Does a single item question identify elderly medical inpatients who report significant depressive symptoms?

SIR—Several studies have shown that elderly medical inpatients frequently report significant depressive symptoms, defined as six or more symptoms using the 15-item Geriatric Depression Scale (GDS) [1–3]. Although these patients might not all meet the criteria-based diagnosis of major depression (e.g. ICD10 or DSMIV), several studies suggest that even minor and subsyndromal depression that do not meet these criteria are associated with substantial functional and medical morbidity, and could
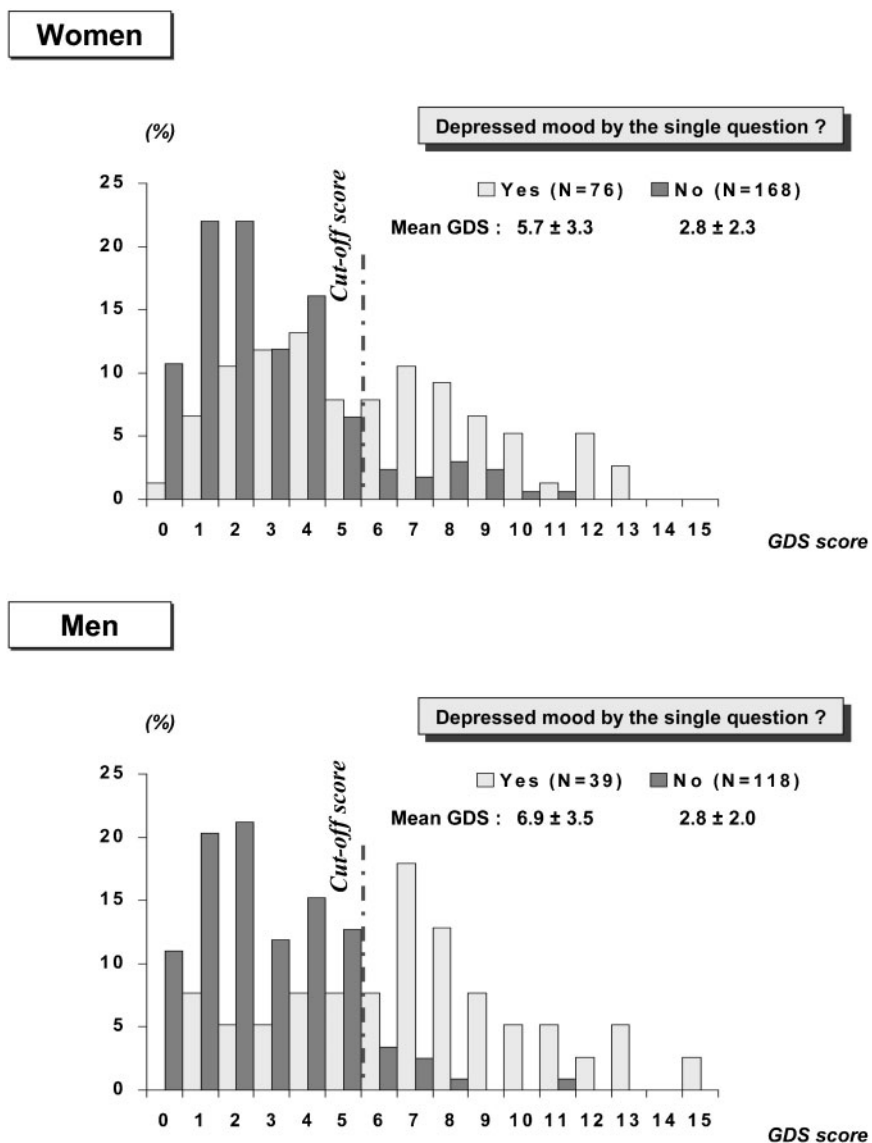
Figure 1. Distribution of the score at the Geriatric Depression Scale according to gender and presence of depressed mood by the single question.

benefit from therapeutic interventions [4, 5]. In previous studies we observed that these subjects with depressive symptoms were more likely to be readmitted, had higher service utilisation during a 6-month follow-up period, and were more likely to spend inappropriate days in the acute care setting [6, 7]. We also observed that only 16.7% of these subjects were identified as having depressive symptoms [3].

