Preventing falls in older Aboriginal people

Professor Rebecca Ivers for the Ironbark Investigator team

School of Public Health and Community Medicine, UNSW

The George Institute for Global Health, UNSW
Background

Highest rates of hospitalized falls for Aboriginal people 2003-2010 were among those aged 65+ in women and those aged 60-64 in men (Boufous et al 2010)

Population of Aboriginal people aged 45-64 years is growing, with increasing numbers of Aboriginal people surviving to older ages

Early onset of chronic diseases: fall risk at younger ages?

Limited published reports of falls programs for Aboriginal people

Important elements of success for Aboriginal programs include: locally owned community based programs, Aboriginal leadership and capacity – applied to fall prevention programs?
Pilot project and investigator team

The Ironbark Pilot Project was funded by the NSW Health Aboriginal Injury Prevention and Safety Promotion Demonstration Grants Program

**Project team:** Caroline Lukaszyk (Project Manager), Julieann Coombes (Aboriginal Research Officer)

**Steering committee members:** David Ella, Robyn Moore, Matt Sonter, Mick Pittman, Barry Duncan, Lorraine Lovitt, Jean Turner, David Follent

**Investigators:** Prof Rebecca Ivers, Prof Cathie Sherrington, Prof Bob Cumming, Prof Tony Broe, Dr Lisa Keay, Dr Anne Tiedemann, Dr Holly Mack

**Resource Development:** Julieann Coombes, Caroline Lukaszyk, Anne Tiedemann, Cathie Sherrington, Megan Swann, Catherine Kirkham, Betty Ramsay
The Ironbark Project

1. Examine burden and risk factors for falls in older Aboriginal people

2. Understand what programs are currently being delivered in NSW

3. Qualitative work with community members and stakeholders to understand acceptability and feasibility of identified falls programs

4. Development and piloting of new program
Yarning circles

- 10 yarning circles held in Sydney, the Central Coast, Central West, and Illawarra Shoalhaven
- Total of 76 participants (16 males, 60 females)
3. Yarning circles

Key issues surrounding falls

- Loss of independence
- Unable to care for grandchildren
- Not being able to pass on cultural knowledge
- Loss of community connection
- Disconnection to kinship
- The shame of needing to rely on others
Program development

On-going program
Delivered in Aboriginal community settings, overseen by local Aboriginal staff
Free
Delivered in a 1 x 1.5 hour class on a weekly basis
- 45 minute ‘yarning both ways’ session – education component
- 45 minute exercise session – based on Otago exercises
Program materials developed with culturally specific images and photographs
Program was trialed at 6 pilot sites for a 3 or 6 month period: Umina, Nowra, Mount Druitt, Windsor, Ulladulla, Redfern
Level 1: use two hands

- Sit on a chair that is not too low
- Put your hands on the chair
- Bring your feet back under you
- Lean forward
- Push up with both hands to stand up
- Reach both hands back to the chair and sit down safely
- Repeat 3-6 times
Program materials and resources

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Remember; slow and steady wins the race!
As we get older, we have time to slow down - there is no reason to rush! Rushing is bound to cause a fall.

Here are some tips to help you:
- Have a night-light beside your bed
- Sit up and slowly put your legs over the side of the bed before standing up
- Walk slowly up or down stairs, hold on if you can, and watch out for the last step
- Take sure and steady steps when out and about
- Watch for spills in shopping areas
- Look out for where the gutter is while slowly making your way out of a car
- When gardening, look down at the ground for obstacles

At the beginning of each yarning circle, always ask how, what, where, when and why questions.

Objectives for this topic:
1. Talk about safe shoes
2. Understand the features of a safe shoe

What is a safe, comfortable shoe?
A safe shoe:
- Has a firm arch support
- Has a sole that is flexible under ball of foot and thick
- Covers most of foot
- Is lightweight
- Has a roomy toe area for comfort
- Has lace or Velcro fastenings for stability

A good fit means:
- There is at least a half inch between longest toe and inside of the shoe
- The foot is held well back into shoe
- There is a snug, firm grip around the heel

A sole that grips is:
- Non-slip and rubber
- Textured for grip with grooves on the sole of the shoe

A heel that is stable AND grips will be:
- Non-slip and textured
- A low heel
Program materials and resources
Program materials and resources

- Reduce the amount of caffeine you have each day and avoid caffeinated drinks after lunchtime.
- Make sure your bedroom is not too hot or cold.
- Avoid naps during the day. If you do nap, keep it to 20 minutes and before 3pm.
- Ensure you are comfortable and your bedroom is quiet and dark.
- Avoid heavy meals, exercise, smart phones or working on the computer in the evening.
- Don’t stay in bed if you are awake for more than 20 minutes – go to another room and do something relaxing.
Evaluation

- Baseline, 3 and 6 month measurements by Aboriginal Research Assistants
- Physical measurements:
  - Timed sit to stand
  - Timed 4m walk
  - Standing balance tests
- Questionnaires
- Weekly feedback slips
- Facilitator and site manager weekly feedback forms
## Outcomes

Mean participant outcomes, all pilot sites grouped:

