

# An open pilot study of the feasibility of using pedometers plus advice to increase physical activity in sedentary older women

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# Physical activity and older people

People aged 70 years and over:

- ▶ Fastest growing, most sedentary segment of Scottish population.
- ▶ Greatest proportion of chronic disease burden, disability and health care use

## Definition of sedentary

No participation in moderate intensity physical activity for at least 30 minutes 5 days/week or at least 20 minutes vigorous intensity activity  $\geq$  3/week

The aim of this pilot study was to evaluate the feasibility of using pedometers and advice to increase physical activity in **sedentary older women**



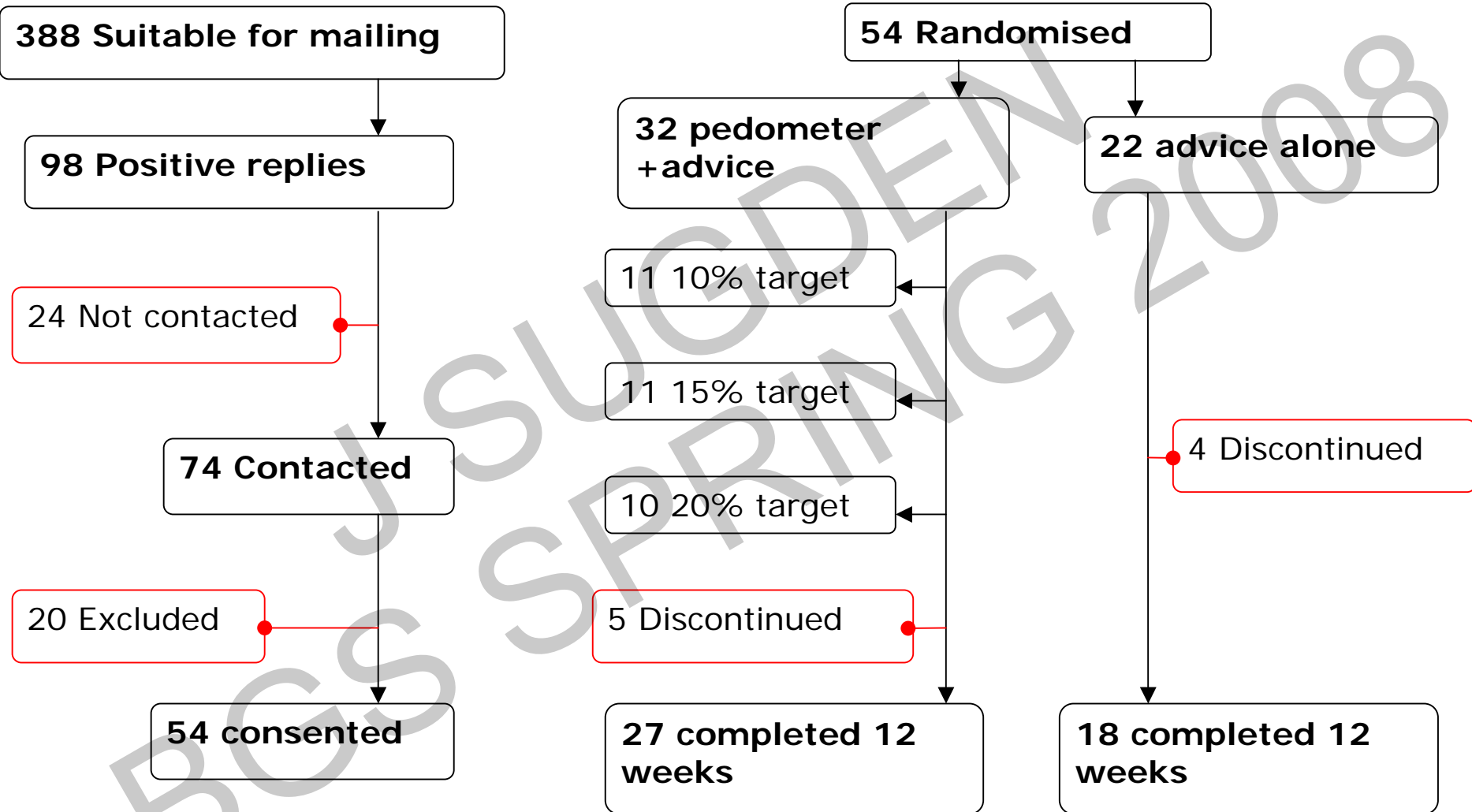
Piezoelectric



**OMRON**

Spring-levered

# Recruited via Scottish Primary Care Research Network



# Advice

Evidence based self-regulation techniques include:

