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Performance Characteristics of Self-report Instruments for Diagnosing Generalized Anxiety and Panic Disorders in Primary Care: A Systematic Review

EXECUTIVE REPORT

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PREFACE

Health Services Research & Development Service's (HSR&D's) Evidence-based Synthesis Program (ESP) was established to provide timely and accurate syntheses of targeted healthcare topics of particular importance to Veterans Affairs (VA) managers and policymakers, as they work to improve the health and healthcare of Veterans. The ESP disseminates these reports throughout VA.

HSR&D provides funding for four ESP Centers and each Center has an active VA affiliation. The ESP Centers generate evidence syntheses on important clinical practice topics, and these reports help:

- develop clinical policies informed by evidence,
- guide the implementation of effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures, and
- set the direction for future research to address gaps in clinical knowledge.

In 2009, the ESP Coordinating Center was created to expand the capacity of HSR&D Central Office and the four ESP sites by developing and maintaining program processes. In addition, the Center established a Steering Committee comprised of HSR&D field-based investigators, VA Patient Care Services, Office of Quality and Performance, and Veterans Integrated Service Networks (VISN) Clinical Management Officers. The Steering Committee provides program oversight, guides strategic planning, coordinates dissemination activities, and develops collaborations with VA leadership to identify new ESP topics of importance to Veterans and the VA healthcare system.

Comments on this evidence report are welcome and can be sent to Nicole Floyd, ESP Coordinating Center Program Manager, at nicole.floyd@va.gov.

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EXECUTIVE SUMMARY

BACKGROUND

Generalized anxiety disorder (GAD) and panic disorder (PD) are two common mental illnesses that present in primary care clinics, often with physical symptoms that can inhibit appropriate diagnosis and treatment. Recognition of these disorders by primary care physicians is much lower than the expected rates—in part due to somatic presentations but also due to the lack of routine screening that is in place for some other mental illnesses. Patients with anxiety disorders are often high utilizers of health care resources, and when their anxiety disorders are not diagnosed and treated, they can frequently undergo more expensive testing to rule out medical causes.

Identification of accurate and feasible screening instruments for GAD and PD that have been validated in primary care settings have the potential to improve detection and facilitate treatment of these disorders within the primary care clinic, or to generate appropriate referral. Our report is a systematic review of the literture to evaluate the performance of self-report instruments used to diagnose GAD and PD in primary care settings.

Three key questions (KQs) guided this systematic review:

KQ 1. In general medical patients with somatic symptoms, what are the performance characteristics (e.g., sensitivity, specificity) of self-report questionnaires for diagnosing generalized anxiety disorder or panic disorder?

KQ 2. For questionnaires evaluated in KQ 1, which measures are most feasible to use in primary care settings? Specifically, what is the reading comprehension level, time required to complete, response format, and compatibility with telephone administration?

KQ 3. For questionnaires evaluated in KQ 1, do the performance characteristics vary by gender, race, age group, or setting?

METHODS

We searched PubMed® from 1980 to 2010 using standard search terms. We searched for primary studies and systematic reviews in MEDLINE® (via PubMed), PsycINFO®, and the Cochrane Library. We limited the search to peer-reviewed articles involving adult human subjects and published in the English language. Additional citations were identified from reference lists of articles included at the full-text review level. Titles, abstracts, and articles were reviewed in duplicate by investigators trained in the critical analysis of literature. Data were extracted by quantitative analysts. Pooled analyses were performed when appropriate. All other data were narratively summarized.

Study characteristics, patient characteristics, and outcomes were extracted by trained research staff under the supervision of the Program Director. We assessed study quality according to the Quality Assessment of Diagnostic Accuracy Studies (QUADAS) criteria modified for this specific research question.

DATA SYNTHESIS

We constructed evidence tables showing study, patient, and intervention characteristics; methodological quality; and outcomes, organized by key question. We analyzed studies to compare their characteristics, methods, and findings. We compiled a summary of findings for each question based on qualitative and semiquantitative synthesis of the findings and provided a final assessment of the current evidence based on the Grades of Recommendation, Assessment, Development, and Evaluation (GRADE) Working Group criteria.

PEER REVIEW

A draft version of the report was reviewed by technical experts as well as clinical leadership, and their comments are provided in the appendix.

