How feeling confident on your feet reduces fall risk

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NSW Falls Prevention Network Rural Forum
Murrumbidgee LHD, Wagga Wagga
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www.NeuRA.edu.au
1. Understanding fear of falling

2. Managing fear of falling
Fear of falling

• Important psychological factor associated with falls in older people (since 1982)
  – Fear of falling is a persistent feeling related to the risk of falling during one or more activities of daily living

• Prevalence
  – 29-92% in older people who have already fallen
  – 12-65% in older people who have NOT fallen
  – Women > men
  – Increases with age

• Many associated factors
## Associated factors with fear of falling
based on prospective and retrospective cohort studies

<table>
<thead>
<tr>
<th>Falls</th>
<th>Physical factors</th>
<th>Psychological factors</th>
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<tbody>
<tr>
<td>• Previous falls</td>
<td>• poor health status</td>
<td>• restriction and curtailment of activity</td>
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<td>• Future falls</td>
<td>• functional decline</td>
<td>• reduced quality of life</td>
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<td></td>
<td>• frailty</td>
<td>• fear of pain</td>
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<td>• reduced leaning balance</td>
<td>• anxiety</td>
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<td></td>
<td>• poor muscle strength</td>
<td>• depression</td>
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<td>• impaired gait</td>
<td>• social isolation</td>
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Mechanisms in relation to falls

- Reduced level of activity
- Reduced physical function
- Social isolation
- Difficulties in daily life
- Fear of falling
Fear of falling – its helpful side

• Fear of falling may reflect a realistic appraisal of reduced functional abilities and consequent increased risk of suffering a fall and fall injuries.

• Such a fear may result from
  – First-hand experience, e.g. a near fall or a recent fall that resulted in pain, embarrassment or injury
  – Actual falls risk, as is reflected in the high correlation between objective measures of physiological factors and fear of falling.

• Fear of falling can be a normal adaptive response to challenged equilibrium. Such insight might prevent people from undertaking activities that could expose them to risky situations.
Fear of falling – its unhelpful side

- Fear of falling can be irrational, excessive or phobic which then results in a persistent and dysfunctional disruption of attention and behaviour.

- Such a fear may result from
  - Catastrophizing or thinking the worst of events

- Fear of falling may then have a detrimental effect upon several domains of life, including the needless restriction of activities of daily living and enjoyable pastimes, which may, then, lead to physical inactivity and social isolation.
I had a fall at the markets in front of so many people.

It was embarrassing...

So I just didn’t go to the market anymore...

I didn’t feel confident anymore in crowded places. I hardly got out of the house and I started to feel lonely.

Fear of falling – its unhelpful side
How would you feel about your risk of falling during these activities?
Fear of falling: helpful vs unhelpful?

Vigorous

Anxious

Frail

Vigorous

Stoics

Actual fall risk

Perceived fall risk

Fear of falling: helpful vs unhelpful?

Perceived falls risk (FES-I) vs Actual falls risk (PPA)

Pearson’s R = 0.19

$F_{1,499} = 17.14$

p < 0.001
Fear of falling: helpful vs unhelpful?

- Anxious worriers (10%)
  - 40% falls

- Frail aware (40%)
  - 40% falls

- Vigorous (30%)
  - 20% falls

- Stoics (20%)
  - aka Aussie Battlers
  - 30% falls

Delbaere et al, BMJ 2010
Summary findings

• Many older people under or over estimate their risk of falling

• Disparities between perceived and physiological fall risk influence the probability of falling
  – Worriers have a higher falls rate despite low actual risk
  – Battlers have a low perceived risk despite high actual risk + slightly lower falls rate

• Fear of falling leads to falls, independent of physiological fall risk factors
Worrier

- No obvious identifiable (instability-related) fall risk

- Psychological profile: neurotic personality traits, i.e. increased vulnerability to develop irrational fears

- Worse self-perceived health
- More depressive symptoms
- Lower quality of life
Age-related physical decline is normal

• Age-related physical decline requires continuous adjustments of the perception of how well people are able to do certain activities.

• Based on their perception, they will have to select an appropriate behaviour as well as motor strategy to be able to conduct the activity without falling.

