Inter-rater Reliability Between Expert and Nonexpert Physicians in the Designation of Amnestic MCI in the Community Setting

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OBJECTIVE

Physicians in the designation of amnestic MCI in the community setting - Drug or alcohol abuse or dependence within the last 5 years

METHODS

1. In cases where the expert designation was: aMCI, nonexperts incorrectly designated 15 subjects with NCI and 6 subjects with AD. AD, nonexperts incorrectly designated 6 subjects with aMCI and 3 subjects with NCI. NCI, nonexperts incorrectly designated 4 subjects with aMCI, 3 were incorrectly designated AD, and 5 were incorrectly designated NCI.

RESULTS

Three-Category Analysis (aMCI vs NCI or AD)

Table 3. Analysis of Inter-rater Agreement – Evaluable Subjects (Binary Outcome).

<table>
<thead>
<tr>
<th>Category</th>
<th>Evaluable</th>
<th>aMCI</th>
<th>NCI</th>
<th>AD</th>
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<tr>
<td>aMCI</td>
<td>31 (26.1%)</td>
<td>14 (11.8%)</td>
<td>45 (37.8%)</td>
<td>69 (58.0%)</td>
</tr>
<tr>
<td>NCI</td>
<td>19 (16.0%)</td>
<td>55 (46.2%)</td>
<td>74 (62.2%)</td>
<td>94 (78.6%)</td>
</tr>
<tr>
<td>AD</td>
<td>3 (2.6%)</td>
<td>24 (20.0%)</td>
<td>39 (33.1%)</td>
<td>66 (55.3%)</td>
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Log-Linear Model

Three-category analysis yielded an overall agreement rate, sensitivity, and specificity calculations.

Figure 1. Subject Disposition.

Table 2. Subject Demographics.

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Nonexperts regularly treated patients in the age range of the study but were not board-certified in psychiatry or geriatrics. They had no prior medical education in the area of MCI, and had no previous experience using specialized diagnostic tools.

CONCLUSIONS

Nonexperts correctly designated 31 of the 50 subjects with aMCI and 55 of the 69 subjects without aMCI (Table 3). This demonstrates a strong relationship between the expert's mCDR and the pattern of observed agreement across all 3 categories of classification.

Nonexperts had lower sensitivity for designating AD and NCI than for NCI, suggesting that they had more difficulty differentiating these cases.

Nonexperts showed lower sensitivity and specificity for designating aMCI AD NCI Total Statistic 95% CI


Figure 2. Analysis of Inter-rater Agreement – Evaluable Subjects (3-Category Outcome).

Table 4. Analysis of Inter-rater Agreement – Evaluable Subjects (3-Category Outcome).