SHORT REPORT

Elderly medical inpatients screening positive for depression may show spontaneous improvement after discharge

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Abstract

Objective: to see whether elderly medical in-patients screening positive for depression on the Geriatric Depression Score show any change on discharge home and whether their scores predict this.

Design: a prospective study.

Setting: a large outer London district general hospital with acute wards for all medical admissions of people aged over 75 years.

Participants: we studied 179 consecutive patients admitted to the acute wards with an abbreviated mental test score of ≥7 who were resident within the London borough of Waltham Forest.

Main outcome measure: Geriatric Depression Scores in hospital and at home after discharge. Account was taken of subsequent psychiatric treatment.

Results: 55 inpatients screened positive for depression (15× point Geriatric Depression Score of 5 or more). Repeat screening of these patients, after discharge, resulted in 24 scoring ≤5 and only 19 scoring ≥5. Three patients out of the 55 were admitted into psychiatric care with depression prior to follow-up screening. The 15 question Geriatric Depression Score was highly sensitive and the 4 question Geriatric Depression Score highly specific in predicting for depression after discharge.

Conclusion: many patients screen positive for depression on acute elderly medical admission wards and nearly half improve spontaneously upon returning home.

Keywords: depression, assessment, elderly people

Introduction

There is extensive literature discussing screening elderly medically ill patients for depression, with reported incidences of 12% to 58% [1–5]. The significance of depression in these patients is suggested by studies showing poor outcomes [6–8]. Cole, in a review [9], suggests that few depressed elderly medical in-patients improve. This is contradicted by one study [10]. The aim of this study was to establish whether in-patients screening positive for depression using the 15- and 4-question versions of the Geriatric Depression Score (GDS) remained depressed on re-screening after discharge. The GDS15 is a 15 point questionnaire which includes the 4 questions of the GDS4 with defined cut-off scores indicating significant depressive symptoms [11–14].

Patients and methods

This study was approved by the Redbridge and Waltham Forest research ethics committee.

Inclusions: Patients who resided in the Borough of Waltham Forest were selected because links with old age psychiatry services are robust and liaison with community teams might be necessary upon follow-up.
Table 1. Baseline findings in the study group

<table>
<thead>
<tr>
<th></th>
<th>Non-depressive group (GDS &lt; 5), N=124</th>
<th>Mild depressive group (GDS 5–7), N=30</th>
<th>Moderate/severe (GDS ≥ 8) depressive group, N=25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male: Female</td>
<td>59:65</td>
<td>7:23</td>
<td>7:18</td>
</tr>
<tr>
<td>Mean MTS</td>
<td>9.04</td>
<td>8.87</td>
<td>8.6</td>
</tr>
<tr>
<td>Barthel score (Mean)</td>
<td>15.83</td>
<td>15.29</td>
<td>13.12</td>
</tr>
<tr>
<td>Barthel (Range)</td>
<td>8→20</td>
<td>3→20</td>
<td>4→19</td>
</tr>
<tr>
<td>Previous bereavement</td>
<td>N (% of group)</td>
<td>X²=0.94, P=0.63</td>
<td>12 (10.7%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4 (15.4%)</td>
</tr>
<tr>
<td>Previous psychiatric history</td>
<td>N (% of group)</td>
<td></td>
<td>4 (19%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X²=25.99, P&lt;0.001</td>
<td>4 (3.3%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 (16.7%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9 (36%)</td>
</tr>
</tbody>
</table>

*a*Bereavement was asked about as an open ended question and noted if spouse, partner, family member, friend or pet was noted within the previous year.

*b*Includes in-patient, and out-patient care under community mental health teams and those on treatment initiated in primary care with or without psychiatric assessment but who had understood their treatment was for depression.

All patients were selected from medical emergency admissions [15] aged 75 years and above only. Participants needed an abbreviated Mental Test Score ≥7 [16, 17] to exclude the influence of significant cognitive impairment [18] which was not within the remit of this study [19]. Fluency in English was necessary for inclusion as the GDS language subtleties were not available for other ethnic minorities.

Exclusions: Patients were excluded if their stay was <36 hours as this was insufficient time to assimilate the information sheet and give valid consent. Patients who were dysphasic, comatose or predicted to die were excluded; Four patients who showed evidence of improvement were reviewed subsequently for inclusion.

All patients were interviewed by a single researcher with the GDS15 from which the GDS4 was extrapolated [20]. Their abbreviated mental test score, obtained on admission, was repeated and they were asked about previous psychiatric history, recent bereavements (whether of people close to them or pets) and they were rated on the Barthel score for physical disability [21].

