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Navigating the intricate world of aphasia apps: A guide for individuals with aphasia and their families

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Introduction

People with aphasia (PWA) rely on speech-language therapy to enhance their recovery. It has been shown that the first months post-stroke are critical for developing a treatment plan that will maximize language improvement (Bogal et al., 2003). Current evidence also suggests that continued therapy promotes further recovery even in the chronic stages, with more intensive therapy being more beneficial (Brietenstein et al., 2017; Fleming et al., 2021). Given the reduced availability of in-person speech therapy sessions and limited insurance coverage for ongoing speech-language therapy, there is a continued need for digital tools that could supplement in-person therapy. Computer-based therapy has numerous advantages. It is wholly accessible and can be tailored to PWA's specific needs in content, duration, and intensity. Furthermore, a recent randomized clinical trial showed that computerized speech language therapy, when used in tandem with traditional speech therapy, yielded significantly better results in some aspects of language recovery (Palmer et al., 2019). Thus, computerized aphasia treatments can enhance outcomes. However, finding the tools that best address the person's unique deficit can be difficult for people with aphasia, their caregivers, and their clinicians, particularly during the pandemic when in-person interactions are limited.

Methods

In this project, we systematically reviewed desktop and mobile applications for both tablets and computers that were listed as speech therapy aids, and then designed a format in which they could be easily accessed. During this process, we consulted with PWA and licensed speech language pathologists. The final applications list was determined based on four criteria: ease of use, quality of instruction, quantity of information, and efficacy of the implemented therapy. We organized the list in a visual array such that spatial positioning, colors, and font size could be easily viewed by PWA.

The categories were given self-explanatory names with clearly marked hyperlinks to aid access to each application.

Results

The final design resulted in a circular web of applications stemming from a central language disorder, becoming more specific as the diagram branched out (see Figure 1). Colors were kept in the same family depending on the target deficit (auditory comprehension, reading/writing, apraxia, etc.) and changes in hue distinguished the specific applications from the general category. We also provided more detailed information about each application and its evidence-base in a table format accessible to the PWA and their caregivers (https://aphasia.berkeley.edu/resources-for-patients/).

Conclusion

Our experience in observing PWA struggle to continue with regular and intensive therapy over the course of the pandemic highlighted the difficulties in finding online resources specific to the individual's deficits. With continued technological advances the addition and integration of app-based speech therapy with traditional approaches is inevitable and could potentially usher in a more individualization within neuroscience-based speech therapy (Lambdon Ralph, 2021). However, these novel opportunities must be accessible to those who directly benefit from these services. The hope is that the tool described here can aid in the individualization of aphasia therapy and facilitate access to these online tools for PWA, promoting uninterrupted intensive therapy and continued recovery.

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Figure 1. Division of applications based on specific language deficits.