Using an Internet-Based Program to Promote Physical Activity Among Adults with Physical Disabilities – An Exploratory Study

UIC Department of Disability and Human Development
UNIVERSITY OF ILLINOIS AT CHICAGO
COLLEGE OF APPLIED HEALTH SCIENCES

Carolyn Lullo, AUCD/CDC Fellow, PhD Candidate
University of Illinois at Chicago; CLullo2@uic.edu

Introduction

Background:

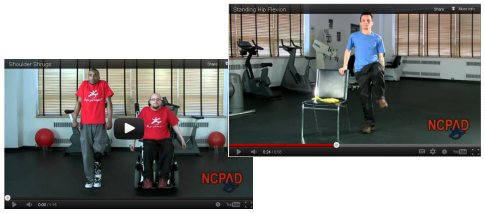
- People with disabilities are less physically active than people without disabilities.[1]
- The internet is a promising delivery mode for physical activity (PA) programs for people with disabilities because it addresses many of the most commonly reported barriers. [2]
- Internet programs have shown initial success at increasing PA in the general population; but concerns about program engagement and questions about program design remain. [3]
- Research addressing the use and effectiveness of these programs for people with disabilities is limited.

Research question:

Is participation in an internet-based PA program associated with changes in PA for people with disabilities, and to what extent is program engagement a covariate of these changes?

Program Description

- Program goal: Promote participation in physical activity and healthy eating behaviors through an internet-based platform
- Target audience: Individuals with physical disabilities and chronic health conditions
- Delivery mode: Website, email, minimal phone contact
- Duration: 14 weeks of content; updated weekly
- Theoretical foundation: Social Cognitive Theory and the Transtheoretical Model
- Primary content: Motivational resources, instructional factsheets, individually tailored exercise and activity videos
- Features: Interactive tracking logs, email reminders, phone and email coaching, badges, social networking, downloadable resources, schedule builder, participant profile



Results

Baseline Characteristics (n=166)

- Age: 47.39±11.72 years
- Sex: 82.5% female
- Race: 77.7% white
- Income: 36.2% greater than $50,000
- Education: 57.2% college or more
- Employment: 40.4% unemployed; 15.7% part-time
- Area of residence: 22.3% rural; 23.5% urban
- Internet use frequency: 98.8% at least once a day

Program Engagement Measures (n=166)

	Min	Max	Mean±SD
Weeks visited	2	15	4.65±3.81
Total visits	2	268	12.62±28.42
Pages viewed	17	1961	165.70±216.38
Total minutes	7.20	971.47	147.86±185.98

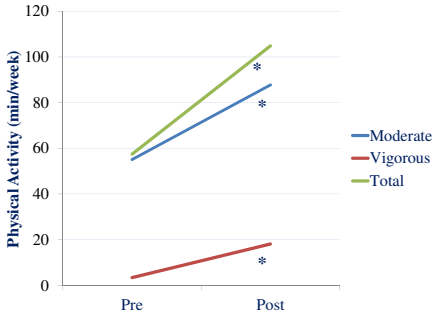
Program Engagement Measures by Wheelchair-Use (WC) at Baseline

	WC (n=65)	No WC (n=101)
Weeks visited*	5.89±4.41	3.85±3.14
Total visits*	20.42±42.85	7.60±9.62
Pages viewed*	238.85±294.33	118.62±126.85
Total minutes*	212.70±229.75	106.13±137.11

*Significant differences at p<.05

Changes in Physical Activity

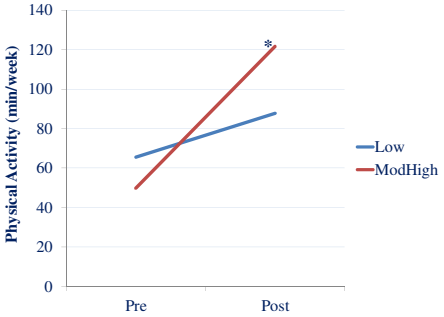
Mod (n=110); Vig (n=107); Total (n=105)



*Significant changes at p<.05
Note: Physical activity was measured using BRFSS questions on frequency and duration of moderate and vigorous activity

Changes in Total Physical Activity by Engagement Level

Low (n=52); ModHigh (n=53)



*Significant change at p<.05; significant interaction at p<.05

Methods

Study design:

- Program evaluation; pre/post assessment
- Eligibility: 18+ years old, mobility impairment, not regularly active, visited program after registration
- Web surveys emailed to eligible program participants
- Electronically monitored program use

Statistical analysis:

- Independent samples t-tests to determine differences in engagement by wheelchair-use
- Paired samples t-tests to determine changes in PA
- Exploratory factor analysis to determine summary engagement score; subsequently dichotomized
- Two-way repeated measures ANOVA to determine differences in outcomes based on engagement level

Conclusion & Recommendations

- Program engagement was low, but was significantly higher for those who use wheelchairs compared to those who do not.
- Participation in the program was associated with increases in PA levels, with those who had higher levels of program engagement experiencing greater increases in total PA than those with lower engagement levels.

Recommendations:

- Further understanding of factors that contribute to differing levels of engagement is needed.
- Identifying methods for increasing program engagement is critical for developing effective internet-based programs.

References & Acknowledgements

[1] Centers for Disease Control and Prevention. Disability and Health Data System (DHDS). [2012 October 3]. Available from: http://dhds.cdc.gov.

[2] Motl, R., Dlugonski, D., Wojcicki, T., McAuley, E., & Mohr, D. (2011). Internet intervention for increasing physical activity in persons with multiple sclerosis. *Multiple Sclerosis Journal, 17*(1), 116-128.

[3] van den Berg, M., Schoones, J., & Vliet Vlieland, T. (2007). Internet-based physical activity interventions: A systematic review of the literature. *Journal of Medical Internet Research, 9*(3).

This poster has been developed by the Association of University Centers on Disability in collaboration with the Centers for Disease Control and Prevention (CDC)'s National Center on Birth Defects and Developmental Disabilities (NCBDDD), Division of Human Development and Disability as an activity within the AUCD-NCBDDD/CDC Cooperative Agreement # DD07-003 Grant # 231-5. The project was also conducted in partnership with the National Center on Health, Physical Activity, and Disability. NCHPAD is a part of the University of Alabama at Birmingham /Lakeshore Research Collaborative and is supported by Grant/Cooperative Agreement Number U59DD000906 from the CDC. The contents are solely the responsibility of the author and do not represent the official views of AUCD, NCHPAD, or CDC.