

# Training of Core Trainers CPG Management of Dementia (Third Edition)

## ASSESSMENT & DIAGNOSIS

By:

**Dr. Teh Hoon Lang**

Consultant Geriatrician

Hospital Sultanah Bahiyah, Kedah

**Dr. Kenny Ong Kheng Yee**

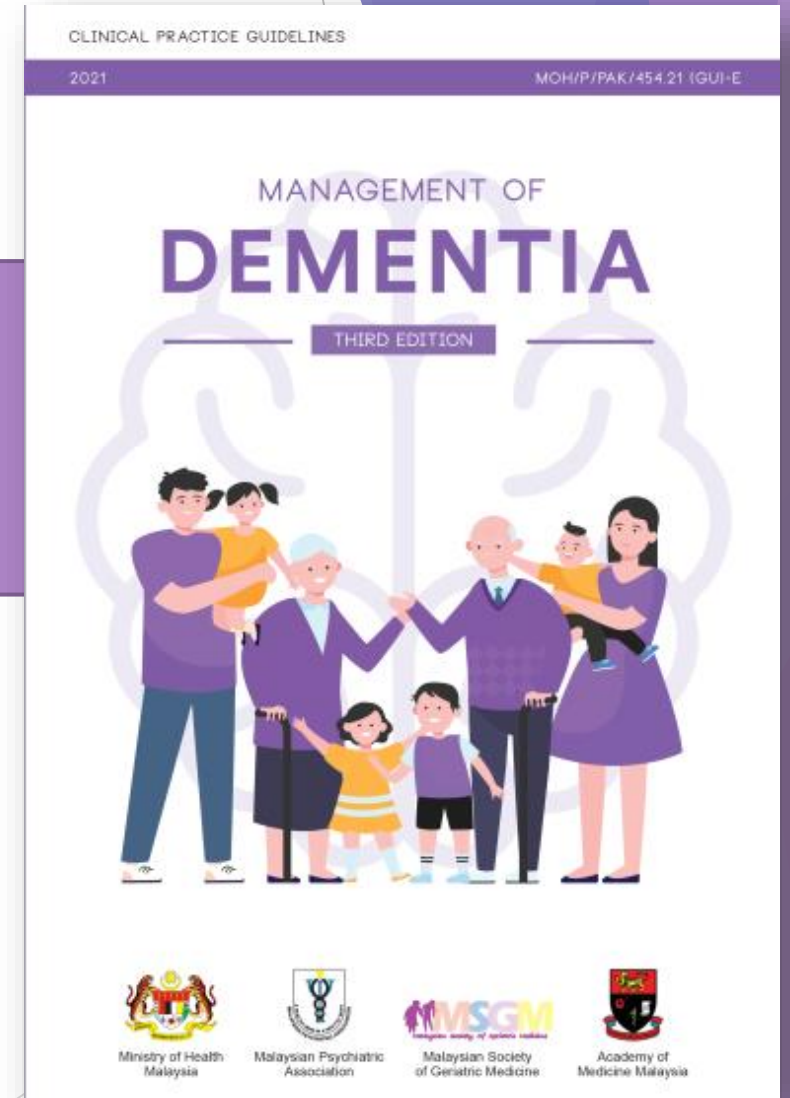
Consultant Neuropsychiatrist

Hospital Kuala Lumpur, Kuala Lumpur

**Dr. Hor Jyh Yung**

Consultant Neurologist

Hospital Pulau Pinang, Pulau Pinang



# Learning Objectives

1. To learn about evaluation on cognitive and non-cognitive assessment for dementia
  - History
  - Physical examination
  - Blood test and imaging
  - Diagnostic criteria
2. To learn about dementia mimicking conditions
3. To be familiar with the use of rating scales to assess non-cognitive domains



# Evaluation of Dementia

- ▶ Targeted:
  - Patients who presented with memory complaints (patients or family / carers); have clinical suspicion of cognitive impairment or at increased risk; and for elderly with questionable mental capacity.
  - 10 warning signs
- ▶ Insufficient evidence to recommend routine cognitive screening for asymptomatic community-dwelling elderly.



# 10 Warning Signs of Dementia

## APPENDIX 3

### 10 WARNING SIGNS OF DEMENTIA



**Dementia is not a part of normal ageing**

Talk to a doctor or contact Alzheimer's Disease Foundation Malaysia (ADFM) for more information

Source: Alzheimer's Disease Foundation Malaysia (Available at: <http://adfm.org.my/10-warning-signs/>)



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# Evaluation of Dementia-2

- ▶ Clinical assessment
  - History
  - Physical examination
  - Cognitive assessment
  - Non-cognitive assessment
    - Mood
    - Behaviour
    - Activity of daily living
    - Caregivers burden
- ▶ Laboratory
- ▶ Brain imaging



# Clinical Assessment

- ▶ A detailed history from patient and reliable informants, and a comprehensive physical examination are the basis of clinical evaluation for dementia.
- ▶ Clinical assessment should include cognitive domain and non-cognitive domain as well.
- ▶ During clinical assessment, clinicians should exclude delirium and other mental disorders before diagnosing dementia.



# History

- ▶ Onset
- ▶ Progress
- ▶ Cognitive symptoms
  - Memory – recent memory vs remote memory
  - Orientation – date, time, place
  - Language
- ▶ Non-cognitive symptoms
  - mood and behaviour
  - ADL – basic ADL and instrumental ADL





# Diagnostic criteria

## DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDER FIFTH EDITION (DSM-5)

### Diagnostic criteria for major neurocognitive disorder (or dementia)

- A. Evidence of significant cognitive decline from a previous level of performance in one or more cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor or social cognition) based on:
1. Concern of the individual, a knowledgeable informant or the clinician that there has been a significant decline in cognitive function; and
  2. A substantial impairment in cognitive performance, preferably documented by standardised neuropsychological testing or in its absence, another quantified clinical assessment.