RESULTS

We screened 2890 titles, rejected 2824, and performed a more detailed review of 66 articles. From these, we identified no recent systematic reviews and 12 observational reports on 9 unique studies that addressed one of the key questions.

KQ 1. In general medical patients with somatic symptoms, what are the performance characteristics (e.g., sensitivity, specificity) of self-report questionnaires for diagnosing generalized anxiety disorder or panic disorder?

We identified eight screening instruments for the detection of GAD and PD in primary care patients. Of these, the Generalized Anxiety Disorder-7 (GAD-7; sensitivity 89%, specificity 82%) and the panic module of the Patient Health Questionnaire (PHQ; sensitivity 80%, specificity 99%) had the best performance characteristics for the diagnosis of GAD and PD, respectively. The Symptom Driven Diagnostic System–Primary Care (SDDS-PC) also had good performance characteristics and is a multicomponent instrument that screens for GAD and PD as well as other mental illnesses.

All of the above instruments have been evaluated in reasonably sized primary care populations; however, none of these studies have been rigorously replicated. Even the SDDS-PC instrument that was evaluated in two studies consisted of two different versions. Therefore, evidence for these instruments is based on a single, well-conducted study for each instrument. Heterogeneity among the studies was high, prohibiting statistical pooling of data except in the case of some performance characteristics for the SDDS-PC.

Though KQ 1 addressed anxiety screening instruments in primary care populations with somatic symptoms, the samples in the studies identified were unselected and were seeing their primary care physician for a variety of complaints including routine followup. The instruments may perform differently in this setting when compared to a case-finding model where the same instrument is applied to patients with specific somatic complaints associated with a higher risk of having GAD or PD. We identified only one study that screened such patients, who were evaluated for palpitations.

KQ 2. For questionnaires evaluated in KQ 1, which measures are most feasible to use in primary care settings? Specifically, what is the reading comprehension level, time required to complete, response format, and compatibility with telephone administration?

There was limited evidence addressing the feasibility of using these instruments in primary care. The evidence was qualitative and indirectly inferred from the primary studies.

The instruments were 3 to 11 questions in length and were at an easy to average reading level. Across the four studies reporting administration times, most patients completed the instrument in less than 2 minutes.

There was no evidence to assess the validity of these instruments for telephone administration though some trials have already used instruments like the Primary Care Evaluation of Mental Disorders (PRIME-MD) via telephone. None of the instruments have been studied specifically for responsiveness to change in symptoms status.

KQ 3. For questionnaires evaluated in KQ 1, do the performance characteristics vary by gender, race, age group, or setting?

Only one of the studies formally assessed differences in performance characteristics by race. When the Brief Panic Disorder Scale (BPDS) was administered to a biracial population, it performed better among Caucasians at the traditional cutoff of 10. The instrument was more specific among Caucasians and resulted in more false positives among African Americans. Thus, there is preliminary evidence that instruments might perform differently among different racial and ethnic groups.

None of the studies addressed differences in performance based on gender, age, or setting.

FUTURE RESEARCH

Based on study quality, operating characteristics, precision of the estimates, potential for assessing response to change, and other feasibility issues, the most promising instruments are: the panic module of the PHQ, the GAD-7 and the SDDS-PC. Future studies should focus on replicating the results of performance characteristics of these instruments, specifically in Veterans Affairs (VA) samples as we did not find any rigorous validation of any instruments in this review in the Veterans Health Administration (VHA) system. These studies should also incorporate questions of feasibility, such as time taken to complete, acceptability among patients, and sensitivity to change. Finally, results should be analyzed by race, gender, setting, and age to explore possible differences in performance of the instruments based on these variables.

ABBREVIATIONS TABLE

BPDS	Brief Panic Disorder Scale
GAD	generalized anxiety disorder
GRADE	Grades of Recommendation, Assessment, Development, and Evaluation
KQ	key question
PD	panic disorder
PHQ	Patient Health Questionnaire
PRIME-MD	Primary Care Evaluation of Mental Disorders
QUADAS	Quality Assessment of Diagnostic Accuracy Studies
SDDS-PC	Symptom Driven Diagnostic System–Primary Care
VA	Veterans Affairs
VHA	Veterans Health Administration