Brief Report

The Combined Utility of a Brief Functional Measure and Performance-Based Screening Test for Case Finding of Cognitive Impairment in Primary Healthcare

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Abstract

Background: Use of a total risk score (TRS) based on vascular and sociodemographic risk factors has been recommended to identify patients at risk of cognitive impairment. Moreover, combining screening tests has been reported to improve positive predictive values (PPV) for case finding of cognitive impairment.

Objective: We investigated the utility of the conjunctive combination of the informant-based AD8 and the performance-based National Institute of Neurological Disorders and Stroke-Canadian Stroke Network (NINDS-CSN) 5-minute protocol for the detection of cognitive impairment, defined by a clinical dementia rating (CDR) score ≥0.5, in patients at risk of cognitive impairment (TRS ≥3).

Methods: Participants were recruited from 2 primary healthcare centers in Singapore and received the AD8, Montreal Cognitive Assessment, Mini-Mental State Examination, CDR, and a formal neuropsychological test battery. The scores for NINDS-CSN 5-minute protocol were extracted from the Montreal Cognitive Assessment items. Area under the receiver operating characteristics curve analyses were conducted to determine the discriminant indices of the screening instruments, the conjunctive combination (ie, screened positive on both tests), and the compensatory combination (ie, screened positive in either of or both tests).

Results: A total of 309 participants were recruited of whom 78.7% (n = 243) had CDR = 0 and 21.3% (n = 66) had CDR ≥0.5. The conjunctive combination of AD8 and NINDS-CSN 5-minute protocol achieved excellent PPV and acceptable sensitivity (PPV 91.7%, sensitivity 73.3%).

Conclusions: The conjunctive combination of the AD8 and NINDS-CSN 5-minute protocol is brief and accurate, and hence, suitable for case finding of cognitive impairment (CDR ≥0.5) in patients screened positive on the TRS in primary healthcare centers.

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