# Diagnostic criteria-2

B. The cognitive deficits interfere with independence in everyday activities (that is, at a minimum, requiring assistance with complex instrumental activities of daily living such as paying bills or managing medications).



# Diagnostic criteria-3

- C. The cognitive deficits do not occur exclusively in the context of a delirium.
- D. The cognitive deficits are not better explained by another mental disorder. Specify:
  - Without behavioural disturbance: if the cognitive disturbance is not accompanied by any clinically significant behavioural disturbance.
  - With behavioural disturbance (specify disturbance): if the cognitive disturbance is accompanied by a clinically significant behavioural disturbance (for example, psychotic symptoms, mood disturbance, agitation, apathy or other behavioural symptoms). For example, major depressive disorder or schizophrenia.



# Physical Examination

- ▶ Overall well being – hydration, lethargy, septic looking (Delirium)
- ▶ Signs of hypothyroidism
- ▶ Signs of anemia
- ▶ Vision
- ▶ Hearing
- ▶ Focal neurological deficits
- ▶ Parkinsonism features
- ▶ Other involuntary movements



# Some dementia-mimicking conditions

## ☐ Blood tests

- Full blood count
- Renal profile
- Liver function test
- Calcium
- B12
- Folate
- Thyroid function test
- VDRL and anti-HIV if indicated

## ☐ Brain Imaging

## ☐ EEG if indicated

**Table 2: Some dementia-mimicking conditions**

### **Conditions that can be excluded by laboratory tests**

Hypothyroidism  
Vitamin B12 deficiency  
Folate deficiency  
Hypercalcaemia  
Neurosyphilis  
HIV-related dementia

### **Conditions that can be excluded by imaging/EEG**

Normal pressure hydrocephalus  
Subdural haemorrhage  
Brain tumour  
Creutzfeldt-Jakob disease  
Autoimmune/limbic encephalitis



# Cognitive Assessment

- ▶ There are many cognitive assessment tools available to support the diagnosis of dementia.
- ▶ A systematic review on Cognitive Assessment Tools in Asia showed that educational bias was present in 74% of the studies with wide range of sensitivity and specificity which may lead to over estimation of dementia prevalence.<sup>41</sup>
- ▶ Hence, diagnosis of dementia should not be made based on cognitive assessment score solely. The assessment score can be used to support the diagnosis of dementia and to monitor the disease progress.

41. Rosli R, Tan MP, Gray WK, et al. Cognitive assessment tools in Asia: a systematic review. International psychogeriatrics. 2016;28(2):189-210.



# Cognitive Assessment-2

- ▶ The choice of cognitive assessment tool depends on the clinical setting and the experience of the clinician.
- ▶ Further evaluation with detailed neuropsychological tests can be considered if the diagnosis of dementia is still doubtful after initial assessment or to determine the subtype of dementia.<sup>42</sup>

42. National Institute for Health and Care Excellence (NICE). Dementia: assessment, management and support for people living with dementia and their carers. London: NICE; 2018.



# Informant rated cognitive assessment

Cognitive assessment tools		Accuracy		Validation in local languages
		Sensitivity (95% CI)	Specificity (95% CI)	
Informant-rated				
1.	AD8 Dementia Screening Interview <sup>33</sup> , level II-2	Cut-off point of 2:		No
		0.92 (0.86 - 0.96)	0.64 (0.39 - 0.82)	
		Cut-off point of 3:		
		0.91 (0.80 - 0.96)	0.76 (0.57 - 0.89)	
2.	Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) <sup>34</sup> , level III	Cut-off point >3.0 - 3.3:		Yes: Malay
		Range 0.75 - 0.86	Range 0.38 - 0.90	

33. Hendry K, Green C, McShane R, et al. AD-8 for detection of dementia across a variety of healthcare settings. The Cochrane database of systematic reviews. 2019;3(3):CD011121.

34. Harrison JK, Stott DJ, McShane R, et al. Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) for the early diagnosis of dementia across a variety of healthcare settings. The Cochrane database of systematic reviews. 2016;11(11):CD011333.





# Direct patient assessment

Direct patient assessment				
1.	Mini-Cog <sup>35</sup> , level I	0.91 (0.80 - 0.96)	0.86 (0.74 - 0.93)	No
2.	Abbreviated Mental Test Score (AMTS) <sup>36</sup> , level III	Cut-off point <7:		No
		0.81 (0.76 - 0.86)	0.84 (0.83–0.85)	
3.	Mini–Mental State Examination (MMSE) <sup>*35</sup> , level I	0.81 (0.78 - 0.84)	0.89 (0.87 - 0.91)	Yes: Malay, Mandarin
4.	Montreal Cognitive Assessment (MoCA) <sup>37</sup> , level III	Cut-off points 18 - 26:		Yes: Malay, Mandarin
		Range 0.77 - 1.00	Range 0.51 - 0.87	
5.	Addenbrooke's Cognitive Examination-III (ACE-III) <sup>*38</sup> , level III	0.96	0.68	Yes: Malay, Mandarin
6.	Visual Cognitive Assessment Test (VCAT) <sup>39</sup> , level II-2	0.92	0.74	Yes No language bias
7.	Saint Louis University Mental Status (SLUMS) <sup>40</sup> , level III	0.93	0.96	No

