A Short Test Gets Shorter: The GDS

Hoyl MT, Alessi CA, Harker JO, Josephson KR, Pietruszka FM, Koelfgen M, et al. Development and testing of a five-item version of the Geriatric Depression Scale. J Am Geriatr Soc 1999;47:873–8.

Study Overview

Objective. To develop a 5-item version of the Geriatric Depression Scale (GDS) and test its effectiveness in screening for depression in a frail, community-dwelling older population.

Design. Prospective, cross-sectional study.

Setting and participants. 74 frail outpatients (99% male, mean age 75 years) enrolled in an ongoing clinical trial at a geriatric outpatient clinic at the Veterans Affairs Medical Center in Sepulveda, California.

Main outcome measures. A 5-item version of the GDS was created from the 15-item scale by selecting the items with the highest Pearson χ^2 correlation with clinical diagnosis of depression. Subjects underwent a comprehensive geriatric assessment that included a structured clinical evaluation for depression and administration of the 5-item and 15-item scales. Sensitivity, specificity, diagnostic accuracy, and positive and negative predictive values were calculated for the 2 GDS scales.

Main results. Subjects had a mean GDS score of 6.2 (range, 0 to 15). 46% of subjects were diagnosed with depression based on clinical evaluation. The depressed and not-depressed groups were similar with regard to demographics, mental status, educational level, and number of chronic medical conditions. Using clinical evaluation as the gold standard for diagnosing depression, the 5-item GDS (compared with the 15-item GDS results shown in parentheses) had a sensitivity of 0.97 (0.94), specificity of 0.85 (0.83), positive predictive value of 0.85 (0.82), negative predictive value of 0.97 (0.94), and accuracy of 0.90 (0.88) for predicting depression. Regarding validity, significant agreement was found between depression diagnosis and the 5-item GDS ($\kappa = 0.81$). The mean administration times for the 5- and 15-item GDS were 0.9 and 2.7 minutes.

Conclusion

The 5-item GDS was as effective as the 15-item GDS for depression screening in this population and showed a marked reduction in administration time.

Commentary

This study by Hoyl and colleagues is a continuation of the trend to shorten diagnostic tests to make them easier to administer and more feasible in increasingly busy clinical settings. The 30-item GDS developed by Brink and Yesavage in 1982 has been demonstrated to be both valid and reliable [1,2]. It was shortened to a 15-item scale by Sheikh and Yesavage in 1986 to improve efficiency without sacrificing accuracy [3]. The results of this test of an even shorter 5-item version have been positive; however, the scale should be evaluated in a female population and in patients in institutional settings. If valid in such populations, it may become the preferred screening test for depression regardless of setting.

Applications for Clinical Practice

Epidemiologic studies of community-dwelling elderly have found a 1% to 5% prevalence rate of major depression and 8% to 27% rate of significant depressive symptoms [3,4]. Unfortunately, primary care physicians fail to recognize and diagnose 50% to 75% of patients suffering from common mental disorders such as depression [5]. Underdiagnosis of depression can lead to undertreatment and significant morbidity and mortality [3,6]. In light of this high rate of underdiagnosis, the development of the 5-item screening test is a significant contribution. This test should increase the primary care physician's ability to recognize older patients in need of more comprehensive mental evaluation.

References

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