

Letters to the Editor

Predictors of delirium during in-hospital rehabilitation in elderly patients after hip arthroplasty

SIR—In their article published recently, Freter *et al.* [1] assessed the feasibility of incorporating the Delirium Elderly At-Risk (DEAR) instrument into routine nursing care of elective orthopaedic patients and evaluated its usefulness to predict post-operative delirium.

We would like to contribute to this topic with personal data. We assessed predictors of delirium during in-hospital rehabilitation in elderly patients who underwent an elective hip arthroplasty. All patients ($n=244$) consecutively admitted to our unit for this reason from 1 January 2002 to 28 February 2004 underwent a multidimensional assessment including sociodemographic (age, gender, living condition), Geriatric Depression Scale (GDS), Charlson Index, body mass index and Barthel Index (BI) referring to 1 month before surgical intervention (BI pre-surgery) and to admission (BI admission). Delirium was ascertained on admission and during in-hospital rehabilitation according to the DSM IV criteria using the Confusion Assessment Method (CAM) [2]. The Mini-Mental State Examination (MMSE) was administered within 72 hours of admission or, in the case of delirium, after 3 consecutive days of negative CAM. Appendix 1 (available as supplementary data on the journal's website, www.ageing.oxfordjournals.org) shows the characteristics of all patients stratified into two groups (delirium and no delirium). In comparison with the others, patients with delirium were significantly older, predominantly male, more impaired in cognitive and functional status, and had a higher comorbidity detected with the Charlson Index. When the effect of all variables that were significantly associated in the univariate model was tested in a multiple logistic regression, male gender (OR=13.7, 95% CI 2.8–65.5, $P=0.001$), greater comorbidity, as measured by a Charlson Index score ≥ 3 (OR=9.4, 95% CI 1.3–66.9, $P=0.02$), a MMSE score $<29/30$ (OR=6.6, 95% CI 1.1–39.6, $P=0.03$) and a BI pre-surgery score <100 (OR=3.8, 95% CI 1.1–15.0, $P=0.05$) significantly and independently predicted onset of delirium.

Our study only partially supports that of Freter *et al.* Indeed, although it indirectly confirms that delirium is a common event in post-operative patients and that the identification of those at risk is possible with a routine multidimensional assessment, it also emphasises the need to assess comorbidity, which appears to be difficult for nurses. On the basis of our data we are persuaded that a standardised multidimensional geriatric assessment may be more useful than a specific pre-operative instrument.

GIUSEPPE BELLELLI^{1,2*}, SALVATORE SPECIALE^{1,2}, MARCO TRABUCCHI³
¹Rehabilitation Department, 'Ancelle della Carità', Hospital
Cremona, Cremona, Italy
²Geriatric Research Group, Brescia, Italy
³University Tor Vergata, Rome, Italy
*To whom correspondence should be addressed
Fax: (+39) 03725357700
Email: bellelli-giuseppe@poliambulanza.it

1. Freter HS, Dunbar MJ, Macleod H *et al.* Predicting post-operative delirium in elective orthopaedic patients; the Delirium Elderly At-Risk (DEAR) instrument. *Age Ageing* 2005; 34: 169–84.
2. Inouye SK, Van Dyck CH, RI Horwitz *et al.* Clarifying confusion: the Confusion Assessment Method. *Ann Intern Med* 1990; 113: 941–8.

doi:10.1093/ageing/afi134

Re: Prevention of falls—a time to translate evidence into practice

SIR—Jackie Close admonishes commissioners and claims an apparent disconnection between the academic world and those with a responsibility for commissioning and providing services for older people who have fallen [1]. In Bradford we are in the process of achieving her vision in a unique way. Since 2001 a major collaboration between all potential professional groups has occurred. This has not only been across traditional health and social service boundaries, but more importantly has involved older people who have fallen, peer mentors, public health specialists, ambulance services, community pharmacists, home care managers and employees in residential homes. The project was initiated through Bradford's involvement in the Pursuing Perfection Initiative [2], led by the director of Social Services and fully supported by the chief executives of the three local PCTs and the Acute Trust. This led to excellent administrative support with professional chairing of meetings ensuring goals were met. Each Trust and Social Services appointed a person to lead on falls.

We started from scratch exploring what happens to older people when they fall; service gaps were recognised and an ideal pathway for Bradford proposed. It was recognised that the majority of developments had to be community based. A multi-factorial risk assessment tool was developed (evidence based of course), nurses trained in its administration and clear action plans agreed so that the right people were referred onto OT, physiotherapy, general

practitioner (GP) and the local geriatrician-led multidisciplinary clinic. Each GP practice now has a nominated falls nurse, each PCT several gait and balance groups including a class for Asian elders. Fallers who attend Accident and Emergency (A&E) are referred to the relevant falls nurses. North Bradford PCT will shortly require their GPs to document falls. Home care staff are trained in falls awareness and, with the community nurses, are using the Cryer screening tool to pick up those at highest risk. This tool is included in the Bradford single assessment document. Nursing and residential homes have access to training in falls awareness and risk assessment, and some staff have undergone training in the Extend exercises.

