Research report

Psychometric evaluation of the Overall Anxiety Severity And Impairment Scale (OASIS) in individuals seeking outpatient specialty treatment for anxiety-related disorders

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Sally A. Moore [a,b,*], Stacy S. Welch [a,b,c], Jared Michonski [a,c], Jonathan Poquiz [a,1], Travis L. Osborne [a,b,c], Jennifer Sayrs [a,c], Alexia Spanos [a,c]

[a] Evidence Based Treatment Centers of Seattle (EBTCS), USA
[b] University of Washington, Department of Psychiatry and Behavioral Sciences, USA
[c] University of Washington, Department of Psychology, USA

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ABSTRACT

Background: Comorbidity among anxiety-related diagnoses is common, highlighting the need for brief, meaningful measures of anxiety that cut across diagnoses.
Methods: The current study examined the psychometric properties of one such measure, the Overall Anxiety Severity and Impairment Scale (OASIS) (Norman et al., 2006), in a naturalistic sample of individuals seeking treatment at an outpatient anxiety treatment center. We examined the measure's structure, convergent validity, and potential effects of respondent gender. Using ROC analysis, we estimated an optimal cut-score for determining presence of an anxiety disorder in this sample. Finally, we examined the responsiveness of the OASIS to clinical change and calculated a reliable change index.
Results: We found strong psychometric properties of the OASIS. A unitary factor structure with correlated residuals on the first two items provided the best fit to the data. A cut-score of eight best distinguished the presence of an anxiety-related diagnosis. In measurement invariance analyses, we found evidence that men and women respond similarly to the measure. In addition, we found that change in the OASIS was correlated with change in other measures, and we estimated that a four-point change in the OASIS can be considered clinically reliable.
Limitations: Sample characteristics may limit generalizability. Diagnoses were established by clinicians using a semi-structured interview that, while based upon DSM-IV diagnostic criteria, has not been psychometrically evaluated.
Conclusion: The results provide support for the use of the OASIS in specialty treatment for anxiety-related diagnoses and further highlight the strengths of this measure in clinical practice and research settings.

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1. Introduction

Anxiety-related disorders (i.e., disorders classified as anxiety disorders in DSM-IV) are among the most common psychiatric diagnoses, affecting approximately one third of individuals in the United States at some point in their lives (Kessler et al., 2005a, 2012). These forms of psychopathology are costly and impairing (Saarni et al., 2007; Sareen et al., 2005; Stein et al., 2005). In addition, anxiety-related disorders are associated with significant comorbidity, most notably with other anxiety-related disorders and depression (Brown et al., 2001; Kessler et al., 2005b). In treatment seeking samples, comorbidity is especially common (Brown et al., 2001). Relative to a single anxiety disorder, the presence of multiple, co-occurring anxiety disorders is associated with increased functional impairment and distress, higher health care costs, and decreased productivity (Kessler et al., 2005b; Kroenke et al., 2007; Marciniak et al., 2004; Mennin et al., 2000). Within each anxiety disorder, there are established, well-validated instruments to assess severity (e.g., Panic Disorder Severity Scale (Houck et al., 2002), PTSD Checklist (Weathers et al., 1993), Penn State Worry Questionnaire (Meyer et al., 1990)); however, administering multiple measures to assess comorbid diagnoses increases burden and, in some clinical settings, is

impractical (Campbell-Sills et al., 2009). Given the high rates of comorbidity and substantial impact of anxiety disorders, streamlined, cross-diagnostic assessment tools for use in both clinical and research settings are critical for evaluating severity and change in anxiety symptomatology.

Existing transdiagnostic or general measures of anxiety severity typically assess anxiety symptoms but not functional impairment or behavior change (Campbell-Sills et al., 2009; Norman et al., 2011, 2006). For example, the State–Trait Anxiety Inventory (Spielberger et al., 1983), Beck Anxiety Inventory (Beck and Steer, 1993), Hamilton Anxiety Rating Scale (Hamilton, 1959), and Brief Symptom Inventory-18 Anxiety Subscale (Derogatis, 1993) measure the severity of anxiety symptoms but do not assess anxiety-related avoidance, restricted activities, or impairment in work or social environments, all of which are critical components of anxiety-related psychopathology (Moses and Barlow, 2006; Telch et al., 1995). Furthermore, many of these measures are lengthy, time-consuming to administer, and costly to obtain, thereby limiting their reach.

In contrast, the Overall Anxiety Severity and Impairment Scale (OASIS) (Norman et al., 2006) is a brief, five-item measure designed to assess anxiety severity and functional impairment within and across anxiety diagnoses. The OASIS asks respondents to consider their overall experience of anxiety and fear when answering five items that assess frequency; severity; avoidance; interference with tasks at work, school, and home; and social interference related to anxiety. Due to its brevity, the OASIS minimizes respondent burden and can be implemented in a variety of clinical and research settings.

