

# Vocal Tract Discomfort Symptoms in Patients With Different Voice Disorders

\*Leonardo Wanderley Lopes, \*Gyllyane Furtado Cabral, and \*Anna Alice Figueiredo de Almeida,

\*João Pessoa, Paraíba, Brazil

**Summary: Objective.** To analyze the symptoms of vocal tract discomfort in patients with different voice disorders.

**Study Design.** This study was descriptive, observational, and cross-sectional.

**Methods.** A total of 210 subjects with vocal complaints and prior medical assessment were divided into five groups according to diagnosis: no laryngeal lesion, lesion to membranous portion, voice disorder of neurological origin, incomplete glottal closure without organic or neurologic cause, and voice disorder secondary to gastroesophageal reflux. All participants responded to the vocal tract discomfort scale at the time of assessment.

**Results.** Patients had a mean of  $4.01 \pm 0.70$  symptoms, with sore throat being the most commonly reported. Compared with patients in other groups, patients with lesions in the membranous portion of the vocal folds and those with voice disorder due to gastroesophageal reflux showed an increased number of symptoms. Voice disorders of reflux were shown to result in a higher frequency of sore throat and lump in the throat than in those with neurological etiology. The intensity of the lump in the throat was higher in patients with reflux than in patients with neurologic voice disorders.

**Conclusion.** There was a difference between the number, frequency, and intensity of symptoms of vocal tract discomfort based on the type of voice disorder.

**Key Words:** Voice–Dysphonia–Voice disorders–Laryngeal.

## INTRODUCTION

Voice assessment is multidimensional and includes laryngeal examination, perceptual analysis, acoustic evaluation, and self-evaluation of the patient in relation to the frequency of symptoms and the influence of disturbance on their daily life.<sup>1–3</sup>

The auditory manifestation of a voice disorder, such as the presence of a shift in voice quality, may not necessarily reflect the presence of an abnormality in the larynx.<sup>4</sup> Similarly, certain laryngeal changes only affect voice quality, even when they become chronic or advanced.<sup>4</sup>

Complementarily, self-assessment has gained a large following in the assessment, diagnosis, and monitoring of patients with voice disorders. Indeed, most individuals who seek specialist consultation to investigate this disorder have recognized their symptoms as a problem that causes an impact on their physical, social, emotional, and/or professional life.<sup>5</sup>

Symptoms brought on by dysphonia may be sensory, involving unpleasant sensations in the body during vocal production, specifically in the neck and shoulders regions. These manifest as changes in voice quality, which are aurally perceived by the patient or their interlocutors.<sup>6–8</sup> Moreover, they may continuously vary in terms of frequency of intensity, and in some cases, can compromise the well-being of the patient.<sup>6,8</sup>

Patient identification of presenting vocal symptoms is particularly important, because the treatment for many cases is based on how these symptoms affect the daily life of the individual.<sup>3</sup>

Some diagnostic instruments promote patient self-assessment as to their voice problem,<sup>9–12</sup> and it is important that these instruments are reliable, consistent, and provide important measures for clinical use.<sup>13,14</sup>

In clinical practice, many patients seek a specialist for vocal or laryngeal assessment who investigates not only the change in voice quality but also the presence of unpleasant physical sensations associated with vocal production. The specialist focuses mainly on the voice box, where there may be excessive straining of the voice with hyperfunctioning of the intrinsic and extrinsic muscles of the larynx.<sup>6,7</sup>

In this context, from the main sensory symptoms reported by patients with voice disorders, we developed the vocal tract discomfort scale (VTDS), with the objective to evaluate the frequency and intensity of symptoms of discomfort of the vocal tract in patients with dysphonia using qualitative descriptors. The tool is mainly used in cases of muscle tension dysphonia.<sup>6,7</sup> Although the quantification of sensory symptoms is complex and subjective (pain on the scale is gauged from “no pain” to “unendurable pain”), it is believed that the discomfort is considered low intensity pain associated with an unpleasant sensation in patients with dysphonia.<sup>6</sup>

The initial study conducted by the creator of the VTDS<sup>7</sup> investigated 36 patients with muscle tension dysphonia, and assessed the prevalence of symptoms of vocal tract discomfort, qualitative differences in symptoms of discomfort among patients, and the relationship between symptoms of discomfort and changes in the vocal fold mucosa. In this study, it was observed that most patients reported irritability and aching in the throat. Patients with mucosal changes reported symptoms of aching more often than individuals without changes in the mucosa. The main conclusion of this study was that symptoms of discomfort do not necessarily represent that there is tissue damage to vocal folds, but are systemic features of patients with voice disorders, central and peripheral, involving mechanisms of the nervous system.

Accepted for publication July 22, 2014.

Research carried out in the Speech and Language Pathology Department of Universidade Federal da Paraíba—UFPB—João Pessoa (PB), Brazil.

From the \*Department of Speech and Language Pathology, Federal University of Paraíba—UFPB, João Pessoa, Paraíba, Brazil.

Address correspondence and reprint requests to Leonardo Wanderley Lopes, Universidade Federal da Paraíba, Centro de Ciências da Saúde—Campus I, Departamento de Fonoaudiologia, Cidade Universitária—Campus I, Castelo Branco—João Pessoa, Paraíba 58051-900, Brazil. E-mail: [lwlopes@hotmail.com](mailto:lwlopes@hotmail.com)

Journal of Voice, Vol. 29, No. 3, pp. 317–323

0892-1997/\$36.00

© 2015 The Voice Foundation

<http://dx.doi.org/10.1016/j.jvoice.2014.07.013>

Another study that used VTDS in patients with muscle tension dysphonia<sup>6</sup> showed that symptoms of discomfort diminish in frequency and intensity after laryngeal manual therapy. It was also demonstrated that VTDS is useful for monitoring the sensory changes mentioned by dysphonic patients before and after therapy.

