Nurses' descriptions of changes in cognitive function in the acute care setting

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KEY WORDS

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ABSTRACT

Objective
To describe nurses' documentation of cognition and behavioural changes in patients in acute care settings. Hospitalised patients often present with multiple co-morbidities including declining levels of cognitive functioning and this is particularly so for older people. Many older people will experience a delirium during hospitalisation. While prevention or prompt management of delirium is paramount to providing quality care, research suggests that health professionals regularly fail to differentiate between delirium and other cognitive changes in hospitalised patients.

Design
Four audits of progress notes were completed over a four week period at a Western Australian tertiary hospital to identify, quantify and categorise cognitive and behavioural changes in hospitalised patients. This paper describes data on nurses' documentation collected in the course of those audits. On four consecutive Thursdays, the medical records of all patients identified by nursing staff as being confused were reviewed. Where no definitive cause for the confusion was documented, the case notes were examined for evidence of risk factors to determine a probable cause.

Setting
A Western Australian tertiary hospital.

Subjects
The medical records of all patients identified by nursing staff as being confused.

Main outcome measures
Documentation in patient medical records of a patient having cognitive or behavioural changes or being confused; use of a cognitive screening tool; or a diagnosis of delirium.

Results
A total of 1209 patients were surveyed over the four audit days with 183 patients (15%) being identified as confused. 'Confusion' was the most common descriptor used by nurses to describe cognitive and behavioural changes; in many cases it was the only term used. Many of these changes were indicative of delirium. Little use by any health professional of cognitive screening tools was found.

Conclusion
Cognitive and behavioural changes are a common problem in hospitalised patients who are elderly. The use of the term confusion to describe a range of cognitive and behavioural changes is a barrier to accurate identification of delirium, which is often the first indicator of serious underlying illness.

INTRODUCTION

The international literature is critical of the widespread lack of recognition of delirium (Hustey et al 2003; Inouye et al 1999; Flacker and Marcantonio 1998). Nurses' inability to recognise delirium was illustrated by a recent study on nurses' level of knowledge of delirium and associated risk factors. The study reported that only 42% of nurses scored 70% or better on delirium knowledge questions and only 3.5% of nurses scored 70% or better for knowledge of delirium risk factors (Hare 2006). It has also been suggested that knowledge deficits may be perpetuated because health professionals consistently and routinely document cognitive and behavioural changes under the encompassing term 'confusion', which does not allow for qualification or quantification of significant changes in a patient's functioning (Milisen et al 2002). This practice continues even though prevention, or early intervention, for delirium has been shown to improve outcomes for this group of patients (Inouye et al 2005a).

Delirium presents as an acute short-term disturbance of consciousness lasting from a few hours to a few months characterised by disorganised thinking, perceptual disturbances and inattention (American Psychiatric Association 1999), and is often the first or only presenting sign of an underlying medical problem (Meagher 1998). Delirium causes cognitive and behavioural changes in a patient that fluctuate over the course of the day, can usually be attributed to a physiological cause and/or the use of substance(s), and is not better explained by a pre-existing or evolving dementia (American Psychiatric Association 1999). Three main variants of delirium exist: hyperactive, hypoactive and mixed. The hyperactive variant involves hyper-vigilance with associated agitation and hallucinations (American Psychiatric Association 1999). Patients experiencing the hyperactive variant are more likely to have their condition recognised and receive early intervention due to their presenting behaviours (Breitbart et al 2002; O'Keeffe 1999). Patients with the hypoactive variant often present as lethargic, drowsy and have difficulty focussing attention, and this form is more likely to go unrecognised. The mixed variant fluctuates between features of both.

In older people, delirium is a predictor of mortality and morbidity, but delirium and its underlying causes are commonly under-diagnosed and as a consequence under-treated (Douglas et al 2005; Cole 2004; Inouye et al 1999; O'Keeffe 1999). This lack of recognition occurs in 25% of cases (Young and George 2003) increasing to 87.5% when the patient has a pre-existing dementia (Milisen et al 2002). In addition, delirium in elderly patients often results in a decreased level of functioning post discharge from hospital, which impacts on the individual's future quality of life (Inouye et al 1998). Estimates suggest that delirium is present in up to 62% of hospitalised orthopaedic patients who are elderly (Olofsson et al 2005) rising to as high as 89% in patients who have a pre-existing dementia (Fick et al 2002).

