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INTRODUCTION

Approximately 40-50% of people with multiple sclerosis (MS) develop dysarthria over the course of the disease. In most of these individuals, the dysarthria is of the mixed type with spastic and ataxic components. The LSVT-LOUD® is an intensive treatment program designed to improve vocal fold adduction and overall voice and speech production in individuals with neurologic disease who have dysarthria.

OBJECTIVE

The main goal of this study is to inspect the efficacy of LSVT-X treatment in MS individuals.

METHODS

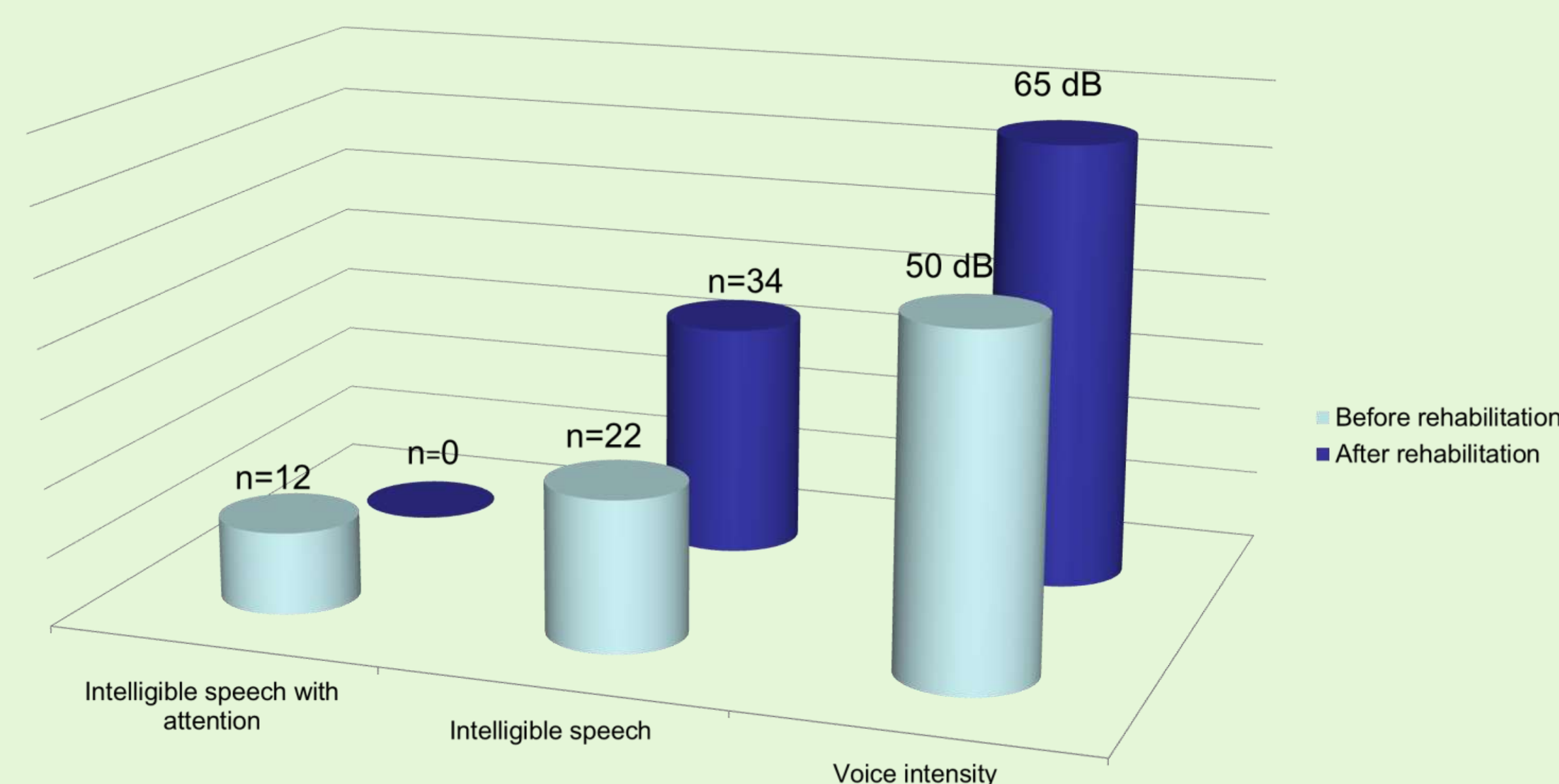
Thirty four participants (RRMS relapsing remitting =16, SPMS secondary progressive =14, PPMS primary progressive =4), 27 female and 7 male, with ages ranging from 31 to 81 years, received the LSVT-X, administered twice a week in 1-hr sessions over 8 weeks.

The evaluation was performed by three expert speech therapists. The auditory-perceptive analysis of their voices was carried out, based on the GRBASI scale. The acoustic analysis was also conducted by Praat software (version 6.0.50), considering the following measures: fundamental frequency, and voice intensity. Results with statistically significant difference: Wilcoxon Test p-value (<0.05).

RESULTS

Several signs and symptoms related to voice and speech were verified in different proportions and impacts on the intelligibility of verbal communication. After rehabilitation, there was improvement in parameters analyzed, dysarthria was attenuated and positive results were achieved.

GRBASI	Description	Before		After	
		n	%	n	%
Grade	Hoarseness of voice	23	68	2	6
Roughness	Irregularity of the vibration of the vocal folds	23	68	2	6
Breathiness	Air leak between the vocal folds	11	32	0	0
Asthenia	Weakness in the voice	11	32	0	0
Strains	Hyperfunctional use of phonation	0	0	0	0
Instability	Changes in voice quality	34	100	2	6



CONCLUSIONS

In addition to pharmacologic therapy, dysarthria treatment should be emphasized as part of a management plan focused on overall health and well-being, regardless of the type of MS, course of disease and manifestation of speech and voice symptom.

1) Dias AE, Limongi JCP, Barbosa ER, Hsing WT. Voice telerehabilitation in Parkinson's disease. *Codas*. 2016 28(2):176-81.

2) Rusz J, Benova B, Ruzickova H, et al. Characteristics of motor speech phenotypes in multiple sclerosis. *Mult Scler Relat Disord*. 2018 19:62-9.