To date, the OASIS has been subject to psychometric analysis in four published studies. In the initial validation study, Norman and colleagues (2006) found that the OASIS possessed a unitary factor structure and satisfactory test–retest reliability, convergent validity, and divergent validity in a sample of college students. Two subsequent studies examined the properties of the OASIS in primary care patients who were referred to a treatment study for anxiety disorders (Campbell-Sills et al., 2009) and college students (Norman et al., 2011). Consistent with the initial study, both studies found adequate psychometric properties and support for a unitary factor structure; however, the authors further refined the single-factor model by allowing the error terms of the first two items to be freely estimated. This makes sense given that the first item, which assesses anxiety severity, is logically contingent on the second item, which assesses symptom frequency; i.e., if frequency is rated as none, severity must also be none. Campbell-Sills et al. (2009) further found that each anxiety disorder and unipolar mood disorder diagnosis contributed unique variance to OASIS scores in primary care patients. Finally, in cut-score analyses, both studies found that a score of eight correctly identified the presence or absence of an anxiety disorder in 87% (Campbell-Sills et al., 2009) and 78% (Norman et al., 2011) of participants, respectively. Extending these results, Norman et al. (2013) evaluated the OASIS in a sample of women with and without PTSD symptoms associated with exposure to intimate partner violence (IPV). The psychometric results paralleled prior studies. In addition, pre- to post-treatment change scores on the OASIS were strongly correlated with change scores on measures of PTSD and anxiety. The authors found that a lower cut score of five successfully discriminated women with and without significant PTSD symptoms; however, the group without IPV scored low on measures of distress overall, likely accounting for the lower cut score. In sum, converging evidence suggests that the OASIS is a unidimensional, psychometrically valid, brief measure of anxiety. However, the OASIS has not yet been evaluated in a naturalistic mental health treatment-seeking sample, which is surprising given its considerable potential as a psychotherapy screening and outcome measure.

In the current study, we sought to evaluate the psychometric properties of the OASIS in individuals seeking treatment for anxiety-related conditions. As such, this study represents the first evaluation of the OASIS in an outpatient clinical practice setting. In the current study, the OASIS was administered to clients seeking treatment between 2007 and 2011. We examined the latent structure, internal consistency, and convergent validity of the OASIS. Following Campbell-Sills et al. (2009), we also sought to examine whether the OASIS adequately captures clinical severity across different anxiety disorders and in individuals with multiple diagnoses. Finally, extending the clinical utility of the measure, we calculated an index of reliable change, examined the measure's sensitivity to clinical change, and determined an optimal cut score for presence versus absence of anxiety-related diagnosis in our sample.

2. Method

2.1. Participants

Participants were 347 patients seeking treatment at the Anxiety Center at the Evidence Based Treatment Centers of Seattle (EBTCS), a private, outpatient mental health specialty center in the urban Seattle area. All patients contacted the center to initiate treatment. Patients were included in the current study if they initiated treatment at the Anxiety Center whether or not they met full criteria for an anxiety disorder; however, the majority ($n=281$, 81%) met criteria for at least one DSM-IV anxiety disorder. Comorbidity was common in this sample. Overall, 59% ($n=203$) of the individuals in the sample met criteria for two or more DSM-IV diagnoses. Of individuals with an anxiety-related diagnosis, 28% ($n=80$) met criteria for more than one anxiety disorder, and 41% ($n=115$) met criteria for major depressive disorder or dysthymia, as well as at least one anxiety disorder. Demographic and clinical characteristics of the sample are shown in Table 1.

2.2. Measures

The OASIS (Norman et al., 2006) is a five-item self-report measure of anxiety severity and resulting functional impairment. Scores on the measure range from 0 to 20, with higher scores indicating greater anxiety-related severity and impairment. Psychometric properties of the OASIS are reviewed above. Cronbach's α in the current study was .87.

The following measures were included to examine convergent validity of the OASIS.

The Outcome Questionnaire-45.2 (OQ) (Lambert et al., 2004) is a 45-item self-report measure of progress in therapy with adequate test–retest reliability, internal consistency, convergent and discriminant validity, and sensitivity to change. The OQ has been validated across undergraduate, community, and clinical samples. Factor analytic studies suggest that the OQ has a unitary factor structure, although typical scoring includes three subscale scores (Symptom Distress, Interpersonal Relations, and Social Role Performance).

The Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001) is a nine-item measure of depression corresponding to the DSM-IV criteria for a major depressive episode. The PHQ-9 has adequate psychometric properties (Kroenke et al., 2001; Titov et al., 2011) and yields a severity score through summation of the items.

The Penn State Worry Questionnaire (PSWQ) (Meyer et al., 1990) is a 16-item measure designed to measure proneness to worry. Higher scores indicate more severe frequency, severity, and perceived uncontrollability of worry. The measure has adequate