Dementia is more common than one might think and is likely to be on the radar of every front-line clinician who works with older adults. Estimations suggest that 1 out of every 11 Canadians age 65 and older has some form of dementia. Worldwide, it is estimated that over 35.6 million individuals have some form of dementia.

Loosely defined, dementia refers to a decline in cognition that is sufficient to compromise a person’s ability to independently manage everyday tasks. It can be caused by a wide range of disease processes including Alzheimer’s disease, vascular dementia, dementia with Lewy Bodies, frontal-temporal dementia, and Parkinson’s dementia, among others. In the early stages it can

Abstract

Dementia is characterized by multiple cognitive impairments that cause significant functional decline. Based on this brief definition, the initial expectation might be that recognizing dementia in a patient is straightforward. Not true. Recognizing dementia can be tricky, particularly in patients who present as alert, socially appropriate, and capable of providing reasonable answers to questions. We briefly outline signs on casual observation that would prompt investigation into a patient’s current cognitive and functional status to determine the presence of dementia during a routine visit. Approaches to screening for cognitive and functional decline are described along with first-step recommendations to connect patients and families with resources. The front-line clinician plays a pivotal role in identifying dementia with earlier intervention having the most potential to offset the burden on patients, families, and society.

Keywords: dementia, activities of daily living, functional decline, cognitive decline

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be difficult to recognize. Here we attempt to draw attention to this challenge and offer some solutions. We begin with a brief review of the formal diagnostic criteria for dementia.

**Diagnosis of dementia**

The diagnosis of dementia can be reliably made using the criteria of the Diagnostic and Statistical Manual of Mental Disorders 4th edition (DSM-IV). The DSM-IV lists separate criteria for the different etiologies of dementia, with most dementias sharing the essential features listed in Table 1.

There are proposed changes for the next revision of the DSM (DSM-V) in terminology and criteria, including replacing the term “dementia” with “Major Neurocognitive Disorder.” There will no longer be a diagnostic criterion of memory impairment, depending on the suspected etiology of the dementia, but the requirement for impairment in multiple areas of cognition remains. Many of the other criteria appear to be largely unchanged.

Another set of diagnostic criteria for dementia has been recently proposed by the National Institute on Aging and Alzheimer’s Association (NIA-AA). The NIA-AA listed criteria for “all-cause dementia” differs most from the current DSM-IV dementia criteria in requiring impairment in any two cognitive domains on objective cognitive testing (through use of a cognitive screening tool or more in-depth neuropsychological evaluation) and in specifying that the cognitive deficits are also not explained by a major psychiatric disorder.

**Warning Signs of dementia**

Even with these diagnostic criteria in mind, recognizing dementia in one’s daily practice is not always easy. Individuals with early dementia may present as articulate and socially appropriate and thus may show no obvious signs of dementia on casual observation. Furthermore, because a decline in insight is common in dementia, patients may not bring up concerns about cognitive decline when they see their family doctor for a routine check-up or for other health concerns. In these cases it is helpful

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**Table 1: DSM-IV Criteria for Dementia**

1. Impairment in memory
2. Impairment in another cognitive domain, such as aphasia, apraxia, agnosia, or impaired executive functioning
3. The cognitive deficits produce a significant impairment in social or occupational functioning that represents a decline from a previous level of functioning
4. The cognitive deficits do not occur exclusively in the course of delirium
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for the clinician to be aware of, and on the lookout for, warning signs of cognitive change, such as those listed in Table 2, that can be observed during a patient’s visit.

Dementia screening tools

When some of the above warning signs are noted and dementia is suspected, the next step is to conduct a brief cognitive screening test. The most useful screening measures are those that examine multiple thinking skills and assess level of orientation to time and place. There are several options to choose from when selecting a screening measure, two examples of which are listed in Table 3. All cognitive screens share the common feature of providing a single overall score that can be compared against a cut-off score to determine whether or not someone falls in the range suggestive of dementia. Though useful, the overall score does not in and of itself indicate the presence or absence of dementia, rather it needs to be considered in the broader context of your interactions with and knowledge about the patient.

Caution must be exercised in interpreting the screening score, as the score can be influenced not only by the presence of dementia, but also by demographics such as age and level of education, as well as intelligence and any previous exposure to the test or test items.

