Screening for Dementia

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Objectives

- Understand the definition of dementia and Alzheimer’ s disease (AD).
- Understand the epidemiology of dementia and AD.
- Recognize the risk factors for dementia and AD.
- Recognize the cognitive and behavioral symptoms in dementia and AD.
- Understand the rationale for screening of dementia.
- Describe specific Cognitive Assessment Screening Tools and their appropriate use.

Definition of Dementia and AD

- *Dementia* is defined as: *loss of cognitive function sufficient to interfere with social and occupational functioning*.

Definition of Dementia and AD

- *DSM-IV* criteria for AD requires: *the presence of progressive deficits in at least 2 cognitive domains, 1 of which should be memory; deficits must represent a change from a previous state of mental functioning and be distinguished from acute or subacute confusional states or delirium.*

Epidemiology of AD

- Approximately 5.4 million Americans have AD currently
- That number will increase to 13.5 million by 2050.
- Incidence of AD increases with age, reaching almost 50% in those >85 years old.

Epidemiology (con’ t)

- Dementia is the most important contributor to disability in the elderly.
- Dementia contributed 10.2% of years of disability in people aged at least 65 years.
- Estimated worldwide cost of dementia is $604 billion (2010 US $$).
- The US estimated cost of AD is $183 billion.

Epidemiology (con’ t)

- AD creates significant emotional and financial burden on caregivers as 70%-90% of Americans with dementia live at home.
- Cost of informal care is valued at $202 billion/year.
- 230,00 people with AD live in nursing homes, comprising approx. 15% of the NH population.

Epidemiology (con't)

- AD is progressive in nature, leading to severe functional and cognitive decline.
- AD results in increased comorbid disease and is a major determinant of institutionalization and mortality in the elderly.
- AD has a significant impact on caregivers, and healthcare systems and their resources.

Risk Factors for AD

- Advancing age
- Family history
- Genetic mutations: apolipoprotein E-4 gene, Down syndrome
- Atherosclerotic vascular changes
- Head trauma

Symptoms in AD

Cognitive deficits:

- Memory loss
- Difficulty performing familiar tasks
- Problems with language
- Disorientation to time and place
- Poor judgment
- Problems with abstract thinking
- Misplacing things

Symptoms in AD (con't)

Behavioral/Psychotic/Mood Related Symptoms

- Psychosis
- Aggression
- Agitation
- Psychomotor Agitation (wandering, pacing)
- Delusions
- Hallucinations
- Depression

Rationale for Screening

- 2003 U.S. Preventative Services Task Force recognized that the use of cognitive screening tools can increase the detection of cognitive impairment

Rationale (con't)

- As per the CMS regulation, the Annual Wellness Visit (AWV) requires cognitive assessment for the detection of cognitive impairment.

Rationale (con't)

- Cognitive impairment is unrecognized in 27%-81% of affected patients in primary care.
- The use of a brief, structured cognitive assessment tool correctly classifies patients with cognitive impairment more often than spontaneous detection by the patient's own PCP.
- The Alzheimer's Association recommends the use of a standardized tool for assessment of cognitive function during the AWV.

Rationale (con't)

- Screening targets multiple outcomes:
  - Improving functional autonomy
  - Decreasing/delaying institutionalization
  - Decreasing behavioral problems related to AD
  - Limiting dangerous diving concerns

Rationale (con't)

- Screening targets multiple outcomes:
  - Lowering caregiver stress through counseling and education
  - Providing opportunity for Advance Care planning
  - Providing opportunity for accessing community resources and other forms of support

Cognitive Assessment Screening Tools

- **MINI-COG**
- **INSTRUMENTAL ACTIVITIES OF DAILY LIVING SCALE (IADLs)**
- **GERIATRIC DEPRESSION SCALE (GDS)**

MINI-COG

- Composed of 3 item recall and a clock drawing test (CDT)
- Can be used to detect dementia quickly and easily in various settings
- Assesses registration, recall and executive function

