Addenbrooke’s Cognitive Examination - Revised in day-to-day clinical practice

SIR—We read with interest the research letter by Larner about the clinical utility of the Addenbrooke’s Cognitive Examination-Revised (ACE-R) [1]. In this study, we presume that the ACE-R was compared to a comprehensive clinical evaluation (a history, physical and cognitive examination plus pertinent investigations) performed by a clinician blinded to the test score. The results obtained make us question the clinical application of this tool. Despite choosing a modified cut-off point of 75/100 it was significantly worse than the comparator assessment with the sensitivity and specificity to detect dementia being just 91%. In addition, the ACE-R would be unable to accurately define the subtype of dementia. Even its ability to distinguish Alzheimer’s from frontotemporal dementia is questionable [2]. Clearly, it could not be used in place of a comprehensive assessment. So it appears to add no additional information in this situation and therefore, it could be argued, represents 15 min of time that could be better used elsewhere.

Perhaps, its clinical utility should be in screening for cognitive impairment when performed by non-specialists prior to referral for further assessment? However, in a survey the most common reason given for clinicians not using the shorter Mini-Mental State Examination was the time taken to perform it (typically around 8 min) [3]. This suggests that the ACE-R, taking twice as long to perform, would have a poor acceptance among non-specialists in screening for cognitive impairment where a large number of far briefer tools are available [4]. Maybe it would be best reserved for patients who self-report or whose family/carers report cognitive change yet they score well on briefer assessment tools. In addition, its ability to distinguish Alzheimer’s from frontotemporal dementia is questionable [2]. It could also be argued that the ACE-R was compared to a comprehensive clinical evaluation (a history, physical and cognitive examination plus pertinent investigations) performed by a clinician blinded to the test score. The results obtained make us question the clinical application of this tool. Despite choosing a modified cut-off point of 75/100 it was significantly worse than the comparator assessment with the sensitivity and specificity to detect dementia being just 91%. In addition, the ACE-R would be unable to accurately define the subtype of dementia. Even its ability to distinguish Alzheimer’s from frontotemporal dementia is questionable [2]. Clearly, it could not be used in place of a comprehensive assessment. So it appears to add no additional information in this situation and therefore, it could be argued, represents 15 min of time that could be better used elsewhere.

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Reply

SIR—I thank Drs Woodford and George for their comments. Their surmise that ACE-R was compared to clinical diagnostic criteria is correct, hence, the test could not do better than the chosen ‘gold standard’.

An ACE-R sub-score has been reported to be able to distinguish Alzheimer’s disease (AD) and frontotemporal dementia (FTD) [1], but I did not examine this. Certainly, I share reservations about the utility of the ACE sub-score for this differentiation of dementia sub-type (low sensitivity for diagnosis of FTD [2]), although a recent review noted that certain ACE sub-tests discriminated well between AD and FTD [3].

As theoretically motivated developments of the Mini-Mental State Examination, aiming to address the shortcomings of the latter in tests of memory, visuo-spatial and executive function, the ACE and ACE-R inevitably take longer to administer. A recent review of screening tests for cognitive impairment found ACE-R to score highly for both validity and content [4].

Hence, I would see ACE-R as most appropriately deployed in specialist (secondary/tertiary) clinics, not as a stand-alone test but as one aspect, namely cognitive assessment, of a comprehensive evaluation also encompassing clinical, behavioural and functional features, supplemented by informant report and neuroimaging.

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