Systematic Study of the Effectiveness of AAC Intervention to Improve Conversation in Individuals with Degenerative Language Disorders

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Abstract

Individuals with degenerative language disorders secondary to dementia are faced with a steady and disabling loss of language capacity that impacts negatively upon health and function, and community participation. While there are no recommendations for communication intervention in management guidelines for dementia, there are reports of successful applications of augmentative and alternative communication (AAC) for this population. Data from our 2004-07 NIDRR Field Initiated project (#H133G040176) reveal that an AAC device, customized with photos and print to the message needs of persons with Alzheimer's disease, is effective for improving word use during conversation. We propose to extend this research to investigate AAC tool use for adults with primary progressive aphasia (PPA) resulting from frontotemporal lobar dementia (FTLD). There are no experimental data on AAC intervention for adults with PPA. This outcomes-oriented research project meets the NIDRR criteria for using a valid and rigorous scientific methodology.

Objectives are: 1) to test the extent to which AAC intervention is associated with changes in conversation for persons with moderate Alzheimer's disease and persons with primary progressive aphasia under controlled conditions; 2) to test the extent to which AAC use is associated with daily functional changes in conversation for the two participant groups under natural conditions; 3) to describe the behavioral and socio-relational characteristics of caregiver/partners and participants who display improved conversational skills with AAC treatment. We hypothesize that under both controlled and natural conditions, AAC-supported conversations will be associated with improved lexico-semantic performance and fewer communication difficulties than are unsupported conversations across the two participant groups. 100 adults from the Alzheimer's Disease Research Centers in Portland, OR and San Francisco, CA will participate. AAC devices

will be customized for each participant with specific vocabulary depicting autobiographical memories and functional activities. Each participant will engage in a spaced retrieval priming task followed by videotaped conversations with and without the AAC device in six controlled conversations with a research assistant (Study 1), and six practical context conversations with a caregiver (Study 2). Spontaneous AAC device use in the home will be tracked for six months following Study 2 conversations.

A number of measures designed to capture conversational success will be collected, using the Systematic Analysis of Language Transcripts (SALT) software (Miller & Chapman, 2000). Scores on the Communication Problems Scale (Savundranayagam, et al., 2005) and frequency of spontaneous use of the AAC tool in the natural environment are measured, as well.

It is the goal of this research team to provide scientific data that inform management guidelines to improve daily conversational functioning of persons with degenerative language loss secondary to moderate Alzheimer's disease and PPA so that they may a) express their own needs and desires; b) reduce care giving costs by facilitating communication between caregivers and their charges and c) increase quality of life for both caregivers and their charges with dementia. Evidence from this multi-site research will be applied to clinical intervention programs for adult language disorders, thus supporting NIDRR's mission to integrate research and practice.