- ▶ Goal setting / planning
- ▶ Gradual goal setting to increase self-efficacy
- ▶ Action plans & coping plans
- ▶ Self-monitoring
- ▶ Feedback/ social support

Ory et al (2005) The Behaviour Change Consortium, *Health Education Research*

## Advice

- ▶ Verbal advice and pamphlet about health benefits of increasing physical activity
- ▶ Individualised activity action plans designed to increase their physical activity levels
- ▶ Individualised coping plans
- ▶ Graded approach with clear advice on when and where to walk and how to schedule time for physical activity
- ▶ Daily activity diary with logs of either pedometer count or time spent walking outdoors

Outcome measures were recorded at baseline and 3 months

▶ Physical activity – accelerometry

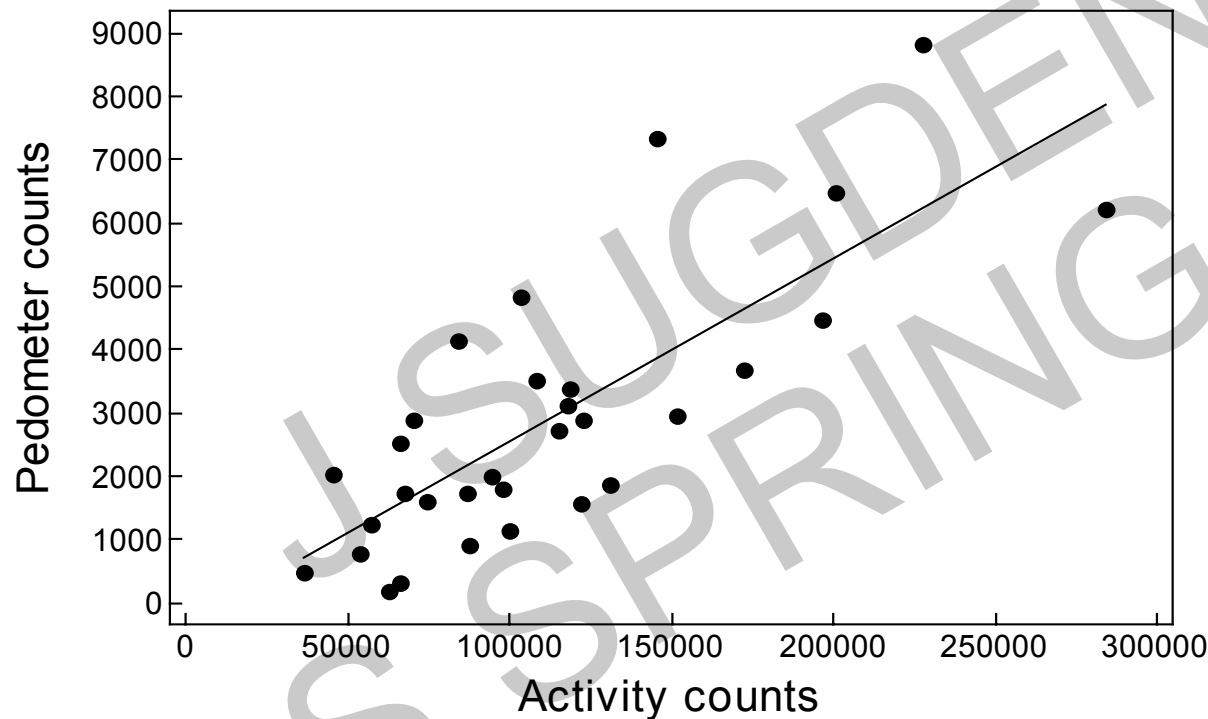
▶ Lower limb function

▶ Questionnaires

Health related quality of life (Euroqol)

Hospital anxiety and depression scale (HADS)

