



# Development of the Laryngeal Hypervigilance and Anxiety Scale (LHAS) Instrument

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## BACKGROUND

- Patients experiencing laryngeal symptoms such as throat clearing, sore throat, cough, and dysphonia may experience anxiety and hypervigilance surrounding their condition
- This can negatively impact patients' daily lives, social interactions & mental health, & drive symptom reporting
- No questionnaire currently exists to evaluate laryngeal hypervigilance and anxiety


## AIMS

To develop the Laryngeal Hypervigilance and Anxiety Scale (LHAS) to evaluate symptom-specific anxiety and hypervigilance in patients who experience laryngeal symptoms.

## METHODS

- Mixed-methods study from Nov 2021 to Mar 2022
- A multidisciplinary team (clinical psychologist, esophagologist, laryngologist, and speech language pathologist) adapted the EHAS into a laryngeal-focused questionnaire called the LHAS.
- 1:1 cognitive interviews with patients with LPR using Cognitive Methods of Survey Methodology (CASM) to assess:
  - Question comprehension
  - Information retrieval
  - Judgment and estimation
  - Documenting responses

## RESULTS

 n = 8  
patient interviews

- Age range 25-74yrs
- 4 (50%) male
- Mean symptom length of 46.5 months (SD 49.1)
- Based on patient feedback, 5 questions were modified as depicted in the figure
- Development of the final 15-item LHAS which includes nine questions in the symptom specific anxiety domain and six questions in the hypervigilance domain

## LARYNGEAL HYPERVIGILANCE AND ANXIETY SCALE (LHAS)

Item Ratings (0-4): 0=strongly disagree, 1=somewhat disagree, 2=neither agree nor disagree, 3=somewhat agree, 4=strongly agree

Symptom-Specific Anxiety Domain	1. I can't seem to keep my symptoms out of my mind.	
	2. I have a <u>hard</u> time enjoying myself because I cannot get my mind off the discomfort in my throat.	Replace the word "difficult" with a word that is easier to understand (n=2)
	3. These symptoms are awful and <u>overwhelming</u> .	"and I feel that they overwhelm me" is confusing (n=3) → was changed to overwhelming
	4. As soon as I awake, I worry that I will have discomfort in my throat during the day.	
	5. I often worry about problems in my throat.	
	6. These symptoms are terrible and I think things are never going to get any better.	
	7. There is nothing I can do to reduce the intensity of the symptoms.	
	8. When I feel discomfort in my throat, it <u>scares</u> me.	the word "frightens" does not make sense in this context (n=2) → changed to "scares."
	9. I anxiously want the symptoms to go away.	
Hypervigilance Domain	10. I am quick to notice changes in <u>the intensity</u> of my throat symptoms.	They never notice changes in the "location or extent" of their throat symptoms (n=3) as queried in the original question, → changed to symptom intensity.
	11. I <u>pay attention to my symptoms in social situations</u> .	felt question 10 and 11 were too similar (n=7) → rewritten to assess symptom hypervigilance in social situations, a topic felt was an important experience in their daily lives that was not addressed by the original questionnaire (n=2).
	12. I notice my symptoms even if I am busy with another activity.	
	13. I focus on throat sensations.	
	14. I am very sensitive to my throat sensations such as burning, irritation, and throat clearing.	
	15. I keep track of my symptom levels.	

## CONCLUSIONS

The LHAS is a 15-item scale that can be used to evaluate symptom-specific anxiety and hypervigilance in individuals experiencing laryngeal symptoms and potentially guide treatment. Future studies to validate psychometric properties of the LHAS are needed.