Because routine screening for depression is difficult to implement in the busy acute care setting, even with short instruments such as the 15-item GDS, we wanted to evaluate whether a single question could be an alternative to the GDS in detecting significant depressive symptoms in these elderly medical inpatients. We assessed the agreement between the single item screening question 'Do you often feel sad or depressed?' and the GDS.

Population selection and methods have been described in detail previously [6]. Briefly, 401 patients aged 75 years and older consecutively admitted over 6 months to the internal medicine service of an academic hospital were enrolled. In addition to affective status assessment, data on demographics, medical, physical, social and mental status were collected upon admission.

Subjects' mean age was 82.4 years, 60.9% were women. Overall, 90 patients (22.4%) had depressive symptoms (GDS score $\geqslant 6$). In a first step, we assessed whether reporting a depressed mood by the single question predicted the presence of depressive symptoms. In a stepwise multivariate regression analysis that controlled for demographic, medical and functional characteristics, subjects reporting a depressed mood by the single question had about 8 times higher odds (adjusted OR 8.4, 95% CI 4.2–16.8) of reporting depressive

symptoms at the GDS compared to subjects without depressed mood. However, the agreement between the single question and the GDS was only moderate (80.3%, κ 0.48, $P<0.001$). This is further shown when considering the GDS as if it were the criterion standard. Using different GDS cut-off scores (6 or more, 8 or more, and 10 or more) to define the presence of significant depressive symptoms, sensitivity and specificity remained low, ranging from 70.0 to 86.4%, and from 83.3 to 74.7%, respectively. Corresponding negative predictive values ranged from 9.4 to 1.0%. Subgroup analyses of discordant results between the single question and GDS showed that this single question performed better in men (agreement 86.0%, κ 0.61, sensitivity 74.3%, specificity 89.3%, negative predictive value 7.6%) than in women (agreement 76.6%, κ 0.41, sensitivity 67.3%, specificity 79.4%, negative predictive value 10.7%). In the analysis predicting the presence of significant depressive symptoms using the GDS, a significant interaction was found between gender and the answer to the single question. Results indicated that when men and women reported a depressed mood by the single question, men were about three times more likely (adjusted OR 3.3, 95% CI 1.0–11.1, $P = 0.048$) than women to also report significant depressive symptoms with the GDS (see Figure 1), even though the proportion of men and women with abnormal GDS was similar (22.3 and 22.5%, respectively). Despite the apparent better agreement in men, the concordance with GDS remained moderate, and up to 25.7% of men with significant depressive symptoms were not identified by the single question alone. This proportion seems too high when considering the adverse outcomes such as increased mortality or hospital readmission previously observed in subjects with high GDS scores [1–3].

The moderate agreement between the single question 'Do you often feel sad or depressed?' and the GDS result precludes the use of this question as an alternative to the GDS in similar samples of elderly hospitalized persons. Interestingly, this single question performed differently in men and women. According to our results, while men were less likely to disclose having a depressed mood, once doing so, they were much more likely to also report significant depressive symptoms with the GDS. This finding is interesting and requires further investigation as most studies testing single or one-item instruments in middle-aged or older populations have included primarily male patients.

One obvious limitation to this analysis is the absence of a true gold standard such as a structured psychiatric assessment to determine whether these elderly subjects who reported significant depressive symptoms with the GDS suffered from major depression, minor depression, dysthymia, or other mood disorders. We are therefore unable to draw firm conclusions regarding the usefulness of this single question in detecting major depressive episodes. However, as others [8], we think that depression exists along a continuum in elderly persons, and even though an abnormal GDS score is not equivalent to a diagnosis of major depressive episode, it identifies subjects with affective conditions severe enough to warrant further intervention [1–3].

In conclusion, we believe that these results contribute to a better understanding of a simple screening test in hospitalized older persons and add to the current knowledge in showing that performance on a single question might differ depending on patient gender.

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