VOICE RELATED QUALITY OF LIFE IN SPASMODIC DYSPHONIA: A DETAILED VHI-ANALYSIS BEFORE AND AFTER BOTULINUM TREATMENT

K. J. Neumann¹, P. H. Dejonckere²,³,⁴

¹J.W. Goethe Universität, Frankfurt-am-Main, Germany
²Utrecht University, Utrecht, The Netherlands
³Federal Institute of Occupational Diseases, Brussels, Belgium
⁴Catholic University of Leuven, Leuven, Belgium

COST-Action 2103 Advanced Voice Function Assessment

Abstract: The Voice Handicap Index (VHI) is a widespread instrument for measuring the psycho-social handicapping effect of a voice disorder over 3 domains, the Physical (P), the Emotional (E) and the Functional (F) domain. It is a disease specific quality of life instrument and consists of 30 items/statements (10 in each domain), which are to be scored from 0 to 4 with a maximum score of 120. The higher the score, the more there is a handicapping effect caused by the voice disorder. An abridged version (10 out of the 30 statements: VHI10) has been proposed and validated.

Spasmodic Dysphonia (SD) patients (adductor type) are known to report in average extremely high VHI-scores. A detailed analysis is necessary to get better understanding of this phenomenon, particularly in the scope of therapy effects with Botulinum Toxin injections.

I. MATERIAL AND METHODS

28 VHI forms were filled in and analyzed: 24 are originating from 12 patients diagnosed with adductor SD, and investigated (just) pre- and (a few weeks) post treatment. 3 patients had no post-treatment self-evaluation. 1 patient had 2 pre- self-evaluations at different moments, with a time interval of several months. There were 9 females and 6 males. Mean age was 60.6 (+/- 9.3) years.

II. RESULTS & DISCUSSION

The average pre-therapy score is 64.17 (+/- 21.98), and is reduced to 48.75 (+/- 22.54) after treatment. A reduction of 15.41 points may be considered as clinically relevant for a group design. A paired comparison pre-/post also demonstrates a significant improvement in voice-related quality of life (p = .039). The effect size is to be considered as medium to large (Cohen’s d = .7). The median value for the VHI-score in the general population is 6 with an asymmetrical distribution (p25 = 2; p75 = 12; p90 = 23; p95 = 32.8). None of our patients originally scores within the p95 range of the general population, but 33% shift to this range after treatment. No clear age or gender related effect is observed. Factor and principal component analysis identifies clusters of statements, but these differ from the P, E and F domains as defined by the original authors. Clusters of statements can be ranked according to their sensitivity to changes induced by therapy. Scores of the total VHI are also correlated with those of the VHI10.

III. CONCLUSION

Patients with SD report a strong impact of their voice disorder on their quality of life, but VHI (and VHI10) are sensitive to therapeutic changes. Clustering of statements is possible, but these clusters differ from the original ‘domains’. Ranking these clusters according to their sensitivity to changes induced by therapy provides interesting insights in the background of self-assessment.