



Exploring telehealth exercise programs to prevent falls in people with dementia



What is the focus of the research?

Trialling physiotherapy-led, telehealth exercise interventions to improve treatment options and prevent falls in older people with living dementia who receive aged-care services.



Why is it important?

As cognitive decline worsens with the progression of dementia, so too does a person's balance and ability to walk independently. People living with dementia fall twice as often as those without and are three times more likely to break their leg and die. Each year, 125,000 people aged 65 and over are hospitalised due to falls, costing the economy \$3.9 billion.

Regular exercise that focuses on strength and balance improves an older person's walking ability. This reduces their risk of falls, allowing

them to remain independent for longer. Telehealth physiotherapy is emerging as an innovative method of service delivery for older people who can't access in-person allied health services. Telehealth has become a permanent part of the Medicare system and the Royal Commission into Aged Care Quality and Safety called for older people living in residential care to have better access to telehealth services.

People with dementia account for 52 per cent of residents in aged-care facilities. Dr Pinheiro is investigating the effectiveness of telehealth exercise programs for people living with dementia who access aged-care services, including those who live in residential care.

The innovative trial design will also collect important implementation data that will allow it to be delivered on a national scale. Dr Pinheiro and her team will test the cost-effectiveness of the program, which will directly inform changes

to funding policy, ensuring all people with dementia have equal access to allied health services that improve safety and quality of life.

The inclusion of participants who live at home and in residential aged-care facilities across metro, regional and rural areas mean this intervention will be evaluated for effectiveness across a wide range of care settings.



How will this happen?

Stage 1: 240 participants aged 65 and older who receive community or residential aged-care services will be randomised into either the intervention group or a control group.

Stage 2: participants in the intervention group will participate in 10 physiotherapist-led exercise sessions via Zoom over six months.

Stage 3: outcomes will be assessed by a blinded assessor using video-based assessments before the program starts and at completion. Falls rates, mobility goal attainment and quality of life scores between the groups will be compared.



What will this mean for people with dementia?

- More access to allied health services.
- The ability to remain independent for longer.
- Higher self-efficacy that comes with better mobility.
- Improved quality of life.



How do researchers measure mobility?

Mobility is the ability to move independently and safely. As we age, we naturally lose muscle mass and strength; our bones weaken and our joints stiffen. This reduces our ability to perform activities of daily living, like walking, getting out of bed, ambulating safely in the community, and performing self-care activities. Some people develop additional risk factors, such as impaired vision, pain, cardiorespiratory diseases, or neurological conditions like dementia.

Researchers measure a person's mobility by conducting a short performance physical battery test. It's an overall measure of a person's strength and balance relating to performing everyday activities. In this study, the researchers will use exercises that test participants' balance, lower-body strength, gait and ability to stand up from a chair without support. The test will be performed before the study commences, then again at completion, to quantify improvements in these areas.



Who's undertaking the research?

Dr Marina de Barros Pinheiro, University of Sydney

Dr Pinheiro is a National Health and Medical Research Council early career fellow and senior research fellow at the Institute for Musculoskeletal Health. Dr Pinheiro's research focuses on cost-effectiveness and implementation of physical activity interventions. Her vision is to enhance translation of physical activity research findings into practice and promote

physical activity as an enabler of healthy ageing.

Dr Pinheiro was awarded a PhD in 2017 and has an outstanding track record of 66 peer-reviewed papers (19 as first author). She has been published in top-ranking journals, co-authored three Cochrane reviews and has led four World Health Organisation-commissioned reviews.

The title of Dr Pinheiro's project is *A physiotherapy-led telehealth and exercise intervention to improve mobility in older people receiving aged-care services: an effectiveness and implementation randomised controlled trial.*