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Baseline (n=77) mean (SD)</th>
<th>3 months (n=77) mean (SD)</th>
<th>Change between baseline and 3 months mean (SD), p</th>
<th>6 months (n=69) mean (SD)</th>
<th>Change between baseline and 6 months mean (SD), p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing balance (out of 50sec)</td>
<td>43.3 (9.6)</td>
<td>44.8 (8.1)</td>
<td><strong>1.44 (8.8), 0.16</strong></td>
<td>46.8 (7.5)</td>
<td><strong>2.28 (7.5), &lt;0.01</strong></td>
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<tr>
<td>Sit to stand (sec)</td>
<td>15.4 (4.4)</td>
<td>13.3 (4.5)</td>
<td><strong>-2.13 (2.8), &lt;0.01</strong></td>
<td>11.2 (2.9)</td>
<td><strong>-3.73 (3.6), &lt;0.01</strong></td>
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<tr>
<td>4 meter walk (sec)</td>
<td>7.5 (4.1)</td>
<td>5.9 (3.0)</td>
<td><strong>-1.61 (2.3), &lt;0.01</strong></td>
<td>4.4 (2.9)</td>
<td><strong>-3.29 (3.3), &lt;0.01</strong></td>
</tr>
<tr>
<td>Gait speed (m/sec)</td>
<td>0.66 (0.3)</td>
<td>0.81 (0.3)</td>
<td><strong>0.16 (0.3), &lt;0.01</strong></td>
<td>1.07 (0.4)</td>
<td><strong>0.42 (0.4), &lt;0.01</strong></td>
</tr>
<tr>
<td>Short Physical Performance Battery Score (out of 12)</td>
<td>8.3 (2.0)</td>
<td>9.4 (2.1)</td>
<td><strong>1.08 (1.5), &lt;0.01</strong></td>
<td>10.7 (1.9)</td>
<td><strong>2.25 (1.7), &lt;0.01</strong></td>
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<tr>
<td>BMI</td>
<td>32.0 (7.7)</td>
<td>31.4 (7.5)</td>
<td><strong>-0.56 (1.2), &lt;0.01</strong></td>
<td>31.6 (6.9)</td>
<td><strong>-0.61 (1.5), &lt;0.01</strong></td>
</tr>
</tbody>
</table>
Outcomes

“I enjoyed it, you learn so much. You go out now and stand tall, you feel confident and you don’t feel like a little old lady. It’s not just good physically, it is good mentally. I go around to others that live in my retirement village and move hazards. I never sit down at home and I like doing my exercises.” (Female, Nowra)

“This is a very good program because it is about respecting us as Elders, what our needs are. It’s good - really good - I like it. I have learnt to talk about things. You always think about things but talking is great.” (Male, Redfern)

“The program meant a lot and I have learnt a lot. It was not rushed and you felt confident doing it. Gyms are full-on and here, you’re relaxing and knowing that you’re getting something out of it. It’s important to have an Aboriginal specific program as we feel welcomed here and we see our Auntie’s and sisters.” (Female, Mt Druitt)
NHMRC grant investigator and project team


Project staff: Julieann Coombes, Sallie Cairnduff, Project officers Aaron Simon, Roland Wilson, research assistants, Cultural advisor Jean Turner

Steering committee: Julieann Coombes, Jean Turner, Anne-Marie Eades, Marian Kickett, peak ACCHO bodies from NSW, WA, SA
Methods

Cluster randomised control trial with randomisation of 60 community-based groups in NSW, South Australia and Western Australia

Recruitment of existing Elder or community groups catering to older people, or formation of new groups, with delivery of a weekly healthy ageing group program

Recruitment by dissemination of information to Aboriginal Medical Services by Aboriginal community controlled peak bodies, local advertising in community newspapers, and engagement with local Aboriginal community or health services or Local Aboriginal Land Councils.

Sites will be randomised to receive either the Ironbark Program or attend a weekly healthy ageing group, with facilitated discussion and speakers focusing on social and emotional health and well-being.

Both intervention and control sites will deliver the program weekly for 12 months. Control group will receive intervention for 6 months following.
Aims

Primary: to establish the effectiveness of a community based fall prevention program (the Ironbark Program) on the rate of falls in community-dwelling Aboriginal people 45 years and older, compared to controls who receive a healthy ageing program.

Secondary: to establish the impact of the fall prevention program on the proportion of fallers, and the impact on health-related quality of life, functional mobility, physical activity and waist circumference 12 months after randomisation.

Economic analysis: to establish the cost-effectiveness and cost-utility of the fall prevention program, from the perspective of the health and community care funder.

Process evaluation: to quantify participation, inclusion and enjoyment; explore participants’ experiences of the intervention; and establish factors associated with participation.
Figure 1: Flow chart of study enrolment, randomisation and procedures

Staggered recruitment or creation of community groups

**BASELINE:** consent, baseline questionnaire and functional measures

**Online group randomisation**

**INTERVENTION:** Ironbark Program

Process evaluation

**CONTROL:** Healthy ageing program

**12 MONTHS:** blinded assessment and weekly falls reporting
Working with community, for community

- Project oversight by steering committee
- Partnerships and support from Aboriginal community controlled services and peak bodies
- Aboriginal involvement at all levels
- On-going feedback to communities
Publications


