

## **PRIORITY BRIEFING**

The purpose of this briefing paper is to aid Stakeholders in prioritising topics to be taken further by PenCLAHRC as the basis for a specific evaluation or implementation research project.

**Can an Advanced Instructor who is Postural Stability Instructor (PSI) trained, but without additional training in secondary health care, deliver the 'skilling up' phase of the FaME balance and stability classes and achieve the same or improved outcomes for patients in the high risk group as the current model?**

**Question ID:** 22

**Question type:** Intervention

**Question:** Can an Advanced Instructor (who is not a physiotherapy technician) who has no additional training in secondary health care, deliver the 'skilling up' phase (weeks 0 - 10 of a 20 week exercise course) of the FaME balance and stability classes (or similar models of balance and stability classes) and achieve the same or improved outcomes for patients in the high risk group as the current model, which is physiotherapy technician-led? Will it release physiotherapy technician capacity?

**Population:** Our target population is people aged 65 or over, in the middle 2 levels of the NHS South West's 'The Great Pyramid', i.e. people who have sustained non-hip fragility fractures and people at high risk of their first fragility fracture or other injurious fall. The objective for this population is to intervene at an early stage to reduce the risk, impact and severity of future falls and maintain independence.

**Intervention:** FaME balance and stability classes led by an advanced instructor who is not a physiotherapy instructor. Patient measurements will be compared for both groups at the start of the course and at week 10.

**Control:** FaME balance and stability classes led by a physiotherapy technician (with support provided by an occupational therapy technician).

**Outcome:** We are aiming to achieve the same or improved outcomes for patients at 10 weeks as for those who are taking part in the physiotherapy technician-led model. For the individuals taking part, we would hope to prevent any future falls, ambulance activations, or admissions as a result of a fall. Another outcome is to reduce the fear of falling, which can lead to a severe loss of independence, reduced mobility and strength, and an increased risk of falls. The measures are:

- Fear of Falling
- Timed Get Up and Go
- Tinetti
- Ability to get on and off the floor

- Level of physical activation – pre-entry criterium for both courses.

The first three of these are nationally validated tools for measuring a person's balance and stability and attitude towards falling. We want to increase the productivity of the falls physiotherapy service by enabling physiotherapists to make full use their specialist skills, and handing over the responsibility for delivering exercise groups to qualified fitness trainers.

**FaME:** FaME ( Falls Management Exercise programme) is a home and community group exercise programme developed for people aged 65 and over. The programme runs for 39 weeks with people attending classes for 45-60 minutes per week and pursuing exercises at home with guidance from a leaflet. Led by qualified exercise-for-the-older-person instructors (mainly physiotherapist or occupational therapist technicians), with additional FaME programme training (and regular quality assurance). The exercise classes are individually-tailored and aim to improve balance, functional capacity, bone and muscle mass and confidence (reduce fear of falling).

#### **The Health Problem:**

Approximately a third of people aged 65 or over are expected to fall each year, which means around 36,000 people in Cornwall and the Isles of Scilly, this would equate to approximately 315,000 across the peninsula (ONS, 2001). We know that 30% (approx 105,000 across the peninsula per year) of falls lead to injuries that reduce mobility and independence, and of these approximately 10% (10,500 across the peninsula) will lead to serious injury, including 5% hip fractures. In 2009/10 there were nearly 400 emergency admissions for hip fractures, the cost for which was approaching £2million. Last year, there were over 5,000 activations to the ambulance service as a result of a fall, of whom over 40% were admitted to hospital.

Although exercise cannot prevent falls alone and cannot influence all aspects of an individual, the importance of being physically able is highlighted in a number of reports regarding preventing falls, and its relevance for being able to get up after a fall has also been noted. A recent survey on falls services provision in the UK showed that a formal exercise programme was part of the service in only 69% of cases. Of the exercise programmes that did exist 41% reported no strength or balance training, the two key components of a successful exercise programme for fallers. For health and social care, there is a huge financial impact. For the individual concerned, the impact of a fall or repeated falls can be severe. Over half of all those aged 75 or over who have fallen say that their fall had a major impact on their daily activities for a month or more. After a fall, an older person has a 50% probability of having seriously impaired mobility and a 10% probability of dying within a year.

#### **Guidelines:**

NICE guidelines for preventing falls (2004) recommend that individualised exercise programmes to prevent falls are effective but that there is little evidence available to describe the effectiveness of group programmes with no individualised component on falls in community dwelling older persons. The guidelines recommend that further research be conducted in this area.

