Peer-led walking programme to increase physical activity in inactive 60- to 70-year-olds: Walk with Me pilot RCT

Mark A Tully,[1,2,3,4]* Conor Cunningham,[1,2] Ashlene Wright,[1,2] Ilona McMullan,[2,4] Julie Doherty,[5] Debbie Collins,[6] Catrine Tudor-Locke,[7] Joanne Morgan,[2,8] Glenn Phair,[9] Bob Laventure,[10] Ellen EA Simpson,[5] Suzanne M McDonough,[2,4,11] Evie Gardner,[9] Frank Kee,[1,2] Marie H Murphy,[12] Ashley Agus,[9] Ruth F Hunter,[1,2] Wendy Hardeman[13] and Margaret E Cupples[1,2]

[1]Centre for Public Health, School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast, Belfast, UK
[2]UK Clinical Research Collaboration, Centre of Excellence for Public Health Northern Ireland, Belfast, UK
[3]Institute of Mental Health Sciences, School of Health Sciences, Ulster University, Newtownabbey, UK
[4]Centre for Health and Rehabilitation Technologies, Institute of Nursing and Health, School of Health Sciences, Ulster University, Newtownabbey, UK
[5]Psychology Research Institute, Ulster University, Coleraine, UK
[6]Department of General Practice, School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast, Belfast, UK
[7]Department of Kinesiology, School of Public Health and Health Sciences, University of Massachusetts Amherst, Amherst, MA, USA
[8]Community Development and Health Network, Newry, UK
[9]Northern Ireland Clinical Trials Unit, The Royal Hospitals, Belfast, UK
[10]Later Life Training Ltd, Amble, UK
[11]School of Physiotherapy, University of Otago, Dunedin, New Zealand
[12]Centre for Physical Activity and Health Research, Ulster University, Newtownabbey, UK
[13]Health Promotion Research Group, School of Health Sciences, University of East Anglia, Norwich, UK

*Corresponding author m.tully@ulster.ac.uk

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Scientific summary

Walk with Me pilot RCT

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Scientific summary

Background

Physical activity is associated with a reduced risk of developing a range of chronic non-communicable diseases and with improved mental health in older adults. In addition, lower levels of physical activity are associated with poorer social health, such as increased social isolation and loneliness. Physical activity levels also decline with age. The percentage of the population that is aged ≥ 65 years is growing, which is associated with rising health-care costs attributed to the associated increased prevalence of morbidity, disability and mortality, especially among older adults from socioeconomically disadvantaged backgrounds. This suggests that there is a need to develop effective interventions that promote active ageing.

Previous physical activity interventions for older adults have been effective, but many do not include the types of individuals who would benefit the most, such as low active groups and those living in socioeconomically disadvantaged communities. Peer-led interventions are becoming increasingly common as they are relatively cheap and have been shown to be an effective way of encouraging behaviour change, including physical activity. Peer mentors are trained, non-professional individuals who are similar to the target population (e.g. in age and cultural background) and possess experiential knowledge of the target behaviour. However, there is a lack of research of the effectiveness of peer-led physical activity interventions for older adults living in socioeconomically disadvantaged communities.

The aim of the study was to bridge the evidence gap by developing and testing the feasibility of delivering and evaluating a complex peer-led, multicomponent physical activity intervention, derived from a socioecological model of health, in socioeconomically disadvantaged community-dwelling older adults.

Objectives

The objectives of the study were to:

- determine the most efficient methods of recruitment to a peer-led physical activity intervention in older adults
- assess the resources needed for the development of a future definitive trial
- assess the feasibility of a randomised controlled trial (RCT) of a peer-led walking intervention in older adults in terms of rates of recruitment, retention of participants and data completeness, the administration of outcomes and the acceptability of the intervention
- generate data to inform what sample size would be required in a definitive trial of a multilevel peer-led physical activity intervention, based on the variability in objective measurements of physical activity and recruitment and attrition rates
- measure the resource use associated with the intervention and estimate costs
- pilot the use of a health and social care service use instrument and summarise the resource use and costs per group.

