

Perceptual Characteristics of Parkinsonian Speech: Medication effects.

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Introduction

- **Parkinson's Disease**
 - Progressive neurological disorder
 - Affects brain's ability to use and store dopamine
- **Previous acoustic results**
 - Consistent non-speech motor improvement after medication
 - No corresponding group improvements in acoustic characteristics of speech and voice

Introduction

- **Reasons for study**
 - Objective (acoustic) reports indicate no consistent improvement after taking medication.
 - Subjective reports indicate that medication helps speech and voice.
- **Purpose**
 - Examine perceptual characteristics of PD speech before and after medication.
 - Determine if listeners can perceive subtle cues to document post-medication speech improvements.

Participants

- **PD Participants**
 - 8 individuals with PD (6 males, 2 females)
 - Mean age = 67 yrs
 - Experiencing fluctuations.
 - Hypokinetic Dysarthria.
- **Control Participants**
 - Age-matched and gender-matched
- **Listeners**
 - 10 naïve listeners recruited

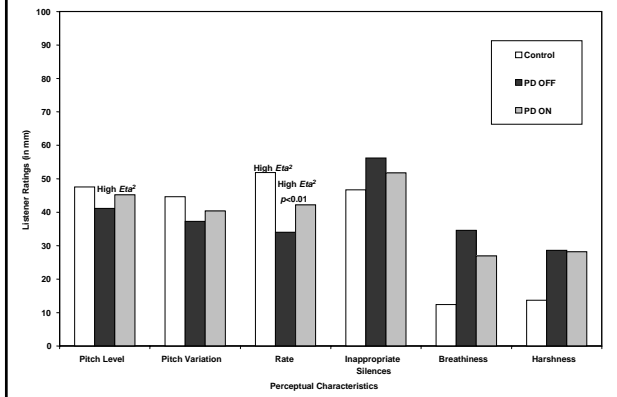
Methods

- **PD Speech Recordings**
 - OFF State: 30 min before morning meds.
 - ON State: 1 hour after morning meds.
- **Listeners**
 - 8 of 10 listeners used.
 - Reliability testing led to the elimination of data from 2 listeners.

Methods

- 6 speech / voice characteristics were rated
 - Pitch level (low-high)
 - Pitch variation (monopitch-excessive variations)
 - Rate (slow-fast)
 - Inappropriate silences (few-many)
 - Breathiness (not breathy-severe)
 - Harshness (not harsh-severe)

Results



Conclusions / Discussion

- Subtle differences found between PD and control participants.
- Five of six measures were improved (closer to control) after the PD participants took their medication

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