Patients with a score on the GDS15 of ≥5 were interviewed in their own homes a month after discharge. If patients moved to residential care or a new facility, they were interviewed at 3 months. The hospital computerised patient administration system (PAS) was screened weekly for re-admissions prior to follow-up; if readmitted, they were re-evaluated and assigned to the depressive or non-depressive groups according to their scores on the second admission. The Waltham Forest deaths list, provided by the local authority, was cross-referenced with the PAS system for deaths.

Results

We studied 179 consecutive patients. For base line characteristics see Table 1. Of these, 124 (69%) scored less than 5 on the GDS and were classified as non-depressive, 30 (17%) scored 5–7 and were classified as mild depressives and 25 (14%) scored more than 7 and were classified as being severely depressive (55 depressive patients were followed up).

Four of the 124 non-depressive group, 5 of the 30 with mild depressive symptoms and 9 of the 25 with severe depressive symptoms had a previous psychiatric history (X²=25.99, P<0.001).

Twelve of the non-depressive patients, 4 of the mild depressive patients and 4 of the severe depressive patients had recent bereavements (X²=0.94, P=0.63).

For follow-up outcomes see Table 2.

Twenty-four no longer scored positive (GDS15 <5), 10 had mild depressive symptoms (GDS 5–7) and 9 had severe moderate/severe depressive symptoms (GDS >7). Three others were admitted to psychiatric care for treatment of severe depression and were included in the GDS >7 group.

Improvement in depressive scores and symptoms were seen in 29 (53%) of the study group (N=55) which includes 5 patients who initially scored >7 and then 5–7 at follow-up. There were 12 deaths in the non-depressed group and 8 deaths in the depressive study group. Barthel scores were 15.7 (range 3–20) in those with follow up GDS scores of <5, 17 (range 11–20), in those with follow up GDS scores of 5–7 and 14.7 (range 7–19) in those with follow up GDS scores of >7.

Table 2. Study group outcomes

<table>
<thead>
<tr>
<th>GDS15 scores</th>
<th>Numbers</th>
<th>&lt;5</th>
<th>5–7</th>
<th>&gt;8</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-patient</td>
<td>0</td>
<td>30</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Follow-up</td>
<td>24</td>
<td>10</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

*There were 8 deaths and 1 who moved out of area to account for the discrepancy between initial assessment and follow-up numbers.

*This Group includes 3 patients: 2 who were admitted to psychiatric care with psychoses and/or depression and 1 patient who refused follow-up and was referred to the community mental health team and was offered voluntary admission for her depression.*

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(X² = 5.04, P = 0.08). Barthel scores were not carried out in those patients admitted to psychiatric care.

The sensitivity of the GDS4 in predicting depressive symptoms after discharge was 77.3% and specificity was 94.1%. The equivalent sensitivity of the GDS15 was 100% and specificity was 82.4%.

Discussion

These results differ from Cole [9], where the follow-ups were longer, which seems unlikely to explain the discrepancy. In our study the patients were selected from admissions to acute wards by age alone. In other units, particularly outside the UK, patients may have been selected for acute elderly wards by ‘geriatric’ characteristics that may select for more persistent and resistant depression, particularly vascular depression [22]. We did not show any relationship between depressive symptoms and functional status as described in other reports [23–25]. This suggests that the majority of our patients had depressive symptoms purely secondary to their hospitalization, which is why so many improved upon discharge. Using the GDS15 for screening ensures that patients with persistent symptoms after discharge are not missed because of its high sensitivity. However the GDS4 had fewer false positives and may be more practical overall.

Katona and Livingston and Pitt, have made the point that research should be diverted from the development of screening tests for depression to making screening influence management [26, 27]. This study has shown that screening acutely medically ill in-patients, in an age-related service, identifies a depressive group who do not necessarily suffer persistent depression at home. Over half of those patients screening positive for depression as inpatients had improved after discharge.

Screening, coupled with a prior psychiatric history, serves as an indicator of those patients who are more likely to suffer persistent depressive symptoms after discharge. Those patients with severe depressive symptoms or suicidal ideation on screening should have immediate referral for psychiatric evaluation.

Pragmatically the GDS4 could be used as an inpatient screening tool with follow-up GDS15 administered in the community to identify those patients requiring intervention and/or psychiatric assessment. This approach warrants further study, remembering that screening with feedback to the GP in primary care had no impact on subsequent treatment [28].

Key points

- Elderly medically ill patients commonly score positive on depression scales.
- Over half of those patients improve their depression scores after discharge.
- Patients scoring positive for depression should be re-screened after discharge.
- Those patients with severe depression scores or suicidal ideation should be referred for psychiatric evaluation.
- The GDS15 and GDS4 are sensitive and specific for predicting persistent depression particularly where there is a prior psychiatric history.

References

14. Sheikh JI, Yesavage JA. Geriatric depression scale: recent evidence and development of a shorter version. In


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