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Combining physical activity promotion and fall prevention for healthy ageing: The CHAnGE trial

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Affiliated with



The role of physical activity in older age

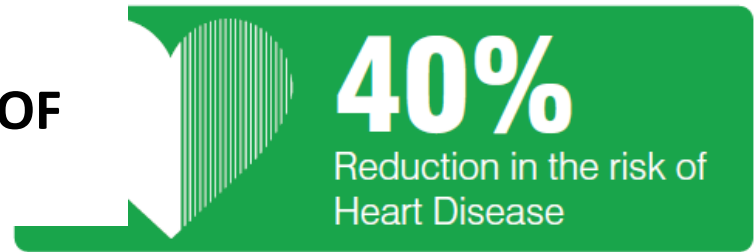
Health conditions associated with age:

- CHD
- Diabetes
- Stroke
- Sarcopenia
- Falls
- Insomnia
- Depression
- Low back pain
- Dementia
- Cancer

**PHYSICAL ACTIVITY CAN
PREVENT OR MANAGE ALL OF
THESE CONDITIONS!**

Exercise is life
Exercise is health
Exercise Is Medicine

Health benefits with regular physical activity



ALL YOU NEED IS:
VIGOROUS INTENSITY CARDIO 20 mins X 3 days
OR MODERATE INTENSITY CARDIO 30 mins X 5 days
PLUS STRENGTH TRAINING 8-12 reps X 2 days*

*Do between 8 and ten different exercises

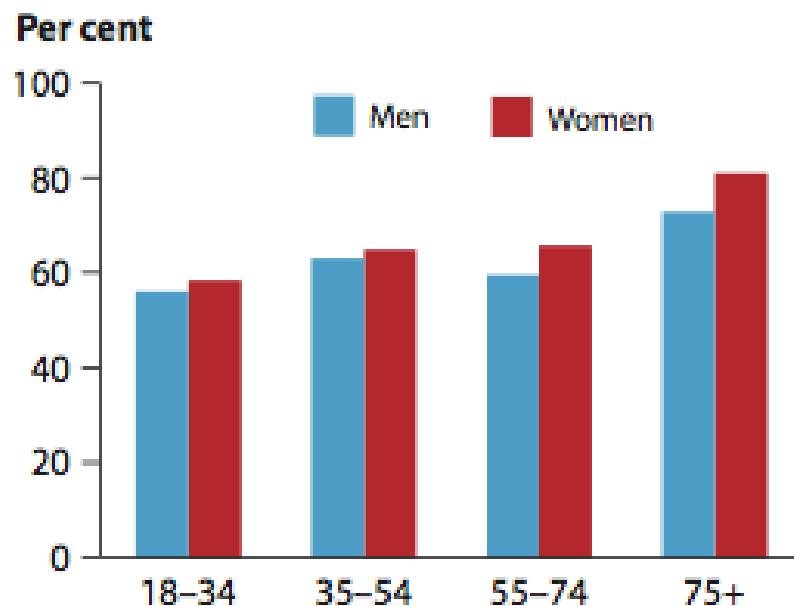
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Physical inactivity increases with age

Physical inactivity. The percentage of adults who did not participate in sufficient regular physical activity to gain a health benefit. The recommended minimum level of activity is 150 minutes per week of walking or other moderate or vigorous activity, over at least five sessions.



- In 2007–08, most adults (62%) did not do the recommended amount of physical activity.
- Physical inactivity increased with age—76% of people aged 75 and over did not meet the guidelines, compared with 57% of people aged 18–34.
- Women were slightly more likely than men to be physically inactive.



Physical inactivity is a major public health issue - described as a “pandemic” by experts

Physical inactivity:

- 4th leading risk factor for the prevention of non-communicable disease, preceded only by smoking, hypertension, and high blood glucose levels (*WHO 2009*)
- accounted for more than 3 million preventable deaths globally in 2010 (*WHO 2010*)

A 1% gain in proportion of the population that is sufficiently active:
= \$8 million saved in healthcare costs
=122 deaths prevented/year from heart disease, diabetes and colon cancer *Stephenson J, et al. (2000). Canberra: Comm DoH & Aged Care*

Physical activity guidelines for older adults

What should you do?

For a healthy heart and mind

To keep your muscles, bones and joints strong

To reduce your chance of falls

Be Active

Sit Less

Build Strength

Improve Balance

VIGOROUS

MODERATE



RUN



WALK



TV



GYM



DANCE



SPORT



CYCLE



SOFA



YOGA



TAI CHI



STAIRS



SWIM



COMPUTER



CARRY BAGS



BOWLS

MINUTES PER WEEK

75 OR **150**

VIGOROUS INTENSITY

(BREATHING FAST
DIFFICULTY TALKING)

MODERATE INTENSITY

(INCREASED BREATHING
ABLE TO TALK)

OR A COMBINATION OF BOTH

BREAK UP SITTING TIME



2 DAYS PER WEEK

Something is better than nothing.

Start small and build up gradually:
just 10 minutes at a time provides benefit.

MAKE A START TODAY: it's never too late!

