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.

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
- Five PDSA cycles were then undertaken which involved implementing change and then evaluating results through auditing case-notes and interviewing staff

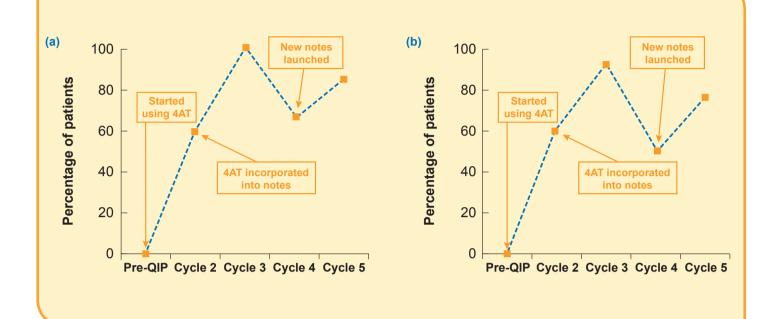


Results

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

PDSA Cycle 5

- Staff were educated about the importance of screening all patients and documenting reasoning where a 4AT is not used (*Figure 2a*)
- The admission notes were adapted to state: "If patient is conscious then please complete 4AT overleaf"
- A Delirium Checklist was developed and printed on the back of the the 4AT to highlight priorities for delirium management, as well as the identification and treatment of reversible causes (Figure 2b)
- A key part of delirium management is family and patient education but, despite this, there is not a patient and relative information leaflet specifically about delirium in the palliative care setting
- Re-audit was performed following the above changes
- Of 34 consecutive admissions cognitive assessment was considered





Care and support

through terminal illness

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
- A 4AT was completed in 3 of the 5 admissions (60%) (*Figure 1*)
- 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 be completed in all patients, unless the patient is too unwell (reason documented)
- Of 12 consecutive admissions, cognitive assessment was • considered in 100% (12) and a 4AT performed in 92% (11)
- Staff valued having the 4AT in the admission notes

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

in 85.3% (29) and performed in 76.5% (26); one patient had an Mini-Mental State Examination completed rather than a 4AT but they were included as they still underwent formal cognitive assessment

Figure 2: 4AT and Delirium Checklist.

