Assessment and treatment of dementia in older adults

Overview: Dementia can be caused by many brain disorders, most commonly Alzheimer’s disease (about 50% of cases), vascular dementia (about 25%), dementia with Lewy bodies (about 15%) and frontotemporal dementia (less than 5%, NICE 2010). Mild cognitive impairment is defined as cognitive decline greater than expected for a person’s age and education level that does not interfere notably with activities of daily living. It is not a diagnosis of dementia, although it may lead to dementia in some cases. Early recognition of dementia is difficult because symptoms vary by the type of disease and, to an extent, the personality of the affected person.

The UK government’s recent policy on improving care for people with dementia has committed to improving the diagnosis rates for people with symptoms of dementia. All people aged 65 to 74 years are now given information about memory services as part of the NHS health check programme, and referred for assessment if they need it. A new training tool is available to help GPs provide better support for people with dementia, and the Innovation Challenge Prize for Dementia has been launched to support innovative NHS projects that aim to increase diagnosis rates.

See the NICE Evidence Services topic page on dementias for a general overview of this condition.

Current advice: NICE guidance on dementia recommends that primary healthcare staff should consider referring people who show signs of mild cognitive impairment for assessment by memory assessment services, to aid early identification of dementia. As part of cognitive assessment in people with suspected dementia, formal cognitive testing should be undertaken using a standardised instrument. The Mini Mental State Examination (MMSE) has been frequently used for this purpose, but alternatives are now available, such as the 6-item Cognitive Impairment Test, the General Practitioner Assessment of Cognition and the 7-Minute Screen.

NICE has technology appraisal recommendations on drugs for the treatment of Alzheimer’s disease. Donepezil, galantamine and rivastigmine are recommended as options for managing mild-to-moderate Alzheimer’s disease. Memantine is recommended for severe Alzheimer’s disease, or for moderate Alzheimer’s disease if the patient is intolerant of, or has a contraindication to, the other recommended treatments. The technology appraisal guidance specifies additional conditions for use of these treatments. None of these drugs are recommended or licensed for the treatment of mild cognitive impairment.

The NICE Pathway on dementia brings together all related NICE guidance and associated products on the condition in a set of interactive topic-based diagrams.

New evidence: A systematic review by Lin et al. (2013) assessed the performance, benefits and harms of brief cognitive testing instruments and treatments for mild cognitive impairment or mild-to-moderate dementia in older adults living in the community.
Data from 14 studies (n=10,185) that assessed the MMSE for detection of dementia showed sensitivity of 88.3% (95% confidence interval [CI] 81.3 to 92.9%) and specificity of 86.2% (95% CI 81.8 to 89.7%). Nine other tools – including the 7-Minute Screen – also had acceptable performance, but these results were based on less evidence. A further 7 tools were assessed in 1 study each, including the 6-item Cognitive Impairment Test and the General Practitioner Assessment of Cognition, and had sensitivity and specificity of more than 80%. No trials were found on the benefits of screening, the adverse psychological effects of screening, or false-positive or false-negative test results.

Acetylcholinesterase inhibitors (donepezil, galantamine and rivastigmine; 48 trials, n=18,390) appeared to improve global cognitive function. Most evidence was from trials in people with moderate Alzheimer’s disease and follow-up of 6 months. However, the size of the improvement was small (about 1 to 3 points on the Alzheimer’s Disease Assessment Scale–Cognitive Subscale [ADAS-cog]). The authors noted that these effects may not be clinically meaningful. Memantine also improved global cognitive function in people with moderate dementia (10 trials, n=3015) by 1 to 2 points on ADAS-cog at 6 months. Study withdrawal or discontinuation was more common with acetylcholinesterase inhibitors than with placebo, but memantine discontinuation was similar to placebo. No trials of other drugs or dietary supplements had beneficial effects on cognitive or physical functioning.

Cognitive stimulation with or without cognitive training (6 studies, n=513) seemed to have a modest beneficial effect on global cognitive function at 6–12 months in people with mild cognitive impairment or dementia (standardised effect size=−0.59, 95% CI −0.93 to −0.25). Exercise and multidisciplinary care interventions had no effect on patient outcomes.

The authors concluded that although brief cognitive testing instruments can adequately detect dementia, there is no empirical evidence that screening for or early diagnosis of mild cognitive impairment or dementia improves decision-making or outcomes for patients, caregivers or society.

Commentary: “Early awareness and diagnosis of dementia may improve quality of life and avoid potentially harmful hospital admissions. However, this systematic review suggests that screening for dementia syndrome is not justified by available evidence, when applying the Wilson and Jungner criteria for screening and the definition of screening from the UK National Screening Committee. Specifically, the review concludes that few brief cognitive function tests with good performance are available for use in primary care, the exception being the MMSE, which has the longest administration time and is not free for public use.

“There are no experimental studies to refute or confirm harms of screening, and little evidence to suggest that earlier diagnosis affects clinician, patient or family decision-making. Medical treatments produce small changes in cognitive function in some people with dementia, but at the population level their clinical benefits are probably negligible. Complex non-pharmacological interventions can have small beneficial effects for patients or carers, with cognitive stimulation and exercise showing promise, but the availability of such complex interventions is limited.

“We need to understand the true balance of benefits and harms of dementia screening, especially given the small, uncertain benefits seen on continuous measures of cognitive function or carer burden. Screening programmes should not be introduced until we have measured their benefits and harms, and know more about the impact of therapeutics.” – Professor Steve Iliffe, Professor of Primary Care for Older People, University College London

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