A quality improvement approach to cognitive assessment on hospice admission: could we use the 4AT or Short CAM?

Lucy Baird¹ and Juliet Spiller²

¹Specialty Doctor, Palliative Medicine; ²Palliative Medicine Consultant, Marie Curie Hospice Edinburgh.

Care and support through terminal illness

Marie

Curie

Introduction

Prevalence studies show that 15-42% of patients admitted to specialist palliative care inpatient units have delirium. Symptoms of delirium are often subtle and easily missed, or misdiagnosed as fatigue or even depression, and so the use of a screening tool could improve early identification and management of delirium and lead to improved outcomes. Patients admitted to the hospice are often frail and tired, therefore a quick and easy-to-use method of cognitive assessment is essential.

Aims

Using a quality improvement (QI) approach (PDSA: Plan, Do, Study, Act) this project aimed to improve cognitive assessment on admission to a hospice inpatient unit by:

- Determining staff preference between the Short Confusion Assessment Method (Short CAM)¹ and the 4 'A's Test (4AT)²
- Using PDSA cycles to embed the preferred tool into the admission process, whilst continuing to assess usability and completion rate

Methods

- Baseline measure taken of the rate of performing cognitive assessment on admission
- Four PDSA cycles were then undertaken which involved implementing change and then evaluating results through auditing case-notes and interviewing staff



PDSA Cycle 4

- Two weeks later, 12 consecutive admissions were reviewed to see if the improvements had been sustained; cognitive assessment was considered in 67% (8), and a 4AT performed in 50% (6)
- Some staff documented a 4AT was not performed as the patient was not confused

Figure 1: Percentage of patients where cognitive assessment was considered (a) and performed (b).



Subsequent Interventions

- Staff were re-educated about the importance of screening all patients and documenting reasons where a 4AT was not used (*Figure 2a*)
- The admission notes will be further adapted to ask: "Is a 4AT appropriate? Yes/No" and "If not, why?"
- A delirium checklist was developed and printed on the back of the

Results

Initial results

- Of 8 consecutive patients admitted to the hospice in March 2016, none had any form of cognitive assessment performed on admission despite several being noted to be "confused"
- The Short CAM was the suggested tool, yet this was not printed in admission paperwork, nor easily accessible on the wards

PDSA Cycle 1

- Two nurses and 2 doctors performed the Short CAM and 4AT
- Feedback was received on ease-of-use and usability of both tools within the hospice setting
- Three of the 4 staff preferred the 4AT, stating it was "easier to fill in at the time" and "less open to interpretation", 1 nurse preferred the Short CAM as they felt it gave you "a better feel" for the patient
- All 4 staff agreed the 4AT was quicker

PDSA Cycle 2

- The 4AT was supplied on both wards in the hospice and staff were asked to complete a 4AT on the next 5 admissions if appropriate, i.e. not if a patient was very unwell or dying
- A 4AT was completed in 3 of the 5 admissions
- In the 2 cases where a 4AT was not completed it would not have been appropriate; the first patient was documented to be unconscious and the second patient was very breathless and died overnight
- Staff agreed the 4AT was a usable tool and that it could easily be performed as part of a routine admission

PDSA Cycle 3

- The 4AT was incorporated into the admission paperwork
- It was agreed cognitive assessment should be considered in 100% of patients admitted and a 4AT should only not be completed if the patient is too unwell and the reasoning documented
- Of 12 consecutive admissions, cognitive assessment was considered in 100% (12) and a 4AT performed in 92% (11) (*Figure 1*)
- Staff valued having the 4AT in the admission notes

4AT as it is not only important to identify patients with a possible delirium, but also to manage this, and investigate and treat reversible causes, if appropriate (*Figure 2b*)

Figure 2: 4AT and Delirium Checklist.

