Dementia Mood Assessment Scale

Trey Sunderland and Marcia Minichiello

The behavioral symptoms seen in patients with dementia are diverse, ranging from agitation to hallucinations and paranoid delusions. Many patients with dementia have affective disturbances, including depressed mood. To provide a means of assessing the severity of depression and mood changes in demented patients, the authors and colleagues at the National Institute of Mental Health developed the Dementia Mood Assessment Scale.

DEVELOPMENT AND RELIABILITY OF THE DEMENTIA MOOD ASSESSMENT SCALE

We modeled the Dementia Mood Assessment Scale (DMAS) after the Hamilton Depression Scale but did not include its subjective aspects, which make the scale too difficult for patients with dementia to complete. The DMAS consists of 24 items (see Table 1), with items 1 to 17 used to assess the severity of depression and items 18 to 24 used to rate the overall severity of dementia. Each item is rated on a 6-point scale of severity. Ratings are made by trained interviewers based on input from nursing staff (for inpatients) or family caregivers (for outpatients). The behaviors rated typically are those that occurred within the preceding week.

The DMAS has proved reliable in inpatients with mild to moderate dementia; for patients with severe dementia, depressed mood is virtually impossible to measure, no matter what the tool. The authors and colleagues have obtained high, statistically significant intraclass correlation coefficients with the DMAS in short-term drug trials. Because close supervision of patients is needed to obtain accurate data, the DMAS has primarily been used with inpatients, although there is a good correlation between caregiver ratings and staff ratings. Therefore, this scale could also be useful in outpatient trials, and evidence for such use is accumulating in the NIMH outpatient clinic and at other research centers.

FINDINGS BASED ON THE DEMENTIA MOOD ASSESSMENT SCALE

In a factor analysis of 17-item DMAS data from 54 inpatients with mild to moderate Alzheimer’s disease, the authors and colleagues found that four

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### TABLE 1. Items on the Dementia Mood Assessment Scale

<table>
<thead>
<tr>
<th>Mood-related items</th>
<th>Cognition-related items</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Self-directed motor activity</td>
<td>• Diurnal mood variation</td>
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<tr>
<td>• Insomnia / daytime drowsiness</td>
<td>• Diurnal cognitive variation</td>
</tr>
<tr>
<td>• Decreased / increased appetite</td>
<td>• Paranoid symptoms</td>
</tr>
<tr>
<td>• Psychosomatic complaints</td>
<td>• Other psychotic symptoms</td>
</tr>
<tr>
<td>• Energy</td>
<td>• Expressive communication skills</td>
</tr>
<tr>
<td>• Irritability</td>
<td>• Receptive cognitive capacity</td>
</tr>
<tr>
<td>• Physical agitation</td>
<td>• Cognitive insight</td>
</tr>
<tr>
<td>• Anxiety</td>
<td></td>
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<tr>
<td>• Depressed appearance</td>
<td></td>
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<tr>
<td>• Awareness of emotional state</td>
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<tr>
<td>• Emotional responsiveness</td>
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<tr>
<td>• Sense of enjoyment</td>
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<tr>
<td>• Self-esteem</td>
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<tr>
<td>• Guilt feelings</td>
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<tr>
<td>• Hopelessness/helplessness</td>
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<tr>
<td>• Suicidal ideation</td>
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<tr>
<td>• Speech</td>
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</table>

Factors—depression, social interaction, anxiety, and vegetative symptoms—explained 70% of the total variation. They have also looked at the relationship between DMAS scores and global ratings of depression, anxiety, and mood. They found a significant correlation between DMAS scores and global depression ratings, with a correlation coefficient of .75. The relationship between 17-item DMAS scores and scores on the Global Deterioration Scale was not statistically significant, indicating that the degree of depression is not related to the severity of the underlying dementia.

In a comparison of 112 patients with Alzheimer’s disease and 10 patients with either non-Alzheimer’s dementia, Parkinson’s disease, Pick’s disease, or Lewy body variant dementia, the authors and colleagues found that DMAS scores were somewhat higher in the patients with disorders other than Alzheimer’s disease. They also found that 40% of the 112 patients with Alzheimer’s disease had moderate or severe depression that was considered treatable with antidepressants.

