

Development and Perceived Utility and Impact of a Skin Care Internet Intervention for Adults with Spinal Cord Injury

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Background

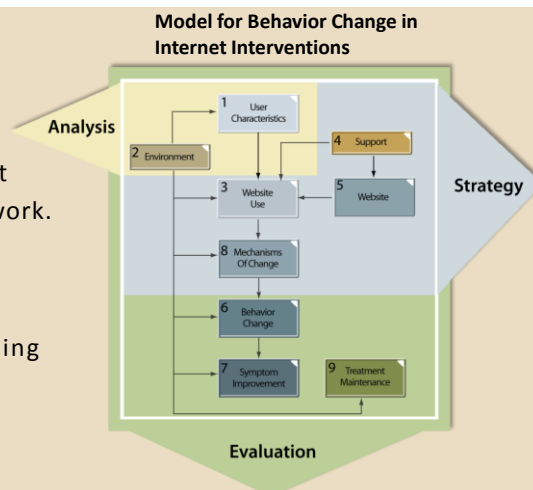
- Pressure ulcers (PrUs) are a common complication after spinal cord injury (SCI) with considerable physical and psychosocial ramifications. All people with SCI are at risk.
- People who develop PrUs have higher rates of infections, depression and reduced life expectancy.
- Billions of dollars are spent each year on treatment for PrUs.
- Most PrUs are preventable when a set of protective behaviors is performed consistently, yet many people with SCI don't learn about protective behaviors until they get PrUs.
- Barriers to getting prevention interventions include decreased patient time in rehabilitation post injury, lack of trained clinicians, and expense.
- Using the internet is one way to overcome some of the barriers.

- iSHIFTup (Internet Skin Health Intervention For Targeted Ulcer Prevention) is an internet intervention to promote protective skin care behaviors in adults with SCI and help prevent pressure ulcers.
- 4-week intervention.
- Developed 2009-2012.
- Currently being tested in a feasibility RCT.
- Project goal is to integrate iSHIFTup delivery into rehabilitation center services.



iSHIFTup Development Model and Process

- Ritterband's Model for Behavior Change in II: Grounding II development within a scientific framework.
- ID process: Systematic activities for planning, implementing, and evaluating the program.



Hilgart MM, Ritterband LM, Thorndike FP, Kinzie MB., J Med Internet Res. 2012 Jun 28;14(3):e89. doi: 10.2196/jmir.1890.

Development Method

- Discrepancy model of needs assessment using environmental approach to analysis of needs (physical, social, institutional).
- User-centered design approach to ensure iSHIFTup is relevant to target population by using their input in the design of the program.
- Kinzie's design strategies for health behavior change.
- Internet intervention research: diaries, email prompts, customization, and goal setting.

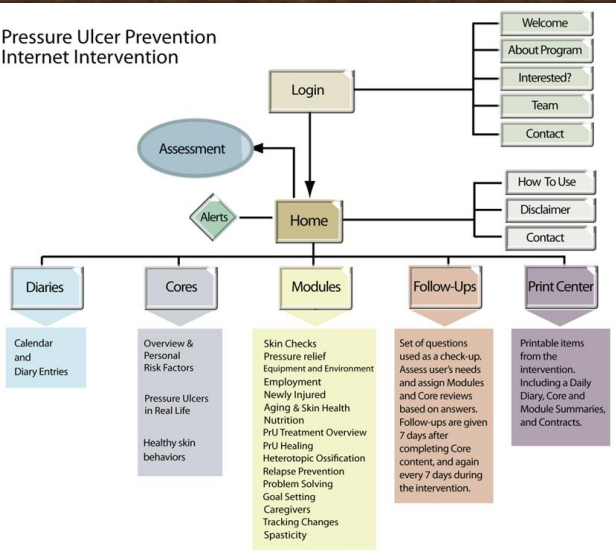
Kinzie MB., Instructional Strategies for Health Behavior Change, Patient Education and Counseling 56 (2005) 3–15.

iSHIFTup Development Process

- Advisory Panel (AP) with adult members with SCI, caregivers, PT, OT, rehabilitation physician, wound specialist and behavioral psychologist.
- AP Participated in identification of needs, goals, and objectives and contributed real life stories related to skin care.
- Paper prototype
 - Used BHT methodology of paper based Webflows that advisory panel members and experts reviewed.
 - Iterative with many rounds of review/revision.

iSHIFTup Overview

Pressure Ulcer Prevention Internet Intervention



iSHIFTup Program

The screenshot shows the user interface of the iSHIFTup program. At the top, the logo 'iSHIFTup' is displayed with the tagline 'Internet Skin Health Intervention For Targeted Ulcer Prevention'. The user is signed in as '1057' and has a 'Sign Out' button. The date 'April 22, 2013' is shown in the top left. A navigation menu on the left includes 'Home', 'Diaries', 'My Stuff', 'Cores', 'Modules', and 'Follow-Up'. The main content area is titled 'Cores' and contains the following text: 'Here are the three Cores for iSHIFTup. During the first week complete all three Cores. Each new Core becomes available after completing the previous Core. Previously completed Cores can be reviewed at any time.' Below this text, three 'Core' cards are displayed on a corkboard background: 'Core 1: Overview & Risk Factors', 'Core 2: Pressure Ulcers in Real Life', and 'Core 3: Healthy Skin Behaviors'. Each card has a 'Review' button. At the bottom of the page, there are links for 'How To Use', 'Contact Us', and 'Disclaimer'. A copyright notice at the very bottom reads: '© Copyright 2009-2013 University of Virginia, Behavioral Health & Technology. All rights reserved. iSHIFTup and Internet Skin Health Intervention For Targeted Ulcer Prevention are trademarks of University of Virginia, Behavioral Health & Technology.'

