

Authors' objectives
To determine whether screening different groups of elderly individuals in a general or speciality practice would be beneficial in detecting dementia.

Searching
MEDLINE, EMBASE, Current Contents, Psychological Abstracts, PsycINFO, the Cochrane Library and CINAHL were searched. The key search terms were listed in the review. Reviews published from 1994 to November 1999 and their bibliographies were also examined.

Study selection
Study designs of evaluations included in the review
Longitudinal studies that followed the participants to detect cognitive impairment from 1991 to 2000 were eligible for inclusion in the review. Of the included studies, 5 were randomised controlled trials, 9 were observational studies with concurrent controls and 10 were studies with historical controls, or uncontrolled studies.

Specific interventions included in the review
The review paper did not clearly state any inclusion criteria for interventions to be included in the review. From the included studies, it appears that all screening instruments used to detect dementia or cognitive impairment were eligible for inclusion. The instruments used in the included studies were: Mini-Mental State Examination (MMSE); Short Test of Mental Status, 7-minute screen; Memory Impairment Score; clock drawing and time change tests; neuropsychologic battery; Mattis Rating Scale; Halifax Mental Status Scale; Fuld Object Memory Test; IQCODE; clinical dementia rating; and Blessed Roth Scale.

Reference standard test against which the new test was compared
The review did not specify any inclusion criteria for the reference standard. The review stated that the included studies mostly used an independent standard for dementia, but this was not defined clearly.

Participants included in the review
Mildly cognitively impaired patients were included.

Outcomes assessed in the review
The outcomes were not specified as inclusion criteria for the review. The main outcome was the diagnosis of dementia. The outcomes were reported by general cognitive screening instruments, brief focused screening instruments, neuropsychologic batteries, or informant-based instruments.

How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the reviewers performed the selection.

Assessment of study quality
A validity assessment was not conducted but each study was assigned a level of evidence class: level I, II or III. The (standard) definitions were given in the review. The authors do not state how the papers were assessed for validity, or how many of the reviewers performed the validity assessment.
Data extraction
The articles were reviewed by at least two individuals and selected items were coded onto a data extraction form. Evidence tables were developed for all articles. These tables indicated the author and year of the study, the level of evidence, the main purpose of the study, population, intervention, outcome measure and result.

Methods of synthesis
How were the studies combined?
The study findings were combined in a narrative review and the overall results distilled into a practice recommendation. This practice recommendation was classified as a standard, a guideline or an option, depending on the strength of evidence upon which it was based.

How were differences between studies investigated?
Within the narrative review, the studies were grouped by question 1 or 2, and within question 2 by the type of screening instrument (general cognitive, brief focused, neuropsychologic batteries, or informant-based).

Results of the review
A total of 74 papers were included in the review. The review addressed two questions: (1) Does the presence of mild cognitive impairment predict the development of dementia?; (2) Does screening at-risk patients with a specific instrument in a specific setting accurately lead to the diagnosis of dementia? Twenty-four studies (n=14,653) were listed as addressing question 2. It was unclear how many of the included studies related to question 1, but it appears to be far fewer than the 50 that can be calculated using simple arithmetic.

Does the presence of mild cognitive impairment predict the development of dementia?
Practice recommendation: patients with mild cognitive impairment should be recognised and monitored for cognitive and functional decline due to their increased risk for subsequent dementia (guideline).

Does screening at-risk patients with a specific instrument in a specific setting accurately lead to the diagnosis of dementia?
Practice recommendation for general cognitive screening instruments (11 studies; 3 level I, 2 level II): cognitive screening instruments (e.g. MMSE) should be considered for the detection of dementia in individuals with suspected cognitive impairment (guideline).

Practice recommendation for brief focused screening instruments (4 studies; 1 level I, 2 level II): brief focused screening instruments that focus on limited aspects of cognitive function (i.e. clock drawing test, time and change test) may be considered when screening patients for dementia (option).

Practice recommendation for neuropsychologic batteries (6 studies; 4 level II, 2 level III): neuropsychologic batteries should be considered useful in identifying patients with dementia, particularly when administered to a population at increased risk of cognitive impairment (guideline).

Practice recommendation for informant-based instruments (3 studies; 1 level I, 1 level II): interview-based techniques may be considered in identifying patients with dementia, particularly in a population at increased risk for cognitive impairment (option).

Authors' conclusions
The authors' conclusions were reflected in the practice recommendations.

CRD commentary
This review addressed appropriate questions in relation to screening for dementia. The inclusion criteria, although partially stated, were not very clear, particularly in relation to the different questions in the review. The literature
search was adequately extensive and was supplemented by handsearches; it is therefore probable that all relevant studies will have been identified. There were few details of the conduct of the review so any reviewer bias, for example, cannot be assessed. The quality assessment of the included studies was limited to classifying studies into levels of evidence. This classification was used appropriately to support the conclusions drawn by the reviewers. No quality assessment of the diagnostic accuracy studies was presented, nor were adequate details given (particularly, study design and 'gold' standard), so the reader is unable to evaluate them in terms of the biases to which each may be susceptible. Some details of studies relating to specific screening instruments were presented in the review; papers relevant to question 1 were poorly presented.

When interpreting the authors' recommendations the limitations of the review should be borne in mind.

**Implications of the review for practice and research**

Practice: The authors state the following practice recommendations. 1. Patients with mild cognitive impairment should be recognised and monitored for cognitive and functional decline due to their increased risk for subsequent dementia (guideline). 2. General cognitive screening instruments (e.g. MMSE) should be considered for the detection of dementia in individuals with suspected cognitive impairment (guideline). 3. Brief focused screening instruments that focus on limited aspects of cognitive function (i.e. clock drawing test, time and change test) may be considered when screening patients for dementia (option). 4. Neuropsychologic batteries should be considered useful in identifying patients with dementia, particularly when administered to a population at increased risk of cognitive impairment (guideline). 5. Interview-based techniques may be considered in identifying patients with dementia, particularly in a population at increased risk for cognitive impairment (option).

Research: The authors state that 'Additional studies are needed to allow the clinician to differentiate among the screening instruments'.

**Bibliographic details**


**PubMedID**

11342677

**Indexing Status**

Subject indexing assigned by NLM

**MeSH**

Aged; Aged, 80 and over; Cognition Disorders /diagnosis; Dementia /diagnosis; Humans; Mass Screening; Neuropsychological Tests; Time Factors

**AccessionNumber**

12001001239

**Date bibliographic record published**

31/03/2003

**Date abstract record published**

31/03/2003

**Record Status**

This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.