35. Tsoi KK, Chan JY, Hirai HW, et al. Cognitive Tests to Detect Dementia: A Systematic Review and Meta-analysis. JAMA internal medicine. 2015;175(9):1450-8.
36. Jackson TA, Naqvi SH, Sheehan B. Screening for dementia in general hospital inpatients: a systematic review and meta-analysis of available instruments. Age and ageing. 2013;42(6):689-95.
37. Davis DH, Creavin ST, Yip JL, et al. Montreal Cognitive Assessment for the diagnosis of Alzheimer's disease and other dementias. The Cochrane database of systematic reviews. 2015;2015(10):Cd010775.
38. Matías-Guiu JA, Valles-Salgado M, Rognoni T, et al. Comparative Diagnostic Accuracy of the ACE-III, MIS, MMSE, MoCA, and RUDAS for Screening of Alzheimer Disease. Dementia and geriatric cognitive disorders. 2017;43(5-6):237-46.
39. Lim L, Ng TP, Ong AP, et al. A novel language-neutral Visual Cognitive Assessment Test (VCAT): validation in four Southeast Asian countries. Alzheimer's research & therapy. 2018;10(1):6.
40. Cummings-Vaughn LA, Chavakula NN, Malmstrom TK, et al. Veterans Affairs Saint Louis University Mental Status examination compared with the Montreal Cognitive Assessment and the Short Test of Mental Status. Journal of the American Geriatrics Society. 2014;62(7):1341-6.



# Non-cognitive domain

- ▶ Two systematic reviews on the **Neuropsychiatric Inventory (NPI)** showed that:
  - it was able to identify behavioural and psychological symptoms in persons with Alzheimer's dementia<sup>43</sup>
  - the items on irritability, agitation, anxiety, apathy, sleep disturbances and delusion exerted the most impact on caregiver for PWD<sup>44</sup>

43. Canevelli M, Adali N, Voisin T, et al. Behavioral and psychological subsyndromes in Alzheimer's disease using the Neuropsychiatric Inventory. International journal of geriatric psychiatry. 2013;28(8):795-803.

44. Terum TM, Andersen JR, Rongve A, et al. The relationship of specific items on the Neuropsychiatric Inventory to caregiver burden in dementia: a systematic review. International journal of geriatric psychiatry. 2017;32(7):703-17.



# Neuropsychiatric Inventory (NPI)

<b>NPI</b>	Neuropsychiatric Inventory
	Scoring Summary

CENTER #	SCREENING #	PATIENT #	PATIENT INITIALS	VISIT	DATE
□□□	□□□□□	□□□□	□□□ F M L	□□	□□□ M D Y

Please transcribe appropriate categories from the NPI Worksheet into the boxes provided.

For each domain:

- If symptoms of a domain did not apply, check the "N/A" box.
- If symptoms of a domain were absent, check the "0" box.
- If symptoms of a domain were present, check one score each for Frequency and Severity.
- Multiply Frequency score x Severity score and enter the product in the space provided.
- Total all Frequency x Severity scores and record the Total Score below.
- If symptoms of a domain were present, check one score for Distress; total all distress scores for a summary score.

Rater's  
Initials:

□□□

DOMAIN	N/A <sup>1</sup>	ABSENT	FREQUENCY	SEVERITY	FREQUENCY X SEVERITY	CAREGIVER DISTRESS
		0	1 2 3 4	1 2 3		0 1 2 3 4 5
A. Delusions	□	□	□□□□	□□□	□□	□□□□□□
B. Hallucinations	□	□	□□□□	□□□	□□	□□□□□□
C. Agitation/Aggression	□	□	□□□□	□□□	□□	□□□□□□
D. Depression/Dysphoria	□	□	□□□□	□□□	□□	□□□□□□
E. Anxiety	□	□	□□□□	□□□	□□	□□□□□□
F. Elation/Euphoria	□	□	□□□□	□□□	□□	□□□□□□
G. Apathy/Indifference	□	□	□□□□	□□□	□□	□□□□□□
H. Disinhibition	□	□	□□□□	□□□	□□	□□□□□□
I. Irritability/Lability	□	□	□□□□	□□□	□□	□□□□□□
J. Aberrant Motor Behavior	□	□	□□□□	□□□	□□	□□□□□□
TOTAL SCORE:					□□□	□□
K. Sleep and Nighttime Behavior Disorders	□	□	□□□□	□□□	□□	□□□□□□
L. Appetite/Eating Changes	□	□	□□□□	□□□	□□	□□□□□□

## III. Scoring the NPI

Frequency is rated as:

- ☐ 1. Rarely – less than once per week
- ☐ 2. Sometimes – about once per week
- ☐ 3. Often – several times per week but less than every day
- ☐ 4. Very often – once or more per day

Severity is rated as:

- ☐ 1. Mild – produces little distress in the patient
- ☐ 2. Moderate – more disturbing to the patient but can be redirected by the caregiver
- ☐ 3. Severe – very disturbing to the patient and difficult to redirect

The score for each domain is: domain score = frequency x severity

Distress is scored as:

- ☐ 0. Not at all
- ☐ 1. Minimally (almost no change in work routine)
- ☐ 2. Mildly (some change in work routine but little time rebudgeting required)
- ☐ 3. Moderately (disrupts work routine, requires time rebudgeting)
- ☐ 4. Severely (disruptive, upsetting to staff and other residents, major time infringement)
- ☐ 5. Very Severely or Extremely (very disruptive, major source of distress for staff and other residents, requires time usually devoted to other residents or activities)

Thus, for each behavioral domain there are four scores:

- Frequency
- Severity
- Total (frequency x severity)
- Caregiver distress

A total NPI score can be calculated by adding the scores of the first 10 domain scores together. If the two neurovegetative items are included, specify that the 12 item score is being used rather than the 10 item score. The distress score is not included in the total NPI core.