A Polish study compared the use of VTDS, the voice handicap index (VHI), and grade, roughness, breathiness, asthenia, strain (GRBAS) in evaluating the results of voice therapy in patients with occupational dysphonia.<sup>15</sup> The VTDS was demonstrated to have been a useful tool in monitoring patient progress in voice therapy, showing a moderate positive correlation with the results of all domains of the VHI.

Additional Polish research assessed the effectiveness of VTDS in the diagnosis of occupational dysphonia in patients with muscle tension dysphonia not due to vocal cord injury, patients with muscle tension dysphonia due to benign vocal fold lesions, and patients with glottal incompetence.<sup>16</sup> No difference in the frequency and intensity of symptoms of discomfort of the vocal tract between the three groups of patients was found. There was a moderate positive correlation between VTDS and VHI scores, and a negative correlation between VTDS and measures of maximum phonation time. This study also confirmed that VTDS could be useful in the evaluation of patients with voice disorders of hyperfunctional origin.

In Brazil, a study with VTDS was also performed to investigate the symptoms of vocal tract discomfort for teachers, and to determine their relationship to the presence of self-reported voice problems, vocal signs and symptoms, vocal self-assessment, and perceptual voice analysis.<sup>8</sup> At the end of the study, it was observed that the presence of vocal tract discomfort was associated with a negative speech experience, and signs and symptoms of the disorder might indicate an incipient voice disorder. In addition, there was a correlation between the symptoms and discomfort intensity of the vocal deviation.

In summary, from database searches used as a basis for this article, we found studies using the VTDS in Britain,<sup>6,7</sup> Poland,<sup>15,16</sup> and Brazil.<sup>8</sup> In these studies, the sample of patients primarily included teachers with and without voice complaints,<sup>8</sup> teachers with and without laryngeal lesions,<sup>15,16</sup> and patients with dysphonia attended by primary and secondary muscular tension (with lesions in the membranous portion of the vocal folds).<sup>6,7</sup>

Initially, VTDS was designed to be part of the evaluation of patients with dysphonia due to primary or secondary muscle tension.<sup>6</sup> However, it is recognized that the symptoms of discomfort of the vocal tract can be present in different types of voice disorder.<sup>17-20</sup> Thus, in conducting the present study, we hypothesize that many patients with voice disorders of different etiologies have unpleasant sensations in the throat and neck during voice production. In addition, problems related to hyperfunctioning laryngeal muscles and the high position of the larynx in the neck could be the result of qualitative and quantitative differences in the symptoms of discomfort of the vocal tract according to the etiology of voice disorders.<sup>21,22</sup> Furthermore, we consider that muscle tension dysphonia is multifactorial, and multiple etiologies

may be involved in its pathogenesis, including both physical and behavioral factors.<sup>23</sup>

Therefore, considering the relevance of these sensory symptoms in clinical practice and the presence and role of muscle tension dysphonia due to vocal changes of varying situations, this study aimed to analyze the symptoms of discomfort in the vocal tract of patients with different voice disorders.

## METHODS

### Study design

This descriptive, observational, and cross-sectional study was approved by the research ethics committee of the institution of origin (52492/12). All participants provided their signed, informed consent.

### Participants

Subjects aged between 18 and 65 years who presented with vocal complaints and had undergone laryngeal examination were included in the study. Individuals who had already undergone speech therapy or who had cognitive or neurological deficits that prevented completing the questionnaire were excluded.

Participants numbered 210 in this study (44 men and 166 women), with a mean age of 38.18 years (SD = 12.18), and were assessed at the Laboratory of Speech (LaBVox) Department of Speech Pathology in the period from August 2012 to February 2014. The 4:1 ratio between women and men in this study is consistent with the higher prevalence of voice disorders in women, which has been demonstrated in epidemiological studies of voice disorders in the general population.<sup>24-26</sup>

All participants were divided into diagnostic groups, taking into account the main voice disorders in the outpatient setting where this research was performed, and confirming the most prevalent findings in the population.<sup>26-35</sup> The main criterion for the allocation of patients to diagnostic groups was the result of the laryngeal examination, because laryngeal imaging is used as the reference standard to confirm the diagnostic classification of voice disorders.<sup>36</sup>

By this criterion, diagnoses were classified into the following five distribution groups: 107 (50.95%) with lesions in the membranous portion of the vocal folds (nodules, polyps, and cysts); 56 (26.66%) with absence of laryngeal lesions; 18 (8.57%) with incomplete glottal closure without organic or neurologic cause; 18 (8.57%) with laryngeal voice disorder secondary to gastroesophageal reflux; and 11 (5.23%) with neurological disease (Parkinson disease, unilateral vocal fold paralysis, or multiple sclerosis).

All patients had an otorhinolaryngological report based on laryngeal imaging. Patients with Parkinson disease and multiple sclerosis additionally had a neurologist appraisal report.

### Instruments

We used the VTDS<sup>6</sup> to investigate data regarding vocal tract discomfort symptoms during patient evaluation. The VTDS measures discomfort through a Likert scale of seven points, which assesses the frequency and intensity of eight sensory symptoms of vocal tract discomfort: burning, tightness, dryness,

Download English Version:

<https://daneshyari.com/en/article/1101408>

Download Persian Version:

<https://daneshyari.com/article/1101408>

[Daneshyari.com](https://daneshyari.com)