			DELIRIUM CHECKLIST	Please affix patient label here
		(inba)	Management:	
	Patient name:			Initial and date
	Date of birth:		Regular observation	
	Cana de Dente.		Treat underlying cause if appropriate (common causes below) e.g. pain, constipation,	
	Patient number:		alcohol/nicotine withdrawal	
			Stop contributing drugs	
Assessment test	Date: Time:		Good sensory environment (ensure has glasses/hearing aids, well lit room during day, low	
for delirium &			level light at night, noise to a minimum, consider single room)	
cognitive impairment	Taular		Educate and support family	
			Regular orientation (clocks/calendars, family/friends visiting, photos/familiar objects)	
		CIRCLE	Promote mobility where safe, avoid restraint	
[1] ALERTNESS		CIRCLE	Staff continuity when possible Reduce need for wandering – easy access to water/toilet/food, distraction, avoid restraint	
This includes patients who may be marks	day drowsy (eg. difficult to rouse end/or obviously sleepy		If speech rambling redirect/change subject/ "tactfully disagree"/acknowledge feelings	
	ve. Observe the patient. If asleep, attempt to wake with		Restore uninterrupted sleep pattern – use non-pharmacological measures where possible	
speech or gentle touch on shoulder. Ask	the patient to state their name and address to assist rating.		(a glass of warm milk or herbal tea, relaxation tapes or relaxing music, back massage)	
	Normal (fully alert, but not agitated, throughout assessment)	0	Pharmacological management only if necessary: haloperidol (not if Parkinson's or Lewy	-
	Mid sleepiness for <10 seconds after waking, then normal	0	Body Dementia) ± lorazepam. Lowest dose for the shortest time.	
	Clearly abnormal	4	Is Adults With Incapacity Act form needed?	
[2] AMT4				
Age, date of birth, place (name of the ho	spital or building), current year.		Is investigation for, and management of, reversible causes appropriat	e? If so, see
	No mistakes	0	common causes and suggested investigations below.	
	1 mistaive	1	Common causes:	
	2 or more mistakes/untestable	2	Common causes:	
			Drugs (e.g. sedatives, opiates, antidepressants, anticholinergics, polypharmacy)	
[3] ATTENTION	hs of the year in backwards order, starting at December."			
To assist initial understanding one promp	It of "what is the month before December?" is permitted.		E Electrolyte imbalance/Endocrinology/Environmental change (e.g. dehydeatien, hy hypercalcaemia, renal/liver failure, vitarein deficiencies (e.g. B12/folate, thiamine), thyroid function	po/hyperglycaema,
Months of the year backwards	Achieves 7 months or more correctly		hyperbacation, retain even inner, vision oraceasies (e.g. 112 total, annihi), nyven incos	n, room eninge,
	Starts but scores <7 months / refuses to start	1	Lack of drugs (withdrawal (e.g. drugs, alcohol, nicotine), uncontrolled pain)	
	Untestable (cannot start because unwell, drowsy, inattentive)	2	Infection/Intercurrent illness (e.g. chest, urine)	
[4] ACUTE CHANGE OR FLUC	TUATING COURSE tion in: electress, cognition, other mental function			
(eg. paranois, hallucinations) arising over	r the last 2 weeks and still evident in last 24hrs		Intracranial (e.g. streke, subdural, brain metastases, intracranial infection, postictal)	
	No	0	U Urinary retention/Faecal impaction	
	Yes	4	Myocardial/Pulmonary/Mood (e.g. myocardial infarction/angina/heart failure, pulmonary	
			failure/hypexia/hypercarbia, hypotension, annemia, depression can cause cognitive impairment alf delirium)	hough unlikely a
4 or above: possible delirium +/- cognitiv	a localized			
1-3: possible cognitive impairment	AAT COOR		Investigation:	
 delinium or severe cognitive impairment delinium still possible if (4) information inc 			Charle absorbed lang (some moles DB anto some sets bland super)	Initial and dat
constant and bogging a full meaningers and	on second		Check observations (temp, pulse, BP, sats, resp rate, blood sugar)	-
GUIDANCE NOTES	Varsion 1.2. Information and download: ted for repid initial assessment of delinum and cognitive impairment, A s	www.the4AT.com	Full examination (chest, abdomen, skin, CNS) ± PR/bladder scan Look for signs of withdrawal from drugs, alcohol, nicotine	
suggests delirium but is not dispositic: mo	re detailed assessment of mental status may be required to reach a diagno	ais. A score of 1-3	Look for signs of withdrawal from drugs, alconot, meetine	-
definitively exclude delirium or cognitive im	detailed cognitive testing and informant history-taking are required. A so pairment: more detailed testing may be required depending on the clinical	context, items 1-3	Bloods – FBC, U&Es, LFTs, Ca, Alb, glucose, CRP. Consider TFT and B12/folate.	-
			Urinalysis ± MSU/CSU	-
account of communication difficulties (he	ito know the patient (eg. ward nurses). GP letter, case notes, carers. The aring impairment, dysphasis, lack of common language) when canying	out the test and	Sputum culture – if appropriate	+
interpreting the score.	on their is he defines is sensed baseled astimes. If the colori shows	similant strend	Review medication – anything just started or stopped?	1
alerhess during the bedaide assessment,	try likely to be definian in general hospital settings. If the patient shows score 4 for this item. AMT4 (Abbreviated Mental Test - 4): This score car	be extracted from	Consider: CT head, ECG, CXR – cannot do in the hospice	
	ediately before. Acute Change or Fluctuating Course: Fluctuation can oc coustion usually indicates delinium. To help elicit any hallucinations and/or			
ask the patient questions such as, "Are you "Have you been seeing or hearing anything	concerned about anything going on here?"; "Do you feel frightened by any	thing or anyone?";	References: ICU Delicium (2016); Why it matters: website (http://www.icodelicium.co.uk/why-it-matters/) [accessed 26/05/2016]; Octi delicium: website (http://pori-om.com/cognitive-impairment/conset-of-delicium/) [accessed 26/05/2016]; NICE CKS (2016); Delicium; v	
		10 1 20 8 Kini Jaké, Pyan, Cash	(http://dx.niot.org.uk/deliritam/iscenario) [accessed 26/05/2016]; Lishman, William Alwyr; Organic Psychiatry; 3 rd Edition; Blackwell Massachasetts 1999; Fong et al. Delirium in chlarly adults: diagnosis, provention and transment. Nat Rev Neurol. 2009 April. 5(4): 210-	
			Massachanetts 1999; Fong et al. Detenium in energy adults: enignous, pervention and transmerr. Nat Net Neurol. 2009 April: 5(4): 210- Developed by Lucy Baird 26/05/2016. Reviewed by medical team 27/07/2816. Updated 28/07/2816.	
			according to all press processions of according to all them a second press	

Conclusions

- The 4AT is a usable tool in the hospice inpatient setting to assess patients' cognitive state on admission
- The 4AT can easily be incorporated into the admission process
- The QI approach highlighted the need to link staff awareness of their use of the screening tool with perceived improvements in the treatment of delirium, which prompted the creation and implementation of a delirium checklist in the unit
- Following staff education and changes to admission paperwork, rates of considering cognitive assessment, in addition to 4AT completion, should improve

Recommendations

- Re-audit to ensure standards improve
- Development of a patient/relative information leaflet about delirium in the palliative care setting

References: ¹Hospital Elder Life Program (2016) Confusion assessment method (Short CAM). Webpage: http://www.hospitalelderlifeprogram.org/delirium-instruments/short-cam/ [accessed 10/03/2016]. ²MacLullich, A. (n.d.) 4AT rapid assessment test for delirium. Webpage: http://www.the4at.com/ [accessed 10/03/2016].