Fear of falling

AUTHORS

Stephen Harding
MMHN, CrMHN, RN, FRCNA, FACMHN, FAAG, Discipline of Nursing, School of Population Health and Clinical Practice, Faculty of Health Sciences, University of Adelaide, South Australia.

Andrew Gardner
RGN, RMHN, BN, MMHN, MBus, Dip Medical Hypnosis, School of Nursing and Midwifery, Division of Health Sciences, University of South Australia (City East Campus), North Terrace, Adelaide, South Australia.
andrew.gardner@unisa.edu.au

KEY WORDS

fear of falls, falling, older people; anxiety, cognitive impairment

ABSTRACT

Objective
The purpose of the paper is to describe the 'fear of falling' phenomenon; to raise clinicians awareness; to consider the associated risk factors;

Setting
Fear of falling can be experienced in any clinical setting or within people own homes.

Primary argument
Individual clinicians and the treatment and care teams should consider fear of falling in people with a disordered gait or balance, or in the months following a fall, particularly where there is a recognised decline in 'recent' activity or obvious activity avoidance and changes in patterns of activity

Conclusions
Fear of falling is an under recognised phenomenon. This paper suggests a range of assessment tools; and outlines some management options that are available to clinicians in order to address the problem of fear of falling.

INTRODUCTION

Falls are a common cause of accident and injury in older people. Fear of falling, which is characterised by anxiety related to walking or a concern that the individual will fall, is often a common consequence of falling or of ongoing poor balance. Fear of falling can lead to a restriction in all or some forms of activity, de-conditioning, loss of function, and the need for institutional care.

Falling

Falling represents a significant threat to independence and quality of life (in terms of function, morbidity/mortality for example). Falling is amongst the common causes of injury affecting older people in both residential care and home settings but only ten percent cause serious injury (Tinetti 2003; Cripps and Carman 2001;Tinetti et al 1988). Prevalence rates vary but there is some consensus that falls affect between twenty to thirty percent of people over 60 years of age (Blain et al 2000; Niino et al 2000; Dargent-Molina and Breart 1995; Howland et al 1993) although, interestingly, one study has also found falls affected thirteen percent of people in the 40-59 year age group (Niino et al 2000). Females experience a greater number of falls (a ratio of 3:1) compared with falls experienced by males, (Fessel and Nevitt 1997; Vellas et al 1997; Dargent-Molina and Breart 1995; Arfken et al 1994). Falls are also a significant trigger for transfer to residential care (Rubenstein et al 1996).

Falls can be caused by extrinsic (considered to be environmental or outside of the individual, such as uneven surfaces) or intrinsic factors affecting balance (which are arising from within the individual such as impaired cognitive function). For example subjective changes to cognitive function, anxiety or lowering of mood (Fessel and Nevitt 1997; Vellas et al 1997; Dargent-Molina and Breart 1995), balance, or subjective decline in health status (Vellas et al 1997) or even continence problems (Masud and Morris 2001). In addition issues related to pharmacotherapy and polypharmacy may contribute to falls (Blain et al 2000; Dargent-Molina and Breart 1995).

Fear of falling: a definition

'Fear of falling', or post-fall syndrome as it was initially described (Murphy and Isaacs 1982), is more of a symptom rather than a diagnosis and is characterised by high levels of anxiety related to walking or a fear of falling (Vellas et al 1997; Arfken et al 1994). Fear of falling is an internal phenomenon or anxiety associated usually with falling that can impact significantly on purposeful activity and independence, and lead to de-conditioning to the point of loss of function. Fear of falling is a common sequelae of falling but can also occur in people who have not fallen, affecting up to sixty percent of 60-79 year olds (Niino et al 2000; Howland et al 1998). It can lead to reduced activity or reduction in some types of activity a person would have engaged in on a day to day basis (Fessel and Nevitt 1997; Howland et al 1998) or to clutching and grabbing at furniture and people or other forms of temporary support when walking (see Appendix: 1). People affected by fear of falling have been known to lunge towards furniture (or a person), and once secure, will then bring their feet closer to their body and look for the next piece of supporting furniture. It can also present as a perceived or real inability to walk unsupported (see Appendix: 2). In addition the fear of falling can occur in the absence of an actual fall (Vellas et al 1997), however it is more common to see some curtailment of the normal activities (Lachman 1998). Curtailment of activity might also present as an avoidance of certain activities for example walking outside, or a reduction of some activities, for example walking within familiar environments (see Appendix: 3). Perhaps more noticeable is the curtailment of outdoor activities (e.g. walking to the letter-box) a person may have actively engaged in previously.

