EDITORIAL

Screening for Depression—A Tale of Two Questions

Mary A. Whooley, MD, FACP, FAHA, FACC

The US Preventive Services Task Force (USPSTF)[1] has issued new recommendations on Screening for Depression in which they concluded, "The USPSTF recommends screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up (B recommendation)." Grade B indicates high certainty that the net benefit is moderate or moderate certainty that the net benefit is moderate to substantial. An "adequate system" includes a depression care manager who ensures that patients are screened and, if they screen positive for depression, appropriately diagnosed and treated with evidence-based stepped care or referred to a setting that can provide the necessary care. The new guidelines are similar to the 2002 and 2009 USPSTF depression screening recommendations except for 1 major change: neither the 2002 nor the 2009 recommendations mentioned pregnant or postpartum women.[2,3]

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The recent USPSTF recommendations are largely based on a systematic review evaluating the potential benefits of depression screening in pregnant or postpartum women.[4] No new randomized trials of depression screening in (nonpregnant or postpartum) adults have been added since the 2009 guidelines. One example of the new studies included in the USPSTF systematic review was a trial that randomized 462 postpartum women (who were not already receiving psychiatric treatment) to a depression screening intervention vs usual care.[5] Intervention group participants completed the 10-item Edinburgh Postnatal Depression Scale (EPDS); control group participants completed a general self-efficacy scale (similar in length and format) but did not complete the EPDS. All participants underwent a clinical assessment by a nurse who was blinded to their group allocation; patients (from either group) who were assessed by this nurse as having probable postnatal depression were referred for further evaluation and treatment. Intervention patients with an EDPS score of at least 10 (or any suicidal ideation) were referred for further evaluation and treatment (regardless of the clinical assessment). In an intention to treat analysis, 13% of the intervention group and 22.1% of the control group had EDPS scores of at least 10 at 6 months (risk ratio, 0.59; 95% CI, 0.39-0.89; number needed to screen, 11). Based on this and other studies, the USPSTF concluded that screening results in the reduction or remission of depression symptoms and that the magnitude of harms of screening for depression in adults is small to none.

Whether the available evidence justifies routine screening of unselected adults for depression is debatable. Notably, the Canadian Task Force on Preventive Health Care does not recommend routine screening for depression in adults at average risk.[6] However, multiple other organizations (eg, American Academy of Family Physicians, American College of Physicians, American College of Obstetricians and Gynecologists) do recommend routine screening for depression, especially for subgroups of patients who are at high risk, such as persons with low socioeconomic status, limited social support, chronic pain, disability, unintended pregnancy, comorbid mental health issues, or chronic medical conditions. Moreover, most US insurance providers, including the Center for Medicare and Medicaid Services, cover annual screening for depression in primary care settings that have staff-assisted depression care supports in place to assure accurate diagnosis, effective treatment, and follow-up. Therefore, primary care clinicians must be familiar with how to implement a depression screening program.

Screening Instruments

A key question is what screening instrument to use. In 1997,[7] we found that 2 simple yes/no questions from the Primary Care Evaluation of Mental Disorders (PRIME-MD) had similar test characteristics (sensitivity and specificity) to 6 other commonly used screening instruments for depression. In a cross-sectional study of 536 patients, a no response to both questions (score of 0 out of 2 possible points) was 96% sensitive, essentially ruling out depression. Because this 2-question instrument was substantially shorter and easier to administer than any other available screening tool, it was quickly adopted and is now routinely used both inside and outside the United States.[2,8,9] Ten studies (including a total of 4618 patients) have compared the test characteristics of these 2 questions (sometimes referred to as "the Whooley questions" or the "yes/no PHQ-2") with a gold standard diagnostic interview for depression. In a formal meta-analysis evaluating the standard cutpoint of at least 1 (out of 2 possible points), Bosanquet and colleagues[10] calculated a pooled sensitivity of 0.95 (95% CI, 0.88-0.97) and a pooled specificity of 0.65 (95% CI, 0.56-0.74).