### **NHS Priority:**

#### **Regional**

##### **SW SHA Priorities framework 2008-11**

There are also regional targets relating to the reduction of falls and fractures and the overall falls pathway, including 'reducing emergency admissions as a result of a fall by 30% from the 2006/7 baseline by 31 March 2010' (this target has not yet been achieved and so it is still in place), from the Strategic Framework for Improving Health in the South West 2008/9 – 2010/11.

Falls prevention is one of the key priority areas under the national QIPP (Quality, Innovation, Prevention and Productivity) programme, and relates to two local themes: Urgent Care and Long Term Conditions. The exercise programme is part of the falls prevention strategy to reduce future demand and improve quality.

One of the main objectives of the QIPP programme is to increase productivity. For some time, physiotherapy services in Cornwall & Isles of Scilly have been under pressure to deliver Referral to Treatment targets, which means that 'extras' such as balance & stability groups, which until recently were not specifically commissioned, have sometimes been put on hold while more mainstream interventions took priority.

#### **Local**

The NHS Cornwall and Isles of Scilly ten strategic goals include 'reduce the gap between people with the best health and those with the poorest health by targeting support where it is needed'

All local areas in the peninsula have a goal to 'help people to live longer and raise life expectancy to match the best levels in Europe'.

### **Existing Research:**

#### **Published research**

A Cochrane review on interventions for preventing falls in older people in the community was conducted in 2009<sup>1</sup> and found that exercise interventions in general do reduce the risk and rate of falls. However, information from a national survey conducted in 2008<sup>2</sup> suggests that services at that time were not meeting recommended NICE guidelines. Three articles were identified which assessed the effectiveness of the FaME programme<sup>3,5,6</sup>. The results from one article<sup>3</sup> are discussed here as we were unable to retrieve information for the other articles in the time allotted. The results of a randomised controlled trial on 81 women aged 65 years or over suggest that the FaME programme can lead to at least a 31%

reduction in falls and reduced likelihood of hospitalisation, nursing home admission or death in comparison to the control group. The group sessions in this study were led by a qualified exercise for the older person instructor with additional FaME training. No research was identified with alternative instructors leading the programme.

### **Ongoing research**

No records of ongoing research regarding this programme could be found. However, a small pilot involving 10 patients and an alternative trainer (not a physiotherapy technician) has been running in Cornwall over the past few months and is due to end in December.

### **Feasibility:**

This is a collaborative project with Age Concern Cornwall & Isles of Scilly, the employer of the fitness trainer, Jan Howells, who also delivers their 'Fit as a Fiddle' programme for people aged 50 +. Jan is a level 3 fitness instructor and completed the Later Life training earlier this year, which was funded through the Local Area Agreement Reward Scheme. A commissioner-led project group includes in its membership the Head of Therapies for the PCT and Cornwall Council, physiotherapy leads, a Specialist Falls Practitioner who is also Later Life qualified, and Age Concern representatives including Jan. A full manual for the FaME programme being used with stroke patients can be found at [http://www.rehab.ubc.ca/jeng/Our\\_Exercise\\_Manuals/FAME.htm](http://www.rehab.ubc.ca/jeng/Our_Exercise_Manuals/FAME.htm)

### **References:**

1) Gillespie Lesley, D., M. C. Robertson, et al. (2009). "Interventions for preventing falls in older people living in the community." Cochrane Database of Systematic Reviews(2).

**BACKGROUND:** Approximately 30% of people over 65 years of age living in the community fall each year. **OBJECTIVES:** To assess the effects of interventions to reduce the incidence of falls in older people living in the community. **SEARCH STRATEGY:** We searched the Cochrane Bone, Joint and Muscle Trauma Group Specialised Register, CENTRAL (The Cochrane Library 2008, Issue 2), MEDLINE, EMBASE, CINAHL, and Current Controlled Trials (all to May 2008). **SELECTION CRITERIA:** Randomised trials of interventions to reduce falls in community-dwelling older people. Primary outcomes were rate of falls and risk of falling. **DATA COLLECTION AND ANALYSIS:** Two review authors independently assessed trial quality and extracted data. Data were pooled where appropriate. **MAIN RESULTS:** We included 111 trials (55,303 participants). Multiple-component group exercise reduced rate of falls and risk of falling (rate ratio (RaR) 0.78, 95%CI 0.71 to 0.86; risk ratio (RR) 0.83, 95%CI 0.72 to 0.97), as did Tai Chi (RaR 0.63, 95%CI 0.52 to 0.78; RR 0.65, 95%CI 0.51 to 0.82), and individually prescribed multiple-component home-based exercise (RaR 0.66, 95%CI 0.53 to 0.82; RR 0.77, 95%CI 0.61 to 0.97). Assessment and multifactorial intervention reduced rate of falls (RaR 0.75, 95%CI 0.65 to 0.86), but not risk of falling. Overall, vitamin D did not reduce falls (RaR 0.95, 95%CI 0.80 to 1.14; RR