A number of other features might suggest fear of falling: gait abnormalities can be present, there may be poor self-perception of physical health and cognitive status may be impaired (ACSQHC 2008; Vellas et al 1997; Arfken et al 1994). Depressive features, slow gait speed, and the use of a walking aid are also common features (Kressig et al 2001). It would seem that falling and fear of falling share

some risk factors and may present in similar ways, which leads us to suggest that health care providers be aware that for someone who has never fallen, fear of falling—or impairment in gait/balance—may be an indicator the risk of falling should be considered and further assessed.

Internal phenomena - Depression and Anxiety

Whilst depression has been recognised as perhaps the most common psychiatric illness (at any age) and much more common than dementia in older people (Blazer 1997), depression is still not adequately recognised or treated in older people. A report released by the Department of Health and Ageing (2004), [using the Geriatric Depression Scale] reported fifty one percent of high care residents and thirty percent of low care residents are depressed. Furthermore the report also indicated that *"...a significant proportion of depressed residents go unnoticed"* (DOHA 2004 pvii). Significant levels of depression and co morbid anxiety may contribute to a lack of confidence in mobility and fear of falling.

It is worth differentiating between anxiety that accompanies activity and anxiety that *prevents or reduces* activity. Clients at risk may continue to undertake an activity (e.g. walking to the letter-box) but may do so more carefully. There is also a distinction to be made between fear that immediately follows a fall and the fear/anxiety that persists well after the time of the fall (Vellas et al 1997). The anxiety that occurs with walking—or at the prospect of activity—in the days or weeks following a fall may be seen as a normal response to that event; should it continue with a change in activity patterns it would be seen as problematic and requiring further investigation and appropriate management.

Reduced activity arising from fear of falling can lead to social isolation and consequently a reduction in total quality of life, and/or it may impact negatively on post fall rehabilitation in that it can inhibit activity levels, psychological wellbeing including general levels of confidence, appropriate risk taking and overall improvement. Furthermore a fear of falling may also contribute to an *actual* fall because of the inherent anxiety and changes in behaviour patterns can induce including gait abnormalities.

Predictors

It appears from the literature features that predict falling and fear of falling are the same, therefore identifying people who are at risk of falling will also identify those at risk of fear of falling—and vice versa (Friedman et al 2002). It may be that anxiety, independent of functional level, is a strong predictor of fear of falling (Gagnon et al 2005). It is also important to note anxiety can also be seen in people with cognitive decline. If higher level cognitive functioning is compromised (for example executive functions), then this may also indicate the client could be at risk of falling or experience fear of falling as a generalised anxiety.

Cognitive Function

Impairment of cognitive function, whether subjective or objective, can contribute to a lowering of mood or anxiety and, significantly, falling. Cognitive impairment has long been recognised as a major risk factor for falls (NARI 2004; Vellas et al 1997; Tinetti et al 1990) and a contributor to fear of falling (ACSQHC 2008). Clinical evidence would suggest that people with executive disorder are at particular risk of falling largely because of impulsivity, impaired planning and judgement/insight (ACSQHC 2008; Rapport et al 1998). As discussed above, screening for depression and anxiety is prudent as they are commonly found (both syndromal or subsyndromal) in people experiencing a fear of falling (Gagnon et al 2005). It should be recognised that it can be difficult to clinically differentiate between the features of depression and executive disorder because of superficial similarities in presentation.

