Clinical Utility of the Informant AD8 as a Dementia Case Finding Instrument in Primary Healthcare

Qun Lin Chan\(^b, h\), Xin Xu\(^b, h\), Muhammad Amin Shaik\(^a, b\), Steven Shih Tze Chong\(^c\), Richard For Yeong Hui\(^c\), Christopher Li-Hsian Chan\(^a, b\) and YanHong Dong\(^a, b, d, *\)

\(^a\)Department of Pharmacology, National University of Singapore, Clinical Research Centre, Singapore
\(^b\)Memory Aging and Cognition Centre, National University Health System, Singapore
\(^c\)NHG Polyclinics, National Healthcare Group, Singapore
\(^d\)Centre for Healthy Brain Ageing (CHeBA) and Dementia Collaborative Research Centre – Assessment and Better Care, School of Psychiatry, UNSW Medicine, The University of New South Wales, Australia

Accepted 4 August 2015

Abstract. The informant AD8 has excellent discriminant ability for dementia case finding in tertiary healthcare settings. However, its clinical utility for dementia case finding at the forefront of dementia management, primary healthcare, is unknown. Therefore, we recruited participants from two primary healthcare centers in Singapore and measured their performance on the Mini-Mental State Examination (MMSE), Montreal Cognitive Assessment (MoCA), Clinical Dementia Rating (CDR), and a local formal neuropsychological battery, in addition to the AD8. Logistic regression was conducted to examine the associations between demographic factors and dementia. Area under the receiver operating characteristics (ROC) curve analysis was used to establish the optimal cut-off points for dementia case finding. Of the 309 participants recruited, 243 (78.7%) had CDR = 0, 22 (7.1%) CDR = 0.5, and 44 (14.2%) CDR \(\geq 1\). Age was strongly associated with dementia, and the optimal age for dementia case finding in primary healthcare settings was \(\geq 75\) years. In this age group, the AD8 has excellent dementia case finding capability and was superior to the MMSE and equivalent to the MoCA [AD8 AUC (95% CI): 0.95 (0.91–0.99), cut-off: \(\geq 3\), sensitivity: 0.90, specificity: 0.88, PPV: 0.79, NPV: 0.94; MMSE AUC (95% CI): 0.87 (0.79–0.94), \(p = 0.04\); MoCA AUC (95% CI): 0.88 (0.82–0.95), \(p = 0.06\)]. In conclusion, the AD8 is well suited for dementia case finding in primary healthcare settings.

Keywords: AD8, case finding, dementia, primary healthcare

INTRODUCTION

Dementia causes major disability in older adults and is a global public health burden. The number of elderly having dementia is projected to increase from 35.6 million in 2010 to 66 million in 2030 and 115 million in 2050 [1]. Case finding for dementia remains a major challenge for primary healthcare providers, as over half of elderly patients who met the criteria of dementia remained unrecognized [2, 3]. Case finding refers to opportunistic screening of individuals with higher risk of developing a particular disease in a clinical setting [4], and it is the recommended approach to screen for dementia, especially in primary healthcare settings [5]. Previous studies have reported that the problem of under-diagnosis in primary care is not from a lack of diagnostic skills, but rather the interaction of case-complexity, pressure on time, and the negative effects of reimbursement systems [6–10]. Commonly used performance-based cognitive screening measures such as the Mini-Mental State Examination (MMSE) [11]...