AAC Rehabilitation for Conversation in Dementia

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Abstract

This pilot project will determine whether Augmentative and Alternative Communication (AAC) devices improve the conversation of adults with moderate dementia. Clinical researchers have not conducted a systematic investigation of the effectiveness of AAC devices for this population, manipulating the components of AAC devices that might improve conversation for persons with dementia. Four hypotheses are generated. (1) Access to AAC devices in general will improve the conversations of individuals with moderate dementia. (2) The enhancement of conversation associated with AAC device use results from manipulation of 2 specific AAC variables: input and output mode. AAC input refers to the symbols in AAC devices (printed labels, 2-dimensional pictures, or 3-dimensional objects). AAC output refers to the presence or absence of digitized speech with the symbols. (3) The severity of language impairment displayed by persons with moderate dementia interacts with input and output mode. The more concrete input modes with voice output will improve conversation more for those with severe language impairment. (4) Familiar, untrained caregivers will find that the use of AAC devices improves functional conversation with individuals with moderate dementia. Participants are 60 adults with moderate dementia as defined by a CDR score of 2, MMSE between 5-18, and enrollment in the Oregon Alzheimer's Disease Center. The FLCI is the language severity measure. In study 1, participants engage in 5 conversations with and 5 without AAC devices that incorporate randomly assigned combinations of input and output mode.

Participants' expressive behaviors are coded from videotapes to characterize rate and conversational content (Bourgeois, 2001). For study 1 (Hypotheses 1-3), the main effect of AAC device use is evaluated using paired t-tests. The relative effects of input and output modes and their relationships to language severity are analyzed using a regression model. In study 2 (Hypothesis 4), familiar untrained caregivers engage in conversations with subjects with or without an AAC device and rate the functional outcome of the conversations. Results will be used to generate an R01 application to determine more precisely the features of AAC that enhance functional communication for individuals with different severity levels of dementia in a longitudinal design measuring clinical outcomes over time.