

Cognitive assessment in the early stages of dementia

Cognitive assessment should be a positive experience for the person being assessed. As well as a route to a diagnosis, it should be able to answer questions that people may have about their cognitive abilities and provide them with an account of their strengths and potential. This will give them the best chance of making the most of their abilities; irrespective of the type or stage of dementia they are facing.

Whilst this paper is focused on assessment, the timely, accurate and sensitive feedback of findings from cognitive assessment is an intervention in itself, with the potential to help both people with cognitive impairment and their families adjust to changes, as well as direct them to the best strategies to enable people to live well with dementia.

Types of cognitive assessment

There is a hierarchy of assessments from short simple tests which can quickly screen for marked cognitive impairment to longer complex neuropsychological assessments which give the most comprehensive indication of a person's cognitive abilities. Every test needs specific training to administer and interpret.

All cognitive tests have strengths and limitations. Tests need to be selected to be good measures of the cognitive abilities affected by dementia, they should be given consistently and carefully, and scored and interpreted correctly. Poor quality assessments are costly for the person with dementia, services, and society.

Good quality basic cognitive assessment

Short screening tests are often in the public domain and may be administered by staff from different disciplines following training. Screening tests, such as the Six Item Cognitive Impairment Test (6-CIT), can typically be carried out by health care professionals such as Practice Nurses or General Practitioners with small amounts of training. More advanced tests such as the Montreal Cognitive Assessment (MoCA) or Addenbrooke's Cognitive Examination (ACE-III) are usually carried out as part of a comprehensive assessment by specialist services. They require higher levels of training and regular supervision and monitoring of standards.

These tests are essential initial assessments, but have limited ability to distinguish between dementia and other causes of poor cognitive performance, or between different forms of dementia.

Cognitive decline can be overestimated in people who have sensory impairments, a limited education, a learning disability, poor physical or mental health, or a different culture and language. Conversely, in a person of very high lifelong intellectual ability change may be underestimated. Accurate classification can be particularly difficult in the early stages of dementia when pressure for a quick diagnosis can lead to error. These cases should be referred to specialist services for an advanced individual cognitive assessment by a Clinical Psychologist or equivalent specialist.

Avoidable errors in the use of these tasks can be reduced by regular training, supervision and audit from experienced Clinical Psychologists. Training should include the technical aspects of test administration, including scoring and interpretation, how to set up the test environment appropriately, how to introduce the test to the individual, and issues relating to informed consent, and the sensitive use of test results.

All users of cognitive tests should demonstrate competence in their use before assessing people for the first time. It is important that competence in administration is maintained, and as such, refresher training may be indicated on an annual basis.

Advanced Assessment

When basic cognitive assessments are inconclusive, people with dementia will need an advanced, hypothesis-driven neuropsychological assessment.

Advanced assessments will use reliable estimates of life long levels of intellectual ability, and a range of up to date assessments of memory, attention, executive function, perception, and language in order to clarify clinical uncertainty. Advanced assessments integrate quantitative and qualitative cognitive information with history, background, and knowledge of physical and mental health to improve validity. Assessments may need to be repeated after a number of months to determine if cognition is changing and to clarify any remaining uncertainties. The specific cognitive tools used need to be suitable for the characteristics of the population being assessed, and subject to peer review.

High quality services

Good services will ensure that basic cognitive assessments are carried out accurately, reliably and validly through effective monitoring by experienced and qualified cognitive assessors. Good services will contain staff capable of conducting advanced cognitive assessments, and clear methods for accessing those assessments appropriately. All staff carrying out cognitive assessments will be aware of the uses and limitations of the tests they use, their own competence regarding which tests to use and when, and when to seek advice and support from experienced colleagues with specific qualifications in advanced neuropsychological assessment.

Good services will be able to monitor the quality of cognitive assessments and make sure that poor quality practice does not result from pressures to increase the number of assessments carried out.

Good services recognise the potential for error in assessing cognitive abilities and actively seek out and correct errors.

Stepped care models need to recognise the differing base rates of dementia in different parts of the health care system, and how this interacts with the results of cognitive assessment. Routine screening for dementia is not recommended, but changes in personality, behaviour, or ability to manage everyday activities, particularly in older people who are at risk of dementia, and particularly in the absence of low mood or poor health, can suggest a developing dementia. Screening tests can be valuable to indicate a need for referral to specialist services, but they have limited accuracy in people with mild impairments, extremes of life long ability, or poor physical or mental health.

Whilst some individuals with mild cognitive complaints can be appropriately reassured without the need for specialist assessment, it is important to recognise that in a small number of cases, assessment of relatively mild complaints may prove very challenging and require the highest level of assessment. There should be clear guidelines to help identify when more comprehensive assessments will add most value to the care of an individual. These guides should not become barriers to accessing services through over rigid application.

Qualifications and Training

Basic screening tests (e.g. 6-CIT): these can be carried out in primary care by qualified health care professionals such as General Practitioners or Practice Nurses with part day training in the basics of test administration and scoring, usually from someone qualified or experienced in cognitive assessment, ideally a clinical psychologist.

Advanced screening tests (e.g. ACE-III; MoCA): this level of assessment should be carried out in more specialist services by qualified healthcare professionals who are experienced in assessing cognition (e.g. Occupational Therapists, Mental Health Nurses), following specific training, usually over a day, and follow up supervision, usually from a clinical psychologist or neuropsychologist. Refresher training should be provided on an annual basis, along with ongoing supervision. It is important that such tests are carried out with sufficient frequency to ensure that competence is developed and maintained.

