



Barriers and enablers to ongoing exercise for people with chronic health conditions: Participants' perspectives following a randomized controlled trial of two interventions

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ABSTRACT

Background: At present there is no clear evidence to support any one particular intervention for engaging adults with chronic health issues in ongoing exercise. An understanding of consumer perceptions and preferences is important, because low rates of exercise adherence are likely to limit any benefits obtained.

Objective: To identify and compare participants' perceptions about their own motivation, capacity and opportunity to adhere to an allocated exercise program during either a gym-based or a home-based exercise program with telephone follow-up.

Method/design: This qualitative study used convenience sampling to recruit participants (adults with chronic health issues) immediately after a randomised controlled trial comparing gym-and home-based exercise programs conducted for 12 months. Ten people, five from each intervention group, attended face-to-face semi-structured interviews at a local Community Health Service. Thematic analysis methods were used to analyse the dataset.

Results: Improved social interaction in the gym-based program was seen to contribute to adherence, however home-based programs were perceived as more convenient and easily integrated into daily routines. Individualized exercise prescription by a health professional with regular follow up (in person or by telephone) promoted an active practitioner-participant relationship. Health coaching combined with exercise was perceived to improve self-efficacy and assisted with the removal of intrinsic and extrinsic exercise barriers.

Conclusion: This research presented many common and different themes in participant's motivation, capacity and opportunity in sustained adherence to a gym or home-based exercise program. However, this study found no superior intervention or individual preference to improve ongoing exercise adherence.

1. Introduction

Engagement in regular physical activity is a critical component in preventing and managing chronic health conditions including cardiovascular disease, cancer, diabetes and obesity (Stephenson, Bauman, & Armstrong, 2000). Supervised exercise programs such as pulmonary or cardiac rehabilitation programs lasting for 4–6 weeks can be effective ways for participants to commence or resume exercise in a safe and controlled environment. These programs have demonstrated effectiveness in reducing the risk of myocardial infarctions, lowering glycated haemoglobin in diabetics and reducing body mass index (Castaneda, Layne, & Munoz-Orians, 2002; Maiorana, O'Driscoll, Goodman, Taylor, & Green, 2002). However, adherence rates decline or cease after the

completion of the program, along with the clinical gains obtained, (Hughes et al., 2010) highlighting the need for effective maintenance strategies.

A recent review found two main interventions for enhancing adherence to exercise following completion of supervised exercise programs in adults with chronic health conditions: gym-based programs and homebased programs with telephone follow up (Jansons, Haines, & O'Brien, 2017). Meta-analysis found no difference in the proportion of participants who were fully or partially adherent at 12 months between intervention types. The authors identified the need for comparative qualitative studies to identify the determinants of adherence to sustained exercise participation. There are many potential factors that could explain variations in exercise adherence in this population,

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including opportunity factors external to the individual as well as the individual's own psychological and physical capacity to engage in physical activity. Interventions that address one or more of these factors could influence ongoing exercise adherence (Michie, van Stralen, & West, 2011), however, these factors have not been studied using qualitative methods concurrent with a prospective comparative trial.

1.1. Objective

This qualitative study was completed immediately after a randomised controlled trial, in which participants who had completed a short supervised centre-based exercise program were allocated to either a 12-month gym-based intervention or a home-based exercise program with telephone follow-up (Jansons, Robins, O'Brien, & Haines, 2017). The aim was to identify and compare participant perceived barriers and enablers of exercise adherence within and between intervention groups.

2. Materials and method

2.1. Design

This qualitative study used face-to-face semi-structured interviews and thematic analysis methods (Pope, Ziebland, & Mays, 2000) to analyse the data.

2.1.1. Procedure

A convenience sample of participants, at the competition of either a 12-month gym-based exercise intervention or a home-based exercise intervention, were invited to participate. Participants were approached during their final data collection appointment. Written informed consent was obtained from the participant directly. Recruitment ceased when data saturation had been achieved.

