Effectiveness of a Partnered Exercise Telehealth Intervention for Individuals with Parkinson's Disease

Ana Bormann, OTS, McKenzie Meyer, OTS, Emily Noldin, OTS

Introduction

- **Parkinson's Disease (PD)**
  - Both motor and nonmotor symptoms impact on daily life by contributing to declined participation in meaningful occupations and overall quality of life (Duchesne et al., 2015; Jankovic, 2007; Nimwegen et al., 2011; Radder et al., 2017).
- **Exercise**
  - Research supports aerobic exercise as an effective complementary intervention to manage symptoms and increase quality of life in individuals with PD.
  - Financial and geographical barriers reduce the possibility that individuals will see benefits on their symptoms, while social components of exercise increase adherence (Zhou, Grady, & Chen 2017; Afshari, Yang, & Bega, 2017; Crizzle & Newhouse 2012)..
  - Telehealth interventions can improve access to health services and partner-based exercise programs (Dorsey et al., 2013).

- **<u>Study Aim</u>**
  - To examine changes in self-perceived performance and satisfaction of daily activities, as measured by the COPM, following a telehealth partnered cycling program for individuals with PD.

Research and Design Methods

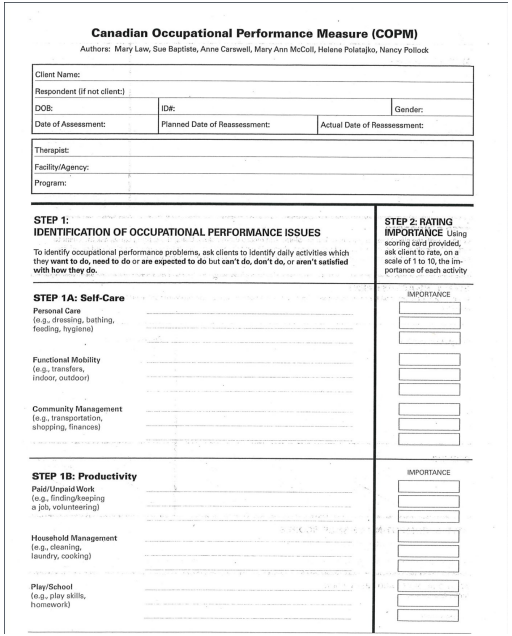
- **Participants**
  - 8 individuals with PD, living in a rural location or experiencing barriers to community based exercise.

- **Procedures**
  - **Pretest-posttest design**
    - Participants self-identified 5 most important occupational performance problems (OPPs) in areas of self-care, productivity, and leisure.
    - Participants ranked each OPP on a scale of 1-10 for perceived levels of performance and satisfaction.
  - **Intervention:** Participants cycled on a stationary bicycle, while simultaneously video chatting a research team member who was also cycling.
    - 3x/week for 6 months

Research and Design Methods

OCCUPATIONAL THERAPY PROGRAM, DEPARTMENT OF KINESIOLOGY, UNIVERSITY OF WISCONSIN-MADISON

- **Primary Outcome Measure: Canadian Occupational Performance Measure (COPM):**



Canadian Occupational Performance Measure (COPM)

Authors: Mary Law, Sue Baptiste, Anne Carswell, Mary Ann McColl, Helene Polatajko, Nancy Pollock

Client Name:
Respondent (if not client:)
DOB: ID#: Gender:
Date of Assessment: Planned Date of Reassessment: Actual Date of Reassessment:
Therapist:
Facility/Agency:
Program:

STEP 1: IDENTIFICATION OF OCCUPATIONAL PERFORMANCE ISSUES

To identify occupational performance problems, ask clients to identify daily activities which they **want to do, need to do** or **are expected to do** but **can't do, don't do,** or **aren't satisfied with how they do.**

STEP 2: RATING IMPORTANCE Using scoring card provided, ask client to rate, on a scale of 1 to 10, the importance of each activity

