Screening for Dementia in Primary Care: Who, When and How

Family physicians must be able to identify patients suspected of this condition, which affects 8% of Canadians over the age of 65. Because screening this entire population is neither practical nor prudent, it is important to establish guidelines regarding who should be screened and how that screening should be implemented.

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Recent studies indicate that 8% of Canadians over age of 65 suffer from dementia.[1] Family physicians commonly are faced with the challenge of identifying those in their practices who may suffer from this condition. Despite heavy practice demands, identifying as many patients as possible who are at risk for this devastating illness is paramount for many reasons, such as the need for the patient and caregivers to plan for future decompensation and the availability of medications with the potential to at least slow the progression of the symptoms of the disease. However, in busy primary care settings, many physicians struggle with limited time, and with how to approach screening those in their practices.[2]

This article will discuss the advantages and disadvantages of screening for dementia, and the current Canadian recommendations for screening to identify dementia and cognitive impairment. On the practical side, it will help clinicians identify those patients in their practices who would benefit most from screening, and provide suggestions about using family members and informants effectively to monitor changes in patients' day-to-day functioning.

What is Screening?

Screening refers to applying a technique to detect a specific condition in an entire population at risk. In dementia, this might correspond to screening the entire population of older adults. Short cognitive questionnaires, such as the Folstein Mini-Mental State Examination (MMSE)[3], commonly are used to screen for dementia.[2] The MMSE has been well-studied, normed for age and educational level, is widely used by clinicians and is taught in almost all medical school curricula.[4] It has an average 83% sensitivity for detecting dementia, and an 82% specificity.[5] Reviews of the performance of other screening tests reveal similar results.[2]

Screening for Dementia *versus* Cognitive Impairment?

The process of screening for the presence of dementia, described above, must be distinguished from that of screening for the presence of cognitive impairment. Not all patients with cognitive impairment will progress to full-blown dementia. There is a group of individuals who demonstrate evidence of impairment in cognitive testing, but do not show corresponding functional impairment in daily activities. This condition has become known as cognitive impairment, not demented (CIND). Individuals with CIND screen positively on short mental status questionnaires, but do not qualify for a diagnosis of dementia. The significance of a positive finding of CIND is unknown, and the proportion of patients with CIND who eventually progress to dementia has not been firmly established. This adds a further element of complexity to the issue of screening, and emphasizes the importance of using screening data in conjunction with clinical history and knowledge of the patient's daily functioning.[2]

To Screen or Not to Screen?

It often is assumed that the earlier a condition is detected, the better. However, screening is most effective when an illness is relatively common and carries serious implications for morbidity or mortality. In the absence of these circumstances, screening may lead to an unacceptably high number of false positive results. Before endeavouring to screen all older patients, we must weigh the advantages and disadvantages of screening.

There are many potential advantages of screening for dementia. Early detection offers the opportunity to perform investigations to rule out reversible causes and attempt to determine the etiology of the memory impairment. Early diagnosis may allow the patient to maintain maximal autonomy by designating powers of attorney and discussing wishes for important future decisions with caregivers. Early use of cholinesterase inhibitors has been advocated because of their potential to offer greatest benefit to patients with mild to moderate Alzheimer's disease (AD).[6] The possibility of starting other anti-dementia therapies, such as Ginkgo biloba and Vitamin E, at the time of diagnosis has been suggested, but remains controversial.[6]

Disadvantages of screening include those associated with false positives and the risks of labeling an individual with dementia. Although cognitive screening tests, such as the MMSE, demonstrate acceptable values for sensitivity and specificity, calculations reveal that if the test were applied to everyone in the population aged 65 to 74 years (a population in which the prevalence of dementia is relatively low), the false positive rate would be 93%.[6] A second argument raised against screening is that, despite the contribution of new medications to symptom control, those currently available do not allow for the possibility of ultimate cure.[6]

Table 1

Screening Recommendations From the Canadian Consensus Conference on Dementia

- There is insufficient evidence to recommend for or against screening for cognitive impairment in the absence of symptoms of dementia.
- There is insufficient evidence to recommend for or against screening or case-finding for dementia with short mental status questionnaires in unselected older people.
- Given the burden of dementia for older people and their caregivers, it is important for the family physician to maintain a high index of suspicion for dementia and to follow up concerns about, and observations of, functional decline and memory loss.
- When caregivers or informants describe cognitive decline in an individual, these observations should be taken very seriously; cognitive assessment and careful follow-up are indicated.

Conclusions from the Canadian Consensus Conference on Dementia.

