

Screening Tools for Mild Cognitive Impairment not Associated With Dementia: A Review

Context

Mild cognitive impairment (MCI) is a condition in which patients present with subtle cognitive changes. MCI can be due to dementia, such as Alzheimer disease, or MCI can be due to other causes such as fetal alcohol exposure, acquired brain injury, learning disabilities, or slow processing speed. Depending on the cause, patients with MCI may regain cognitive function, remain stable, or progress to dementia.

Technology

Several MCI screening tools are available. Comprehensive tools measure all important aspects of cognitive function, such as memory, language, visuospatial and perceptual processing, attention, and executive function. Non-comprehensive tools measure only a limited number of domains, such as memory. Tools in current use include Addenbrookes Cognitive Examination Revised (ACE-R) and Montreal Cognitive Assessment (MoCA), which are comprehensive tools; DemTect test and Memory Alteration Test (M@T), which are non-comprehensive tools; and Quick mild cognitive impairment (Qmci) and Quick Cognitive Screening Test (QCST), which can be administered in a short time.

Issue

Most screening tools for MCI focus on patients with Alzheimer disease or other forms of dementia and may not be sensitive to MCI patients whose conditions are caused by other factors. A review of the evidence on screening tools to identify MCI not associated with dementia will help to inform screening approaches.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

- **There is no consensus on the most accurate screening tool for MCI not associated with dementia.**
- ACE-R and MoCA accurately differentiate MCI from normal controls but their ability to distinguish MCI from early Alzheimer dementia was not examined.
- DemTect and M@T differentiate MCI from normal controls. M@T, but not DemTect, can differentiate MCI from Alzheimer disease with high accuracy.
- Qmci and QCST have the ability to differentiate between MCI and normal controls and between MCI and mild Alzheimer dementia.

Results

The literature search identified 708 citations, with 14 additional articles identified from other sources. Of these, 39 were deemed potentially relevant and 4 met the criteria for inclusion in this review — 1 systematic review and 3 non-randomized studies.

DISCLAIMER: The information in this Report in Brief is intended to help health care decision-makers, patients, health care professionals, health systems leaders, and policy-makers make well-informed decisions and thereby improve the quality of health care services. The information in this Report in Brief should not be used as a substitute for the application of clinical judgment in respect of the care of a particular patient or other professional judgment in any decision-making process nor is it intended to replace professional medical advice. While CADTH has taken care in the preparation of the Report in Brief to ensure that its contents are accurate, complete, and up-to-date, CADTH does not make any guarantee to that effect. CADTH is not responsible for any errors or omissions or injury, loss, or damage arising from or as a result of the use (or misuse) of any information contained in or implied by the information in this Report in Brief.

CADTH takes sole responsibility for the final form and content of this Report in Brief. The statements, conclusions, and views expressed herein do not necessarily represent the view of Health Canada or any provincial or territorial government. Production of this Report in Brief is made possible through a financial contribution from Health Canada.