The total distress score is generated by adding together the scores of the individual NPI distress questions; specify whether the 10 or 12 item score is being used.



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# Non-cognitive domain-2

- ▶ The NPI and Behavioral Pathology in Alzheimer's Disease Rating Scale (BEHAVE-AD) were utilised:
  - to assess the presence and severity of behavioural and psychological symptoms in PWD with proven good psychometric properties, sensitivity to pharmacological and non-pharmacological interventions, and applicability to various institutional, outpatient and community settings<sup>45</sup>
  - in particular to identify delusions and hallucinations in PWD among the nursing home residents<sup>46</sup>

45. Jeon YH, Sansoni J, Low LF, et al. Recommended measures for the assessment of behavioral disturbances associated with dementia. The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry. 2011;19(5):403-15.

46. Cohen-Mansfield J, Golander H. The measurement of psychosis in dementia: a comparison of assessment tools. Alzheimer disease and associated disorders. 2011;25(2):101-8.



# Behavioral Pathology in Alzheimer's Disease Rating Scale (BEHAVE-AD)

## Behavioral Pathology in Alzheimer's Disease Rating Scale (BEHAVE-AD)

### PART 1: SYMPTOMATOLOGY

Assessment Interval: Specify: \_\_\_\_\_ wks.

Total Score: \_\_\_\_\_

#### A. Paranoid and Delusional Ideation

##### 1. "People Are Stealing Things" Delusion

- (0) Not present
- (1) Delusion that people are hiding objects
- (2) Delusion that people are coming into the home and hiding objects or stealing objects
- (3) Talking and listening to people coming into the home

##### 2. "One's House Is Not One's Home" Delusion

- (0) Not present
- (1) Conviction that the place in which one is residing is not one's home (e.g., packing to go home; complaints, while at home, of "take me home")
- (2) Attempt to leave domiciliary to go home
- (3) Violence in response to attempts to forcibly restrict exit

##### 3. "Spouse (or Other Caregiver) Is an Imposter" Delusion

- (0) Not present
- (1) Conviction that spouse (or other caregiver) is an imposter
- (2) Anger toward spouse (or other caregiver) for being an imposter
- (3) Violence towards spouse (or other caregiver) for being an imposter

##### 4. "Delusion of Abandonment" (e.g., to an institution)

- (0) Not present
- (1) Suspicion of caregiver plotting abandonment or institutionalization (e.g., on telephone)
- (2) Accusation of a conspiracy to abandon or institutionalize
- (3) Accusation of impending or immediate desertion or institutionalization

##### 5. "Delusion of Infidelity"

- (0) Not present

- (1) Conviction that spouse and/or children and/or other caregivers are unfaithful

- (2) Anger toward spouse, relative, or other caregiver for infidelity

- (3) Violence toward spouse, relative, or other caregiver for supposed infidelity

##### 6. "Suspiciousness/Paranoia" (other than above)

- (0) Not present

- (1) Suspicious (e.g., hiding objects that he/she later may be unable to locate)

- (2) Paranoid (i.e., fixed conviction with respect to suspicions and/or anger as a result of suspicions)

- (3) Violence as a result of suspicions

Unspecified? \_\_\_\_\_

Describe \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

##### 7. Delusions (other than above)

- (0) Not present

- (1) Delusional

- (2) Verbal or emotional manifestations as a result of delusions

- (3) Physical actions or violence as a result of delusions

Unspecified? \_\_\_\_\_

Describe \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### B. Hallucinations

##### 8. Visual Hallucinations

- (0) Not present

- (1) Vague: not clearly defined

- (2) Clearly defined hallucinations of objects or persons (e.g., sees other people at the table)

- (3) Verbal or physical actions or emotional responses to the hallucinations



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# Non-cognitive domain-3

- ▶ A cut-off score  $\leq 5$  and  $\leq 7$  for **Cornell Scale for Depression in Dementia (CSDD)** and **Montgomery-Asberg Depression Rating Scale (MADRS)** respectively give a 100% sensitivity in the screening of depression in nursing home residents with dementia when the source of information is from the professional caregivers.<sup>47</sup>
- ▶ **Geriatric Depression Scale (GDS)** is also an effective screening tool for depression in the older people.<sup>10</sup>

47. Leontjevas R, Gerritsen DL, Vernooij-Dassen MJ, et al. Comparative validation of proxy-based Montgomery-Åsberg depression rating scale and cornell scale for depression in dementia in nursing home residents with dementia. The American journal of geriatric psychiatry : official journal of the American Association for Geriatric Psychiatry. 2012;20(11):985-93.

10. Ministry of Health Malaysia. Management of Dementia (Second Edition). Putrajaya: Ministry of Health Malaysia; 2009.





# Cornell Scale for Depression in Dementia

Ratings should be based on symptoms and signs occurring during the week before interview. No score should be given if symptoms result from physical disability or illness.