Assessment and screening

People may not describe (or may deny) fear or dread related to a normal activity or walking. They may present with *anxiety* related to walking or standing and /or describe a change in confidence (awareness of possibility of falling) associated with poor balance or a gait disturbance. In view of this it may be appropriate to see the anxiety as a recognition of

risk of falling (Friedman et al 2002). Equally they may present with activity avoidance or curtailment which may not be evident until comparing the current behaviour with the previous level of functioning or when additional informant history is obtained. Given these features are often hidden it would appear prudent to include screening for anxiety/depression and cognitive function as part of a routine assessment.

Anxiety and/or fear of falling need to be considered for anyone experiencing a fall or presenting with a balance/gait disorder—an important consideration given that fear of falling does not necessarily need to result from an actual fall (Bruce et al 2002; Vellas et al 1997). It may be appropriate to consider in older people with new onset anxiety or depression and changes in activity (or a new concern about their capacity to move safely). It may not be enough to ask if fear related to walking exists; is there a reduction in activity? (be careful with language '*fear'* may be too strong a word; this is also true for the term '*anxious'*; rather consider the following terms instead '*concerned'*, '*uneasy'*, or even '*less confident'*).

For example '*Do you think seriously before getting up and moving around?' 'Are you aware of THINKING before moving/walking?'* It is important to ask questions, but just as important to observe the client/resident. Has their level of activity changed? Has there been a change in the type of activity the person undertakes? Each member of the care team has a role, and needs to be active, in the assessment process. Where anxiety or depression is suspected, use of a validated screening tool (such as the *Hospital Anxiety Depression Scale (HADS))* would be appropriate.

Whilst the HADS was developed in the early part of the 1980's (Zigmond and Snaith 1983), the scale has continued to be validated in a number of more recent studies, including Herman (1997), Bjelland et al (2002) and Snaith (2003). The scale consists of fourteen statements in total that the client is asked to rate. Seven of the statements relate to generalised anxiety whilst the remaining seven statements relate specifically to depressive type symptoms. With some education a health professional would be able to administer and score the HADS for a client or resident within about twenty minutes.

Screening for cognitive impairment is useful because it provides (a) some objective measure of current cognitive function and (b) a baseline against which subsequent screening can be compared to demonstrate fluctuations, improvement or decline. Commonly used screening tools for cognitive function include The Abbreviated Mental Test (AMTS), and Mini-mental State Examination (MMSE). The AMTS is a ten item screening tool that largely assesses memory and orientation that is well known and validated (Hodkinson 1972). The second is the MMSE, a commonly used screening tool for general cognitive function (Folstein et al 1975). Importantly, neither is a diagnostic tool and should not be considered as such and a poor result on screening is sufficient to indicate further investigation is required. Unfortunately both the MMSE and the AMTS fail to identify impairment of executive function which may predate, or exist in the absence of, impairment of memory. Executive function is important because it can indicate the person's capacity in instrumental activities of daily living (Juby et al 2002). Identification of executive function by the use of the Clock Drawing Test as a screening tool is well supported in the literature (Schulman 2000; Brodaty and Moore 1997; Bourke and Castleden 1995). It is a useful screening tool that will indicate visuo-spatial ability, comprehension, attention, logic and deficits in executive function (Royall et al. 1998). A particular advantage of the clock test is that it is fast to administer (Schulman 2000; Brodaty and Moore 1997) and easy to administer by people without specialist training, and the results can be appropriately interpreted by untrained staff (Scanlan et al 2002) - if it does not look like a correct clock face it is not a correct clock face, indicating further diagnostic assessment may be required. While the Clock Test is recognised as a viable screening tool of executive function (Juby et al 2002) it may also be reasonable to use it as an *initial* screen of cognitive function in general (Patterson and Gass 2001). The *Rowland Universal Dementia Assessment Scale*

(RUDAS), a six-item cognitive screening instrument designed to minimise the influence of culture and language on cognitive performance also includes executive function but has the advantage of also looking at other cognitive domains including memory, praxis, language and judgement (Storey et al 2004).