		(b)	DELIRIUM CHECKLIST	Please affix patient label here
Paleet name	(Tabet)		anagement:	Initial and da
(4AI) Date of bitts:			ular observation at underlying cause if appropriate (common causes below) e.g. pain, constipation,	
Patient number:			hol/nicotine withdrawal	
Assessment test Date:	Time		o contributing drugs d sensory environment (ensure has glasses/hearing aids, well lit room during day, low	
for delirium &	Time:	level	l light at night, noise to a minimum, consider single room)	
cognitive impairment Tester:			cate and support family ular orientation (clocks/calendars, family/friends visiting, photos/familiar objects)	
-		Pron	mote mobility where safe, avoid restraint	
[1] ALERTNESS	CIRCLE		T continuity when possible uce need for wandering – easy access to water/toilet/food, distraction, avoid restraint	
This includes patients who may be markedly drovey (eg. difficult to rouse and during assessment) or agtiated/hyperactive. Observe the patient. If asless, all	Tor obviously sleepy	If spo	eech rambling redirect/change subject/ "tactfully disagree"/acknowledge feelings	
speech or gentle touch on shoulder. Ask the patient to state their name and as	Afress to assist rating.	Rest	tore uninterrupted sleep pattern – use non-pharmacological measures where possible ass of warm milk or herbal tea, relaxation tapes or relaxing music, back massage)	
	agitated, throughout assessment) 0 unds after valving, then normal 0	(a ga Phar	ass of warm milk or herbal tea, relaxation tapes or relaxing music, back massage) rmacological management only if necessary: haloperidol (not if Parkinson's or Lewy	-
Clearly abnormal	4		y Dementia) ± lorazepam. Lowest dose for the shortest time.	
[2] AMT4		Is Ad	dults With Incapacity Act form needed?	
Age, date of birth, place (name of the hospital or building), current year.			Is investigation for, and management of, reversible causes appropria	te? If so, see
No mistakee 1 mistake			common causes and suggested investigations below,	
2 or more mistakes/untesta	tte 2	Ce	ommon causes:	
[3] ATTENTION		D	Drugs (e.g. sedatives, opiates, antidepressants, anticholinergics, polypharmacy)	
Ask the patient: "Please tell me the months of the year in backwards order, sta To assist initial understanding one prenet of 'what is the month balow Decem	iting at December."	E	Electrolyte imbalance/Endocrinology/Environmental change (e.g. dehydention,	ypo/hyperglycaemia,
Months of the year backwards Achieves 7 months or mon			hypercalcaemia, renal/liver failure, vitamin deficiencies (e.g. B12/folate, thiamine), thyroid funct hyperhyperhypertheemia)	ion, room change,
Starts but scores +7 month		L	Lack of drugs (withdrawal (e.g. drugs, alcohol, nicotine), uncentrolled pain)	
Untestable (cannot start be	cause unwell, drowsy, inatlentive) 2	I	Infection/Intercurrent illness (e.g. cbest, urine)	
[4] ACUTE CHANGE OR FLUCTUATING COURSE		R	Reduced sensory input (e.g. vision/hearing deficit, room too dark, too noisy)	
Evidence of significant change or fluctuation in: electrees, cognition, other me (eg. paranola, hallucinations) arising over the last 2 weeks and still evident in i	last 24tvs	<u> </u>	Intracranial (e.g. stroke, subdural, brain metastases, intracranial infection, postictal)	
No	0	U	Urinary retention/Faecal impaction	
Yes		М	Myocardial/Pulmonary/Mood (e.g. myocardial infirction/ingins/heart failure, pulmonar failure/hypexia/hypercarbia, hypotension, annemia, depression can cause cognitive impairment a delirium)	though unlikely a
4 or above: possible delifium +/- cognitive impairment 1-9: possible cognitive impairment 0: delinum or servere cognitive impairment unlikely diut	4AT SCORE	Ins	vestigation:	Initial and date
di delinum or severe cognitive imparment unitery (but delinium still possible if [4] information incomplete)		Che	rck observations (temp, pulse, BP, sats, resp rate, blood sugar)	rintial and dat
GUIDANCE NOTES Ven	ion 1.2. Information and download: mmn.the4AT.com	Full	l examination (chest, abdomen, skin, CNS) ± PR/bladder scan	
The 4AT is a screening instrument designed for rapid initial assessment of del suggests defium but is not disgnessic more detailed assessment of mental statu suggests cognitive impairment and more detailed cognitive testing and information of the second status of the second statu			k for signs of withdrawal from drugs, alcohol, nicotine k for evidence of pain	
definitively exclude delinium or cognitive impairment: more detailed testing may be are related adapt on observation of the national at the time of assessment. Here it res	a required depending on the clinical context. Items 1-3 science information from one or more science(s), ep. year	Bloc	ods - FBC, U&Es, LFTs, Ca, Alb, glucose, CRP. Consider TFT and B12/folate.	
own knowledge of the patient, other staff who know the patient (eg. word nurses) account of communication difficulties thearing impairment, dysphasis, lack of			nalysis ± MSU/CSU num culture – if appropriate	
interpreting the score. Adenteess, Altered level of alertness is very likely to be delinken in general ho alertness during the bedialds assessment, score 4 for this item. AMT4 (Abbreviat		Revi	iew medication - anything just started or stopped?	
alertness during the bedaide assessment, score 4 for the item. AMT4 (Abbreviat items in the AMT10 if the latter is done immediately before. Acute Charge or Flac in some cases of dementia, but marked fluctuation usually indicates delinium. To	ed Mental Test - 42: This score can be estracted from hashing Course: Fluctuation can occur without delinium bein added are bellevisioned and an added and the school delinium belle added and the school and the school delinium the school added and the school added and the school delinium the school added and the school added and the school delinium the school added and the school	Lateral Control of Con	isider: CT head, ECG, CXR – cannot do in the hospice	
In some cases or contenting, our manual motulation usuary indicates centrum. To ask the patient questions such as, "Any suc concerned about anything going on he "Have you been seeing or hearing anything unusual?"	reip excr any handchatons and/or paranolo trought see?'; "Do you feel frightaned by anything or anyone?'; 639139186.488.594.584	Addie Open	breneses: KUI Editions (2016), Wip is nature, webric (dag.)/www.iodditions.co.dk/wjdomtru/) [second 26/95210[3], O nies, webrich (dryc) gein on convergention-impedanteed (nature) and (nature) (nature)[4], NEC CKS (2016), Daleisus pr\0.6x atos: og uk/derivant/secondo [second 26/95210], Lohana, Willam, Alvyn, Organia Prychinyz, 2 ^{ed} Edition, Blacker Stackastent (1997), rung at al. Dalimien in deldry addre dingosis, provention and transmers. Na Hee Nared, 2000 (2016), 561-511	website 8 Science: Inc Middee
			eloged by Lacy Baled 26/05/2006. Reviewed by medical team 27/07/2016. Updated 28/07/2016.	

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

Recommendations

- Development of a patient/relative information leaflet about delirium in the palliative care setting
- Further education regarding the Delirium Checklist should help improve staff awareness of this and encourage completion, when appropriate, if a delirium is suspected

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