More steps = longer life

RESEARCH ARTICLE

Objectively Measured Daily Steps and Subsequent Long Term All-Cause Mortality: The Tasped Prospective Cohort Study

Terence Dwyer^{1,2,3}, Angela Pezic³, Cong Sun^{3,4}, Jenny Cochrane², Alison Venn², Velandai Srikanth⁵, Graeme Jones², Robin Shook⁶, Xuemei Sui^{6,7}, Andrew Ortaglia^{6,8}, Steven Blair^{6,7,8}, Anne-Louise Ponsonby^{2,3,4*}

- >2500 people, mean age 58 years
- Wore pedometers at baseline and year 3
- Followed up for 15 years to see who died
- ↑steps from 1,000 to 10,000/ day= 46% ↓ in risk of early death
- ↑steps from 1,000 to 3,000/ day= 12% ↓ in risk of early death

Physical activity and falls in older age

There is a risk of causing older people to fall more when we encourage them to be more active- evidence from 2 RCTs:

-Lawton et al, 2008:

- women aged 40–75 years
- physical activity counselling, a written exercise prescription and telephone-based follow-up

-Ebrahim et al, 1997:

- postmenopausal women with recent upper limb fracture
- nurse-prescribed brisk walking programme

Both trials increased physical activity but also increased falls

BMJ Open Health coaching and pedometers to enhance physical activity and prevent falls in community-dwelling people aged 60 years and over: study protocol for the Coaching for Healthy AGEing (CHAnGE) cluster randomised controlled trial

Anne Tiedemann,¹ Chris Rissel,² Kirsten Howard,² Allison Tong,² Dafna Merom,³ Stuart Smith,⁴ James Wickham,⁵ Adrian Bauman,² Stephen R Lord,⁶ Constance Vogler,^{7,8} Richard I Lindley,¹ Judy M Simpson,² Margaret Allman-Farinelli,⁹ Catherine Sherrington¹

The Coaching for Healthy AGEing (CHAnGE) trial

Aim: To establish the impact of a physical activity and fall prevention programme compared with a healthy eating programme on physical activity and falls among people aged 60+ years.



Methods

Study design:

- Cluster randomised trial involving 60 established community-based groups such as Probus, Rotary, Men's Sheds etc.
- Each community-based group recruited will be considered as a cluster

Participants:

- People aged 60+ years who regularly attend (at least once every 2 months) meetings or other activities at the participating community-based group.
- Live at home; leave the house regularly; able to take part in physical activity; cognitively intact; sufficient English; not meeting PA guidelines and not had fall risk assessment/ plan in past year

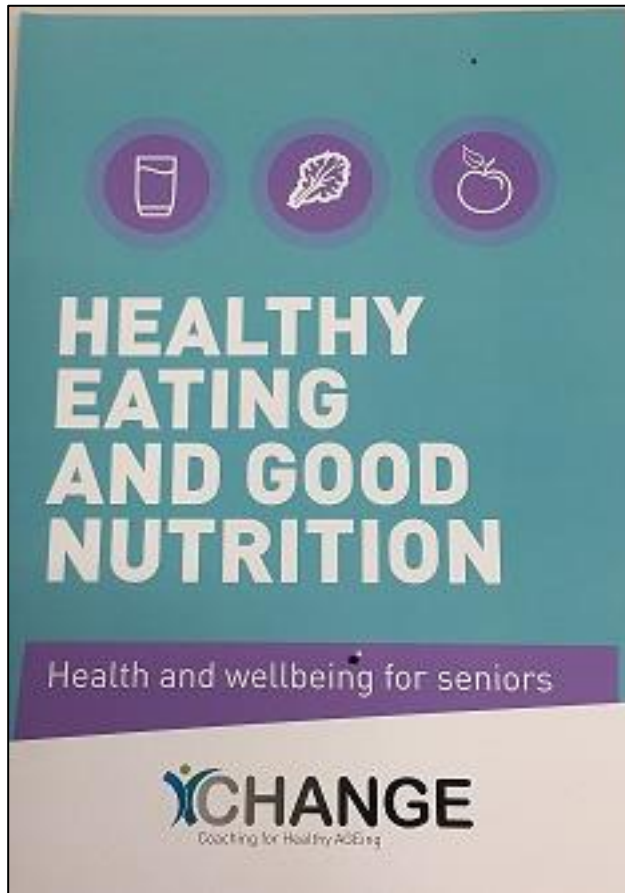
Physical activity/ fall prevention intervention



Fall prevention and physical activity plan



Nutrition intervention



Primary outcomes

Primary:

1. Objective Physical Activity (*Actigraph over 7 days*)
2. Falls (*monthly calendars for 12 months*)

Measured at 12 months post-randomisation



Secondary outcomes

-measured at 3, 6 and 12 months post-randomisation

- proportion of fallers (*monthly calendars*)
- proportion of people meeting PA guidelines (*Actigraph*)
- BMI (*self-report*)
- eating habits (*Aust. Health survey*)
- mobility goal attainment (*Goal Attainment Scale*)
- mobility-related confidence (*Modified Gait Efficacy Scale*)
- quality of life (*EQ-5D-5L*)
- fear of falling (*Short FES-I*)
- risk-taking behavior (*5-item self-report*)
- mood (*PANAS*)
- well-being (*COMPAS-W scale*)
- self-reported physical activity (*IPEQ*)
- disability (*WHODAS2.0*)
- health and community service use (*monthly calendars*)

Economic and process evaluation

Cost-effectiveness outcomes:

- Cost of delivering the intervention
- Fall-related and total health and community service utilisation

Process evaluation:

- Qualitative study- semi-structured interviews to determine barriers and facilitators to program uptake
- Discrete choice experiment- to determine participant preferences

Progress to date

- Trial registered and protocol paper published
- Recruitment commenced in late 2015 in Sydney and Orange
- 15 groups randomised to date
- Data collection expected to be complete by early 2019

We are seeking groups to take part- spread the word!

Conclusions

- Physical activity is essential for optimising health and preventing many chronic diseases throughout the lifespan
- The *CHAnGE trial* will evaluate a model for an integrated falls and physical activity assessment and intervention programme that could be directly implemented within existing health services.



Acknowledgements

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Study staff:

- Cath Kirkham, Betty Ramsay, Kate Purcell, Sandra O'Rourke, Linda Roylance (Sydney)
- Shona Manning, Kate Sharkey (Orange)

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Thank you for listening!

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