

# Generalized outpatient rehabilitation program compared to usual care on functional exercise tolerance in people with multimorbidity: a pilot randomized controlled trial.

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## Background:

Multimorbidity (the co-existence of two or more chronic conditions) is a growing healthcare burden. Although rehabilitation is integral to chronic disease management, inequity exists in provision of these services. Some diagnostic groups (e.g. heart failure, COPD, or myocardial infarction) have disease-specific programs provided whereas others (e.g. diabetes, obesity, oncology, vascular or surgical diagnoses) frequently cannot access such programs. The study objective was to test the feasibility of conducting an RCT comparing generalized outpatient rehabilitation to usual care in people with multimorbidity.

## Methods

We conducted a pilot feasibility randomized controlled trial with concealed allocation, assessor blinding and intention-to-treat analysis. Sixteen individuals with multiple chronic conditions, not usually eligible for disease-specific programs were enrolled. Exclusion criteria included medical instability; inability to walk 50 metres. The intervention group attended a generic chronic disease outpatient exercise rehabilitation program. Participants attended twice weekly exercise and weekly education for eight weeks. Exercise consisted of aerobic, upper and lower limb resistance exercises. The control group participated in usual care (not including structured exercise rehabilitation). The primary outcome was change in functional exercise capacity (six-minute walk test). Secondary outcomes included quality of life. Feasibility measures included numbers screened, recruited and completed.

## Results

Ninety-eight patients were screened to recruit fifteen participants to date; 67% female with mean (SD) age 65 (12) years, BMI 33 (8) and functional comorbidity index 6 (3). Thirteen have completed the intervention period. Main presenting conditions included hypertension (67%), diabetes (53%) and cancer (40%). Baseline 6MWT distance was 377 (148) metres. Eight and seven patients were randomized to intervention and control, respectively. Intervention participants completed median 13 (11 – 15) (IQR) sessions to date. One participant dropped out after commencing rehabilitation (intervention).

## Discussion

This trial was feasible and will inform the development of a large randomized controlled trial powered for superiority.

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