In summary, the health care provider should be encouraged to include the following types of assessment for falls/fear of falling:

- history of presenting complaint (including informant history);
- recording of changes in personal activities of daily living (e.g. showering and dressing) and instrumental activities of daily living (e.g. managing finances, using a telephone) assessment (including over the last four to six months);
- gait and mobility assessment;
- cognitive screen: (in registration; orientation; attention; recall; clock face assessment) and for a single screen we would advocate the use of the *Clock Test or RUDAS* because they appear to be better predictors of risk because—they address both general cognitive impairment *and* executive disorder which other screening tools do not; and
- anxiety and depression screen: is a useful tool to identify the presence of anxiety or depression for example the Hospital and Anxiety Depression scale.

The role of carers as part of the ongoing assessment/screening should not be underestimated and could involve reporting on and recording the level of activity of the client/resident, i.e. how they get up, how they move, any reluctance to ambulating etc or a noticeable reduction in activity levels or avoidance of activities.

Ultimately, it is vital to recognise those at risk and simply ask about (and/or identify) changes in activity or any restriction in activity (particularly in the presence of features of anxiety/depression and/or decreased executive function. This would allow for more timely and complete intervention to occur in consultation with the treatment team.

Management of fear of falling

As described above falling and fear of falling appear to present in similar ways (or if have not fallen they will likely present with risk factors for falling). Fear of falling or impaired gait/balance may be an indicator that the risk of falling should be considered and further assessed. It follows then that the management of fear of falling would be considered in the treatment of falls.

This means that the treatment team should:

- treat any underlying medical issues that may contribute to a fall;
- address gait/balance disorders to improve mobility, including a daily exercise regimen such as Tai Chi (Sattin et al 2005), and chair exercises; and
- identify and address 'mental' health issues particularly around cognitive impairment and, lowered mood and anxiety arising from activity.

As with most co-morbidity issues, successful management of fear of falling requires a combined and concerted effort on the part of the treating team.

CONCLUSION

Fear of falling and falls represent a significant threat to socialisation, independence and morbidity/mortality. It appears the features that predict falling and fear of falling are the same, therefore identifying people who are at risk of falling will also identify those at risk of fear of falling—and vice versa. In addition, fear of falling and falling share some *common risk factors*, however the actual fear of falling may be experienced by someone who has never actually had a fall. Individual clinicians and the treating team should consider *fear of falling* in people with a disordered gait/balance or following a fall, particularly where there is a recognised decline in 'recent' activity or obvious activity avoidance.

REFERENCES

Arfken, C., Lach, H., Birge, S. and Miller, J. 1994. The prevalence and correlates of fear of falling in elderly persons living in the community. American Journal of Public Health, 84(4):565-570.

Australian Commission on Safety and Quality on Health Care (ACSQHC). 2008. Preventing falls and harm from falls in older people: Best practice guidelines for Australian hospitals and residential aged care facilities. Commonwealth of Australia (accessed 11/11/08) http://www.safetyandquality.gov.au/internet/safety/publishing.nsf/Content/6866D503E57E1E74CA25744F001E5515/$File/FG2008-Full.PDF

Bjelland, I., Dahl, A.A., Haug, T.T. and Neckelmann, D. 2002. The validity of the Hospital Anxiety and Depression Scale. An updated literature review. Journal of Psychosomatic Research, 52(2):69-77.

Blain, H., Blain, A., Trechot, P. and Jeandel, C. 2000. The role of drugs in falls in the elderly. Epidemiological aspects. Presse Medicale, 29(12):673-680.

