

THE DEVELOPMENT OF A MOBILE HEALTH CARE APPLICATION FOR SPINAL CORD INJURY PATIENTS USING ACCEPTANCE AND COMMITMENT THERAPY (ACT)

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Project Overview



Train Vets to Treat Vets (T VTV) is comprised of a select group of student veterans at William James College who are recruited by current members in close consultation with faculty, staff and administration. T VTV aims to meet the need for trained mental health clinicians capable of providing fellow veterans with adequate psychological care. We are also charged with providing knowledge and cultural awareness to other clinicians: non-veteran professionals and peers who work with veterans and their families. As a program, T VTV supports veteran students throughout their graduate education. Most importantly, T VTV rehabilitates and prepares veterans for careers in the mental health field.

Background

There are 250,000 Americans with serious spinal cord injuries and disorders. 42,000 of these individuals are veterans who are eligible for medical care and other benefits from the Department of Veterans Affairs (VA). However, the literature and research surrounding psychological interventions for those living with spinal cord injuries is rather sparse. For a population that experiences severe psychosocial stressors one might imagine that there would be better supports available to it. The intersection of health and mobile technology has most recently found itself to be in high demand. An electronic mobile application may benefit and reach the spinal cord injury population in a new way. Given the prevalence of those affected by injuries to the spine in the United States, it would be meaningful to examine the various ways in which the field of psychology might begin to address this population's mental health concerns. Not only would it be important to develop psychological interventions for SCI patients living in the U.S.; it would be meaningful to expand this initiative worldwide. Seeing how many SCI patients struggle with mobility issues, a mobile application that delivers an evidence based psychological treatment may be better suited for reaching the population than office visits alone.

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Method

The purpose of this project was to develop a mobile health care application for the SCI population that utilizes an evidence based psychological intervention (ACT). This section will highlight the procedures that were utilized for developing the application. Categories derived from the MARS: information quality, engagement, functionality, aesthetics, and user satisfaction informed the development of the application. In addition to these criteria, the expert review process, revision of prototype, storage of reviewer's comments, and the procedures for finalizing the prototype will be discussed.

Research Question

Due to the immobility of many SCI patients, the researcher is curious about the ways in which the field of psychology might offer interventions to those clients who may not be able to physically access their mental health provider as easily as those who are not affected by a SCI.

Procedures for Development

The researcher created interactive worksheets for each core process of ACT with ACT and CBT treatment manuals/resources. The worksheets were specifically designed to meet the psychological needs of SCI patients. The application's content follows the recommendations which have been outlined by the MARS (Mobile Application Rating Scale); engagement, functionality, aesthetics, information quality, and subjective quality. The researcher presented the drafted content to a software engineer for development. The professional input of five expert reviewers was sought out in order to receive feedback, support, and/or recommendations on the application. This feedback guided the researcher, doctoral committee, and software engineer draft a final version of the software.

Expert Review Team

The completed prototype was reviewed by five professionals from the fields of psychology, health care and software engineering. A broad range of viewpoints based on varied experiences associated with health care applications was sought in order to identify issues in content and design.

- 1- Licensed clinical psychologist with prior experience in the development of software applications.
- 2&3- Neuroexercise specialists with bachelor degrees in exercise science who possess at least two years of work experience as neuroexercise specialists at a rehabilitation facility.
- 4- Licensed clinical psychologist employed by the Department of Veteran Affairs and currently practicing on a rehabilitation unit at a VA hospital.
- 5- Software engineer currently employed as an application developer.

Results

The current study sought to create a mobile application for the spinal cord injury population using the therapeutic modality of ACT. A review of the literature revealed significant incidences of depression and other psychological and psychosocial issues with the spinal cord injury population. The therapeutic modality of ACT has been shown to be an effective intervention for such concerns. As the field of clinical psychology expands into broader areas of intervention strategy, the use of mobile technologies for the implementation of such therapies is becoming more commonplace. The current study sought to broaden the use and accessibility of ACT for the spinal cord injury population through creation of an easy-to-use mobile phone application. A prototype application was developed and reviewed by experts in the field.

The researcher worked closely with a private software development firm in Cambridge MA. in order to generate the initial prototype of the application. The developer and researcher were mindful of the varied dexterities and levels of functioning that SCI patients possess while constructing the application. For example, the application's main screen contains large circles that correspond with a specific core process of ACT. It is expected that the large surface area target for SCI patients to touch/tap would be appropriate given the population's physical needs.

Application Screen Shots

