

Background

- Physical activity (PA) is beneficial for persons with osteoarthritis because it helps in decreasing pain, improving mood, and improving mobility.
- Despite the benefits, more than 57% of people with arthritis were physically inactive during their leisure time.
- Reluctance for PA associated with lack of motivation, doubts about the effectiveness of exercise, and lack of health professional advice.

Purpose

- To assess the feasibility and preliminary effect of a multi-faceted physical activity program

Methods

Design: One-group pre-post study

Intervention: Multi-faceted physical activity counselling program intervention is one month long, consisting of:

- An orientation session, including group education on physical activity, an individual goal-setting session with a physiotherapist.
- Use of a Fitbit Flex and the FitViz web-app for one month. Fitbit Flex will collect information about their physical activity and sedentary behaviours. FitViz will synchronize with the Fitbit, and display personalized activity summaries.
- Two phone calls with a study physiotherapist to review their physical activity level and goals using the Brief Action Planning approach.

Outcome Measures

- Primary outcome measure: Average moderate-vigorous physical activity (MVPA) accumulated in sessions of ≥ 10 minutes, with allowance for interruption of up to one minute
- Secondary outcome measures: 1) daily steps and 2) total sitting time in sessions of >20 min/day
- Measurement: participants wear a SenseWear Mini accelerometer for seven days at baseline (before the intervention) and at the end of the T1 (after monthlong intervention)
- SenseWear Mini captures a full picture of physical activity - integrates accelerometer and physiological data to estimate steps and energy expenditure – gold standard for data collection
- Fitbit Flex also collected physical activity data, but is less accurate; will serve as a motivational tool, not outcome measure tool



Figure 1: SenseWear Mini



Figure 2: Fitbit Flex

Feasibility and Limited-Efficacy Assessment

- Feasibility will be assessed by looking at recruitment, drop-out rate, and equipment loss
- The change in results between baseline and T1 will be assessed by a paired t-test

Results

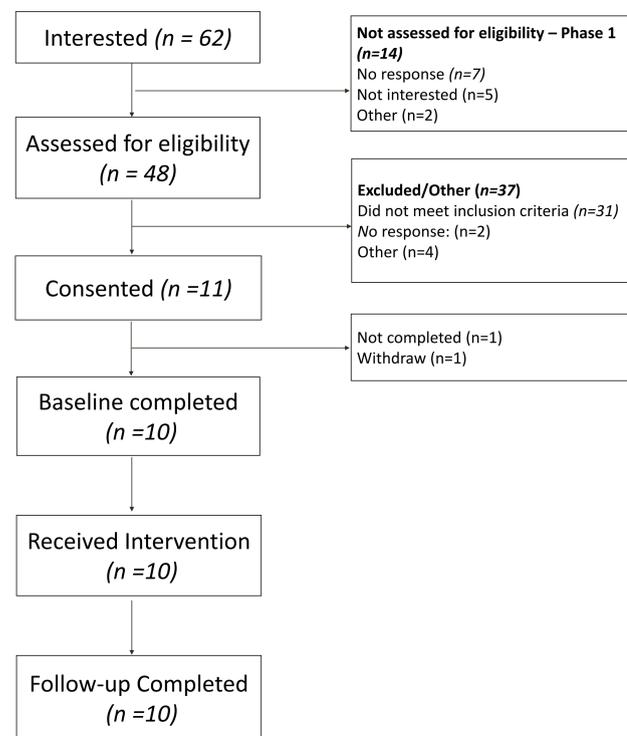


Figure 1: Study Design and Participant Recruitment

Table 1: Limited-efficacy assessment of outcome measures

	T=0	T=1	Mean Change	P-value	95% CI
MVPA 3+ METs (min)	32.3	49.2	16.9	0.19	-3.6, 37.4
Total Daily Steps	5197.5	6220.4	1022.9	p=0.27	-417.8, 2461.7
Sedentary time (min)	596.4	983.4	387.0	0.002	276.6, 497.4

Table 2: Participant characteristics

Total participants	N=10
Age	63.1 years (SD=15.7)
Number of women	9
BMI	26.2 (SD=3.8)

Table 3: Feasibility results

Eligibility screening (weeks)	21
Enrollment rate (participants/week)	0.476

Discussion

- Significant increase in sedentary time was paradoxical – components of intervention like education session and health professional interactions should emphasize reducing sedentary time
- Participant enrolment rate was low, thus recruitment should be a focus during the full-scale randomized controlled trial
- Should further analyze the data through a qualitative analysis of their feedback obtained in follow-up interviews in order to understand context

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