Finally we are piloting data collection using System One. The collected data mirrors the existing risk assessment tool and meets most of the falls dataset proposed recently by the DOH. System One will enable immediate sharing of the assessments between relevant health professionals whether they are based in primary, secondary or intermediate care, outpatient or inpatient.

In December 2004 we celebrated our achievements with a falls conference co-sponsored by Age Concern; 223 local delegates attended.

So is it working? North Bradford PCT, which is the furthest ahead with the falls work, had 12% fewer fallers attending A&E in 2004 than 2003. It is too early to say more, so watch this space.

ELIZABETH BRIERLEY^{1*}, SARAH PARTINGTON²,
SARA HUMPHREY³, DEBORAH CROSSLAND³, CLAIRE ELENER⁴,
JOHN HOWARTH⁵, MAJ PUSHPANAGAN¹

ON BEHALF OF THE BRADFORD FALLS COLLABORATIVE

¹Bradford Teaching Hospitals NHS Trust,

²City PCT, Bradford,

³North Bradford PCT,

⁴South and West PCT, Bradford,

⁵Bradford Social Services, Bradford, UK

*To whom correspondence should be addressed at: St Luke's
Hospital, Little Horton Lane, Bradford BD5 0NA, UK.

Fax (+44) 1274 365252.

Email: eliz.brierley@bradfordhospitals.nhs.uk

1. Close JT Prevention of falls—a time to translate evidence into practice. *Age Ageing* 2005; 34: 98–100.
2. www.pursuingperfectionbradford.nhs.uk/

doi:10.1093/ageing/afi128

Reply

SIR—Dr Brierly and colleagues are to be congratulated on their efforts to apply existing evidence-based approaches in preventing falls to a whole community. The involvement of the 'whole system' including service users is both highly commendable and essential for the development and delivery of health care and its long-term sustainability. The reduction in A&E attendees is encouraging at this point.

Southwark and Lambeth (a Pursuing Perfection site) are taking a similar approach to the development of falls services across a whole community (SLIPS—Southwark and Lambeth Integrated Care Pathway for Falls). One particular area of interest has been the consensus approach to the assessment and intervention for people with postural instability. All therapists across the two PCTs and two acute trusts involved in falls services now use the same assessment tool and exercise intervention for patients. Choice in the method of delivery of exercise has been key to dramatically reducing refusal rates for exercise to <10% at one of the sites. Home- and group-based exercise are offered to those with moderate falls risk scores and, when offered choice, more patients (66%) opt for the home-based exercise. Preliminary evaluation of the outcomes is showing statistically significant improvements in measures of strength, balance and reaction times for both groups. By offering choice, more people are undertaking interventions from which they stand to benefit.

However, whilst acknowledging that pockets of good practice exist, we should be aware that considerable effort is still required to ensure that all high-risk fallers receive appropriate intervention. Care remains fragmented in many areas and in some areas is not evidence based. As clinicians, we have a responsibility to work with acute trusts and PCTs to ensure that local services are developed in keeping with national and international recommendations and guidelines.

In the recent Cochrane review of population-based interventions for the prevention of fall-related injuries in older people, the authors conclude that there is some evidence to support a population-based approach to fall-related injury prevention [1]. This is based on five studies all undertaken outside the UK. The authors state that more research is required to 'elucidate the barriers and facilitators in population-based interventions that influence the extent to which population programmes are effective'. With appropriate evaluation of their respective approaches, both Bradford and Lambeth & Southwark should be able to contribute to the next version of this Cochrane review.

JACQUELINE C. T. CLOSE
Department of Health Care of the Elderly,
King's College Hospital, London, UK
Email: Jacqueline.close@kcl.ac.uk

1. McClure R, Turner C, Peel N, Spinks A, Eakin E, Hughes K. Population-based interventions for the prevention of fall-related injuries in older people. *The Cochrane Database of Systematic Reviews* 2005, Issue 1. Art.No.:CD004441.pub2.DOI: 10.1002/14651858.CD004441.pub2.

doi:10.1093/ageing/afi129

Prevention of falls—a time to translate evidence into practice

SIR—I write with reference to an article by Close in a recent issue of *Age and Ageing* [1]. I would like to take this opportunity to correct some inaccurate statements made within