The minimum data set depression rating scale (MDSDRS) lacks reliability for identifying depression among older adults living in nursing homes


Q Does the MDSDRS reliably detect depression in older adults living in nursing homes?

METHODS

Design: Prospective cohort study.

Setting: Three nursing homes in Iowa, USA; timeframe not specified.

Patients: 145 nursing home residents, aged >60 years (mean age 84 years, 63% women) with complete Minimum Data Set (MDS) information. 21% were diagnosed with dementia, and 28% with depression.

Test: The MDSDRS was completed from the MDS. The MDSDRS scores the following 7 mood items: resident made negative statements; persistent anger and irritability; expressions of seemingly unrealistic fears; repetitive health complaints; repetitive anxious complaints; sad, pained, or worried facial expressions, and crying or tearfulness, on a scale from 0 (not exhibited in the preceding 30 days) to 2 (exhibited daily or almost daily).

Diagnostic standard: Research staff assessed all participants with the Hamilton Depression rating scale (HDRS) and the Geriatric Depression Scale (GDS).

Outcomes: Correlation between each of the 7 items comprised within the MDSDRS and the HDRS, the GDS, and chart diagnoses of depression.

<table>
<thead>
<tr>
<th>Test</th>
<th>MDSDRS</th>
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<th>MDSDRS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>&lt;1</td>
<td>≥1</td>
<td>≥2</td>
<td>≥3</td>
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<tr>
<td>GDS: correlation</td>
<td>0.13</td>
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<tr>
<td>GDS ≥ 11: sensitivity</td>
<td>0.46</td>
<td>0.24</td>
<td>0.16</td>
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<tr>
<td>GDS ≥ 11: specificity</td>
<td>0.70</td>
<td>0.82</td>
<td>0.94</td>
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<tr>
<td>GDS ≥ 14: sensitivity</td>
<td>0.57</td>
<td>0.29</td>
<td>0.21</td>
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<tr>
<td>GDS ≥ 14: specificity</td>
<td>0.69</td>
<td>0.82</td>
<td>0.92</td>
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<tr>
<td>Chart Dx: sensitivity</td>
<td>0.47</td>
<td>0.32</td>
<td>0.23</td>
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</tr>
<tr>
<td>Chart Dx: specificity</td>
<td>0.72</td>
<td>0.86</td>
<td>0.97</td>
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<tr>
<td>Chart Dx: correlation</td>
<td>0.31</td>
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<tr>
<td>HDRS: sensitivity</td>
<td>0.69</td>
<td>0.46</td>
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<td>HDRS: specificity</td>
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</table>

GDS cut off score of 14 represents mild depression.
GDS cut off score of 11 represents major depression.
MDSDRS cut off score of 3 maximises sensitivity to mild and moderate depression.

MAIN RESULTS

When validated against the HDRS and GDS, the MDSDRS did not perform well. At all cut off scores, sensitivity rates and correlations with HDRS and GDS were low, although the specificity was acceptable (see table).

CONCLUSIONS

The MDSDRS may not be the most appropriate scale for identifying depression among older people living in nursing homes.

Commentary

In the nursing home setting, depression is a prevalent disorder associated with a diminished quality of life, behavioral symptoms, and increased severity of pain from physical illnesses. Often unrecognised, but treatable even in frail nursing home residents, depression is an appropriate screening target. The Minimum Data Set (MDS) and the Resident Assessment Protocols are intended to facilitate depression screening and treatment but have been plagued by inadequate psychometric performance, with prior works showing limited reliability of the mood items, poor correlations with gold standard research instruments, and little ability to identify significantly depressed residents.1,2 MDS version 2.0 and new approaches to scoring the MDS depression items established by Burrows et al were hoped to improve MDS performance.

However, the current study by Anderson et al suggests that the MDS remains of limited screening use. In a well performed study across different types of nursing homes, they compared routinely collected MDS data with two validated research instruments, including one appropriate for demented residents. They again find low MDS Depression Rating Scale (MDSDRS) correlations and sensitivities. This study is important as it represents a “real world” evaluation of the MDSDRS with MDS data collected routinely and blinded to the research data collection. This is in contrast to the initial MDSDRS validation study in which the MDS data were collected by staff observing the research data being collected.

The reasons for the limited psychometric performance of the MDSDRS remain unclear but may come from limited inter rater reliability, inadequate staff training regarding evaluating the MDSDRS items, or a more fundamental conceptual problem with diagnosing depression from a totally observational protocol. Until the MDS depression items function better, use of more established instruments for clinical or research purposes is warranted and recommended by several organisations.3

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Notes