Evaluating training modules on SCI physical activity counselling

A summary of the protocol

Background

Online training modules have been developed to teach counsellors the new theory- and evidence-based best practices of physical activity counselling for adults with spinal cord injury (SCI). Prior to wide-scale implementation, it is important to examine the efficacy of the SCI physical activity counselling training modules in improving counsellors' knowledge on these best practices.

<u>Guiding Framework</u>

This study is guided by the technology-enhance learning (TEL) evaluation framework (Cook & Ellaway, 2015). The TEL framework is developed by building on existing learning models, including the Context, Input, Process, Product (CIPP) evaluation model and Kirkpatrick model. The TEL evaluation framework is developed to guide TEL evaluations in medical education. The framework outlines seven areas of evaluation activities:

1) Conduct needs analysis and environmental scan
2) Document processes, decisions, and final product
3) Test usability
4) Document key events during implementation and final product
5) Assess participant experience and satisfaction
6) Assess learning outcomes
7) Estimate cost, reusability, and sustainability

<u>Study aims</u>

Guided by the evaluation activities of the TEL framework, this study aims to:

1) report on the co-development process of online training modules on best practices for SCI physical activity counselling and;
2) examine the efficacy of these online training modules.

More specifically, the second aim (i.e., the evaluation study) focuses on testing usability, examining participants' experience and satisfaction and assessing learning outcomes of the online training modules on SCI physical activity counselling. The assessment of learning outcomes focuses primarily on an increase in knowledge on the best practices for SCI physical activity counselling and participants' self-efficacy to use these best practices in their daily practice.

Methods

Project overview and partnership
This project includes two parts. The first part focuses on the co-development process of the training modules, the second part focuses on the co-evaluation of the training modules. The reporting of this paper is guided by the seven areas of evaluation activities of the TEL framework.

We used an Integrated Knowledge Translation (IKT) approach to co-develop and co-evaluate the training modules. IKT is defined here as here "*the meaningful engagement of the right research users at the right time throughout the project*". The IKT Guiding Principles (www.iktprinciples.com) guide our collaborative activities.

Co-development of the training modules
The training modules are developed following a systematic, multi-step process. The development process targets the first two activities of the TEL evaluation framework: 1) conduct needs analysis and environmental scan and 2) document processes, decisions, and final product.

The development of the training modules were informed by 1) scientific evidence on effective SCI physical activity counseling and behavior change theories; 2) structured discussions with a multidisciplinary expert panel (n=17) of SCI researchers, counsellors and people with SCI; 3) survey data from potential end-users (n=124) about their barriers, needs and preferences regarding training on the best practices; 4) interview data from clients with SCI (n=12) on their perceptions and preferences about receiving physical activity counselling.

We conducted several rounds of pilot testing with panel members (n=17), potential end-users (n=6). We also conducted think-aloud interviews with potential end-users (n=8) to test the design, usability and content of the training modules.

Evaluation of the training modules
The evaluation study targets activities 3 – 6 of the TEL evaluation framework: test usability, document key events during implementation and final product, assess participant experience and satisfaction, and assess learning outcomes.

Design
A randomized controlled trial, using a two-group pre-test post-test design, will be used to evaluate the efficacy of the training modules. Participants (counsellors) will be matched by experiences with working with SCI (yes/no) and level of experience in providing physical activity counselling (number of years) and randomly assigned to an intervention group (i.e. completing the training modules) or wait-list control. The control group will be invited to complete the training after their post measurement. The analyses to assess learning outcomes will be done blinded to group assignment.

After completing the intervention, all participants (intervention and control) will be invited to complete a short survey and interview session about their learning experiences (post-intervention survey and post-intervention interview). This survey and interview data will be used to test

usability and participants' experiences and satisfaction of the training modules. Findings will be used to further improve the modules and inform the implementation. The figure below illustrates a summary of the project design.

Figure 1: Design of the evaluation study.

Participants

Inclusion criteria for participants will be similar as the inclusion criteria for the online survey to assess needs and preferences of potential end-users. The criteria are:

- work or volunteer as an exercise/lifestyle counsellor, SCI peer mentor, occupational therapist, therapeutic recreation professional, physiotherapist, psychomotor therapist, social worker, kinesiologist, rehabilitation assistant, SCI caregiver, fitness trainer or coaches; AND
- work or volunteer in Canada, United Kingdom, Ireland, United States of America, Australia, or New Zealand; AND
- are planning to provide professional guidance or counselling to one or more clients in the next 12 months on starting and/or maintaining a physically active lifestyle. This can include guidance or support as part of the SCI peer mentorship program; AND
- are over the age of 18; AND
- can read and understand English

We aim to recruit a total of 30 participants. Recruitment will be done via social media and panel's network. We will also invite participants who completed the survey on needs and preferences and provided consent to be contacted again.

Measures

Primary outcome measures:
1) Knowledge on the best practices
2) Self-efficacy of using the best practices in conversations about physical activity with clients with SCI

Secondary outcomes measures:
3) Application of the best practices in counselling sessions
4) Capability, opportunity and motivation about using the best practices
5) Satisfaction and experiences of training
6) Satisfaction on Affordability, Practicality, Acceptability, Safety, Equity (APEASE) criteria
7) Usability of the training

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Procedures

Participants will be invited to complete surveys at three moments: a pre-survey (baseline), a post-survey (follow-up) and a post-intervention survey and intervention (follow-up after completing the training).

The pre-survey and post-survey include questions on knowledge on the best practices (knowledge-quiz), self-efficacy to using the best practices, application of the best practices in counselling sessions (scenario questions using transcripts and videos), and capability, opportunity and motivation about having a conversation about physical activity with clients with SCI. The pre-survey also includes questions about participants' demographics and counselling experiences.

The post-intervention survey and interview session include questions about usability of the training, participants' experience and satisfaction and a modified version of the APEASE criteria questionnaire. The interview session will be used to further discuss participants' experiences and perceptions on the usability, design and content of the training as well as the implementation and sustainability of the modules. Participants will receive $50 for completing all parts of the study ($25 for pre-survey and post-survey and additional $25 for completing the post-intervention survey and post-intervention interview). Table 1 summarizes which topics will be assessed in which survey.

Table 1: Overview of the measures and measurement tools for the evaluation study.

Measure	Pre-survey	Post-survey *	Post-intervention survey **		Post-intervention interview
			Intervention group	Control group	
- Demographics and counselling experiences	X				
- Knowledge and skills	X	X		X	
- Self-efficacy	X	X		X	
- Application	X	X			
- Capability, opportunity and motivation			X	X	
- Satisfaction and experiences			X	X	X
- APEASE criteria			X	X	X
- Usability			X	X	X

Note: * In contrast to the control group, the intervention group will complete the post-survey after completing the intervention. ** The post-intervention survey for the control group will also include questions of our primary outcome measure (i.e., knowledge of best practices and self-efficacy).