## SCORING SYSTEM

a = Unable to evaluate

0 = Absent

1 = Mild to Intermittent

2 = Severe

Score greater than 12 = Probable Depression

A. MOOD-RELATED SIGNS	a	0	1	2
1. Anxiety; anxious expression, rumination, worrying				
2. Sadness; sad expression, sad voice, tearfulness				
3. Lack of reaction to pleasant events				
4. Irritability; annoyed, short tempered				
B. BEHAVIORAL DISTURBANCE	a	0	1	2
5. Agitation; restlessness, hand wringing, hair pulling				
6. Retardation; slow movements, slow speech, slow reactions				
7. Multiple physical complaints (score 0 if gastrointestinal symptoms only)				
8. Loss of interest; less involved in usual activities (score 0 only if change occurred acutely, i.e., in less than one month)				
C. PHYSICAL SIGNS	a	0	1	2
9. Appetite loss; eating less than usual				
10. Weight loss (score 2 if greater than 5 pounds in one month)				
11. Lack of energy; fatigues easily, unable to sustain activities				
D. CYCLIC FUNCTIONS				
12. Diurnal variation of mood; symptoms worse in the morning				
13. Difficulty falling asleep; later than usual for this individual				
14. Multiple awakenings during sleep				
15. Early morning awakening; earlier than usual for this individual				
E. IDEATIONAL DISTURBANCE				
16. Suicidal; feels life is not worth living				
17. Poor self-esteem; self-blame, self-depreciation, feelings of failure				
18. Pessimism; anticipation of the worst				
19. Mood congruent delusions; delusions of poverty, illness or loss				



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# Montgomery and Asberg Depression Rating Scale (MADRS)

## 1. Apparent Sadness

*Representing despondency, gloom and despair, (more than just ordinary transient low spirits) reflected in speech, facial expression, and posture.*

*Rate by depth and inability to brighten up.*

0 No sadness.

1

2 Looks dispirited but does brighten up without difficulty.

3

4 Appears sad and unhappy most of the time.

5

6 Looks miserable all the time. Extremely despondent.

## 2. Reported sadness

*Representing reports of depressed mood, regardless of whether it is reflected in appearance or not. Includes low spirits, despondency or the feeling of being beyond help and without hope.*

*Rate according to intensity, duration and the extent to which the mood is reported to be influenced by events.*

0 Occasional sadness in keeping with the circumstances.

1

2 Sad or low but brightens up without difficulty.

3

4 Pervasive feelings of sadness or gloominess. The mood is still influenced by external circumstances.

5

6 Continuous or unvarying sadness, misery or despondency.



### 3. Inner tension

*Representing feelings of ill-defined discomfort, edginess, inner turmoil, mental tension mounting to either panic, dread or anguish.*

*Rate according to intensity, frequency, duration and the extent of reassurance called for.*

0 Placid. Only fleeting inner tension.

1

2 Occasional feelings of edginess and ill defined discomfort.

3

4 Continuous feelings of inner tension or intermittent panic which the patient can only master with some difficulty.

5

6 Unrelenting dread or anguish. Overwhelming panic

---

### 4. Reduced sleep

*Representing the experience of reduced duration or depth of sleep compared to the subject's own normal pattern when well.*

0 Sleeps as usual.

1

2 Slight difficulty dropping off to sleep or slightly reduced, light or fitful sleep.

3

4 Sleep reduced or broken by at least two hours.

5

6 Less than two or three hours sleep

---

### 5. Reduced appetite

*Representing the feeling of a loss of appetite compared with when well.*

*Rate by loss of desire for food or the need to force oneself to eat.*

0 Normal or increased appetite.

1

2 Slightly reduced appetite.

3

4 No appetite. Food is tasteless.

5

6 Needs persuasion to eat at all.



#### 6. Concentration Difficulties

*Representing difficulties in collecting one's thoughts mounting to incapacitating lack of concentration. Rate according to intensity, frequency, and degree of incapacity produced.*

0 No difficulties in concentrating.

1

2 Occasional difficulties in collecting one's thoughts.

3

4 Difficulties in concentrating and sustaining thought which reduces ability to read or hold a conversation.

5

6 Unable to read or converse without great difficulty.

---

#### 7. Lassitude

*Representing a difficulty getting started or slowness initiating and performing everyday activities.*

0 Hardly any difficulty in getting started. No sluggishness.

1

2 Difficulties in starting activities.

3

4 Difficulties in starting simple routine activities which are carried out with effort.

5

6 Complete lassitude. Unable to do anything without help.

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#### 8. Inability to feel

*Representing the subjective experience of reduced interest in the surroundings, or activities that normally give pleasure. The ability to react with adequate emotion to circumstances or people is reduced.*

0 Normal interest in the surroundings and in other people.

1

2 Reduced ability to enjoy usual interests.

3

4 Loss of interest in the surroundings. Loss of feelings or friends and acquaintances.

5

6 The experience of being emotionally paralysed, inability to feel anger, grief or pleasure and a complete or even painful failure to feel for close relatives and friends.



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### 9. Pessimistic thoughts

*Representing thoughts of guilt, inferiority, self-reproach, sinfulness, remorse and ruin.*

0 No pessimistic thoughts.

1

2 Fluctuating ideas of failure, self-reproach or self depreciation.

3

4 Persistent self-accusations, or definite but still rational ideas of guilt or sin. Increasingly pessimistic about the future.

5

6 Delusions of ruin, remorse or unredeemable sin. Self-accusations which are absurd and unshakable.

---

### 10. Suicidal thoughts

*Representing the feeling that life is not worth living, that a natural death would be welcome, suicidal thoughts, and preparations for suicide.*

*Suicidal attempts should not in themselves influence the rating.*

0 Enjoys life or takes it as it comes.

1

2 Weary of life. Only fleeting suicidal thoughts.

3

4 Probably better off dead. Suicidal thoughts are common, and suicide is considered as a possible solution, but without specific plans or intention.