Table 2: Dementia warning signs, though not limited to, could include any of the following:

1. Repetition of questions or comments during the course of the visit
2. Word-finding difficulty during conversation
3. Vague or tangential responses to questions about the patient’s recent past
4. Reduced insight about their health or abilities
5. Apparent difficulty understanding or remembering your recommendations
6. Missing scheduled appointments
7. Appointments being scheduled and managed by a family member or friend on the patient’s behalf
8. Needing assistance with transportation to the appointment, such as being accompanied by a family member or friend, if this represents a change
9. Concern expressed by a family member or friend regarding cognitive changes in the patient
10. A family member or friend asks to be present during the visit or wants to ask you questions so they can ensure your medical advice is followed

Key Point

Numerous factors, such as age and education, can influence the score obtained on a cognitive screening test. Strict adherence to cut-offs is not always advisable, rather the score must be interpreted in the context of the overall clinical assessment of the patient.
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For example, an MMSE score of 25/30 may indicate the presence of dementia in a 65-year-old patient with a post-graduate degree, but the same score may represent normal cognition if that patient has a grade-8 education. Some screening tests, such as the MMSE, provide demographically-corrected scores (based on a North American population), but others, such as the MoCA, leave this interpretation to the clinician. As such, if a patient scores close to a suggested cut-off, it is important to consider age and education before interpreting the significance of the test score.

Regardless of whether the clinician uses these or any other screening measure, recommended cut-offs should be thought of as a guideline with attention to the possibility of missing or over-diagnosing dementia (i.e., false negative and false positive results). The best way to avoid diagnostic error is to interpret the overall test score in the context of your clinical observations such as the presence or absence of “warning signs” noted

### Table 3: Tools for Assessing Cognitive Status

<table>
<thead>
<tr>
<th>Screening Test</th>
<th>Features</th>
<th>Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-Mental Status Exam (MMSE)</td>
<td>• Quick (5 minutes)</td>
<td>Must be purchased from Psychological Assessment Resources (PAR) www4.parinc.com.</td>
</tr>
<tr>
<td></td>
<td>• Screens multiple thinking skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Available in 10+ languages</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Demographic corrections available based on patient’s age and education</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use of the general cut-off of 24/30 may result in failure to detect cases of early dementia (i.e., false negatives)</td>
<td></td>
</tr>
<tr>
<td>Montreal Cognitive Assessment (MoCA)</td>
<td>• Quick (10 minutes)</td>
<td>Test forms can be downloaded for free from <a href="http://www.mocatest.org">www.mocatest.org</a></td>
</tr>
<tr>
<td></td>
<td>• Screens multiple thinking skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Available in 30+ languages</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Demographic corrections are not yet available to assist with clinical interpretation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Sensitive to early cognitive changes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use of the general cut-off of 26/30 may result in over-diagnosis of cognitive impairment (i.e., false positives)</td>
<td></td>
</tr>
</tbody>
</table>

**Key Point**
The diagnosis of dementia requires evidence of a decline in functioning that impacts the ability to independently manage daily social or occupational activities.
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during your interview as well as information about any significant change in instrumental or functional activities of daily living.

Assessing functional change
One of the key criteria for dementia is the presence of impaired social or occupational functioning. Thus, it is essential to understand whether there has been any change in the patient’s level of functional independence. Although formal questionnaires exist for assessing activities of daily living, these are not always practical for use as part of a routine visit. It is often informative to simply run through a check-list as part of the clinical interview, asking the patient, and preferably their close family member as well, if there are any changes in how well the patient manages finances, personal or grocery shopping, medications, schedule of appointments, transportation, meal planning and preparation, and housekeeping duties. A sample checklist is provided in Table 4.

Start by asking if the patient is responsible for any of these activities; if a person has never driven a car or been responsible for meal preparation, for example, these areas should not be assessed. For those activities for which the patient is responsible, determine whether he or she is receiving any assistance with these tasks and whether this is a change from a previous level. In doing this, it is important to consider only those changes that are related to cognitive problems. If, for example, an individual is no longer driving or shopping because of mobility problems, this would not be a consideration for a diagnosis of dementia.

