A NOVEL TOOL FOR ANALYZING REAL-WORLD LANGUAGE USE IN A PERSON WITH WERNICKE’S APHASIA

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INTRODUCTION

There is a limited understanding of how deficits measured using traditional standardized tests translate to real-world communication in Persons with Aphasia (PWA). Also, there is a dearth of ecologically valid methods and measures that can help us objectively characterize everyday communication abilities in a PWA and the role home language environment plays in their rehabilitation. This study makes use of technology, called the Language Environment Analysis (LENA) Pro System, to objectively analyze and quantify interactive and contextual language use in a person with severe fluent aphasia and to examine changes in language use at home before and after treatment.

METHOD

The participant (MM) was a 77-year-old female, 30.5 months post-onset of left middle cerebral artery stroke. She presented with severe Wernicke’s aphasia (WAB AQ=31).

Treatment: MM underwent 30 hours of intensive therapy using Scheull’s Stimulation Approach.

Data Collection: LENA was used to record language use at home. Recordings were transcribed verbatim, and conversations were analyzed along several parameters.

RESULTS

MM’s score on the WAB-R AQ showed clinically significant improvement from baseline 31 to one-week post-treatment 37.7. MM had a raw score of 12 on the Auditory Comprehension Test for Sentences at pre-treatment, which did not change post-treatment. MM’s language performance at home corresponded with the clinically significant improvements observed on behavioral tests as seen in the figures below:

DISCUSSION

According to our preliminary results, LENA appears to be a feasible tool to measure the language use of PWA in their home environments. A participant with severe Wernicke’s aphasia independently operated the DLP and was successful in delivering >40 hours of recordings. We systematically analyzed language along several dimensions pre and posttreatment.

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