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ARTICLE

Implementing Evidence-Based Exercise Prescription Services in the Community

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Abstract

Background: Research interventions using the Step Test and Exercise Prescription (STEP™) tool have demonstrated beneficial effects on aerobic fitness, exercise compliance, exercise self-efficacy, and cardiovascular disease risk factors. **Purpose:** In an effort to translate research findings into practice, the purpose of this project was to assess feasibility of providing a complimentary fitness assessment and exercise prescription service in a community location. **Methods:** To participate, adults (18-85 years) were required to complete a health-screening questionnaire to help ensure safe participation. Feasibility data and service provider field notes were collected. **Results:** The service was provided over a 10-week period. 103 adults were interested in the service, and 80 completed STEP™. No adverse events occurred. Field notes indicate that formal promotion of the service, and endorsement by health professionals on-site may help to further enhance uptake. **Conclusion:** Providing community-based fitness assessment and exercise prescription services may contribute to increased access to evidence-informed health promotion. It is feasible to deliver an evidence-based intervention (STEP™) in the community. Building on experiences from this project, the service is ongoing with industry sponsorship. This is an example of implementing research in the design of evidence-informed community programming, and outcomes of this project support the translation of research into practice.

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Introduction

Canadian adults are predominantly not meeting public health guidelines for physical activity (Colley et al., 2011), which poses serious implications for our health care system. Physical inactivity is a preventable risk factor for many lifestyle-related chronic conditions and non-communicable diseases, and prescribing exercise for both the management and prevention of ill health is of interest to a broad array of practitioners including exercise professionals, medical doctors, registered dietitians and other members of the allied health team.

The Step Test and Exercise Prescription (STEP™) tool was designed as an office-based exercise prescription aide, where target training intensity (heart rate) is tailored to maximal aerobic power (VO₂max) predicted using a self-paced stepping protocol. STEP™ is valid for use with adults 18-85 years of age (Knight et al., under review, Petrella et al., 2001), and when delivered by both trained and untrained health professionals (Petrella et al., 1998).

STEP™ has been used in primary care settings and research interventions, and demonstrated beneficial effects on aerobic fitness, exercise compliance, exercise self-efficacy, and risk factors associated with cardiovascular disease (Stuckey et al., 2012). Both the user-friendly design of the STEP™ tool and efficacy demonstrated in research interventions to-date support more widespread use of STEP™.

Providing community-based complimentary fitness assessment and exercise prescription services may contribute to increased access to evidence-informed health promotion strategies. Increasing access to evidence-based exercise prescription may also help to positively impact physical activity behaviours of Canadian adults. In an effort to translate research into practice, the purpose of this project was to assess the feasibility of providing complimentary STEP™ services in community locations (i.e. outside primary care and research settings) by evaluating safety and efficiency of administration as well as experience of providers delivering the service. We hypothesized that the provision of STEP™ services in community-based locations would be highly feasible and associated with low adverse exercise-related events.

Methods

Setting

A community-based location in London, Ontario was established for providing STEP™ as a complimentary service. The STEP™ service was provided in a local pharmacy, and service providers were on-location over 4 days weekly (3 weekdays, 1 weekend day), spanning a 10-week period. Eligibility criteria to use the service included age (18-85 yr) and a

pre-participation health screening questionnaire (Physical Activity Readiness Questionnaire). This project was approved by Western University Health Sciences Research Ethics Board (Protocol #15828).

Design

The STEP™ protocol is described elsewhere (Stuckey et al., 2012). Briefly, individuals complete a self-paced submaximal stepping test from which VO₂max is predicted. Target training heart rate (65-85% heart rate maximum) is then prescribed based on fitness classification (Needs Improvement, Fair, Good, Excellent, Superior, as per normative values for classification from the Cooper Institute (Heyward 2006)). Individuals are taught how to measure heart rate during physical activity, and counselled on public health guidelines for physical activity. STEP™ requires less than 10 minutes to complete per individual. STEP™ was conducted with eligible individuals, who were subsequently provided with a copy of their personal exercise prescription as well as physical activity guidelines for Canadians (CSEP, 2011; Tremblay et al., 2011).

Statistical Analysis

The purpose of this project was to assess feasibility of delivering STEP™ in a community setting. Total number of individuals interested in the service, number of individuals who completed STEP™, adverse events, total time on-location, and service provider field notes describing the experience offering the service were recorded. No personal or identifiable data was collected. All data was managed in Microsoft® Excel® for Mac 2011.

Results

No adverse events were observed. 103 individuals were interested in using the service, and 80 individuals completed STEP™. 170 hr were spent on-location providing the service, or 1.65 hr worked per individual interested in the STEP™ service. Field notes from the service providers indicated that: perceivably fewer individuals were interested in completing STEP™ as compared to the number of individuals in the pharmacy; individuals using the complimentary blood pressure services on-location, or those referred to the service by the pharmacists were more commonly interested in STEP™ as compared to general customers; and formal advertising or promotion of the service may have helped to increase customer awareness.

Discussion

STEP™ is an evidence-based tool that can be used by various health professionals for chronic disease management and health promotion. The current project explored the feasibility of translating research into evidence-informed community services. Findings support the feasibility of providing evidence-based exercise prescription in community settings. Moreover, this project contributes to the translation of research into practice.

Referral to the service by health professionals may contribute to increased utilization of similar community services. In the current study, individuals who were referred to the service by the in-store pharmacist demonstrated interest in exercise prescription and physical activity counseling. For ongoing community-based health promotion initiatives, endorsement by various health

professionals may help to increase service utilization.

In the current project, personal information was not collected (e.g. VO₂max, fitness category, age), which limits conclusions that can be drawn regarding demographics most interested in this type of community-based exercise prescription service. Demographic information could be of value in designing future implementation strategies for this type of service. Future investigations may also wish to explore the effect of formal advertising or promotion of the service to increase awareness and potentially uptake. During this project, in excess of 1.5 hr were worked by the service providers per individual interested in the service. This information supports future investigation into self-administration of STEP™. For example, using an automated device similar to blood pressure machines already present in most pharmacies. Self-administration of evidence-based physical activity tools like STEP™ may be of benefit for ongoing care for and self-management of chronic conditions by supporting individuals to assume an active role in their healthcare.

Conclusion

The current project contributed to the application of research in evidence-informed service delivery. Experiences from this project were used to inform the implementation of an ongoing complimentary STEP™ service in conjunction with industry support at multiple community locations in London, Ontario. Exploring the implementation of research findings into community services supports the practice of knowledge translation. Improving access to care by providing complimentary evidence-based exercise prescription in

community settings may help to improve physical activity behaviours of Canadians, which could have substantial public health benefits.

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Authors' Qualifications

The authors' qualifications are as follows: Emily Knight, BSc, PhD(c), CEP, and Robert J Petrella, MD, PhD.

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