Blazer, D. 1997. Depression in the elderly: myths and misconceptions. The Psychiatric Clinics of North America, 20(1):111-119

Bruce, D., Devine, A. and Prince, R. 2002. Recreational physical activity levels in healthy older women; the importance of fear of falling. Journal of the American Geriatrics Society, 50(1):80-89

Cripps, R. and Carman, J. 2001. Falls by the elderly in Australia: Trends and data for 1998. Injury Research and Statistics Series: Adelaide. Australian Institute of Health and Welfare (AIHW cat no. INJCAT 35).

Dargent-Molina, P. and Breart, G. 1995. Epidemiology of falls and fall-related injuries in the aged. Revue d'Epidemilogie et de Sante Publique, 43(1):72-83.

Fessel, K. and Nevitt, M. 1997. Correlates of fear of falling and activity limitation among persons with rheumatoid arthritis. Arthritis Care and Research, 10(4):222-228.

Flint, A. 1994. Epidemiology and co-morbidity of anxiety disorders in the elderly. American Journal of Psychiatry, 151(5):640-649

Friedman, S., Munoz, B., West, S., Rubin, G. and Fried, L. 2002. Falls and fear of falling: which comes first? A longitudinal prediction model suggests strategies for primary and secondary prevention. Journal of the American Geriatric Society, 50(8):1329-1335

Gagnon, N., Flint, A., Naglie, G. and Devins, G. 2005. Affective correlates of fear of falling in elderly persons. American Journal of Geriatric Psychiatry, 13(1):7-14.

Herrmann, C. 1997. International experience with the Hospital Anxiety and Depression Scale A review of validation data and clinical results. Journal of Psychosomatic Research, 42(1):17-41.

Howland, J., Peterson, E., Levin, W., Fried, L., Pordon, D. and Bak, S. 1993. Fear of falling among community-dwelling elderly. Journal of Health and Aging, 5(2):229-243.

Howland, J., Lachman, M., Walker Peterson, E., Cote, J., Kasten, L. and Jette, A. 1998. Covariates of fear of falling and associated activity curtailment. The Gerontologist, 38(5):549-555.

Juby, A., Tench, S. and Baker, V. 2002. The value of clock drawing in identifying executive cognitive dysfunction in people with a normal Mini-Mental State Examination score. Canadian Medical Association Journal, 167(8):859-864.

Kressig, R., Wolf, S., Sattin, R., O'Grady, M., Greenspan, A., Curns, A. and Kutner, M. 2001 Association of demographic, functional, and behavioural characteristics with activity-related fear of falling among older adults transitioning to frailty. Journal of the American Geriatrics Society, 49(11):1456-1462.

Lachman, M.E., Howland, J., Tennstedt, S., Jette, A., Assmann, S. and Peterson, E.W. 1998. Fear of falling and activity restriction: the survey of activities and fear of falling in the elderly (SAFE). Journals of Gerontology Series B—Psychological Sciences and Social Sciences, 53(1):43-50.

Masud, T. and Morris, R. 2001. Epidemiology of falls. Age and Ageing 30(S4):3-7.

Murphy, J. and Isaacs, B. 1982. The post-fall syndrome. A study of 36 elderly patients Gerontology 28(4):265-270.

National Ageing and Research Institute (NARI). 2004. An analysis of research on preventing falls and falls injury in older people: community, residential care and hospital settings (2004 update). Canberra: Australian Government Department of Health and Ageing.

Niino, N., Tsuzuki, S., Ando, F. and Shimokata, H. 2000. Frequencies and circumstances of falls in the National Institute for Longevity Sciences, Longitudinal Study of Aging (NILS-LSA). Journal of Epidemiology, 10(1 Suppl):S90-S94.

Patterson, C. and Gass, D. 2001. Screening for cognitive impairment and dementia in the elderly. The Canadian Journal of Neurological Sciences, 28(Suppl 1):S42-S51.

Rapport, L., Hanks, R., Millis, S. and Deshpande, S. 1998. Executive functioning and predictors of falls in the rehabilitation setting. Archives Physical Medicine and Rehabilitation, 79(6):629-633.