Methods

Design

Using behaviour change techniques identified from a rapid review of previous interventions and semistructured interviews, a peer-led physical activity intervention was developed. A two-arm pilot RCT was conducted.

Individuals who, according to the General Practice Physical Activity Questionnaire, were physically inactive, who were aged 60–70 years and who were living in socioeconomically disadvantaged communities in the South Eastern Health and Social Care Trust and the Northern Health and Social Care Trust in Northern Ireland were recruited through general practices and community organisations. Individuals who self-reported a recent history (i.e. within the previous 6 months) of myocardial infarction or stroke, or physical limitations that would limit their ability to participate in a walking programme, were excluded.

'Walk with Me' intervention

Following the collection of baseline outcomes, individuals were randomised to either an intervention or a control group using computer-generated random numbers. The 12-week intervention was based on social cognitive theory and was composed of three stages. Stage 1 (weeks 1–4) involved getting to know the peer mentor and setting initial pedometer step goals. Stage 2 (weeks 5–8) involved setting short- and long-term physical activity goals and problem-solving. Finally, stage 3 (weeks 9–12) emphasised behaviour rehearsal and practice, by walking regularly in a locally accessible physical activity environment and signposting participants to other activity programmes in their community to encourage them to maintain their activity. The intervention was delivered by trained volunteer peer mentors. Participants in the control group received an information booklet on active ageing. They did not receive any additional support to change their activity over the course of the research study.

Main outcome measures

Outcomes were assessed at baseline, post intervention (12 weeks) and 6 months after baseline. The primary outcome was minutes of moderate and vigorous physical activity measured using an ActiGraph GT3X+ accelerometer (ActiGraph, LLC, Pensacola, FL, USA), worn for 7 days. In addition, physical and mental health and mental well-being were assessed using the Short Form questionnaire-12 items and the Warwick–Edinburgh Mental Well-being Scale. Health-related quality of life was assessed using the EuroQol-5 Dimensions, five-level version, questionnaire. Social engagement was measured with the UCLA Loneliness Scale and the Lubben Social Network Scale. Physical activity and social activity self-efficacy, and physical activity and social activity outcome expectancies, were also measured. Participants recorded their use of health care using a health and social care services resource use log in order to pilot the use of the tool for a future definitive trial. The resource use associated with the planning, preparation and delivery of the intervention was collected prospectively.

Assessment of feasibility

The feasibility of conducting a definitive trial was assessed as the ability to recruit participants and retain them in the study. The recruitment rate was assessed by calculating the total number recruited as a proportion of the predefined target of 60 participants within the time frame of the study. Attrition was measured as the proportion of participants who did not complete outcome measures at 6 months after baseline. Predetermined thresholds of 60% and 30% were set for recruitment and retention rates to assess the feasibility of conducting a definitive trial. In addition, the completeness of return of the primary outcome, unexplained adverse events and the views of participants and peer mentors were taken into account.

Results

Recruitment and retention

In total, 50 individuals were deemed eligible and entered the study. Therefore, 82% of the target sample size was recruited. At the end of the 12-week intervention period, seven participants had dropped out of the study. No further participants dropped out at 6 months, resulting in a retention rate at 12 weeks of 86% (43/50).

Participant characteristics

Of the 50 participants, 24 were allocated to the intervention group and 26 were allocated to the control group. At baseline, the groups were similar in terms of activity levels and health status. The overall mean age of participants was 64.5 years. Participants were predominantly female (overall 66%).

Data completeness

At baseline, 48 (96%) of 50 participants returned valid accelerometer data. The return of valid accelerometer data was similar at 6 months (40/43, 93%). All other outcomes were returned with a similar degree of completeness.