Nurses are well placed to identify, assess and document cognitive and behavioural changes as they spend more time with patients than most other health professionals. This is especially important for older patients, who are at high risk of developing delirium (McCusker et al 2003; O'Keeffe and Lavan 1996; Cole et al 1994), and whose care would be enhanced by prompt and accurate assessment and documentation of cognitive and behavioural changes which may be indicative of a serious underlying medical problem warranting urgent further investigation. However as previously noted, nurses' documentation of cognition is reportedly poor (Inouye et al 2005c). To determine whether the standard of documentation in a Western Australian teaching hospital was consistent with that reported in the literature, data on descriptors used by nurses to describe changes in cognition and behaviour were collected in the context of a point prevalence audit for delirium (Speed et al 2006).

DESIGN

The Chair of the Human Research Ethics Committee was informed of the proposed audit and recommended that the audit be registered as a quality improvement activity. The audit was planned for one day in each of four consecutive weeks to provide a large sample size

and to facilitate inter-rater checking, as some patients were present during two or more audits. On each of the audit days, nurse coordinators on the medical and surgical wards at the hospital were asked to identify patients who displayed confusion, disorientation, fluctuating behaviours or who were behaving in an unusual manner. To identify patients who may have the hypoactive presentation of delirium, information was also sought about patients who appeared withdrawn, quiet or depressed. All inpatient records of the identified patients were then reviewed.

DATA COLLECTION METHODS

Initially, a comprehensive review of the literature was conducted to identify the common causes, risk factors and presenting symptoms associated with delirium. Based on the literature review, the audit tool was piloted from the progress notes of several patients prior to the audit. The tool collected demographic information and data on behavioural descriptors identified during the literature review. Behavioural descriptors gathered from progress notes during the pilot were included as a tick-box list, with space for the auditors to add additional descriptors. Data were also gathered on whether the cognitive and behavioural changes fluctuated or were consistent, whether the patient had a pre-existing, confirmed diagnosis of dementia and whether there was evidence that the patient was confused on admission. All data were derived exclusively from the patients' progress notes. The five auditors were senior nurses, and inter-rater reliability was established by consensus in data collected during the pilot.

When a patient was identified with 'confusion', evidence was then sought from the patient record for any definitive medical diagnosis associated with the behaviour, such as pre-existing dementia, delirium or an organic disorder. Any data that assisted in confirming the cause of the behaviour, for example, 'delirium secondary to pneumonia', were also recorded. The audit team also looked for evidence of the use of formal cognitive assessment tools, such as the Mini Mental State Examination (MMSE) (Folstein et al 1975), Delirium Rating Scale (DRS) (Trzepaccz et al 2001) and Confusion Assessment Method (CAM) (Inouye et al 1990). Lastly, the audit team recorded behavioural descriptors associated with confusion if they were present in the nursing or integrated progress notes. Where information obtained suggested that the patient was likely to be suffering a delirium, the variety of descriptors used to document the patient's behaviour was identified (Speed et al 2006).

RESULTS

Data from the audit showed that 183 (15%) of 1209 patients were identified by staff as being confused. Of the 183, 132 (72%) had documented cognitive and behavioural changes that were deemed to be associated with the presence of a delirium, while in the remaining 51 (28%) patients their behaviour was typical of their established dementia or organic disorder. Seventy-seven (58%) of the 132 patients deemed to have a delirium were documented as being confused on admission. Fourteen (11%) of the 132 had no documentation of their cognitive status on admission.

