The Brief International Cognitive Assessment for Multiple Sclerosis (BICAMS): First Consensus Steps Towards a Brief Universal Cognitive Assessment for MS

ABSTRACT

Objectives: To recommend a brief cognitive assessment for multiple sclerosis (MS) that is optimized for centers with one or few staff members who may not have neurobehavioral training, and for which the operational assessment will be conducted by maximally inter-rater illness, although, in the first instance, suitability may only be established on a limited scale.

Background: Cognitive impairment in MS has a negative impact on many patients at all disease stages and in all subtypes. Full cognitive assessment in clinical settings is expensive and time consuming. Test sets and protocols are not available for all languages and cultures.

Design: A panel of expert members representing the main cultural groups that have contributed data about cognitive dysfunction in MS was convened. A scientific criterion framework was presented for evaluating the investigatory cognitive dysfunction in MS. Papers were selected to cover a broad spectrum of cultures and scales that targeted cognitive domains vulnerable to MS. Each was read by two committee members and each scale rated on psychometric qualities (reliability, validity, and sensitivity), international applications, ease of administration, feasibility in the specified context, and acceptability to patients. The ratings of the other scales were collated and presented to the committee for discussion.

Results: The committee recommended the Symbol Digit Modality Test, only 5 minutes available, with the addition of the California Verbal Learning Test—Second Edition (first five recall trials) and the Brief Visuospatial Memory Test—Revised (first recall trials), if a 10-minute block could also be allowed for testing.

Conclusions: A brief cognitive assessment for MS has been recommended. A validation metric is in preparation for language groups and it is anticipated that validation studies will follow.

Introduction and Rationale

MS is an inflammatory central nervous system disease which damages myelin and axons. A wide range of impairments can occur in both the physical and cognitive domains.

Cognitive impairment is an important determinant of employment status and associated societal costs, and also adversely affects driving, household tasks completion, physical independence, rehabilitation progress, coping, treatment adherence, and mental health.3

Cognitive impairments are common in MS, with reported prevalence rates between 45% and 70%.5 They can be seen at all stages of the disease, including during remission. Clinically isolated syndrome (CIS) and early-relapsing-remitting MS (RRMS).

Cognition is a complex network of neurophysiological functions that are not necessarily linear or independent. Clinically isolated syndrome (CIS) and early-relapsing-remitting MS (RRMS).

Cognitive impairment is highly relevant to vocational interventions, and determination of disability.

A computerized version of the Symbol Digit Modality Test, which has equal psychometric validity to the PASAT.16

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Future Work

The BICAMS committee is developing an international validation study that will be completed in 15 minutes. It will be optimized for centers with one or few staff members who may not have neurobehavioral training, and for which the operational assessment will be conducted by maximally inter-rater illness, although, in the first instance, suitability may only be established on a limited scale.