STEP 1A: Self-Care

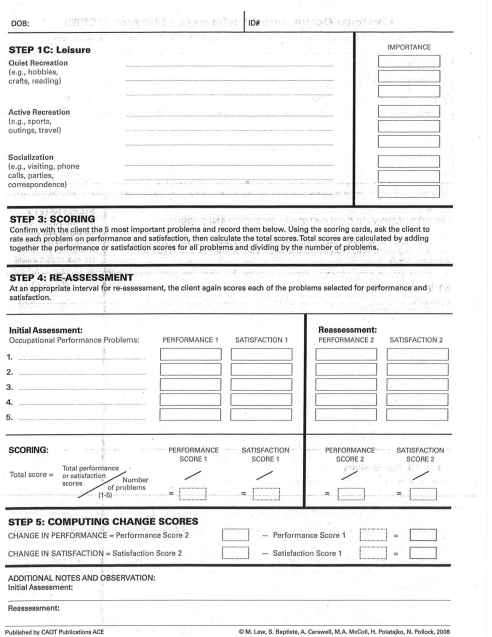
IMPORTANCE

Personal Care (e.g., dressing, bathing, feeding, hygiene)
Functional Mobility (e.g., transfers, indoor, outdoor)
Community Management (e.g., transportation, shopping, finances)

STEP 1B: Productivity

IMPORTANCE

Paid/Unpaid Work (e.g., finding/keeping a job, volunteering)
Household Management (e.g., cleaning, laundry, cooking)
Play/School (e.g., play skills, homework)



DOB: ID#

STEP 1C: Leisure

IMPORTANCE

Quiet Recreation (e.g., hobbies, crafts, reading)
Active Recreation (e.g., sports, outings, travel)
Socialization (e.g., visiting, phone calls, parties, correspondence)

STEP 3: SCORING

Confirm with the client the 5 most important problems and record them below. Using the scoring cards, ask the client to rate each problem on performance and satisfaction, then calculate the total scores. Total scores are calculated by adding together the performance or satisfaction scores for all problems and dividing by the number of problems.

STEP 4: RE-ASSESSMENT

At an appropriate interval for re-assessment, the client again scores each of the problems selected for performance and satisfaction.

Initial Assessment: Occupational Performance Problems:	PERFORMANCE 1	SATISFACTION 1	Reassessment: PERFORMANCE 2	SATISFACTION 2
1.				
2.				
3.				
4.				
5.				

SCORING:

Total score = Total performance or satisfaction scores / Number of problems (1-5)

PERFORMANCE SCORE 1 = SATISFACTION SCORE 1 = PERFORMANCE SCORE 2 = SATISFACTION SCORE 2 =

STEP 5: COMPUTING CHANGE SCORES

CHANGE IN PERFORMANCE = Performance Score 2 — Performance Score 1 =

CHANGE IN SATISFACTION = Satisfaction Score 2 — Satisfaction Score 1 =

ADDITIONAL NOTES AND OBSERVATION:
Initial Assessment:
Reassessment:

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- **Data Analysis:** T-test was used determine whether significant differences in top 3 COPM performance/satisfaction scores existed following the telehealth partnered-cycling intervention.

Results

Table 1.
Paired Samples Statistics for Performance Scores

	OPP 1 Posttest - Pretest	OPP 2 Posttest- Pretest	OPP 3 Posttest- Pretest
Z	-2.226[b]	-2.041[b]	-1.604[b]
Asymp. Sig. (2-tailed)	.026	0.041	0.109

a. Wilcoxon Signed Ranks Test
b. Based on Negative Ranks

Table 2.
Paired Samples Statistics for Satisfaction Scores

	OPP 1 Posttest - Pretest	OPP 2 Posttest- Pretest	OPP 3 Posttest- Pretest
Z	-1.897[b]	-2.032[b]	-1.604[b]
Asymp. Sig. (2-tailed)	.058	0.042	0.109

a. Wilcoxon Signed Ranks Test
b. Based on Negative Ranks

*OPP = Occupational Performance Problem

Conclusions and Implications for Practice

- **Limitations**
  - Small participant sample size
  - Lack of random sampling
  - Threats to internal validity: maturation, history, testing
- **Considerations**
  - Use of COPM to identify occupational performance problems
  - Participants were reminded of pretest performance/satisfaction ratings prior to giving posttest ratings
- **Implications**
  - Strengthens research on benefits of incorporating socialization into physical activity
  - Our study will encourage more telehealth interventions of the same capacity
  - Increase physical health/telehealth interventions to rural populations

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