Of the 132 patients with cognitive and behavioural changes suggestive of delirium 78 (59%) were females and 54 (41%) were males. The age range was from 45 years to 95 years with a mean age of 79.9 (SD 10.21) years. A majority of these patients (n=78 59%) had been admitted from home, 34 (26%) from a hostel, 14 (11%) from a nursing home and 6 (4%) transferred from other hospitals. Eighty-one (62%) patients were admitted as medical inpatients, 32 (24%) as orthopaedic inpatients, 11 (8%) as surgical inpatients and 8 (6%) were vascular inpatients.

Only 48 (36%) of the 132 patients with documented behavioural and cognitive changes consistent with delirium had a diagnosed delirium documented in their patient record. The records of the remaining 84 (64%) patients had descriptions of cognitive and behavioural changes suggestive of delirium but no formal diagnosis of delirium had been recorded. This may have occurred in part because the delirium was overlooked due to the presence of an established dementia (n = 58).

A total of 364 descriptors (mean 2.76 per patient, SD 1.568) were found in the documentation audit. The number of descriptors in the notes ranged from one (n=33) to eight (n=1). Notably, one in eight cases (12.88%, n=17) had the term 'confused' as the only descriptor. The most common descriptors were 'confused' (n=99), 'disoriented' (n=54) and 'agitated' (n=46) (see table 1).

Table 1: Descriptors of cognitive and behavioural changes

Descriptor	Count	Percent
Confused	99	27.20
Disoriented	54	14.84
Agitated	46	12.64
Hallucinating	22	6.04
Drowsy	21	5.77
Plucking/pulling	17	4.67
Physically aggressive	15	4.12
Wandering	14	3.85
Vague	13	3.57
Verbally Abusive	10	2.75
Noisy	9	2.47
Forgetful	8	2.20
Insomnia	8	2.20
Lethargic	8	2.20
Non compliant	7	1.92
Fearful	5	1.37
Angry	4	1.10
Anxious	2	0.55
Threatening	2	0.55
Total	364	100.00

Only 43 (32.5%) of the 132 patients had evidence of the use of MMSE and only one (0.7%) had a DRS completed.

DISCUSSION

The rate of delirium in hospitalised patients recorded during the audits (11%) is consistent with international rates (Milisen et al 2002; Duppils and Wikblad 1999; Lynch et al 1998). Furthermore, the rates of undiagnosed delirium are also similar to that reported in the literature (Hustey et al 2003; Milisen et al 2002). Although delirium was not formally documented as a diagnosis in all of the 132 patients, behavioural and cognitive changes consistent with delirium were recorded in the patients' records.

Many patients in this study had a pre-existing dementia. These patients are a vulnerable group, and are at high risk of developing delirium. Assessment and knowledge of baseline data on the patient's usual level of cognitive functioning is vital for early recognition and investigation of delirium, and crucial to their future quality of life (Rigney 2006). Health professionals should routinely assess elderly patients' cognitive and behavioural status, with the same priority afforded to the measurement of other vital signs, as recommended by Flaherty et al (2007). This would facilitate the early recognition of delirium, reducing adverse outcomes such as falls (O'Keeffe 1999), mortality, morbidity, length of stay and other long term or permanent sequelae (McCusker et al 2003; Inouye et al 1999).

This study provides additional confirmation of nurses' lack of knowledge of delirium and its associated risk factors and has provided a basis for ongoing research in this area. A further strength was the large audit sample size, which allowed for confirmation of inter-rater reliability, as some patients were audited more than once over the four weeks. A limitation of the study was the reliance on the nurse coordinator to identify confused patients. This is an important limitation, given that nurses are poor at identifying delirium (Inouye, Leo-Summers et al 2005) and some confused patients were likely to have been unreported.

CONCLUSION

Nurses have a pivotal role in the accurate assessment of cognition and early detection of delirium in acute care settings and therefore the reduction of associated adverse events, such as falls (O'Keeffe 1999). Nevertheless, cognitive assessment has not been routinely included as a key component in nursing curricula and therefore has not translated into nursing practice.

To facilitate early recognition of any change in cognition and behaviour, it is recommended that nurses are educated and trained to conduct routine

cognitive assessment using validated tools in all hospitalised patients and to differentiate between acute and chronic cognitive conditions. Improved knowledge and assessment techniques will lead to improved documentation.

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