There is a group of individuals who demonstrate evidence of impairment in cognitive testing, but do not show corresponding functional impairment in daily activities.

Table 2

Behavioral "Flags" Signifying the Possible Presence of Dementia in Office Patients

- Failure to appear for appointments, or coming on the wrong day
- Inattention to appearance or inappropriate dress, particularly if this represents a change from usual habits
- Difficulty discussing current events in an area of interest
- Patient is a "poor historian" or "seems odd"
- Repeated and apparently unintentional failure to follow instructions (*e.g.* with medications)
- Unexplained weight loss or "failure to thrive"
- Vague symptoms, such as weakness or dizziness
- Inability to adapt to new situations (*e.g.* hospitalization, illness or death of a spouse)
- Deferral to a caregiver to answer questions directed to the patient

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Table 3

Screening Questions for Family Members or Caregivers

- Does the patient repeat or ask the same thing over and over?
- Does the patient have problems remembering appointments, family occasions or holidays?
- Does the patient have problems writing checks, paying bills, balancing the checkbook?
- Does the patient have problems deciding which groceries or clothes to buy?
- Does the patient have problems taking medications according to instructions?

Each question should be answered as "Not at all" (0 points), "Mild" (1 point), or "Severe" (2 points). Any score over 3 should prompt more detailed investigation of cognitive impairment.

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Who to Screen?

The Canadian Consensus Conference on Dementia recently undertook the task of reviewing the literature on screening while preparing to make recommendations to practitioners regarding the clinical management of dementing disorders (Table 1).[6] After weighing the advantages and disadvantages of screening, and the role of screening tests, these guidelines do not recommend screening using short mental status questionnaires like the MMSE routinely in all older patients. At this time, there is insufficient evidence to recommend screening unselected older patients for cognitive impairment or dementia. These guidelines suggest that practitioners should increase the accuracy of screening, and the predictive value of positive test results, by selecting suspected dementia patients in their practices for screening.

When to Screen?

The Canadian Consensus Conference guidelines recommend screening; 1) once memory complaints begin or 2) when a change in functioning is noticed by the patient, caregivers or physician. Although it is important that physicians attend to and investigate subjective memory complaints, it should be noted that the literature about the accuracy for these complaints in predicting subsequent dementia is mixed.[2]

Identifying Patients in Need of Screening

Physicians' clinical observations play a key role in determining which patients should be screened. Physicians are more likely to identify cognitive deficits in patients they see frequently.[7] During office visits, the behavioral "flags" listed in Table 2 may trigger the clinician to consider the presence of cognitive impairment and initiate screening. Nurses, receptionists and other office staff who are familiar with these behavioral clues also may help to identify patients at risk.

Family-member or caregiver questionnaires use the informant's knowledge of the patient's day-to-day functioning to detect changes in cognitive status. Functional impairment in activities of daily living is strongly correlated with presence of dementia. Studies indicate that family members or others who interact frequently with the patient can accurately assess change in their relatives, and direct comparisons have demonstrated that informant questionnaires perform at least as well as

formal cognitive testing in identifying cases of dementia.[8] Although many clinicians are concerned about breaching confidentiality by speaking to informants, this research indicates that such information is extremely useful. The Canadian Consensus Conference guidelines clearly endorse clinicians availing themselves of any information that is offered by such informants while stopping short of providing information in return without the patient's consent.

There are many different ways to utilize information from caregivers. Specific questionnaires, such as the one in Table 3, have been developed. These focus on functional activities, and may be given to caregivers in oral or written form. A related approach is to ask family members or caregivers about any changes in the patient's abilities in each of four key functional areas. These areas include:

- use of the telephone;
- driving ability or use of transportation;
- ability to manage finances; and
- ability to handle medications.

A change in ability in any one of these areas may increase the practitioner's index of suspicion for the presence of a dementing process.[9]

To increase accuracy, screening should be targeted towards individuals in whom the clinician has reason to suspect memory or functional impairment.

Summary

Given the above issues, the use of short cognitive questionnaires or other means to screen for dementia has not been recommended for an unselected population of older people. To increase accuracy, screening should be targeted towards individuals in whom the clinician has reason to suspect memory or functional impairment. Clinical observations of office behavior, and descriptions of day-to-day functioning by family members or other informants, may provide important clues to the possible presence of cognitive impairment, and should prompt the clinician to perform a short mental status test and other appropriate investigations as outlined in the Canadian Consensus Conference guidelines for the management of dementing disorders.

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