Keep in mind that insight can be affected and the patient may

<table>
<thead>
<tr>
<th>Daily Activity</th>
<th>Self-Report</th>
<th>Family Report</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assistance? Change from Previous?</td>
<td>Assistance? Change from Previous?</td>
</tr>
<tr>
<td>Managing finances</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>Getting around town</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>Taking medication</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>Household chores</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>Cooking</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>Shopping</td>
<td>Y / N</td>
<td>Y / N</td>
</tr>
<tr>
<td>Keeping track of appointments</td>
<td>Y / N</td>
<td>Y / N</td>
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</tbody>
</table>

Table 4: Checklist of functional activities

Key Point
Front-line clinicians play a key role in identifying dementia and are thus in the best position to connect their patients with treatment options and community resources early in the disease process when such interventions can be most effective.
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SUMMARY OF KEY POINTS

About one in 11 older adults has some form of dementia. This means front-line clinicians working with older adults play a critical role in identifying affected individuals.

There may be no obvious signs of dementia on casual observation so it is important to be aware of warning signs evident during a routine visit (e.g., repetitions, word-finding problems, difficulty following instructions, or a close relative or friend has now become involved or has expressed concerns).

Recent revisions to diagnostic criteria for dementia, specifically the National Institute on Aging and Alzheimer’s Association (NIA-AA) proposed criteria, require evidence of objective cognitive impairment on a cognitive screening test (which can be conducted as part of a routine visit) or more in-depth neuropsychological assessment.

When warning signs are detected and cognitive status is suspect, consider carefully whether or not there has been any significant change to level of functional independence (e.g., ability to manage schedule of activities, shopping, or banking) as this is a critical factor in determining the presence of dementia.

not be the best judge of his or her own functional skills. Ideally, we would recommend obtaining the patient’s permission to interview someone who knows them well. As previously mentioned, this person may have accompanied the patient to the appointment and can be quickly interviewed with respect to whether they have noticed any cognitive problems and asked the same questions about the patient’s level of independence in managing daily activities. If not available in person, this interview could be conducted by telephone.

A change in level of functional independence that is related to cognitive decline may indicate the presence of a dementia due to some form of neurodegenerative or cerebrovascular disease process. If the type of dementia and associated treatment options are unclear, based on the patient’s health history or medical test results, then consultation with a specialist such as a geriatrician, behavioural neurologist, or neuropsychologist may be useful.

Resources for individuals with dementia and their families

Receiving a diagnosis of dementia and dealing with the associated cognitive and behavioural changes is a challenge for most patients and their loved ones. Most individuals affected by dementia will benefit from infor-
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Clinical Pearls

Be alert to warning signs of dementia in older adults during routine medical appointments because prevalence is increasing and early dementia could be missed, particularly when the visit is centered on another health concern.

Knowing how to administer a cognitive screening test (e.g., Mini-Mental Status Exam–MMSE) is important because it can be a useful diagnostic tool and will likely become a common clinical practice in evaluating for the presence of dementia in a patient.

Identifying dementia promotes the health of patients by identifying the need for supports to ensure existing medical conditions (e.g., hypertension) are properly managed and by providing the earliest opportunity to effectively benefit from intervention.

Post-test CME Quiz

Members of the College of Family Physicians of Canada may claim MAINPRO-M2 Credits for this unaccredited educational program.

information about how to link with resources in the community that can provide them with support. Given the high likelihood of progression, even if they are managing fairly well at present, it is important to investigate sources of support before there is any urgent need and while the patient is still able to make decisions about his or her future care. A good first step is for patients and/or families to contact their local Alzheimer’s society and to visit the Canadian (www.alzheimer.ca) and American Alzheimer (www.alz.org) associations for information about dementia and local resources. Despite the name, the Alzheimer organizations can provide education and resource information relevant to any type of dementia, not only dementia of the Alzheimer’s type.

In conclusion, for those of us who work with older adults, encountering patients with early dementia is an increasingly common occurrence. Recognizing and following up on dementia warning signs is crucial because early intervention in the form of education about treatment options and available resources has significant potential to offset the social and economic costs of the increasing prevalence of dementia. This includes evidence that behavioural interventions can minimize functional decline in dementia and can delay nursing home placement of dementia care recipients by as much as 18 months. Front-line clinicians play a critical role in early identification and can employ their clinical expertise in evaluating information from casual observation (warning signs), cognitive screening results, and everyday functional abilities to accurately determine the presence of early dementia.

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