Increasing the diagnosis of delirium using a rapid screening tool

A rapid screening tool is improving recognition of delirium, according to a study by the National Institute for Health Research (NIHR). The study, summarised in an NIHR Signal, found that the tool was suitable for initial assessment in time-pressured environments.

At least 20% of older people in hospital develop delirium. The condition is treatable but often goes undetected. The consequences of unrecognised delirium are serious and expensive, both for individuals and the NHS.

The 4As – alertness, attention, Abbreviated Mental Test 4, acute change – test (4AT) is a rapid screening tool. Researchers developed it as a result of concerns that any confusion in older people is assumed to be due to dementia. Previous tests were too long and time consuming for use in everyday practice. A “normal” score on the 4AT effectively rules out delirium while an “abnormal” score is reasonably useful for detecting the condition. People who have an abnormal score still need a full assessment to confirm the diagnosis.

The NIHR-funded study had two main components. The first looked at the use of the 4AT in practice; this was done via surveys and interviews with health professionals. It also assessed the incorporation of the test into guideline and policy documents. The second determined the test’s diagnostic accuracy by testing 785 recently admitted patients aged ≥70 years, 9% of whom had a known dementia diagnosis. The participants came from emergency departments or acute general medical wards at three UK sites.

Each patient underwent a reference standard delirium assessment and was randomised to receive an assessment with either the 4AT or the older Confusion Assessment Method (CAM), which takes longer to complete. A score of >3 on the 4AT was considered abnormal and indicated possible delirium (scores on the test range from 0 to 12).

Only 17% of those patients who were eligible to participate consented to do so. This may mean the sample did not truly reflect the target population.

This NIHR-funded study found that the test is easy to use and appears to have been widely adopted in NHS hospitals. It also reinforced the high costs of patients who have delirium to the service.

For high-risk patients and those with sudden-onset confusion, these early results show that the 4AT is a practical tool for initial assessment in time-pressured environments. It will need further testing in other settings. NT

What did the study find?

- The reference standard assessment identified 12% (95 out of 785) of the participants as having delirium
- An abnormal 4AT score (>3) had a specificity of 95% and a sensitivity of 76% for reference-standard delirium, whereas the Confusion Assessment Method was found to have a specificity of 100% and a sensitivity of 40%
- An abnormal 4AT score had a confidence interval of 92% to 97%, a specificity of 100% and a higher mortality rate than those with normal scores (16% versus 9%, respectively)
- The estimated costs of the initial inpatient stay for patients with delirium were more than double the costs for those without delirium; 12-week costs were also higher
- The survey revealed that both staff awareness and the detection of delirium could be improved. Only 20% of respondents reported delirium-detection rates of >80% in their unit. Although 64% of units had guidelines for delirium detection, only 20% reported that these were “almost always/always followed.” In terms of the 4AT, 69% of respondents reported that it was routinely used in their clinical area, and 52% said that they used it frequently

Implications for nursing

The 4As test (4AT), which is shorter than existing full-screening tools, appears helpful when used in the diagnostic pathway for people with suspected delirium. People with abnormal 4AT scores stayed in hospital longer and their treatment was more expensive. However, this study has also highlighted that, until staff awareness is improved and there are clearer lines of responsibility for delirium assessment, the opportunity this test provides for better diagnosis could be missed. It will be just as important to raise the awareness of staff (including nurses) of the need to distinguish between dementia and delirium as it is to train them to use the tool.

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