Importance of Informants in Dementia Evaluation

ADC Administrators Meeting
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Definition of Dementia

- Dementia: Impairment in 2 or more cognitive domains sufficient to interfere with activities of daily living
- Impairment: Decline in cognitive function from previously attained levels
- Dementia diagnosis requires cognitive decline for that individual – principle of *intra-individual change*
Detection of Dementia

- Intra-individual cognitive change:
  - Serial cognitive testing (prospective); or
  - Informant hx (use patient as own control)
- Interference with activities of daily living
  - Informant hx
- Inter-individual comparison: cognitive test performance in relation to age- and education-matched norms; may not reflect either cognitive change or functional impairment
Limitations of Cognitive Tests

- Demography affects performance; poorer with:
  - Increasing age
  - Less education
  - Female sex
  - Rural residency
  - Lower occupational level
  - Minority status
  - Cultural, ethnic, and linguistic variables

- Cultural biases: measures developed and standardized among whites

- In nondemented elderly, equivalent in functional status and adjusted for education, 21% of AA vs 11% of whites met neuropsychologic criteria for “impairment sufficient for a dx of dementia”
Self-Reported Cognitive Function

- Memory complaints are common (44% of normal elderly) but often are unrelated to disease.
- Self-reported cognitive normality or impairment is unreliable:
  - Does not correlate with psychometric performance.
  - Does not predict future onset of dementia.
- In contrast, informant reports are reliable guides of current cognitive status and, in nondemented elderly, predict development of dementia.
Informant-based Assessment of Dementia

Advantages

- Face valid (relevant to everyday cognitive function)
- Longitudinal perspective (assess change)
- Cultural fairness (not confounded by demography)
- Absence of ceiling and floor effects
- Absence of practice effects
- Accurate; sensitive to even very mild dementia
Longitudinal Factor Scores for a Control Who Became Demented
Informant-based Assessment of Dementia

Disadvantages
- Informant availability
- Time
Characteristics of Informants

- Relationship to participant
  - ADRC:
    » 47% spouse;
    » 38% adult child;
    » 15% other relative, friend, health professional
  - Community: of 225 randomly sampled older AA, 93% had informants
    » 17% spouse
    » 24% adult child
    » 21% other relative
    » 37% friend

- Frequency of contact
  - Living with participant/see frequently = most accurate
  - With less exposure, informants underestimate level of impairment
## Psychometric Performance

<table>
<thead>
<tr>
<th>Measures</th>
<th>79 yo Participant (1998)</th>
<th>Norms for 142 CDR 0 controls (mean age = 71.4 y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMSE (30-0)</td>
<td>26</td>
<td>26-30</td>
</tr>
<tr>
<td>Logical Memory</td>
<td>3.5</td>
<td>7.7 (3.4)</td>
</tr>
<tr>
<td>Digit Span (F)</td>
<td>6</td>
<td>6.6 (1.2)</td>
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<tr>
<td>Digit Span (B)</td>
<td>4</td>
<td>4.7 (1.3)</td>
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<tr>
<td>Word Fluency</td>
<td>28</td>
<td>28.6 (10)</td>
</tr>
<tr>
<td>Boston Naming</td>
<td>58</td>
<td>53.2 (7.1)</td>
</tr>
<tr>
<td>WAIS Digit Symbol</td>
<td>50</td>
<td>43.5 (13.3)</td>
</tr>
<tr>
<td>WAIS Block Design</td>
<td>40</td>
<td>29.5 (9.1)</td>
</tr>
</tbody>
</table>
MCI / Early-Stage AD
Midfrontal Cortex

Bielschowsky, 400x

1005 Aβ + PHF-1 tau, 400x
83 yo Female
**Psychometric Performances: PIB CDR 0.5 Participant (83F)**

<table>
<thead>
<tr>
<th>Measures</th>
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<td>24</td>
<td>29.5 (9.1)</td>
</tr>
<tr>
<td>Trails B (sec)</td>
<td>145</td>
<td>105 (45.6)</td>
</tr>
</tbody>
</table>

★ ≥ 1 SD below norms
83 yo Female
8-item Informant Interview to Differentiate Aging and Dementia* (PPV = 87% for CDR 0 vs CDR ≥ 1)

Report only a change caused by memory and thinking difficulties:

1. Is there repetition of questions, stories, or statements?
2. Are appointments forgotten?
3. Is there poor judgment (eg, buys inappropriate items, poor driving decisions)?
4. Is there difficulty with financial affairs (eg, paying bills, balancing checkbook)?
5. Is there difficulty in learning or operating appliances (eg, television remote control, microwave oven)?
6. Is the correct month or year forgotten?
7. Is there decreased interest in hobbies and usual activities?
8. Is there overall a problem with thinking and/or memory?

*Adapted from Galvin et al, “The AD8: A Brief Informant-Interview to Detect Dementia”, Neurology. 2005;65:559-564.
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REFERENCES

Semi-structured informant interviews


Sensitivity and accuracy of informants in detection of dementia


**Subjective memory complaint**


**Factors affecting cognitive test performance**


