

## LETTER

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**Does the geriatric depression scale have utility for measuring depression severity?**

The prevalence of major depression ranges from 1% to 16% among elderly living in private households or in institutions, and in similar settings “patients” with clinically relevant depressive symptoms vary between 7.2% and 49% (Djernes, 2006). Community studies looking at point prevalence of depression in older people suggest rates between 10% and 20% depending on cultural situations (Rodda *et al.*, 2011).

The diagnosis of depression in older people can pose a significant challenge. This may partly be due to a different presentation associated with the aging process and also because of the various disorders that occur in that population and can influence or mask symptoms of depression. Therefore, depression in older people can often go undetected and hence under treated.

Current guidance for the assessment and management of depression from the UK National Institute for Health and Clinical Excellence (NICE) (<http://guidance.nice.org.uk/CG90/QuickRefGuide/pdf/English>) recommends the use of rating scales to determine severity. However, many depression rating scales are weighted towards the presence of somatic symptoms and may therefore overestimate the severity of depression in older people in whom such symptoms are common.

The Hamilton Depression rating scale (HAM-D; Hamilton, 1967) was not originally developed as a diagnostic tool, but as a measure of depression severity and treatment outcome (Hamilton 1960). Although it has high sensitivity and specificity for major depression following myocardial infarction 86.4% and 92.2%, respectively and for post stroke depression sensitivity is 78.1% and specificity 74.6% (Aben *et al.*, 2001), it was not designed for older people and lacks validation in this population.

In contrast, the Geriatric Depression Scale (GDS) contains fewer somatic items and has been specifically developed as a depression screening instrument for use with older people (Yesavage *et al.*, 1982–1983). Clayton and Keller (1997) found the GDS to be more sensitive than the HAM-D in eliciting depressive symptoms. They also found that frequently reported symptoms in the elderly population without cognitive impairment were well represented on the GDS.

Our old age psychiatry service routinely uses the 30 item GDS in the assessment of all new patients and those scoring more than 10 on the 30 item GDS are also assessed with the HAM-D. Based on the above discussion, we proposed two questions: (i) “In addition to screening for depression, does the GDS have utility for measuring depression severity?” (ii) If the GDS is routinely used to screen for depression can it also replace the HAM-D as a measure of depression severity in older people?

Our old age psychiatry service is community based in orientation, covering a population of approximately 20,000 people over the age of 65. We conducted a study of consecutive first referrals from General Practitioners (GP) to our service over a two year period (January 2009 to December 2010). Those referrals scoring above 10 on the GDS were also assessed with the HAM-D. The GDS and HAM-D were completed by interview. These scores were then analyzed for correlation. Re-referrals and referrals from sources other than GPs were not included.

There were 189 new GP referrals and, of these, 95 (50.2%) had a GDS of more than 10 with an HAM-D completed and these were included in the study. In this group, 28 (29.4%) had a Mini-Mental State Examination (MMSE) score (Folstein *et al.*, 1975) less than or equal to 23, whereas 67 (70.6%) had MMSE scores greater than 23. The range of MMSE scores was between 15 and 30 with a mean score of 23.7.

Analysis of the GDS and HAM-D scores resulted in a correlation coefficient of 0.54 ( $p < 0.005$ ). 57 (60%) of the 95 patients with a GDS above the cut-off for depression were given a formal diagnosis of depression. The correlation coefficient for people with the diagnosis of depression was 0.35 ( $p < 0.01$ ). In the group with depression, 55 (96%) had an HAM-D score above the usual cut-off value of 7 used for clinical trials of antidepressants.

Previously, the 30 item GDS has been validated against scores from the Zung self-rating scale for depression (SDS; Zung, 1965) and the HAMD. The correlations between the classification criteria (“no depression,” “mild depression,” and “severe depression,”) and each of the scales, GDS, SDS, and HAM-D were ( $r = 0.82$ ), ( $r = 0.69$ ), and ( $r = 0.83$ ), respectively, all of them statistically significant ( $p \leq 0.001$ ) (Wancata *et al.*, 2006). Similarly, our study found a statistically significant correlation between the GDS score and depression severity as measured by the HAM-D.

However, the rater for the HAM-D was not blind to the GDS score potentially resulting in a bias in favor of correlation. Despite this, the correlation was relatively weak (although statistically significant). This suggests that HAM-D measures factors related to depression severity that are not addressed by the GDS. In turn, this suggests that completing the HAM-D may provide additional information to that provided by the GDS alone.

In conclusion, this study of general practitioner referrals to an old age psychiatry service demonstrated that GDS and HAM-D scores were correlated suggesting that the GDS has some utility in measuring depression severity in this population. However, our study did not demonstrate that the GDS can replace the HAM-D as a depression severity rating scale.

### Conflict of interest

None.

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