iSHIFTup Participants & iSHIFTup Usage data

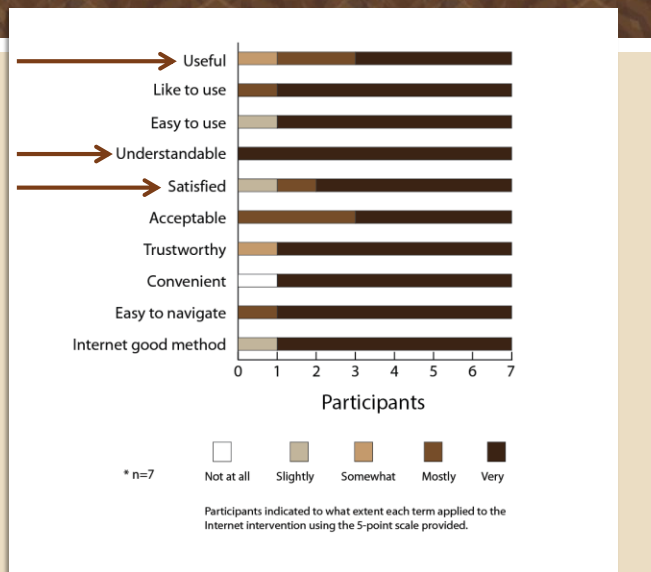
Characteristic	iSHIFTup Participants (n=7)
Age, mean(SD)	36.14 [10.09]
Race	
African American	1
Caucasian	6
Asian	0
Sex, No.	
Women	5
Men	2
Marital status, No.	
Single (never married)	3
Married	1
Separated/divorced	1
Other	2
Education, mean (SD), y	13.29 [2.21]
SCI group, No.	
Tetraplegia	5
Paraplegia	2
Time Since Onset (years)	10.43 [9.64]
Check email daily	6
Use Internet daily	5

7 adults with SCI received access between July, 2012 and February 2013.

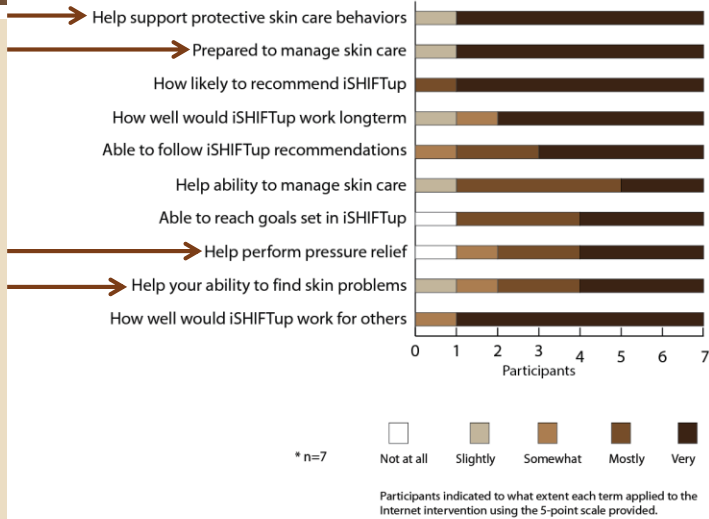
Participants had access to iSHIFTup for 6 weeks (42 days).

- All 7 logged into iSHIFTup
 - 6 to 38 times (X102, SD13)
 - 5 to 42 diaries completed (X146, SD14).
 - 4 to 18 Cores/Modules completed (X69, SD5).

Intervention Utility: The Internet Evaluation & Utility Questionnaire



Intervention Impact: The Internet Intervention Impact Questionnaire



Discussion

Discussion

- Users generally perceived the program to be useful, easy to use, understandable and effective.
- Currently conducting interviews/focus groups with iSHIFTup users to find out more about their experiences using iSHIFTup.

Lessons Learned

- AP weighted greater time since onset.
- Recently injured were under-represented in formative evaluation.
- Obtain feedback from recently injured users and incorporate revisions.

iSHIFTup Study

Summary

- Development informed by Behavior Change Model for Internet interventions and ID process.
- iSHIFTup is the first internet skin care intervention for adults with spinal cord injury.
- Preliminary results suggest iSHIFTup was perceived as useful and acceptable to adults with SCI.

Future Work

- Complete iSHIFTup study
- Analyze full data set and report findings
- Continue evaluate/revise the program
- Conduct a national iSHIFTup trial