

The effects of intensive voice treatment on intelligibility in Parkinson's Disease:
A Randomized Controlled Trial

E. Levy, G. Moya-Gale, Y. Hwa Chang, K. Forrest, L. Ramig

Purpose: While the speech of adults with Parkinson's Disease (PD) is often characterized by low vocal loudness and a common treatment goal is increasing speech intelligibility, there has been limited study of the effects of voice-based treatment—or even loudness itself—on intelligibility in PD. This study examined the effects of intensive voice treatment with a focus on vocal loudness on conversational intelligibility in adults with hypokinetic dysarthria due to PD and the relationship between their sound-pressure-level (SPL) increases and intelligibility increases. **Method:** Fifty-seven adults with PD were recorded while speaking about happy times pre- and post-treatment targeting voice (LSVT-LOUD) or treatment targeting articulation (LSVT-ARTIC) or no-treatment. Blinded listeners (n=117) heard sentences embedded in noise and transcribed the utterances orthographically and rated ease-of-understanding on a visual-analog scale. **Results:** Significant increases in intelligibility were evident post-treatment, especially following LSVT-LOUD. The no-treatment group decreased in intelligibility. The correlation between SPL and intelligibility is being calculated and will be reported. **Conclusions:** Increases in intelligibility as a function of treatment focusing on vocal loudness add new evidence for benefits of increasing loudness as a treatment goal in adults with PD.