Two research assistants with experience in qualitative research conducted the semi-structured interviews face to face at ****. A set list of questions were designed to elicit responses around participant's motivation, capacity and opportunity to adhere to sustained participation in either intervention (Appendix A). Research assistants were also encouraged to ask any further questions that might clarify or provide further information based on participant responses. The interviews approximately 60 min in duration were conducted concurrent with the final 12 month blinded outcome assessment for the exercise intervention trial. All interviews were digitally voice recorded and were transcribed verbatim by one of the research team members.

2.1.2. Participants and setting

Participants were 10 adults, five from each intervention group. There were no participants who refused to participate in the interviews. Groups were similar in most demographic characteristics, although the home-based group were less likely to be born in Australia (60% vs 80%), and more likely to have a primary diagnosis of congestive heart failure, arthritis, or anxiety/depression (see Table 1). Both groups included people who were fully adherent (defined as three sessions completed per week) and people who were infrequent exercisers (defined as two or less sessions per week). There were no participants who had ceased their exercise program altogether. In the primary randomised controlled trial (N = 105), the proportion of people fully adherent was 34% in the gym group compared to 33% in the home group, infrequent exerciser was 51% in the gym group compared to 43% in the home group and ceased their exercise program was 15% in the gym group compared to 24% in the home group (Jansons, Robins et al., 2017).

2.1.3. Trial interventions

The gym-based intervention group had received a 12-month individualized gym-based exercise program and health coaching supervised by an exercise physiologist from the community health

Table 1
Baseline demographics and outcome measure scores for both groups.

	Gym-based follow up	Home-based follow up
N	5	5
Age – mean (sd)	65.2 (14.37)	66.4 (12.01)
Gender (female) – n (%)	4 (80%)	4 (80%)
Marital status – n (%)		
Married	4 (80%)	3 (60%)
Widowed	0	1 (20%)
Divorced	1 (20%)	0
Separated	0	1 (20%)
Country of birth – n (%)		
Australia	4 (80%)	3 (60%)
Other	1 (20%)	2 (40%)
Medical conditions – n (%)		
Congestive heart failure	0	2 (40%)
Another form of heart disease (includes coronary heart disease, cardiomyopathy, ischaemic heart disease, hypertensive heart disease, inflammatory heart disease, disease affecting one or more valves of the heart, heart murmur)	5 (100%)	5 (100%)
Depression or anxiety	1 (20%)	2 (40%)
Arthritis	1 (20%)	2 (40%)
Diabetes	1 (20%)	1 (20%)
Other visual impairment	1 (20%)	1 (20%)
Joint replacement	3 (60%)	3 (60%)
Health insurance status – n (%)		
Private health insurance	2 (40%)	2 (40%)
Department of Veteran's Affairs	1 (20%)	1 (20%)

service. The home-based follow up group had received a 12-month individualized home exercise program with telephone follow and health coaching also supervised by the same exercise physiologists from the community health service. The exercise physiologists providing both interventions were trained in the Health Coaching Australia Model that use techniques such as motivational interviewing and cognitive behavioural therapy techniques to identify barriers and enablers to ongoing exercise adherence (Gale, 2010). All participants were encouraged by their health professional to complete a one hour exercise session as prescribed by the exercise physiologist, three times per week. A detailed description of the elements specific to each intervention has been described previously (Jansons, Robins et al., 2017).

2.1.4. Ethical consideration

This study received ethical clearance from The Southern Health Medical Research Ethics Committee; Number: 10187L.

2.2. Data analysis

A modified thematic framework was used to analyse the data (Pope, Ziebland, & Mays, 2000). NVivo computer software (version 11, QSR International Pty Ltd, Doncaster, Victoria, Australia) was used to code, chart and map the data. Five stages of coding were completed: i) Familiarisation; ii) Identifying a thematic framework; iii) Indexing; iv) Charting; and v) Mapping and Interpretation (Pope et al., 2000).

An iterative process was then used to test and retest the thematic framework. Data were analyzed both within and between the two intervention groups. Two authors (PJ) and (LOB) then compared content and themes. Any disagreement was resolved by consensus moderation.

3. Results

3.1. Common themes across both intervention groups

Fig. 1 depicts intrinsic and extrinsic barriers and enablers of ongoing exercise participation that were common to both intervention groups.

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