# Correlation between accelerometry and pedometer step counts i.e. time spent walking.



Pearson's correlation =  
0.78,  $p = 0.01$

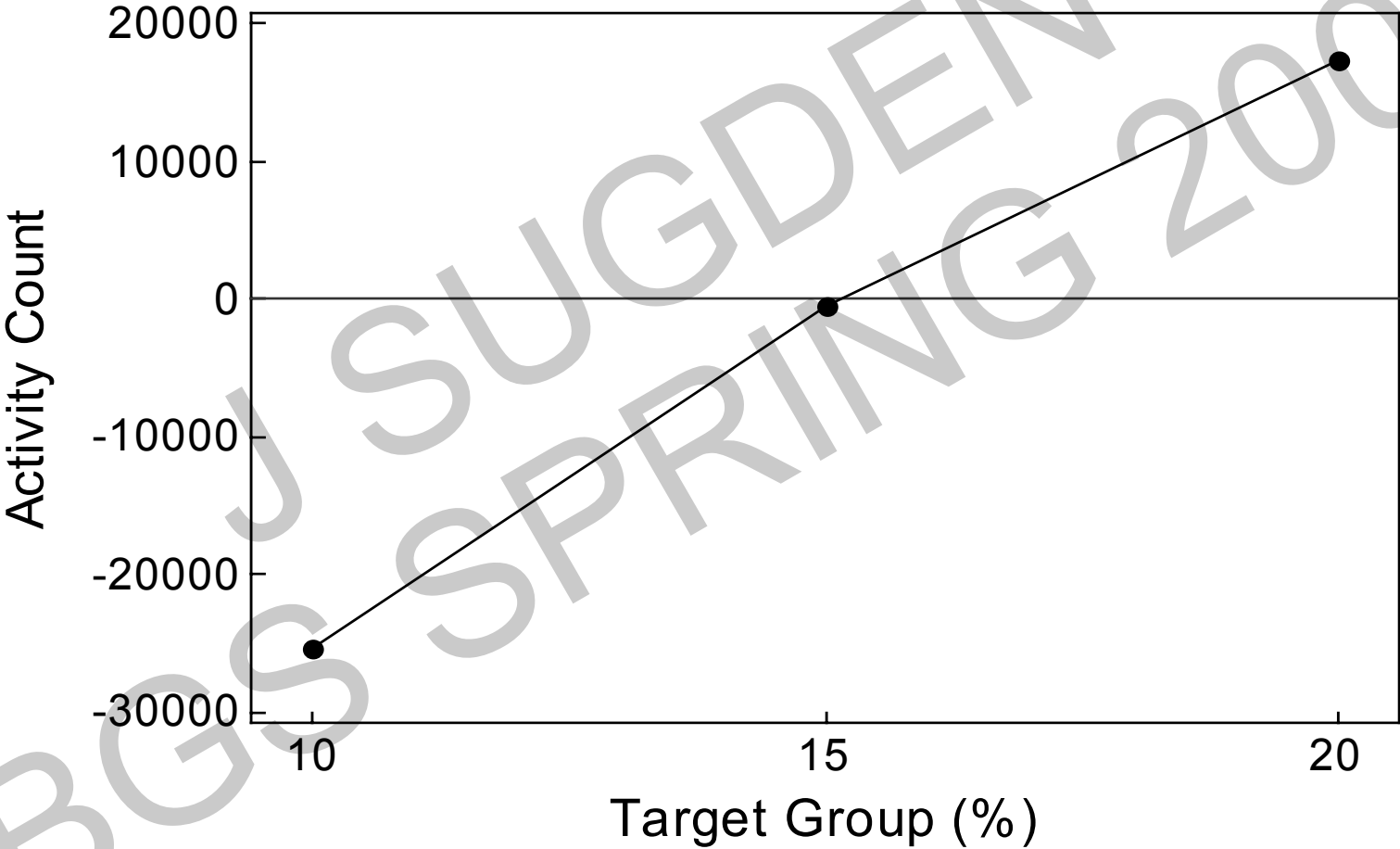
$n=32$

Accuracy in study population:

Spring-levered: 62 steps per 100 taken (1-179)

Piezoelectric: 73 steps per 100 taken (6-117)

# Mean change in activity between baseline and 12 weeks in pedometer group by target



## Other Outcome Measures

- ▶ No difference in change in quality of life
- ▶ No difference in change in depression
  - greater trend to reduction in the pedometer group
- ▶ Anxiety increased significantly ( $p=0.011$ ) in the pedometer group
- ▶ Limb function improved in pedometer group (ns)

## Conclusions

- ▶ Feasible to use pedometers and advice to increase physical activity in sedentary older women
- ▶ Good correlation between walking and physical activity in this population
- ▶ Encouraging increase in activity amongst the 20% target group demonstrated
- ▶ Large CSO funded trial to investigate this further commenced in October 2007

# Thanks

- ▶ Chief Scientist Office
- ▶ All the participants
- ▶ British Geriatrics Society  
– nurses study grant