**CONCLUSION**

The DMAS is a rating scale developed specifically to measure the severity of depression in patients with mild to moderate dementia. It is not intended to be used with severely demented patients, nor is it meant to be a diagnostic instrument for depression. Furthermore, the DMAS was developed with an inpatient population, but recent studies suggest that outpatient assessments with caregiver informants may also be reliable, thereby expanding the usefulness of this scale. For instance, the DMAS might be considered as a measure of mood state in longer-term studies with Alzheimer’s disease patients.
SUGGESTED READING


Offprints. Requests for offprints should be directed to Trey Sunderland, MD, National Institute of Mental Health, Building 10, Room 3D41, Bethesda, MD 20892, U.S.A.
Dementia Mood Assessment Scale (DMAS)

Patient's Name: __________________________ Date: ______________

Rater's Name: ______________________________

Instructions: Based on a clinical interview and objective information from family or professional staff, select the description that comes closest to portraying the patient. Comparison should be made to the expected level of functioning for his/her age group. Each item is to be rated on a continuum of "0" (within normal limits) to "6" (most severe). The descriptors are intended as general indicators of severity. The presence of any particular descriptive term is not required to place an individual in a certain range, nor is its absence a reason to tolerate a rating. When the subject falls between descriptors, the half steps (i.e., 1, 3, and 5) should be used. Please refer to the expanded guidelines for further explanation.

1. Self-Directed Motor Activity
   0 = Remains active in day-to-day pursuits (irrespective of skills or ability).
   1 =
   2 = Participates in planned activities but may need some guidance structuring free time.
   3 =
   4 = Needs much direction with unstructured time but still participates in planned activities.
   5 =
   6 = Little or no spontaneous activity initiated. Does not willingly participate in activities even with much direction.

2. Sleep (Rate A and B)
   A. Insomnia
      0 = No insomnia/restlessness.
      1 =
      2 = Restlessness at night or occasional insomnia (greater than one hour). May complain of poor sleep.
      3 =
      4 = Intermittent early morning awakening or frequent difficulty falling asleep (greater than one hour). May get out of bed briefly for purposes other than voiding.
      5 =
      6 = Almost nightly sleep difficulties, insomnia, frequent awakening, and/or agitation, which is profoundly disturbing the patient's sleep-wake cycle.
   B. Daytime Drowsiness
      0 = No apparent drowsiness.
      1 =
      2 = May appear drowsy during the day with occasional napping.
      3 =
      4 = May frequently nod off during the day.
      5 =
      6 = Continuously attempts to sleep during the day.

3. Appetite (Rate either A or B)
   A. Decreased appetite
      0 = No decreased appetite.
      1 =
      2 = Shows less interest in meals.
      3 =
      4 = Reports loss of appetite or shows greater than 1 pound/week weight loss.
      5 =
      6 = Requires urging or assistance in eating or shows greater than 2 pounds/week weight loss.
B. Increased Appetite
0 = No increased appetite.
1 =
2 = Shows increased interest in meals and meal planning.
3 =
4 = Snacking frequently in addition to regular meal schedule or weight gain of greater than 1 pound/week.
5 =
6 = Excessive eating throughout the day or weight gain of greater than 2 pounds/week.

4. Psychosomatic Complaints
0 = Not present or appropriate for physical condition.
1 =
2 = Overconcern with health issues (i.e., real or imaginary medical problems).
3 =
4 = Frequent physical complaints or repeated requests for medical attention out of proportion to existing conditions.
5 =
6 = Preoccupied with physical complaints. May focus on specific complaints to the exclusion of other problems.

5. Energy
0 = Normal energy level.
1 =
2 = Slight decrease in general energy level.
3 =
4 = Appears tired often. Occasionally misses planned activities because of “fatigue.”
5 =
6 = Attempts to sit alone in a chair or lie in bed much of day. Appears exhausted despite low activity level.

6. Irritability
0 = No more irritable than normal.
1 =
2 = Overly sensitive; showing low tolerance to normal frustrations; sarcastic.
3 =
4 = Impatient, demanding, frequent angry reactions.
5 =
6 = Global irritability that cannot be relieved by diversion or explanation.

7. Physical Agitation
0 = No physical restlessness or agitation noted.
1 =
2 = Fidgetiness (i.e., plays with hands or taps feet) or bodily tension.
3 =
4 = Has trouble sitting still. May move from place to place without obvious purpose.
5 =
6 = Hand wringing or frequent pacing. Unable to sit in one place for structured activity.

8. Anxiety
0 = No apparent anxiety.
1 =
2 = Apprehension or mild worry noted but able to respond to reassurance.
3 =
4 = Frequent worries about minor matters or overconcern about specific issues. Tension usually obvious in facial countenance or manner. May require frequent reassurances.
5 =
6 = Constantly worried and tense. Requires almost constant attention and reassurance to maintain control of anxiety.

9. Depressed Appearance
0 = Does not appear depressed and denies such when questioned directly.
1 =
2 = Occasionally seems sad or downcast. May admit to “spirits” being low from time to time.
3 =
4 = Frequently appears depressed, irrespective of ability to express or explain underlying thoughts.
Appendix

5 = Shows mostly depressed appearance even to casual observer. May be associated with frequent crying.
6 = Fully acknowledges emotional condition. Expressed emotions are congruent with current situation.  
1 = Occasionally denies feelings appropriate to situation.
2 = Frequently denies emotional reactions. May display some appropriate feelings with focused discussion of individual issues.
3 = Persistently denies emotional state, even with direct confrontation.

