The use of the Addenbrooke’s Cognitive Examination in a community memory clinic

Early diagnosis of dementia enables early intervention and gives people the opportunity to make choices and plan for their future. Such an early diagnosis requires accurate assessment. A clinical assessment in people with suspected dementia in a memory clinic setting should include a clinical interview of the patient and their next of kin, a physical and neurological examination, cognitive assessment with appropriate cognitive tests, blood investigations, ECG (electrocardiography), and brain imaging.

It can be difficult to find a cognitive test which can identify cognitive impairment as well as provide information on the most likely aetiology. This is because most screening tests have been validated in particular subtypes of dementia. At a later stage their sensitivity and specificity statistics were calculated against normal controls rather than against different causes of dementia (Cullen et al., 2007).

Our aim is to assess the usefulness of the ACE-R (Addenbrooke’s Cognitive Examination – revised) in a community memory clinic.

The Addenbrooke’s Cognitive Examination (ACE; Mathuranath et al., 2000) was developed to provide a brief test sensitive to the early stages of dementia and, at a later stage, its revised version was validated with different diagnoses (Mioshi et al., 2006). Mioshi et al. (2006) found that a cut-off score of 82 is 100 times more likely to come from a patient with dementia than one without. There is a lack of studies in the literature with larger samples reporting the use of the ACE-R in a community memory clinic.

Two-hundred and six consecutive patients attending a community memory clinic based in Cynon Valley Hospital, South Wales between 2010 and 2012 were examined retrospectively for three parameters: clinical diagnosis, ACE-R results, and radiological brain scan findings. The radiological scanning included brain CT (computed tomography), MRI (magnetic resonance imaging), and SPECT (single photon emission computed tomography) scanning. For the diagnosis of mild cognitive impairment (MCI), Alzheimer’s disease (AD), neurovascular dementia (VaD), frontotemporal dementia (FTD), and Lewy bodies dementia (DLB), international criteria were used (McKhann et al., 1984; Roman et al., 1993; Petersen et al., 1997; Neary et al., 1988; McKeith et al., 2005). Our community memory team consists of a consultant psychiatrist, a middle grade doctor, a second-year trainee doctor, a clinical psychologist, and a clinical nurse specialist. We also can refer to other members of the community mental health team including occupational therapists, community psychiatric nurses, and social workers. Feedback and discussion of the final clinical diagnosis and management plan were given to patients and their next of kin as soon as all clinical and investigation results became available. The radiological findings were divided as the following: normal, showing vascular brain insult, showing temporal lobe atrophy, or mixed pathology. The ACE-R results were categorized as normal, MCI, suspect AD, suspect VaD, or suspect FTD (see Table S1, available as supplementary material attached to the electronic version of this paper at www.journals.cambridge.org/jid_IPG). We have tested the ACE-R diagnostic accuracy against the clinical diagnostic standard criteria by calculating the diagnostic odds ratio (OR), 95% confidence interval, sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and likelihood ratio (LR+). All p-values were calculated using the two-tailed Fisher Exact test.

The average age of the sample was 75.3 years (SD = 9.2; range = 45–99 years). The mean ACE-R score was 66 out of 100 (SD = 15.9; range = 23–96) and the mean years in education were 9.7 years (SD = 1.63). The most common diagnoses were AD (37%), vascular dementia (22%), and mixed dementia (14%) with an average duration of cognitive impairment from onset of reported symptoms of 28 months (SD = 15.1). We observed that the older the patient the more likely they were to suffer dementia; however, the clinical diagnosis did not differ by age, F(1,163) = 0.725, p = 0.396. More than half (55%) of the patients were female (N = 113). The clinical diagnosis did not differ by gender, X² (1, N = 206) = 1.942, p = 0.163 or by social class, F(1,163) = 0.707, p = 0.402 or years in education, F(1,163) = 0.007, p = 0.935. Pearson correlation showed that the clinical diagnosis correlated with the ACE-R, r (204) = 0.621, p = 0.000; and with radiological findings, r (195) = 0.585, p = 0.000, i.e. there is a close relationship between the results and the clinical diagnosis. Multiple regression analysis showed a significant association between the clinical diagnosis and the ACE-R, β = 0.621,
Conflict of interest

None.

References


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Induction of salivary nerve growth factor by Yogic breathing: a randomized controlled trial

Nerve growth factor (NGF), a trophic factor involved in the development, maintenance, and