• How do people achieve this?
Fear of falling induces gait adaptations

Cautious gait:
- Decreases walking stability and could therefore increase fall risk rather than protect against it.
Battler

- Lower levels of fear of falling
- Less previous falls

Psychological profile: emotionally stable, less reactive to stress, happy and satisfied with life

- Younger
- Better self-perceived health
- Better quality of life
- More planned exercise
Understanding fear of falling

Negative thoughts \rightarrow Fear of falling \rightarrow Avoidance behaviour

Previous fall, poor balance \leftarrow
1. Understanding fear of falling

2. Managing fear of falling
What does fear of falling tell us?

• The presence of fear of falling is likely to be a sign that something is wrong:
  – The person has an accurate perception of falls risk
  – The person is spiralling into a vicious circle of general frailty through depression or other psychological factors

• Lower levels of fear of falling are likely to be protective of falls:
  – The person has a low actual falls risk
  – The person has a positive attitude to life and has engaged him/herself in falls preventative activities
Exercise to prevent falls

- All exercise programs: 18% reduction, OR=0.82 (0.75-0.91)
- Moderately to highly challenging balance exercises: 27% reduction, OR=0.73 (0.59-0.91)
- Program of 2 hours or more per week over 6 months: 20% reduction, OR=0.80 (0.66-0.97)

Falls reductions of about 40% (Systematic reviews by Sherrington et al)
Exercise to reduce fear of falling

• 25 studies including a total of 2,578 community-dwelling older adults

• Provided or prescribed exercise was associated with a significant reduction in fear of falling, immediately post-intervention (SMD 0.24, 95% CI 0.14 to 0.34)

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• Provided or prescribed exercise was associated with a significant reduction in fear of falling, immediately post-intervention (SMD 0.24, 95% CI 0.14 to 0.34)

• There was no significant effect of exercise interventions on fear of falling beyond the end of the intervention period (3 studies included data up to 6 months and 2 included data at 6 months and beyond).

Cognitive behavioural approach

Cautious behaviour  →  Negative thoughts  →  Positive thoughts  →  Low fear of falling

High fear of falling  →  Adaptive behaviour
Cognitive behavioural therapy

Best-practice principles used in CBT towards fall prevention

• Cognitive restructuring of misconceptions to promote a view of fall risk and fear of falling as controllable
  – E.g. education on commonness of fear of falling

• Problem solving towards activity avoidance, unsafe behaviour, and unsafe environment
  – e.g. install a handrail next to the bath tub
  – e.g. ask for assistance

• Behavioural activation, graded exposure: setting goals to encourage patients to approach activities that they are avoiding
  – e.g. first time together with someone else
A Matter of Balance trial

540 subjects with fear of falling, aged 70+ years

• Intervention: 8 weekly CBT group sessions over 2 months

• Aim: instilling adaptive and realistic views on falls, reducing fall risk, and increasing activity and safe behaviour

• Results: significant between-group differences
  – At 2 months: fear of falling, activity avoidance, and daily activity levels
  – At 14 months: fear of falling, perceived control over falling, and recurrent fallers
    • but not in activity avoidance or daily activity levels

Exercise + CBT

The inclusion of CBT sessions in fall prevention programs is likely to enhance the effects of exercise programs on both falls and fear of falling.

- CBT can provide people with better anxiety management skills
  - Reduce competing attentional resources during exercise
  - Improve level of concentration during hazardous situations

- CBT can address factors such as loss of motivation and apathy to promote uptake and adherence to exercise programs.
  - i.e. high intensity balance training for a minimum of 50 hours
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CONCLUSION

Summary

&

Future projects
Summary

• A fear of falling can be a realistic appraisal of risk, although excessive fear has adverse effects for mobility and quality of life

• Exercise interventions are likely to beneficial effects to prevent falls and reduce fear of falling

• To achieve long-term effects, it is important to achieve long-term exercise adherence.

• The most successful approach to fall prevention may combine simultaneous attempts to improve both efficacy and physical skills
StandingTall-plus

1. Balance training app
2. Cognitive Dual-Task Training
3. Cognitive Behavioural Therapy
Mobile technology to deliver balance exercises

Standing Tall will help you towards doing 2 hours of balance exercises per week for 6 months (and longer).

Some key features of our Standing Tall balance exercise program:

1. Convenient:
   - In your own home
   - At your own time

2. Individual:
   - Tailored to your ability
   - Progress at your pace

3. Motivating:
   - Variety with 2,000+ exercises
   - Feedback on your progress
Cognitive Behavioural Therapy

Goal setting & activity planning

Before you set your goal, reflect on the following questions to see if it is a good goal for you.

- Is your goal clear and specific?
- Is it something that will likely improve with practice?
- Can you work towards this goal in the next few weeks or months?
- Will achieving this goal have an impact on your daily life?

What is it that I want to work on?
Perform 2 hours of balance exercise per week
When do I want to review my progress?
19/08/2016

Reflect on the following questions to help you break down your goal.

- What is it that limits you from doing this activity or task?
- What will be your first step?
- What resources can you call upon?
- Do you feel confident that you can achieve your goals by following these steps?

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Black Dog Institute

30 minutes per week for 8 weeks, including homework

Contact: k.delbaere@neura.edu.au
Thank you!

For further questions

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