

Refinement of a smartphone-delivered peer physical activity counselling program for manual wheelchair users.

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Rationale & Objectives

- The importance of physical activity (PA) is amplified for manual wheelchair (MWC) users, yet OA participation is rarely sufficient to accrue health benefits.¹
- Existing community-based PA programs work, but adherence is low.^{2,3}
- A **Smartphone-delivered Peer Physical Activity Counselling (SPPAC)** program answers some theoretical gaps (ie. **autonomy**, **motivation**, and **self-efficacy**⁴):
 - A smartphone may promote **autonomy**, **motivation**, and **self-efficacy**.⁵
 - An individualized, goal-oriented PA program cultivates an **autonomy supportive** environment.⁴
 - Peers can provide a source of **motivation** and **self-efficacy**.⁶
- The objective of this study was to refine the SPPAC program.

Methods

Participants. Experts in MWC use and PA (ie. MWC users, knowledge users, occupational therapists).

Design. Two-phase mixed-methods: 1. Focus Groups, 2. Delphi Survey.

- Focus groups.** Perceptions and opinions of the SPPAC intervention were discussed, including the delivery method (smartphone, peer), frequency/duration, important components, and perceived barriers. Thematic content analyses were done and used to create a Delphi survey.
- Delphi surveys.** Experts rated their level of agreement (3-point likert scale) with 95 statements related to SPPAC program content, delivery and concerns. Group consensus was defined as $\geq 70\%$ agreement on each statement. Statements with $< 70\%$ were refined/ elaborated in subsequent survey rounds until group consensus was attained.

Results

Focus Groups

Two, 1.5 hour focus groups were completed with 11 experts:
3 MWC users, 2 knowledge users, 5 occupational therapists, and 1 MWC & knowledge user.

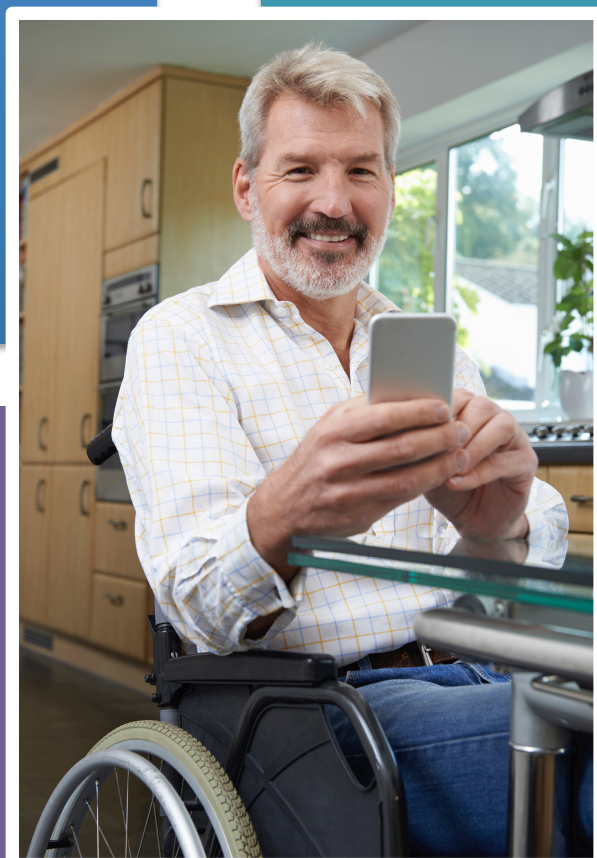
- A facilitator presented a concept version of the SPPAC program and led a semi-structured discussion to gain participants' perspectives and opinions (ie. initial evaluations needed, important components, preferred delivery methods, motivational strategies, and potential concerns).

"Peers can provide extra motivation to get active."

"To be active, the user first needs to trust in his/her ability to use a MWC, otherwise it is a major barrier."

"SPPAC is inclusive and has the ability to reach people of all ages and all diagnoses."

"MWC users have the ability to participate in PA in the 'real-world'."



"Smartphones may have positive effects on motivation (eg. SMS, Facebook, voice/video calls, apps to track PA)"

"Smartphones may help establish a sense of community"

"SPPAC should not be limited to smartphones (ie. could be delivered by phones or computers)"

"A well-trained peer and initial evaluation of MWC skills are important"
"Basic MWC skills are needed before starting the SPPAC program"

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Delphi Surveys

Two rounds of Delphi surveys were completed to attain $\geq 70\%$ consensus on all statements related to the SPPAC program. Eleven experts completed the 1st round, and 10 completed the 2nd round.

Experts agreed that the SPPAC program should include:

- 10-15, 30-minute sessions (~ 1/week)
- initial evaluations of MWC skills and PA
- individualization to participants' preferences and goals
- choice
- motivational strategies

Suggested motivational strategies were:

- use of existing smartphone apps (eg. Facebook, video calls, voice calls, text messages)
- goal setting
- organizing community events/ social media networks

Experts agreed that the SPPAC program would:

- provide a sense of autonomy
- improve self-efficacy
- prevent weight gain and injuries
- motivate MWC users to be more physically active
- help overcome accessibility issues (eg. transportation, cost, scheduling, seasonal barriers)
- create a sense of belonging

Concerns regarding the SPPAC program were:

- anticipated burden of sustaining a peer-trainer
- ensuring involvement from a healthcare professional

Conclusions & Future Directions

- The SPPAC program was developed using a client-centered approach.
- Potential benefits of the SPPAC program include:
 - limited burden on healthcare professionals
 - decreased barriers associated with inaccessible physical environments and transportation
 - development of peer social supports
 - cost savings (*particularly when considering the expenses of physical inactivity on health)
- The SPPAC program has the potential for broad geographic reach to MWC users across Canada and worldwide.
- Next steps include:
 - Feasibility and pilot evaluations
 - Multi-site randomized controlled trial

References: [1] Anderson et al. Disabil Health J 2010;3:71-3; [2] Arbour-Nicitopoulos et al. PM R 2014;6:1088-96; [3] Froehlich-Grobe et al. APMR 2014;95:20-8; [4] Fortier et al. Appl Physiol Nutr Metab 2007;32:1170-85; [5] Mahar et al. J Med Internet Res 2014;16:e40; [6] Ginis et al. Transl Behav Med 2013;3:434-443.