5

6 Explicit plans for suicide when there is an opportunity. Active preparation for suicide.



## Geriatric Depression Scale (Short Form)

Patient's Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Instructions:** Choose the best answer for how you felt over the past week. Note: when asking the patient to complete the form, provide the self-rated form (included on the following page).

No.	Question	Answer	Score
1.	Are you basically satisfied with your life?	YES / No	
2.	Have you dropped many of your activities and interests?	YES / No	
3.	Do you feel that your life is empty?	YES / No	
4.	Do you often get bored?	YES / No	
5.	Are you in good spirits most of the time?	YES / No	
6.	Are you afraid that something bad is going to happen to you?	YES / No	
7.	Do you feel happy most of the time?	YES / No	
8.	Do you often feel helpless?	YES / No	
9.	Do you prefer to stay at home, rather than going out and doing new things?	YES / No	
10.	Do you feel you have more problems with memory than most people?	YES / No	
11.	Do you think it is wonderful to be alive?	YES / No	
12.	Do you feel pretty worthless the way you are now?	YES / No	
13.	Do you feel full of energy?	YES / No	
14.	Do you feel that your situation is hopeless?	YES / No	
15.	Do you think that most people are better off than you are?	YES / No	
		TOTAL	



# Non-cognitive domain-4

- ▶ A systematic review on instrumental activities of daily living (IADL) showed that:<sup>48</sup>
  - **Disability Assessment for Dementia (DAD) and**
  - **Bristol Activities of Daily Living Scale (Bristol ADL)**had the best ratings among 12 questionnaires despite lack of psychometric properties.

48. Sikkes SA, de Lange-de Klerk ES, Pijnenburg YA, et al. A systematic review of Instrumental Activities of Daily Living scales in dementia: room for improvement. Journal of neurology, neurosurgery, and psychiatry. 2009;80(1):7-12.



# Disability Assessment for Dementia (DAD)

During the past two weeks, did (name) \_\_\_\_\_, without help or reminder,

## HYGIENE

SCORING: YES=1 NO=0 N/A=Not Applicable

	Initiation	Planning & Organization	Effective Performance
Undertake to wash himself/herself or to take a bath or a shower			
Undertake to brush his/her teeth or care for his/her dentures			
Decide to care for his/her hair (wash and comb)			
Prepare the water, towels, and soap for washing, taking a bath or a shower			
Wash and dry completely all parts of his/her body safely			
Brush his/her teeth or care for his/her dentures appropriately			
Care for his/her hair (wash and comb)			

## DRESSING

Undertake to dress himself/herself			
Choose appropriate clothing (with regard to the occasion, neatness, the weather and color combination)			
Dress himself/herself in the appropriate order (undergarments, pants/dress, shoes)			
Dress himself/herself completely			
Undress himself/herself completely			

## CONTINENCE

Decide to use the toilet at appropriate times			
Use the toilet without "accidents"			

## EATING

Decide that he/she needs to eat			
Choose appropriate utensils and seasonings when eating			
Eat his/her meals at a normal pace and with appropriate manners			

## MEAL PREPARATION

Undertake to prepare a light meal or snack for himself/herself			
Adequately plan a light meal or snack (ingredients, cookware)			
Prepare or cook a light meal or a snack safely			

## TELEPHONING

Attempt to telephone someone at a suitable time			
Find and dial a telephone number correctly			
Carry out an appropriate telephone conversation			
Write and convey a telephone message adequately			



**TOT CPG Management of Dementia (Third Edition)**



During the past two weeks, did (name) \_\_\_\_\_, without help or reminder,

**GOING ON AN OUTING**

SCORING: YES=1 NO=0 N/A=Not Applicable

	Initiation	Planning & Organization	Effective Performance
Undertake to go out (walk, visit, shop) at an appropriate time			
Adequately organize an outing with respect to transportation, keys, destination, weather, necessary money, shopping list			
Go out and reach a familiar destination without getting lost			
Safely take the adequate mode of transportation (car, bus, taxi)			
Return from the store with the appropriate items			

**FINANCE AND CORRESPONDENCE**

Show an interest in his/her personal affairs such as his/her finances and written correspondence			
Organize his/her finance to pay his/her bills (cheques, bankbook, bills)			
Adequately organize his/her correspondence with respect to stationery, address, stamps			
Handle adequately his/her money (make change)			

**MEDICATIONS**

Decide to take his/her medications at the correct time			
Take his/her medications as prescribed (according to the right dosage)			

**LEISURE AND HOUSEWORK**

Show an interest in leisure activity(ies)			
Take an interest in household chores that he/she used to perform in the past			
Plan and organize adequately household chores that he/she used to perform in the past			
Complete household chores adequately as he/she used to perform in the past			
Stay safely at home by himself/herself when needed			

Comments:

SUB TOTAL / #applicable items	/	/	/
DAD TOTAL / #applicable items	/		
DAD TOTAL in %			



# Bristol Activities of Daily Living Scale (Bristol ADL)

## **1. FOOD**

- a. Selects and prepares food as required ☐ 0
- b. Able to prepare food if ingredients set out ☐ 1
- c. Can prepare food if prompted step by step ☐ 2
- d. Unable to prep food even w/ prompt & sup ☐ 3
- e. Not applicable ☐ 4

## **2. EATING**

- a. Eats appropriately using correct cutlery ☐ 0
- b. Eats appropriately if food made manageable and/or uses spoon ☐ 1
- c. Uses fingers to eat ☐ 2
- d. Needs to be fed ☐ 3
- e. Not applicable ☐ 4

