Any technology developed for clinical use must be easy to use, must provide a wealth of information in a short period of time, must provide clinically relevant information, and must have a clear clinical pathway
  | • The current pathway is very reactive as opposed to proactive
  | • A globally accepted clinical pathway for performing a pressure mapping analysis does not exist, but is necessary
  | • The most obvious goal that could initially benefit from the Healthy Chair system are individuals who have previously had a pressure ulcer, currently have a pressure ulcer, or are at risk for the development of pressure ulcers.
  | • The Healthy Chair has the potential to provide a history of pressure relieving activities across the continuum of care (acute care, rehabilitation, outpatient rehabilitation, skilled nursing, and home health rehabilitation)
  | • Indicated that the consumers would not likely self-fund consumer electronics or rehabilitation technology devices that support health and wellness activities
  | • There was no consensus among the group on the best funding mechanism for the pressure measurement system

| Funding | • Recognize the importance and difficulty of changing behaviors related to pressure management
  | • Would like to see the consumers take ownership of the information
  | • The key for the change in behavior is that there needs to be a significant value proposition for the rehabilitation professional and the consumer

Results/Themes (con’t)

Consumer Themes

| Education | • A consistent method of education and training related to skin protection does not exist
  | • Each person has their own technique for performing a pressure relift, and their own internal clock for determining when a pressure relief is necessary
  | • They don’t know if their techniques and internal clock are effective
  | • Behavior does not change until there is a consequence
  | • The successful behavior is most easily implemented through the combination of education and continuous feedback

| Technology | • Technology needs to be simple and easy to use
  | • Identified the need for a remote sensor for measuring pressure

| Information | • The utilization and privacy of information generated by any device
  | • Want to be the gatekeepers of the information
  | • The information sent to a rehabilitation professional if she/he has the experience and knowledge to appropriately analyze the information

| Concern | • Concern that health insurance company may get the information, which could have significant financial implications

| Funding | • Interested in self-funding, but are not committed to paying for the system
  | • Concern of the overall price of a consumer version of the pressure measurement system
  | • Would be appropriate for a third-party payer (e.g. health insurance) to fund the system given it is tied to their overall health and well-being.

Conclusion

The purpose of the project was to characterize pressure management issues with respect to individuals with a disability who utilize a wheelchair as their primary mode of mobility. The themes derived from the rehabilitation professional focus group included education, training and application, technology, clinical pathway, funding, and behavior. Themes from the consumer focus group included education, behavior, technology, information, and funding. Both the consumers and the rehabilitation professionals identified the need to elicit behaviors that minimize the likelihood that an individual will develop a pressure ulcer at the human/situation interface. Though education is an important component in eliciting appropriate behaviors, specifically pressure relieving activities, a feedback mechanism is necessary for both consumers and rehabilitation professionals. Based on the themes identified during the focus groups and follow-up interviews, the Healthy Chair system provides the feedback necessary to elicit the ideal behaviors in terms of the frequency and duration of pressure relieving activities. Furthermore, the themes can be utilized to improve the design of the Healthy Chair system, identify key issues for consumers and provide rehabilitation professionals with information that can be utilized in clinical practice.

References

5. They don’t know if their techniques and internal clock are effective.
6. Behavior does not change until there is a consequence.
7. The successful behavior is most easily implemented through the combination of education and continuous feedback.

Figure 1: Healthy Chair - dialoggger
Figure 2: Healthy Chair interface on iPod Touch
Figure 3: Healthy Chair quadrant risk-low risk (green) to high risk (red)
Figure 4: Pressure mapping system