Psychosocial Distress in Patients Presenting With Voice Concerns

*Stephanie Misono, †Carol B. Peterson, ‡Liza Meredith, *Kathryn Banks, §Dipankar Bandyopadhyay, *Bevan Yueh, and ‡Patricia A. Frazier, *†‡§*Minneapolis, Minnesota*

Summary: Objectives. To assess the prevalence of psychosocial distress (depression, anxiety, somatization, and perceived stress) in a consecutive sample of patients presenting with voice concerns and to qualitatively analyze patient comments on challenges associated with voice problems.
Study Design. Cross-sectional study.
Methods. New patients presenting to a multidisciplinary voice clinic with voice concerns were invited to participate. Respondents (n = 197) completed the Brief Symptom Inventory 18-item scale, the 4-item Perceived Stress Scale, and the Voice Handicap Index 10-item scale. Qualitative analysis was performed of responses to an open-ended question about challenges associated with a voice problem.
Results. Approximately one-third (32%) of the patients met the strict case criteria for depression, anxiety, and/or somatic concerns based on the Brief Symptom Inventory 18-item scale. Most patients had no prior diagnosis of depression or anxiety, and the degree of distress was not predicted by the type of voice-related diagnosis. Perceived stress was higher among female patients ($P = 0.02$). As expected, scores on the Voice Handicap Index 10-item scale were indicative of concurrent voice-related handicap (mean, 19.5; standard deviation, 9.4). In qualitative analysis of responses regarding challenges associated with a voice problem, 19 themes were identified (eg, threat to occupational functioning).
Conclusions. These findings identify a high prevalence of multiple types of distress among patients with voice disorders, presenting an opportunity to provide more comprehensive care to this patient population.
Key Words: Psychosocial distress–Anxiety–Depression–Somatization–Stress–Dysphonia–Voice disorder.

INTRODUCTION

Perhaps because voice is such an inherent part of the human experience,[1] voice disorders (also known as dysphonia) impact functioning[2] and quality of life,[3] particularly among those who cannot fulfill job responsibilities as a result.[4] Voice disorders are common, with a lifetime prevalence of approximately 30%.[5,6] The high prevalence of dysphonia has considerable occupational ramifications for the US population, of which 25–30% are professional voice users (eg, teachers, lawyers, salespeople).[4,5] Among patients identified as currently having dysphonia, more than 50% reported having missed work as a result of their voice disorder and more than 75% indicated a prior history of dysphonia,[5] suggesting that at-risk patients may remain at risk over time. Previous research also suggests that the quality of life impact of dysphonia is comparable to that of chronic diseases such as chronic obstructive pulmonary disease and congestive heart failure.[3] Most patients with dysphonia report one or more impairments related to their voice, including psychosocial distress.[2]

Prior studies have identified depression, anxiety, and/or other psychosocial distress in patients with different types of voice disorders,[7–9] but the number of articles is small compared with studies of distress in individuals with other medical conditions such as cancer and heart disease.[10,11] In addition, the reported prevalence of anxiety, depression, and other types of distress varies across different studies. In a study of 44 female patients with either vocal nodules or other hyperfunction-related voice disorders, higher state and trait anxiety scores as well as somatic complaint scores were observed when compared with normal subjects. Stress scores were also elevated in the hyperfunction-related voice disorder patients but not in the vocal nodule patients.[12] By comparison, among 47 patients with functional dysphonia, spasmodic dysphonia, or vocal fold paralysis, 64% of patients with vocal fold paralysis reported significant distress (particularly depression, but also anxiety and somatic preoccupation) as did 29% of patients with functional dysphonia.[7] In a different study of 61 patients with functional dysphonia, a markedly higher 57% had mood, anxiety, or adjustment disorders, including anxiety regarding somatic concerns.[9]

Two larger studies have examined stress, anxiety, and/or depression among patients with benign voice disorders. Dietrich et al examined stress, anxiety, and depression among 160 patients who presented with primary muscle tension dysphonia (MTD), benign-appearing vocal fold lesions, paradoxical vocal fold motion disorder, and/or glottal insufficiency. Twenty-five percent reported elevated stress, 37% reported elevated anxiety, and 31% reported elevated depression when compared with population norms. Diagnostic category had some influence on distress scores, with greatest depression, anxiety, and stress noted among patients with paradoxical vocal fold motion,

intermediate levels in patients with MTD or vocal fold lesions, and lower levels in glottal insufficiency. Women were also noted to have higher stress, depression, and anxiety scores than men even with the use of gender-adjusted norms; severity of vocal handicap was not assessed.[8] Siupsinskiene et al[13] evaluated anxiety and depression in 437 patients with benign voice disorders. They observed mild to severe anxiety scores in 42% of patients but noted mild to severe depression scores in only 19%, with greater anxiety in females. There was also a weak but significant correlation between distress, female gender, older age, and higher Voice Handicap Index (VHI) scores.

