ABSTRACT

Group Speech Treatment For Parkinson Disease Delivered Via Telerehabilitation Versus Face To Face

Ko, S., Acharyya, S.

CAPE CENTRE FOR Allied Health & Pharmacy Excellence

INTRODUCTION

Individuals with Parkinson Disease (IwPD) traditionally receive speech therapy face-to-face in hospitals or clinics in Singapore. Upon completion of hospital-based treatment, there are limited community speech therapy services. Alternative modes of service delivery, increasing accessibility and addressing needs of IwPD, need to be investigated in the local context. We examined the feasibility and effectiveness of group-based speech telerehabilitation for IwPD.

METHODOLOGIES

Eligible participants diagnosed with idiopathic Parkinson Disease were prospectively recruited into 2 groups; first group of participants recruited between April-December 2021 received treatment via telerehabilitation (TR) at home using Zoom. Subsequently, next group of participants recruited between April-December 2022 received treatment face to face (FTF) at Parkinson Society Singapore. Treatment lasted for 8 weeks in both groups.

Participants' speech and voice functions were assessed in-person pre and post treatment.

Participants filled in:

- Voice Handicap Index pre and post treatment (perception of own voice).
- Questionnaires post treatment – perception of the treatment received, including ease of access and effectiveness.

RESULTS

17 participants (mean age = 70.9 years, SD 5.6, range 62 – 82 years) were recruited. Eight were females. Distributions of age and gender were similar between two groups.

Six and eleven participants received FTF and TR, respectively. Clinical endpoints significantly improved after treatment in both groups (p value < 0.05). There was no evidence of significant between-group difference in the magnitude of improvement (table 1).

FTF participants enjoyed interactions and sharing of experiences during treatment, and cited no challenges. TR participants enjoyed interactions too, and found it encouraging to work on the same goals. Challenges cited revolved around unfamiliarity with Zoom (figure 1).

CONCLUSION

Telerehabilitation is a viable way of conducting group speech treatment for IwPD. In our project, it yielded comparable outcomes to FTF treatment. Unfamiliarity with using technology for telerehabilitation can be overcome by caregiver support or training done by clinician pre-treatment.

FIGURES/ DIAGRAMS

Table 1: Distribution of participants demographics and outcomes

	Face to face group (n = 6)	Telerehabilitation group (n = 11)	P value*
Age, mean (SD)	71.1 (5.2)	70.8 (6.0)	0.907
Females, n (%)	2 (33.3)	6 (54.5)	0.402
Prolong phonation (decibels), mean (SD)			
Before treatment	75.5 (7.8)	72.8 (6.3)	0.455
Magnitude of improvement after treatment	7.3 (6.5)	4.8 (6.8)	0.486
Prolong phonation (seconds), mean (SD)			
Before treatment	10.6 (5.0)	11.2 (5.2)	0.809
Magnitude of improvement after treatment	3.8 (2.8)	1.8 (2.6)	0.172
Reading (decibels), mean (SD)			
Before treatment	69.9 (3.2)	66.9 (3.8)	0.121
Magnitude of improvement after treatment	5.7 (2.4)	3.6 (3.5)	0.221
Monologue (decibels), mean (SD)			
Before treatment	68.2 (3.9)	63.7 (5.9)	0.121
Magnitude of improvement after treatment	3.2 (3.1)	3.9 (3.9)	0.680
Voice Handicap Index scores, n (%) - Improved - Remained same - Declined	 2 (33.3) 4 (66.7) 0	 4 (36.4) 5 (45.5) 2 (18.2)	0.489

*p values are obtained from two sample t-test for continuous variables, and Chi squared test for categorical variables. SD is standard deviation.

Figure 1: Distribution of participant feedback ratings