## **3. DRINK**

- a. Selects and prepares drinks as required ☐ 0
- b. Can prepare drinks if ingredients made avail ☐ 1
- c. Can prep drinks if prompted step by step ☐ 2
- d. Unable to make drink even w/ prompt/sup ☐ 3
- e. Not applicable ☐ 4

## **4. DRINKING**

- a. Drinks appropriately ☐ 0
- b. Drinks appropriately w/ aids, beaker/ straw etc. ☐ 1
- c. Does not drink appropriately even with aids but attempts to ☐ 2
- d. Has to have drinks administered (fed) ☐ 3
- e. Not applicable ☐ 4

## **5. DRESSING**

- a. Selects approp clothing & dresses self ☐ 0
- b. Puts clothes on in wrong order and/or back to front and or dirty clothing ☐ 1
- c. Unable to dress self, but moves limbs to assist ☐ 2
- d. Unable to assist and requires total dsg ☐ 3
- e. Not applicable ☐ 4

## **6. HYGIENE**

- a. Washes regularly and independently ☐ 0
- b. Can wash self if given soap, towel, etc ☐ 1
- c. Can wash self if prompted and supervised ☐ 2
- d. Unable to wash self and needs full assist ☐ 3
- e. Not applicable ☐ 4

## **7. TEETH**

- a. Cleans own teeth/dentures regularly and I ☐ 0
- b. Cleans teeth/dentures if given approp items ☐ 1
- c. Requires some assist, toothpaste on brush ☐ 2
- d. Full assistance given ☐ 3
- e. Not applicable ☐ 4

## **8. BATH/SHOWER**

- a. Bathes regularly and independently ☐ 0
- b. Needs bath to be drawn/shower turned on but washes independently ☐ 1
- c. Needs supervision and prompting to wash ☐ 2
- d. Total dependent, needs supervision ☐ 3
- e. Not applicable ☐ 4



**9. TOILET/COMMODE**

- a. Uses toilet appropriately when required [ ] 0
- b. Needs to be taken to toilet, & given assist [ ] 1
- c. Incontinent of urine or feces [ ] 2
- d. Incontinent of urine and feces [ ] 3
- e. Not applicable [ ] 4

**10. TRANSFERS**

- a. Can get in/out of chair unaided [ ] 0
- b. Can get in chair but needs help to get out [ ] 1
- c. Needs help getting in and out of a chair [ ] 2
- d. Totally dependent on being put into and lifted from a chair [ ] 3
- e. Not applicable [ ] 4

**11. MOBILITY**

- a. Walks independently [ ] 0
- b. Walks w/assist, ie. furniture, arm for supp [ ] 1
- c. Uses aid to mobilize, ie. frame, stick, etc [ ] 2
- d. Unable to walk [ ] 3
- e. Not applicable [ ] 4

**12. ORIENTATION-TIME**

- a. Fully orientated to time/day/date etc. [ ] 0
- b. Unaware of time/day etc. but seems unconcerned [ ] 1
- c. Repeatedly ask the time/day/date [ ] 2
- d. Mixes up night and day [ ] 3
- e. Not applicable [ ] 4

**13. ORIENTATION-SPACE**

- a. Fully oriented to surroundings [ ] 0
- b. Oriented to familiar surroundings only [ ] 1
- c. Gets lost in home, needs reminding where bathroom is, etc. [ ] 2
- d. Does not recognize home as own and attempts to leave [ ] 3
- e. Not applicable [ ] 4

**14. COMMUNICATION**

- a. Able to hold appropriate conversation [ ] 0
- b. Shows understanding and attempts to respond verbally with gestures [ ] 1
- c. Can make self understood but difficulty understanding others [ ] 2
- d. Does not respond to or communicate with others [ ] 3
- e. Not applicable [ ] 4

**15. TELEPHONE**

- a. Uses telephone appropriately, including obtaining correct number [ ] 0
- b. Uses telephone if number given verbally visually or pre-dialed [ ] 1
- c. Answers telephone but doesn't make calls [ ] 2
- d. Unable/unwilling to use telephone at all [ ] 3
- e. Not applicable [ ] 4

**16. HOUSEWORK/GARDENING**

- a. Able to do housework/gardening to previous standard [ ] 0
- b. Able to do housework/gardening but not to previous standard [ ] 1
- c. Limited participation even with a lot of sup [ ] 2
- d. Unwilling unable to participate in previous activities [ ] 3
- e. Not applicable [ ] 4

**17. SHOPPING**

- a. Shops to previous standards [ ] 0
- b. Only able to shop for 1- 2 items w/ or w/o a list [ ] 1
- c. Unable to shop alone, but participates when accompanied [ ] 2
- d. Unable to participate in shopping even when accompanied [ ] 3
- e. Not applicable [ ] 4

**18. FINANCES**

- a. Responsible for own finances at prev level [ ] 0
- b. Unable to write check but can sign name and recognizes money value [ ] 1
- c. Can sign name but unable to recognize money value [ ] 2
- d. Unable to sign name or recognize money value [ ] 3
- e. Not applicable [ ] 4

**19.GAMES/HOBBIES**

- a. Participate in pastimes/activities to previous standards [ ] 0
- b. Participates but needs instruction/ supervision [ ] 1
- c. Reluctant to join in, very slow, needs coaxing [ ] 2
- d. No longer able or willing to join in [ ] 3
- e. Not applicable [ ] 4

**20. TRANSPORT**

- a. Able to drive, cycle or use public transportation independently [ ] 0
- b. Unable to drive but uses public transportation or bike etc. [ ] 1
- c. Unable to use public transportation alone [ ] 2
- d. Unable/unwilling to use transport even when accompanied [ ] 3
- e. Not applicable [ ] 4

**TOTAL SCORE:**

0 = totally independent  
60 = totally dependent



# Non-cognitive domain-5

- ▶ In another systematic review on caregiver burden, the **Zarit Burden Interview** (ZBI, 22-item version) had<sup>49</sup>
  - strong psychometric properties [reliability (Cronbach's alpha ranging from 0.70 to 0.93) and validity] and
  - had been used for caregivers in the care of PWD.