Change in outcomes

The study was not powered to assess effectiveness; therefore, only descriptive statistics have been reported. There did appear to be an increase in moderate to vigorous physical activity (MVPA) at 12 weeks and 6 months in the intervention group (7.42 $\pm$ 10.79 minutes/day and 6.31 $\pm$ 16.60 minutes/day, respectively), but in the control group a decrease at 12 weeks (–8.02 $\pm$ 24.41 minutes/day) and a slight increase at 6 months (1.51 $\pm$ 29.54 minutes/day). One control group participant returned to work as a postman during the study. If his data are excluded from the analysis, the change in the control group at 6 months was –4.33 $\pm$ 16.55 minutes of MVPA per day, resulting in a difference in differences between the groups of 10.64 minutes of MVPA per day.

Mixed findings were found for other outcomes, with a high degree of variability. No adverse events related to the study were reported by participants.

Intervention fidelity

Intervention fidelity was assessed through the use of weekly step diaries and checklists, whereby both mentors and participants recorded the delivery of intervention components. All peer mentors (n = 13) and 12 intervention participants returned data. Weekly step diaries were fully completed by both mentors and participants, for all 12 weeks. The fidelity checklists were not completed to the same extent. For the first 3 weeks, mentors and participants reported a high rate of delivery for intervention components (range 49–83%). From week 6 onwards, the rate of return of forms diminished.

Acceptability

Participants in the intervention group reported very high rates of satisfaction with the intervention and the helpfulness of their peer mentor. They noted that the intervention was useful in establishing a physically active routine and that they were still active with their peer mentor even after the end of the programme. Some participants suggested that it may be helpful to add a walking group to the intervention and that they disliked having to complete so much paperwork.

Assessment of intervention costs

The total cost to deliver the intervention was £5055 and the mean cost per participant was £211. The main driver of costs was the trainer time input to peer mentor training and supervision.

Assessment of health service use and associated costs

Health service use was low for both groups and total costs were lower (£68) in the intervention group. Feedback was generally positive for the health service use log; however, some changes are required.

Changes for a definitive study

- Participants were somewhat active and healthy, and were predominantly female. Recruitment methods need to be tailored to recruit very inactive, less healthy individuals, and men, to a definitive trial.
- Using general practices to recruit participants is becoming increasingly complex and we have identified a variety of approaches that can be used, including synchronising recruitment efforts with other activities in the practice, such as clinics and media outputs.
- Participants in the control group expressed a desire for more than just a waitlist condition. Future peer-led interventions could consider using an attention-matched control group, offering nutrition advice as well as physical activity.
- The 'Walk with Me' intervention included only individuals aged 60–70 years. Feedback was received that inclusion criteria should be based on ability, without an upper age limit. We would therefore remove the upper age limit of both participants and peer mentors in a future definitive study.
- The number of self-reported outcomes needs to be reduced in order to reduce participant burden. This could be achieved by limiting the outcome measures to a single general health measure and removing the physical activity questionnaire. In addition, greater efforts will be required to encourage the return of data from those who discontinue the intervention but do not withdraw from the study, including the offer of telephone interviews to collect outcome data.
- As participants expected to receive a heath check as part of the intervention, we propose adding measures of blood pressure and body mass index in a future definitive study.
- To address the reported decline in fidelity of intervention delivery during the later stages of the intervention the ongoing support offered to mentors should emphasise the importance of following the approach to goal-setting described in the programme manual and of recording the delivery of intervention components.
- The exclusion criteria need to be widened to exclude those who are not in work at the start of the intervention but are planning a return to work before the end of follow-up in order to avoid the possibility of introducing bias in measured outcomes due to increased work-related physical activity.
- The peer mentor training needs to be expanded to include a top-up training session half-way through the intervention to reinforce the importance of taking a flexible approach with participants in terms of the timing and venue of meetings.

Conclusions

There is a lack of evidence of the effects of peer-led walking programmes in older adults. The 'Walk with Me' intervention was acceptable to participants. A need to reduce the burden of self-reported outcomes and to address intervention fidelity in the later stages of the intervention was identified. Quantitative and qualitative information suggested that it would be feasible and worthwhile to conduct a definitive trial.

Trial registration

This trial is registered as ISRCTN23051918.

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