

# Falls Prevention in Community Dwelling People with Dementia: Can it be Done?

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# Personal Reflections on Developing a Community based falls prevention programme for older Italians with Dementia

- Healthy Lifestyle Dementia Respite Programme
- Joint initiative: IBF, UniSA & Alzheimer's Assoc

# Programme Aims

To provide:

1. A day care program to those with mild to mid range dementia
2. Respite for Carers
3. Preventative health programs
  - Falls prevention
  - Foot Health

# Initial Assessment

- Home assessment; Programme co-ordinator and an interpreter
- Falls risk assessment: Physiotherapist
  - Standardised protocol
  - Developed from Stay on Your Feet assessment

# Falls Risk Assessment

- Medical history
- Medications
- Falls History (12 months)
- Mobility / Balance / Lower limb strength / endurance
- Vision
- Dizziness
- Footwear assessment (Menz & Sherrington 2000)
- Cognition (MMSE) (Folstein 1975)

# Balance

- Berg Balance Scale
- TUGT
- Tandem Steps
- Gait – general description / gait aids

# Lower Limb Muscle Strength

- Hip abductors
- Knee extensors
- Ankle dorsiflexors
  
- MMT

# Endurance

- **Six Minute Walk Test**
- **Hoping it doesn't rain!**

# Risk Profile: modifiable

- **Medications**
- **Walking aid review**
- **Balance**
- **Strength**
- **Deconditioning**
- **Vision**

# Action Plan

- **Review by GP**
- **Mobility Aid**
- **Individual exercise programme**
- **Group exercise programme**
- **Education/advice to carers**
- **Other**

# Common interventions

- Exercise programmes – based on Otago
- Small groups or individual
- Simple exs - functional
  
- Challenges – selective attention, visual spatial issues, dyspraxia

# Tailored to client

# Small Groups

# Other aspects

- Regular 6 month reviews
- Falls monitored at pick up from home
- Podiatrist visited
- Physiotherapy students greatly enhanced programme – extra supervision

# Analysis Pilot Data



Mackintosh & Sheppard 2005 Hong Kong  
Physiotherapy Journal 23:20-26

# Methods: Clients

- Community dwelling
- History of dementia (Carer, family member, doctor or self report)
- Predominantly Italian background
- N = 64 entered program

# Methods:

- Baseline / 6 months
- From falls risk assessments

# Outcome measures

Falls – prospective 6 months, retrospective 12 months

Balance – Berg Balance Scale (Berg1992)

Endurance – 6minute walk test (Harada 2002)

Cognitive function – MMSE (Folstein 1975)

# Falls and Injury Management

- Tailored falls and injury management plan
- Tailored exercise program by PT / PT students
- Foot health by Podiatrist
- Referral on for medication reviews, home safety assessments, vision assessment

# Exercise programs

- tailored mobility, strengthening, balance and aerobic capacity
- based on effective programs for older people
- use of circuit training / small groups

# Results: clients

- N = 64, 21 females
- Mean age 79.6 years (SD 7.4), range 53 to 93
- Mean MMSE 13.0 (SD 7.4, range 0 – 27)
- 32 (50%)  $\geq$  1 fall previous 12 months
- 22 (35%) multiple fallers
- 2 clients wheelchair bound
- 32 (50%) used a walking aid.

# Results: 6 months review

- 32 completed six month follow up
- 11 moved to residential care
- 6 left program
- 6 not completed full six months
- 7 died

# Results n = 32

<b>Outcome measure</b>	<b>Baseline</b>	<b>6 Months</b>	<b>Test (p value)</b>
<b>MMSE (0 – 30)</b>	<b>14.4 (7.6)</b>	<b>14.9 (7.0)</b>	<b>t-test (.58)</b>
<b>BBS (0 – 56)</b>	<b>45.0 (15.5)</b>	<b>44.5 (13.5)</b>	<b>Wilcoxon (.39)</b>
<b>6 minute walk (m)</b>	<b>130.0 (118.0)</b>	<b>176.0 (124.5)</b>	<b>Wilcoxon (.27)</b>
<b>faller</b>	<b>17 (53%)</b>	<b>12 (38%)</b>	<b><math>\chi^2</math> (.23)</b>

# Discussion: Limitations

- No statistically significant changes in fall status
- Encouraging signs that fewer people fell in the six month study period
  - prospective vs retrospective falls data
- Hawthorne effect?

# Feasibility

- Close liaison with relatives was required
  - footwear changes
  - vision checks
  - medical reviews
  - HLDR program facilitated these processes with transport or language assistance as required.
- Very difficult to persuade high risk individuals to use hip protectors.

# Feasibility of Program

- Physiotherapy students increased workforce
- Mostly clients cooperated happily with assessments and exercises
- Exercise tailored to client group.
  - Everyday tasks, simple, closely supervised
  - Difficulties with motor planning, concentration and selective attention.
  - Small group (max 4)
  - Individual sessions quiet environment

# Discussion: Other benefits

- Mobility problems addressed, maintaining quality of life & decreasing the burden of care
- ? exercise reducing challenging behaviours (Friedman & Tappen, 1991; Holmberg, 1997, Teri et al 2003).

# Things that assisted development

- Vision of managers to seek funding
- Pilot funding from HACC
- Competent enthusiastic staff
- Constantly reflecting on what worked and didn't work
- Willing volunteers
- Generosity of others in sharing resources
- **GOOD COFFEE**

# Things that were difficult

- Starting from scratch – initially converted an old bathroom for assessments
- Changing entrenched attitudes
- The rules and regulation freaks
- Early clients were very frail and challenging

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# 10 years later

- Recurrent funding
- 41 clients on books
- 4 days per week
- Coffee is still good

# Conclusion

A practical model for delivering falls prevention to people with dementia was developed; however, the effectiveness of this model has yet to be established.