MINI-COG (con't)

- Target Population:
  - Appropriate for use in all health care settings.
  - Appropriate for use with older adults at various heterogeneous language, culture, and literacy levels

MINI-COG (con't)

- Validity and Reliability:
  - Sensitivity ranging from 76-99%
  - Specificity ranging from 89-93%
  - Confidence interval of 95%
  - Strong predictive value in multiple clinical settings

MINI-COG (con't)

- Strengths and Limitations:
  - Takes about 3 minutes to administer
  - Not influenced by culture, language, or education
  - Requires simple, short training to perform accurately
  - Perceived by patients as less stressful than longer mental status tests
  - Remains accurate across heterogeneic groups

Administration of the Mini-Cog

- REGISTRATION:
  - Ask the patient to remember 3 words:
    - **Apple, Watch, Penny**
  - Say each word with a one second pause between them
  - If they can't repeat all 3, say them all again
    - Repeat them up to 5 times
    - The patient should not be given any cues to help them remember
  - Then instruct the patient:
    - **Remember these words. I will ask you to repeat them later.**

Administration of the Mini-Cog

- CLOCK DRAWING TEST (CDT):

- Tests executive function

  - Give the patient a piece of paper with a circle drawn on it
  - Ask the patient to place the numbers so **"they look like the face of a clock"**
  - After the patient has completed placing the numbers, ask them to: **"Draw the hands of the clock so that it reads ten after eleven."**

Administration of the Mini-Cog

- THREE WORD RECALL
- Tests recall
  - Ask the patient to recall the three words.
  - Do not give any hints or cues.

Administration of the Mini-Cog

- SCORING
- Clock must be drawn correctly
  - All numbers present and the right sequence
  - Two hands joining in the center of the clock
  - Long hand must point to ‘10’ ; short hand must point to ‘11’
- Patient must remember all 3 words correctly

Scoring the Mini-Cog

Non-demented	Demented

• 3-item recall: 3
  ○ (no need to look at CDT)
	• 3-item recall: 0
	  ○ (no need to look at CDT)

• 3-item recall: 1-2 • CDT: Normal	• 3-item recall: 1-2 • CDT: Abnormal

If the Mini-Cog shows ‘dementia’

- A positive screen for AD, does not mean that the patient has dementia, but that further cognitive and non-cognitive testing is necessary
- Next step: Lawton-Brody IADL Scale

Lawton-Brody IADL Scale

- Assesses ‘instrumental activities of daily living’ (IADLs)
- These reflect independent living skills
- Uses self-reported information
- Takes 10-15 minutes to administer

IADL Scale (con't)

- **Strengths and limitations:**
  - Not appropriate for institutionalized patients
  - Useful as an adjunct to cognitive testing
  - May be more sensitive in early impairment
  - May need the input from a care-giver/family member, to verify information

The Lawton Instrumental Activities of Daily Living Scale

A. Ability to Use Telephone

1. Operates telephone on own initiative; looks up and dials numbers 1
2. Dials a few well-known numbers 1
3. Answers telephone, but does not dial 1
4. Does not use telephone at all 0

B. Shopping

1. Takes care of all shopping needs independently 1
2. Shops independently for small purchases 0
3. Needs to be accompanied on any shopping trip 0
4. Completely unable to shop 0

C. Food Preparation

1. Plans, prepares, and serves adequate meals independently 1
2. Prepares adequate meals if supplied with ingredients 0
3. Heats and serves prepared meals or prepares meals but does not maintain adequate diet 0
4. Needs to have meals prepared and served 0

D. Housekeeping

1. Maintains house alone with occasion assistance (heavy work) 1
2. Performs light daily tasks such as dishwashing, bed making 1
3. Performs light daily tasks, but cannot maintain acceptable level of cleanliness 1
4. Needs help with all home maintenance tasks 1
5. Does not participate in any housekeeping tasks 0

E. Laundry

1. Does personal laundry completely 1
2. Launders small items, rinses socks, stockings, etc. 1
3. All laundry must be done by others 0