10. Awareness of Emotional State

1 = Reduced animation. May display less pleasure.
2 = Infrequent display of pleasure. May show less enjoyment of family or friends.
3 = Rarely expresses pleasure or enjoyment, even when taking part in formerly consuming interests.

11. Emotional Responsiveness

0 = Smiles and cries in appropriate situations. Establishes eye contact regularly. Speaks and jokes spontaneously in groups.
1 = Occasionally avoids eye contact but able to respond appropriately when addressed by others. Sometimes may appear distant when sitting in social situations, as if not paying attention.
2 = Often sitting with blank stare while with others. Responses usually show limited variation of facial expression.
3 = Does not seek social interaction. Shows little emotion, even when in the presence of loved ones. Seems unable to react to emotional situations, either positively or negatively (i.e., calm or "bland").

12. Sense of Enjoyment

0 = Appears to enjoy activities, friends, and family normally.
1 =
2 = Questions ability to cope with life and future. May ask for assistance with simple tasks or decisions that are within his/her capacity.

3 =
4 = Pessimistic about the future but can be reassured. Frequently seeks assistance regardless of need.

5 =
6 = Feels hopeless about the future. Expresses beliefs of having little or no control over life.

16. Suicidal Ideation
0 = Absent. Denies any thoughts of suicide.

1 =
2 = Feels life is not worth living or states that others would be better off without him/her. Not consciously pursuing any plans for self-harm.

3 =
4 = Thoughts of possible death to self; may wish to die in his/her sleep or pray for "God to take me now."

5 =
6 = Any attempt, gesture, of specific plan or suicide.

17. Speech
0 = Normal rate and rhythm with usual tonal variability. Speech is audible, clear, and fluent.

1 =
2 = Noticeable pauses during conversation. Voice may be low, soft, or monotonous.

3 =
4 = Reduced spontaneous speech. Responses to direct questions are less fluent or mumbled. Initiates little conversation; difficult to hear.

5 =
6 = Rarely speaks spontaneously. Speech is difficult to understand.

18. Diurnal Mood Variation
A. Note whether mood appears worse in morning or evening. If no diurnal variation, mark "none."
   0 = None
   1 =
   2 = Worse in morning.
   3 =
   4 = Worse in evening.

B. When present, mark the severity of the variation. Mark "none" if no variation is present.
   0 = None
   1 =
   2 = Mild
   3 =
   4 = Moderate
   5 =
   6 = Severe

19. Diurnal Cognitive Variations
A. Note whether general cognitive abilities appear worse in morning or evening. If no diurnal variation, mark "none."
   0 = None
   1 =
   2 = Worse in morning.
   3 =
   4 = Worse in evening.

B. When present, mark the severity of the variation. Mark "none" if no variation is present.
   0 = None
   1 =
   2 = Mild
   3 =
   4 = Moderate
   5 =
   6 = Severe

20. Paranoid Symptoms
0 = None
1 =
2 = Occasionally suspicious of harm or watching others closely. Guarded with personal questions.
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3 = Shows intermittent ideas of reference or frequent suspiciousness.
4 = Shows delusions of reference to self or others.
5 = Paranoia.
6 = Paranoic delusions or overt thoughts of persecution.

21. Other Psychotic Symptoms
0 = None
1 = Occasionally misinterprets sensory input or experiences illusions.
2 = Frequently misinterprets sensory input.
3 = Overt hallucinations or non-paranoid delusions.

22. Expressive Communication Skills
0 = Able to make self understood, even to strangers.
1 = Sometimes has difficulty communicating with others, but is able to make self understood with additional effort (e.g., visual cues).
2 = Frequently has trouble expressing ideas to others.

6 = Marked difficulty communicating ideas to others, even family members and significant others.

23. Receptive Cognitive Capacity
0 = Appears to grasp ideas normally.
1 = Experiences occasional difficulty understanding complex statements expressed by others.
2 = Frequently misunderstands or fails to comprehend issues when addressed directly, despite repeated attempts.
3 = Needs multiple modalities of communication (e.g., verbal, visual, and/or physical prompts) to comprehend basic task.

24. Cognitive Insight
0 = Normal cognitively or shows insight into deficits.
1 = Admits to some, but not all of his/her cognitive difficulties.
2 = Intermittently denies cognitive deficits even when pointed out by others.
3 = Denies cognitive difficulties even when they are obvious to casual observers.

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