Efficacy and acceptance of a low-cost Lombard-response device for the treatment of hypophonia in Parkinson's disease

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Abstract

The present study examined the effectiveness, satisfaction and acceptance of a low-cost Lombard-response (LR) device in a group of sixteen individuals with hypophonia related to Parkinson's disease and their sixteen communication partners. The specific LR device was a small MP3 player (Sony Walkman) and headphones playing a multi-talker noise audio file at 80dB. Conversational speech intensity of the individuals with PD (IWPD) increased by 7 to 10dB with the LR device. Following a two-week trial period, 8 of the IWPD (50%) gave the LR device moderate-to-high satisfaction and effectiveness ratings and decided to purchase the device for long-term daily use. At the 4-month follow-up, none of the IWPDs were still using the LR device. Device rejection was related to discomfort (loudness), headaches, interference with cognition, and difficulty controlling device. Future studies are required to determine if other types of LR devices can be developed that improve long-term efficacy and device acceptance in IWPD and hypophonia.