Rubenstein, L., Josephson, K. and Osteweil, D. 1996. Falls and fall prevention in the nursing home. Clinics in Geriatric Medicine, 12(4):881-902.

Sattin, R., Easley, K., Wolf, S., Chen, Y. and Kutner, M. 2005. Reduction in fear of falling through intense Tai Chi exercise training in older, transitionally frail adults. Journal of the American Geriatrics Society, 53(7):1168-1178

Snaith, P.R. 2003. The Hospital Anxiety and Depression Scale. Health and Quality of Life Outcomes, 1:29.

Storey, J.E., Rowland, J.T.J., Basic, D., Conforti, D.A. and Dickson, H.G. 2004. The Rowland Universal Dementia Assessment Scale (RUDAS): a multicultural cognitive assessment scale. International Psychogeriatrics, 16(1):13-31.

Tinetti, M., Speechley, M. and Ginter, S. 1988. Risk factors for falls among elderly persons living in the community. The New England Journal of Medicine, 319(26):1701-1707.

Tinetti, M., Richman, D. and Powell, L. 1990. Falls Efficacy as a measure of fear of falling. Journal of Gerontology, 45(6):239-243.

Tinetti, M. 2003. Preventing falls in elderly persons. New England Journal of Medicine, 348(1):42-49.

Vellas, B., Wayne, S., Romero, L., Baumgartner, R. and Garry, P. 1997. Fear of falling and restriction of mobility in elderly fallers. Age and Ageing, 26(3):189-193

Zigmond, A.S. and Snaith, R.P. 1983. The Hospital Anxiety and Depression Scale. Acta Psychiatrica Scandinavica, 67(6):361-70.

APPENDIX 1 - Furniture grabbing

Seventy six year old woman living in an Independent Living Unit in a village, with no history of falls but recently had a near miss (tripped and stumbled on path), when recovering from mild pneumonia; increasingly sedentary (sitting by the window, watching TV). No longer walks to the letter box (previously would go outside at least five times per day—to chat with neighbours etc). Now remains inside the unit, no longer walks *between* furniture but moves carefully from one piece of furniture to another piece of furniture or to a door handle - doesn't grasp them but just touches them. Currently denies any *fear* of falling but does acknowledge being a little worried about her safety.

APPENDIX 2 - Lack of recognition

A sixty nine year old woman living in a residential care facility with mild dementia, but otherwise quite healthy and fit as she would walk around the town with a care worker at least twice per day. When not outside she would bang on doors that led to the outside and would ask - *"Why won't you let me out?* This woman experienced a fall inside the facility and sustained mainly soft tissue injuries. Now, after a period of six months she will sit for long periods in a chair just staring at the outside world, when she does get up from time to time she will only bang on inside doors and avoids the outside all together. When staff approach her to go for a walk she responds - *"No I can't stand up dear"* [and then grabs onto the arms of the chair as staff are trying to lift her up]. When she is finally standing and the staff prompt her to walk she responds - *"No I can't walk dear"*. All of which is not true and her dementia is not so marked to be an issue in this regard. The staff however did not perceive these behaviours to be an expression of fear of falling.

APPENDIX 3 - Curtailment of Activity

A seventy seven year old woman living in a residential care facility with no previous history of falls, who was an active participant in the day program which was held in another building a short walk from the facility; experienced a recent fall tripping on some carpet. After an appropriate time for recovery and rehabilitation the staff noticed that her confidence was not as good as it was before and her overall activity levels had declined markedly. However most noticeable was her unwillingness to go for walks outside which she would previously do all the time. When asked if she would like to go outside she would respond - *"No I don't need to go outside dear, I don't need to leave my room - I have my books in my room, I can see and hear the birds"* or *"I need to stay close to the toilet dear, I have a problem with my bowels"* [which was not the case], or *"I'm not so well dear, I have just had a fall"* [12 months ago]. When asked if she would like to participate in the day program she would respond - *"I am just giving the day program a break for a while dear, I might think about it again next week"*.