49. Whalen KJ, Buchholz SW. The reliability, validity and feasibility of tools used to screen for caregiver burden: a systematic review. JBI library of systematic reviews. 2009;7(32):1373-430.



# Zarit Burden Interview Scale

## The Zarit Burden Interview

- 0: NEVER  
1: RARELY  
2: SOMETIMES  
3: QUITE FREQUENTLY  
4: NEARLY ALWAYS

Please circle the response the best describes how you feel.

Question	Score
1 Do you feel that your relative asks for more help than he/she needs?	0 1 2 3 4
2 Do you feel that because of the time you spend with your relative that you don't have enough time for yourself?	0 1 2 3 4
3 Do you feel stressed between caring for your relative and trying to meet other responsibilities for your family or work?	0 1 2 3 4
4 Do you feel embarrassed over your relative's behaviour?	0 1 2 3 4
5 Do you feel angry when you are around your relative?	0 1 2 3 4
6 Do you feel that your relative currently affects our relationships with other family members or friends in a negative way?	0 1 2 3 4
7 Are you afraid what the future holds for your relative?	0 1 2 3 4
8 Do you feel your relative is dependent on you?	0 1 2 3 4
9 Do you feel strained when you are around your relative?	0 1 2 3 4
10 Do you feel your health has suffered because of your involvement with your relative?	0 1 2 3 4
11 Do you feel that you don't have as much privacy as you would like because of your relative?	0 1 2 3 4
12 Do you feel that your social life has suffered because you are caring for your relative?	0 1 2 3 4

Question	Score
13 Do you feel uncomfortable about having friends over because of your relative?	0 1 2 3 4
14 Do you feel that your relative seems to expect you to take care of him/her as if you were the only one he/she could depend on?	0 1 2 3 4
15 Do you feel that you don't have enough money to take care of your relative in addition to the rest of your expenses?	0 1 2 3 4
16 Do you feel that you will be unable to take care of your relative much longer?	0 1 2 3 4
17 Do you feel you have lost control of your life since your relative's illness?	0 1 2 3 4
18 Do you wish you could leave the care of your relative to someone else?	0 1 2 3 4
19 Do you feel uncertain about what to do about your relative?	0 1 2 3 4
20 Do you feel you should be doing more for your relative?	0 1 2 3 4
21 Do you feel you could do a better job in caring for your relative?	0 1 2 3 4
22 Overall, how burdened do you feel in caring for your relative?	0 1 2 3 4

Interpretation of Score:

- 0 - 21 little or no burden  
21 - 40 mild to moderate burden  
41 - 60 moderate to severe burden  
61 - 88 severe burden

Patient last name: .....  
Patient first name: .....

Date of birth: ...../...../.....  
Date: ...../...../.....



**TOT CPG Management of Dementia (Third Edition)**

# Structural neuroimaging (CT / MRI)

- ▶ CT or MRI of brain
  - Usually offered in the assessment of people with suspected dementia, to exclude potentially reversible causes of cognitive decline, or cerebral pathologies.<sup>42, 50</sup>
  - May assist in subtype diagnosis.<sup>42, 50</sup>
  - MRI is recommended if dementia subtype is uncertain, and vascular dementia is suspected.<sup>42</sup>
  - CT can be used if MRI is unavailable or contraindicated. It is more readily available and better tolerated.

42. National Institute for Health and Care Excellence (NICE). Dementia: assessment, management and support for people living with dementia and their carers. London: NICE; 2018.

50. Guideline Adaptation Committee. Clinical Practice Guidelines and Principles of Care for People with Dementia. Sydney: Guideline Adaptation Committee; 2016.





# Functional neuroimaging

- ▶ Should only be considered if it helps to diagnose a dementia subtype and change the patient's subsequent management.<sup>42</sup>
- FDG-PET
- SPECT
- DAT





# Electroencephalogram (EEG)

- ▶ EEG is not routinely used in the investigation of dementia.<sup>42, 50</sup>
- ▶ Should be considered when there is rapid cognitive decline and atypical features of dementia
  - e.g. CJD, autoimmune / limbic encephalitis



# Cerebrospinal fluid (CSF) biomarkers

- ▶ After clinical assessment and structural neuroimaging, if the diagnosis is still uncertain and AD is suspected:<sup>42</sup>
  - Lumbar puncture to examine the CSF:
    - Total tau
    - Phosphorylated-tau 181
    - Amyloid beta 1-42 and 1-40
- ▶ Not readily available



# Take Home Message

## **Recommendation 2**

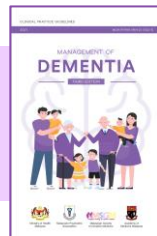
- The diagnosis of dementia should be based on detailed history and physical examination, and supported by cognitive, functional and behavioural evaluation.

## **Recommendation 4**

- Diagnosis of dementia should be made based on Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) or the International Classification of Diseases, Tenth Revision (ICD-10)



# Thank You



**Training of Core Trainers on  
CPG Management of Dementia  
(Third Edition)**