In 2003, an almost identical screening instrument called the Patient Health Questionnaire-2 (PHQ-2) was introduced (**Table**).[11] Its multiple choice response categories are not as easy to score as the simple yes/no questions, and the cutpoint for a positive screen (≥2 or ≥3 out of 6 possible points) varies by population. Nonetheless, the similarity between these tools has generated considerable confusion in both clinical and research settings, with many organizations using one type of screen and naming or referencing the other. More than 20 studies (with a total of >10 000 patients) have compared the test characteristics of the multiple choice PHQ-2[11] with a gold standard diagnostic interview for depression. Preliminary esti-

Table. Side-by-Side Comparison of 2-Question Instrument and Patient Health Questionnaire–2 (PHQ-2)

Tool	2-Question Instrument	PHQ-2	
Validation	Whooley et al,[7] 1997	Kroenke et al,[11] 2003	
Prompt	During the past month, have you often been bothered by:	Over the last 2 weeks, how often have you been bothered by any of the following problems:	
Symptoms	1. Feeling down, depressed, or hopeless? 2. Little interest or pleasure in doing things?		
Response format	Yes/no	Multiple choice	
Response options	0 = No 1 = Yes	0 = Not at all 1 = Several days 2 = More than half the days 3 = Nearly every day	
Score range	0 to 2	0 to 6	
Cutpoint	≥1	≥2[a]	≥3[a]
Sensitivity	0.95[b]	0.91[c]	0.76[c]
Specificity	0.65[b]	0.70[c]	0.87[c]

[a] The cutpoints refer to a combined score from both questions. A cutpoint of ≥2 (range, 0-6) is 91% sensitive, and cutpoint of ≥3 (range, 0-6) is 76% sensitive.

[b] Bosanquet et al.[10]

[c] Email communication; December 17, 2015; L. Manea, MSc, S. Gilbody, PhD, and D. McMillan, PhD, et al.

mates suggest a pooled sensitivity of 0.76 (specificity, 0.87) for a cutpoint of at least 3 (out of 6 possible points) and a pooled sensitivity of 0.91 (specificity, 0.70) for a cutpoint of at least 2 (email communication; December 17, 2015; Laura Manea, MSc, Simon Gilbody, PhD, and Dean McMillan, PhD, et al). To my knowledge, only 1 published study has evaluated the test characteristics of both the yes/no questions and the multiple choice PHQ-2 (compared with a gold standard diagnostic interview for depression) in the same patients. Among 1024 patients with coronary heart disease, a cutpoint of at least 1 on the yes/no questions had a sensitivity of 0.90 (specificity, 0.69),[12] a cutpoint of at least 2 on the multiple choice PHQ-2 had a sensitivity of 0.82 (specificity, 0.79),[13] and a cutpoint of at least 3 on the PHQ-2 had a sensitivity 0.39 (specificity, 0.93).

Clinical Diagnosis

Sensitivity should be maximized when choosing a screening instrument for depression so that cases are not missed. However, it is important to note that higher sensitivity and negative predictive value always come at the cost of lower specificity and positive predictive value. Depending on the prevalence of major depressive disorder, as few as a third of patients who screen positive for depression (using either screening tool) will have a clinical diagnosis of major depressive disorder confirmed. Therefore, any positive screen result must be followed by a clinical interview to confirm the presence of at least 4 additional—for a total of 5—symptoms occurring most of the time and causing noticeable impairment in social, occupational, or other important areas of functioning during the same 2-week period: weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue or lack of energy, feelings of worthlessness, poor concentration, and recurrent thoughts of death or suicide. Many effective treatments, including exercise and other self-management strategies, behavioral activation, structured psychotherapy, and/or pharmacotherapy, are available.[14] However, screening will not reduce depression unless there is a collaborative care management team in place to assure close follow-up every 2 to 4 weeks, monitoring of adherence to therapy, tracking of depressive symptoms, and timely escalation of therapy as necessary (stepped care).

In summary, the USPSTF has determined that there is a moderate net benefit to screening for depression in adults, including pregnant and postpartum women, who receive care in clinical practices that have adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up after screening. This is not a new recommendation but extends their previously published statements to pregnant and postpartum women. Two simple yes/no questions are highly sensitive, easy to administer, and take less than 1 minute to complete and score. A "no" response to both questions effectively rules out depression so that no further evaluation is necessary.

ARTICLE INFORMATION

Author Affiliations: San Francisco VA Health Care System, San Francisco, California; Departments of Medicine and Epidemiology and Biostatistics, University of California, San Francisco.

Corresponding Author: Mary A. Whooley, MD, FACP, FAHA, FACC, San Francisco VA Health Care System, 4150 Clement St, San Francisco, CA 94121 (mary.whooley@ucsf.edu).

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