Advanced Individual Assessment: this level of assessment should be carried out by clinical psychologists or neuropsychologists with appropriate training and experience in the use of neuropsychological tests. The Faculties of the Division of Clinical Psychology of the British Psychological Society set standards for competence in specialist cognitive assessments. Many tests used for complex assessments have restrictions on their use, meaning that only clinical psychologists are able to use them and interpret the results. Clinical psychologists are trained to doctorate level. Clinical Neuropsychologists are clinical psychologists who have carried out additional post-qualification training in neuropsychology.

Supporting evidence

Benefits of cognitive assessment

Cognitive assessments can be useful in detecting dementia at the earlier stages by highlighting deficits in cognitive functioning which may not be observed in daily living. In addition, cognitive assessments are also able to assist in differentiating between types of dementia or from other causes (e.g. mood) as they create a 'cognitive profile' of functioning. These assessments enable clinicians to identify the severity of dementia, to monitor the progression of the disease, provide an informed explanation of the difficulties to the person and their families and advise on the management of their difficulties in everyday life.

Woodford, H.J. & George, J. (2007) *Cognitive assessment in the elderly: a review of clinical methods.* QJM 100, 469-484.

The National Collaborating Centre for Mental Health (2007) A NICE-SCIE Guideline on supporting people with dementia and their carer in health and social care. British Psychological Society and Gaskell

Potential basic cognitive assessments

Toolkits of freely accessible basic assessments are available.

Assessing cognition in older people: a practical toolkit for health professionals. Alzheimer's Society

Ashford, J.W. (2008) *Screening for memory disorders, dementia and Alzheimer's disease. Aging Health, 4, 399- 432.*

Brooke, P. and Bullock, R. (1999), *Validation of a 6 item cognitive impairment test with a view to primary care usage. Int. J. Geriatr. Psychiatry, 14: 936–940.*

Brodsky H, Pond D, Kemp N M. et al *The GPCOG: a new screening test for dementia designed for general practice. J Am Geriatr Soc 2002. 50:530–534.*

Limitations of basic cognitive assessments

Basic assessments may fail to detect the early symptoms of certain types of dementia, such as frontotemporal dementia.

Varma A.R., Snowden J.S., Lloyd JJ et al (1999) *Evaluation of the NINCDS-ADRDA criteria in the differentiation of Alzheimer's disease and frontotemporal dementia. J. Neurol. Neurosurg. Psychiat 66, 184-8*

Cullen, B., O'Neill, B., Evans, J.J., Coen, R.F., Lawlor, B.A. (2007). *A review of screening tests for cognitive impairment. J. Neurol. Neurosurg. Psychiat. 78, 790-79.*

Stoppe, G., Haak, S., Knoblauch, A., & Maeck, L. (2007). *Diagnosis of dementia in primary care: a representative survey of family physicians and neuropsychiatrists in Germany. Dementia and Geriatric Cognitive Disorders, 23, 207-214.*

Strengths of neuropsychological assessments

Neuropsychological assessment, in the early stages of dementia, has been demonstrated to provide a higher level of accuracy than basic screening tests being able to differentiate between people with mild cognitive impairment who remain stable and those who would deteriorate over time.

Dimcovic, N. (2003) Mild Cognitive Impairment (MCI) Age-related decline or an early stage of dementia? PSIGE Newsletter 84, 31- 36.

Diniz, B. S., Nunes, P. V., Yassuda, M. S., Pereira, F. S., Flaks, M. K., Viola, L. F., ... & Forlenza, O. V. (2008) Mild cognitive impairment: cognitive screening or neuropsychological assessment?. Revista Brasileira de Psiquiatria, 30, 316-321.

Lonie, J. A., Parra-Rodriguez, M. A., Tierney, K. M., Herrmann, L. L., Donaghey, C., O'Carroll, R. E., & Ebmeier, K. P. (2010) Predicting outcome in mild cognitive impairment: 4-year follow-up study. British J. Psychiatry, 197, 135-140.

Seo, E. H., Lee, D. Y., Lee, J. H., Choo, I. H., Kim, J. W., Kim, S. G., ... & Woo, J. I. (2010) Total scores of the CERAD neuropsychological assessment battery: validation for mild cognitive impairment and dementia patients with diverse etiologies. Am. J. Geriatr. Psych, 18, 801-809.

Assessment can aid rehabilitation

Neuropsychological assessment can also inform cognitive rehabilitation by capitalising on a person's assessed cognitive strengths

Clare, L. (1999). Intervening with everyday memory problems in early Alzheimer's disease. PSIGE Newsletter 70, 37-42.

Clare, L. & Woods, R.T. (2004). Cognitive training and cognitive rehabilitation for people with early stage Alzheimer's disease: a review. Neuropsychological Rehabilitation: An International Journal, 14 (4) 385-401.

PREPARED ON BEHALF OF THE FACULTY OF THE PSYCHOLOGY OF OLDER PEOPLE OF THE DIVISION OF CLINICAL PSYCHOLOGY OF THE BRITISH PSYCHOLOGICAL SOCIETY BY DANIEL COLLERTON AND RACHEL DOMONE.

Comments please to daniel.collerton@ghnt.nhs.uk or Rachel.Domone@lancashirecare.nhs.uk