

Functional assessment of cognitively impaired older adults: are we asking the right questions?

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Background

Recent attention has turned to the development of preventative treatments for Alzheimer's disease (AD) by targeting the early stages of impairment. However, current neuropsychological and functional assessments are not ideally suited to identify early deviations from healthy ageing (HA). The Details of Functions of Everyday Life (DoFEL; Parra & Kaplan, 2019) is a theory-driven scale that incorporates cognitive constructs sensitive to the preclinical stages of dementia (memory binding). The DoFEL can help assess the extent to which instrumental functions of daily living are supported by such cognitive abilities and if so, whether by asking the right questions through such a scale we could unveil subtle and still undetected impairments. We predict this would increase the sensitivity of scales to detect older adults with cognitive impairment who are at a high risk of dementia.

Twenty-five MCI and 21 HA controls, as determined by ACE-R scores ≥ 88 , underwent extensive neuropsychological assessment followed by annual follow-up assessments.

Results

There were 5 key findings in this study.

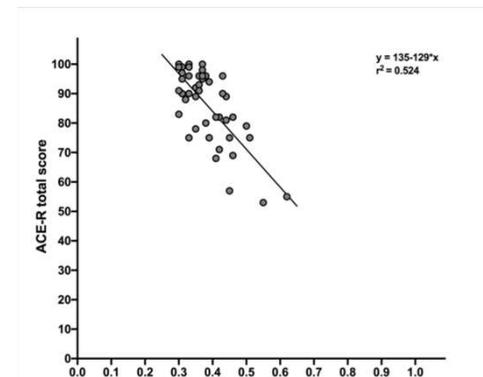
1: The DoFEL is capable of differentiating MCI from healthy ageing with regards to overall functional performance.

2: Individuals with MCI showed domain-specific impairments on DoFEL.

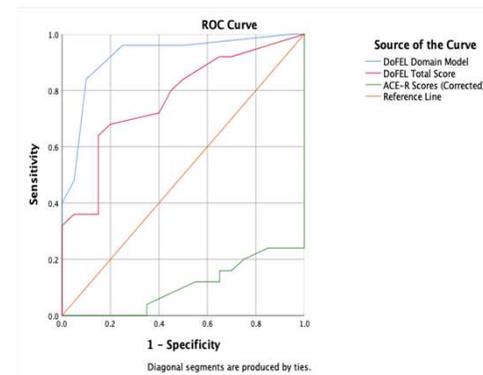
3: Relative to HA, MCI patients presented with impaired functional abilities that rely on relational (i.e., forming associations, $p=0.001$) and conjunctive (i.e., forming object identity, $p=0.004$).

4: Functional performance on the DoFEL correlates with, and predicts, cognitive performance on the ACE-R.

5: The DoFEL appears to be more sensitive to MCI specific pathology when compared to the ACE-R; particularly a model constituting of the *Shopping and Money*, and *Domestic Chores* domains.



Functional performance on the DoFEL predicts cognitive performance on the ACE-R.



The DoFEL model has an outstanding ability to distinguish between individuals with MCI and the healthy aged.

Conclusion

The DoFEL can detect differences between individuals with MCI and HA in overall and specific functional abilities seemingly supported by binding functions and therefore may be a useful tool to identify individuals at risk of developing AD.

This research has been approved by the Ethics Panel from the University of Edinburgh. The authors report no conflicts of interest.