The science

behind Constant Therapy

FEATURED RESEARCH

A virtual, randomized, control trial of a digital therapeutic for speech, language, and cognitive intervention in post-stroke persons with aphasia

Braley, M., Sims Pierce, J., Saxena, S., De Oliveira, E., Tarabonata, L., Anantha, V., Lakhan, S., Kiran, S.

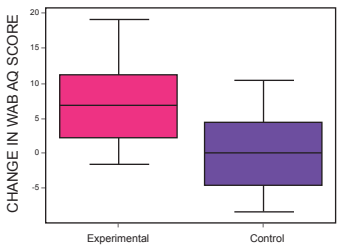
HIGHLIGHTS

METHODS

- 32 patients participated in this completely virtual study, and were randomly placed in the control or experimental group, while balancing for overall aphasia severity
- Outcome measures included the Western Aphasia Battery, Revised (WAB-R), the Brief Test of Adult Cognition by Telephone (BTACT), and the Stroke and Aphasia Quality of Life Scale 39 (SAQOL-39)
- Patients completed a pre-assessment, followed by 10 weeks of intervention, and finally a post-assessment
- Experimental group participants completed self-managed Constant Therapy tasks through the Constant Therapy-Research application, with the app progressing them based on their performance
- Control group participants completed self-managed, standard speech-language pathology workbooks
- Both groups received biweekly check-in calls and were encouraged to participate in approximately 30 minutes of practice, 5 days per week

RESULTS

- Patients in the experimental group made clinically significant improvements on the WAB-R, and made statistically significantly more improvement than the control group (WAB-R Aphasia Quotient average improvement was 6.75 points for the experimental group vs. 0.38 points for the control group)
- Patients in both groups demonstrated significantly higher communication and energy scores on the SAQOL-39, demonstrating the feasibility of a fully virtual trial for patients with post-stroke aphasia



	Control (n=15)	Exp (n=17)	p-value
WAB-AQ	0.38	6.75	p<0.01
WAB-LQ	0.56	4.51	p<0.01
WAB-CQ	0.78	4.69	p<0.05

Select research published using Constant Therapy

Marin A, DeCaro R, Schiloski K, Elshaar A, Dwyer B, Vives-Rodriguez A, Palumbo R, Turk K, Budson **A Home-Based Electronic Cognitive Therapy in Patients With Alzheimer Disease: Feasibility Randomized Controlled Trial** JMIR Form Res 2022;6(9):e34450

Cordella C, Munsell M, Godlove J, Anantha V, Advani M, Kiran S. **Dosage Frequency Effects on Treatment Outcomes Following Self-managed Digital Therapy: Retrospective Cohort Study** J Med Internet Res 2022;24(7):e36135

Postman, W. A., Fischer, M., Dalton, K., Leisure, K., Thompson, S., Sankey, L., Watkins, H. **Coupling hearing health with community-based group therapy for cognitive health in low-income African American Elders.** Perspectives of the ASHA Special Interest Groups. 2022; (SIG8):1-13.

Dadgar-Kiani, E & Anantha, V. **Continuously-encoded deep recurrent networks for interpretable knowledge tracing in speech-language and cognitive therapy.** medRxiv, 2020. doi:10.1101/2020.11.08.20206755

Edgar, D. & Bargmann, P. **Clinical study of the effectiveness of Constant Therapy in the treatment of clients with dementia: Implications for telepractice.** Perspectives of the ASHA Special Interest Groups. 2021; 6(SIG 18):691-703.

Braley, M., Sims Pierce, J., Saxena, S., De Oliveira, E., Tarabonata, L., Anantha, V., Lakhan, S., Kiran, S. **A Virtual, Randomized, Control Trial of a Digital Therapeutic for Speech, Language, and Cognitive Intervention in Post-stroke Persons With Aphasia.** Frontiers in Neurology, 2021; 2:12. doi: 10.3389/fneur.2021.626780

Munsell, M., De Oliveira, E., Saxena, S., Godlove, J., Kiran, S. **Closing the digital divide in speech, language, and cognitive therapy: Cohort study of the factors associated with technology usage for rehabilitation.** Journal of Medical Internet Research, 2020; 22:2. doi: 10.2196/16286.

Godlove, J., Anantha, V., Advani, M., Des Roches, C., Kiran, S. **Comparison of therapy practice at home and in the clinic: A retrospective analysis of the Constant Therapy platform data set.** Frontiers in Neurology, 2019. doi: 10.3389/fneur.2019.00140

Des Roches CA, Mitko A, Kiran S. **Relationship between self-administered cues and rehabilitation outcomes in individuals with aphasia: Understanding individual responsiveness to a technology-based rehabilitation program.** Front Hum Neurosci. 2017;11:07. doi:10.3389/fnhum.2017.00007.