0.96, 95%CI 0.92 to 1.01), but may do so in people with lower vitamin D levels. Overall, home safety interventions did not reduce falls (RaR 0.90, 95%CI 0.79 to 1.03; RR 0.89, 95%CI 0.80 to 1.00), but were effective in people with severe visual impairment, and in others at higher risk of falling. An anti-slip shoe device reduced rate of falls in icy conditions (RaR 0.42, 95%CI 0.22 to 0.78). Gradual withdrawal of psychotropic medication reduced rate of falls (RaR 0.34, 95%CI 0.16 to 0.73), but not risk of falling. A prescribing modification programme for primary care physicians significantly reduced risk of falling (RR 0.61, 95%CI 0.41 to 0.91). Pacemakers reduced rate of falls in people with carotid sinus hypersensitivity (RaR 0.42, 95%CI 0.23 to 0.75). First eye cataract surgery reduced rate of falls (RaR 0.66, 95%CI 0.45 to 0.95). There is some evidence that falls prevention strategies can be cost saving. **AUTHORS' CONCLUSIONS:** Exercise interventions reduce risk and rate of falls. Research is needed to confirm the contexts in which multifactorial assessment and intervention, home safety interventions, vitamin D supplementation, and other interventions are effective.

2) Lamb, S. E., J. D. Fisher, et al. (2008). "A national survey of services for the prevention and management of falls in the UK." BMC Health Serv Res **8**: 233. **BACKGROUND:** The National Health Service (NHS) was tasked in 2001 with developing service provision to prevent falls in older people. We carried out a national survey to provide a description of health and social care funded UK fallers services, and to benchmark progress against current practice guidelines. **METHODS:** Cascade approach to sampling, followed by telephone survey with senior member of the fall service. Characteristics of the service were assessed using an internationally agreed taxonomy. Reported service provision was compared against benchmarks set by the National Institute for Health and Clinical Excellence (NICE). **RESULTS:** We identified 303 clinics across the UK. 231 (76%) were willing to participate. The majority of services were based in acute or community hospitals, with only a few in primary care or emergency departments. Access to services was, in the majority of cases, by health professional referral. Most services undertook a multi-factorial assessment. The content and quality of these assessments varied substantially. Services varied extensively in the way that interventions were delivered, and particular concern is raised about interventions for vision, home hazard modification, medication review and bone health. **CONCLUSION:** The most common type of service provision was a multi-factorial assessment and intervention. There were a wide range of service models, but for a substantial number of services, delivery appears to fall below recommended NICE guidance.

3) Skelton, D., S. Dinan, et al. (2005). "Tailored group exercise (Falls Management Exercise -- FaME) reduces falls in community-dwelling older frequent fallers (an RCT)." Age Ageing **34**(6): 636-9.

Frequent or recurrent fallers are more likely to have chronic medical conditions and physiological impairments, exhibit functional decline and have poor

outcomes, than single fallers. Fractures are also more common in recurrent fallers than single fallers. Modern surgery for hip fracture can no longer improve on its outcomes and therefore, effective prevention of falls is the key to preventing disability and death. There is still no published evidence that a single intervention (tailored group exercise) can prevent falls or injuries in a high risk group of frequent fallers. This randomised controlled trial (RCT) aimed to investigate the impact of a 36 week individualised and tailored group and home exercise intervention, compared with a control intervention, in reducing falls and injuries in community-dwelling, independent-living, frequent falling women aged 65 years and over. Preliminary results have been published in abstract form. The primary outcome was falls and fall-related injuries. The secondary outcome was the number of frequent fallers who had died, had moved into residential care or were in hospital compared with the group they were in.

4) Skelton DA, Dinan SM. Exercise for falls management: Rationale for an exercise programme aimed at reducing postural instability. *Physiotherapy Theory and Practice* 1999;**15**(2):105-20. [EMBASE: 1999232161] [Links](#)

5) Skelton DA, Dinan SM, Campbell M, Rutherford OM. FaME (Falls Management Exercise): An RCT on the effects of a 9-month group exercise programme in frequently falling community dwelling women aged 65 and over [abstract]. *Journal of Aging and Physical Activity* 2004;**12**(3):457-8. [Links](#)

6) Skelton DA, Stranzinger K, Dinan S, Rutherford OM. BMD improvements following FaME (Falls Management Exercise) in frequently falling women age 65 and over: an RCT... 7th World Congress on Aging and Physical Activity [abstract]. *Journal of Aging and Physical Activity* 2008;**16 Suppl**:S89-90.