The common themes among the aforementioned studies include examination of benign voice disorders and a focus on depression, anxiety, and/or somatic concerns. These studies have demonstrated that a substantial portion of patients with voice disorder report significant distress. However, there is a need for further research for several reasons. First, many studies have small samples (less than 70), limiting power and generalizability. Second, in some cases, there are limitations in terms of the appropriateness of the diagnostic criteria used and/or measure selection. Third, compared with depression and anxiety, somatization—the tendency to identify and seek care for somatic or physical concerns secondary to psychosocial stress[14]—has only been examined on a limited basis. Somatization is of particular interest because it has been associated with increased medical utilization, costs, and disability independent of psychiatric and medical comorbidity.[15,16] Its assessment to date has been through a variety of measures, some of which have not been psychometrically well established and others that focused more heavily on personality traits. Finally, prior studies have frequently been limited to particular types of voice disorders, most commonly functional and benign voice disorders,[9,17–22] limiting the generalizability of the findings.

We aimed to add to the existing literature by assessing a large sample of patients with a broad variety of diagnoses to gain an understanding of the prevalence of distress among all comers to a voice clinic, reflecting the real day-to-day experience of the practicing clinician. In addition, we examined somatization concurrently with depression and anxiety using a well-established instrument that is not focused on personality traits. We have also qualitatively characterized patient descriptions of voice-related distress to identify particularly distressing aspects of voice problems that may not be captured by average scores on symptom measures.

The objectives of this study were thus to assess the prevalence of psychosocial distress (perceived stress, somatization, anxiety, and depression) in patients with voice disorders and to characterize common thematic patterns in qualitative patient descriptions of voice-related distress.

METHODS
Patients
Consecutive patients presenting to the voice clinic at an academic otolaryngology clinic were invited to participate by research staff. Inclusion criteria included patient report of voice concern(s), age older than 18 years, ability to complete questionnaires and measures independently, and willingness to participate. To maintain broad potential applicability of the findings, eligibility was not limited by diagnosis type. Patients completed the instruments before being seen by a provider. The participation rate among eligible patients was 92%. Relevant information including patient demographic and medical characteristics, medical history, and voice clinic diagnosis was abstracted from the medical record. All diagnoses were abstracted from the clinic charts as documented by one of two laryngologists, without independent review, as previously described.[8,13] In cases where multiple diagnostic categories were invoked, an inclusive approach was taken and each potential diagnosis was recorded to avoid introducing interpretation bias. For instance, a patient presenting with bilateral vocal fold bowing and compensatory MTD was included in both of those diagnostic categories.

Instruments and analysis
Overall psychosocial distress, as well as depression, anxiety, and somatic concerns, was assessed using the Brief Symptom Inventory-18 (BSI-18).[23] The BSI-18 was adapted from the original BSI, which has 53 items, with good test-retest reliability, internal consistency, and construct validity.[24] Although the BSI-18 was initially used with patients with cancer, it has since been used with a variety of patient populations[25–27] and has demonstrated strong reliability as well (0.74–0.89 depending on domain).[28] The BSI-18 is written at a sixth grade level and can be completed in approximately 4 minutes. Population norms are available, as are scores from a variety of medical care-seeking patient populations. The scale is reported as a T-score, which takes into account the population mean and standard deviation (SD), and respondents can be placed at a percentile. Although various lower cutoff scores have been used,[23,29] the very conservative cutoff of a T-score of 63, which is approximately equivalent to a 90th percentile on community norms, was used to determine caseness for this study.[28] To identify patients who scored high on the scale but did not meet the strict criteria for caseness, a cutoff at the 75%ile (equivalent to a T-score of 57) was used to indicate "high-risk" responses. This cutoff was proposed by Zabora et al[23] in adult cancer patients presenting to a regional cancer center as a more sensitive and specific cutoff in their population, with a sensitivity of 91% and specificity of 93% in their study. The BSI-18 can also be interpreted at the subscale level for depression, anxiety, and somatic concerns.

The 4-item Perceived Stress Scale (PSS-4)[30] was used to evaluate degree of perceived stress and has been shown to assess stress as a distinct concern from depression.[30,31] This scale is the most commonly used measure to evaluate stress and has several different versions, including 14, 10, and four items, which are designed to be contextually nonspecific and understood at a junior high reading level. All versions have been demonstrated to have strong internal reliability (ranging from 0.72 to 0.86), and population norms have been established.[30–32] The PSS-4 is derived from the four most predictive items from the longer scales and has been shown to have