F. Mode of Transportation

1. Travels independently on public transportation or drives own car 1
2. Arranges own travel via taxi, but does not otherwise use public transportation 1
3. Travels on public transportation when assisted or accompanied by another 1
4. Travel limited to taxi or automobile with assistance of another 0
5. Does not travel at all 0

G. Responsibility for Own Medications

1. Is responsible for taking medication in correct dosages at correct time 1
2. Takes responsibility if medication is prepared in advance in separate dosages 0
3. Is not capable of dispensing own medication 0

H. Ability to Handle Finances

1. Manages financial matters independently (budgets, writes checks, pays rent and bills, goes to bank); collects and keeps track of income 1
2. Manages day-to-day purchases, but needs help with banking, major purchases, etc 1
3. Incapable of handling money 0

Scoring: For each category, circle the item description that most closely resembles the client's highest functional level (either 0 or 1).

Lawton, M.P., & Brody, E.M. (1969). Assessment of older people: Self-maintaining and instrumental activities of daily living. *The Gerontologist, 9*(3), 179-186.

Scoring the IADL Scale

- Scored using the highest level of functioning in that category
- Scores range from 0-8
  - Fully dependent to fully independent

If the IADL Score indicates impairment

- Further evaluation needs to be done to assess functional competency and safety
- Include family/caregiver reports of patient's functional status at home
- Inquire regarding poor self care or unsafe behaviors

Screen for Depression

- Ask the patient or caregiver:
  - *In the past month, has the patient felt down, depressed, or hopeless?* **YES** **NO**
  - *In the past month, has the patient felt little interest or pleasure in doing things?* **YES** **NO**

- If the answer is "YES" to either question, proceed to the longer Geriatric Depression Scale (GDS) screening tool.

Geriatric Depression Scale

- *Depressive Pseudodementia* is a term used to refer to patients who have reversible or partially reversible impairments of cognition caused by depression.
- Depression may coexist with dementia in more than 1/3 of outpatients with dementia.
- Sorting out the role of depression in a patient's cognitive impairment, may be difficult.

Geriatric Depression Scale (con't)

- Clinical characteristics of depressive pseudodementia:
  - Prominent complaints of memory loss
  - Patchy, inconsistent cognitive deficits on exam
  - Frequent "don't know" answers
- History of reversible cognitive impairment from depressive pseudodementia, increases that patient's risk for developing dementia.

Geriatric Depression Scale (short form)

"Choose the best answer for how you felt over the past week."

1. Are you basically satisfied with your life? y/N
2. Have you dropped many of your activities and interests? Y/n
3. Do you feel your life is empty? Y/n
4. Do you often get bored? Y/n
5. Are you in good spirits most of the time? y/N
6. Are you afraid that something bad is going to happen to you? Y/n
7. Do you feel happy most of the time? y/N
8. Do you often feel helpless? Y/n

Geriatric Depression Scale (short form)

9. Do you prefer to stay at home, rather than going out and doing new things? Y/n
10. Do you feel you have more problems with memory than most? Y/n
11. Do you think it is wonderful to be alive now? y/N
12. Do you feel pretty worthless the way you are now? Y/n
13. Do you feel full of energy? y/N

Geriatric Depression Scale (short form)

14. Do you feel that your situation is hopeless? Y/n
15. Do you think that most people are better off than you are? Y/n

- Y=Yes N=NO
- The scale is scored as follows: 1 point for each response in capital letters. A score of 0-5 is normal; a score greater than 5 suggests depression.
- Sheikh JI, Yesavage JA. Geriatric Depression Scale (GDS): recent evidence and development of a shorter version. Clin Gerontol 1986;5:165-72.

In summary…..

- A brief cognitive screen improves detection of impairment among older patients.
- The AWV provides a venue for screening to take place on an annual basis.
- An abnormal screen should lead to more detailed cognitive evaluation and assessment.

The End

Thank You