Training Communication Effectiveness in Individuals with Alzheimer's disease and their Caregivers

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Introduction

Alzheimer's disease (AD) is a progressive and degenerative neurological disorder that affects memory, language and communication, thinking, and social skills (Taibo et al., 2013). AD is the leading cause of dementia in older adults; it is referred to as, "Dementia of the Alzheimer's Type (DAT)." AD is generally categorized in the stages of mild, moderate, and severe based on the amount of neural deterioration present and functions affected. According to Small & Perry (2013), the most significant challenge of AD may be its impact on communication. As the disease progresses, communication abilities decline and there is increased reliance on both formal and informal caregivers for communicative support. Since communication is a fundamental aspect to healthy relationships, declining communicative abilities can affect quality of life in both individuals with AD and their caregivers (Ritcher, Roberto, & Bottenberg, 1995)

According to the Alzheimer's Association (2013), the prevalence of AD in the U.S. is currently estimated at around 5.2 million people and is projected to increase by around 10 million individuals within the coming decades due to the aging baby boomer generation and longer average lifespan. With increasing prevalence, individuals with AD and their caregivers should receive training regarding the effects of AD on communication and a variety of communication strategies to aid in effective communication.

Communication Decline in AD and the need for Communication Strategies Training

Williams (2011) emphasized that informal caregivers, including spouses and children, are often challenged with their new roles as caregivers of individuals with AD. Typically, individuals with AD rely on their informal caregivers until the later stages of the disease when many individuals are placed in care facilities where formal caregivers provide support (Alzheimer's Association, 2013). According to Ritcher et al. (1995), communication is often overlooked due to increased physical and safety needs of the patient. A decrease in communication has been found to cause the sense of social isolation, frustration, and depression in both individuals with AD and their caregivers (Williams, 2011). A research study by Williams (2011) on caregiver knowledge of the effects of AD on communication revealed the need for training to alleviate stressors related to communication breakdowns.
A variety of communication strategies can be applied to the various stages of AD and can be utilized by both formal and informal caregivers to aid in communication abilities to improve communication, and ultimately, quality of life.

Communication and the Progression of Alzheimer's disease

DAT is considered a cortical dementia since it involves the deterioration of the grey matter of the cortex, which leads to declines in areas of higher cognitive functioning including memory (particularly working memory), planning, language, and judgment. Complications associated with DAT are derived from neurofibrillary tangling, vacuoles (holes) in nerve cells, and plaque build up (Alzheimer's Association, 2013). Communication abilities, including both expressive and receptive language, gradually decline with the rate of deterioration. The skills decline from more complex units of language, such as semantics and pragmatics, to simpler units, such as phonology and syntax (Haak, 2002). The complex units require planning, memory, and conscious thought, which are domains susceptible to deterioration. However, syntax and phonology are seen as finite and predictable, and do not usually require conscious attention and are therefore, relatively intact (Haak, 2002). According to Haak (2002), caregiver understanding of how AD affects communication is beneficial to developing appropriate communication strategies to aid in helping individuals with AD and their caregivers communicate.
*In Table 1 below, you can find further information on specific communication declines at each stage of AD.

Table 1: Common Communication Characteristics in the Stages of Alzheimer's disease
Source: (Haak, 2002)

Mild Stage	Moderate Stage	Severe Stage
•Mild word-finding difficulties •Digresses from conversational topic but returns without assistance •Mild difficulty comprehending lengthy, syntactically complex material •Awareness of communication difficulties •Repeat stories •Use of filler words, such as "stuff" or "thing" •Overuse of pronouns •Decline in use of vocabulary	•Use more words to communicate an idea •Incomplete delivery of verbal message •Repetitions •Disjointed conversations •Anomia •Deteriorating spoken and written information comprehension •Don't monitor messages; errors go undetected •Withdraw from communicative situations	•Use of jargon/nonsense words •Fragmented messages •Significant decline in comprehension of written and spoken language •Significant decline in vocabulary •Use only a few words during conversations •Eventually become mute •Rely on nonverbal communication, such as facial expressions or intonation in voice to understand messages

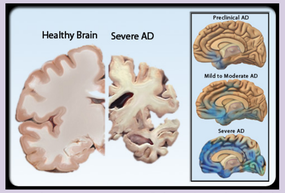

Figure 1: Shows the progression of deterioration of the brain over the course of Alzheimer's disease. Source: http://www.medicinenet.com/image-collection/alzheimers_disease_picture/picture.htm

Communication Strategies Training: Direct and Indirect Communication Interventions

Most communication strategies presented in the current AD research fall under the major approaches of Direct and Indirect communication interventions. Direct interventions are client-focused where the goal is to maintain as many residual communication strengths as possible. Indirect interventions are typically used by informal and formal caregivers to develop ways to aid in communication with individuals with AD using environmental and psychosocial means (Clark, 1986). Direct and indirect communication interventions are seen as complementary to one another throughout the stages of the disease. However, according to Mahendra (2001), most research regarding direct interventions has been focused on AD at the mild and moderate stage and application of direct intervention for severe AD must be further assessed.

Direct Communication Interventions

As stated by Mahendra (2001), direct interventions, "capitalize on neuropsychological abilities to compensate for impaired abilities." These communication interventions can occur individually or in a group setting and focus on the maintenance of residual communicative and cognitive abilities, while minimizing the excessive negative response to the disability (Mahendra, 2001). Direct Communication Interventions can be facilitated by both formal and informal caregivers and can include a variety of strategies and tools to help individuals with AD and their caregivers connect with one another. As previously stated, these strategies are typically more effective for individuals with mild and moderate AD (Mahendra, 2001).

Examples of Direct Communication Approaches

Communication adaptive and facilitative strategies: The goal of communication adaptive strategies is to help the individual overcome a communication difficulty, such as naming, and gain control as an effective communicator. An example, presented by Clark (1986), stated that if there was a comprehension difficulty of a speaker's message, the individual with AD may ask the individual to repeat the message. Facilitative strategies place focus on the use of residual communication skills to enhance their expressive communication abilities. An example, presented by Clark (1986), stated that gesturing an action for an intended word may aid in word-finding abilities.

Multisensory Stimulation: This technique incorporates a variety of stimuli to evoke positive associations to aid in recall of memories to use as a base for conversation (Mahendra, 2001). Memory devices are a type of multisensory stimulation that typically act as a stimulus for conversation. In a study conducted by Taibo et al. (2013), memory books were found to help individuals focus the content of their conversations, allowing improved conversational quality and the use of fewer ambiguous utterances. Recently, in addition, computer programs such as CIRCA (Astell et al., 2010) have been created to utilize recollections initiated by media, including music, pictures, and videos, to support social interactions.

Alternative and Augmentative Communication (AAC): AAC devices for AD can include, communication boards, computer programs, and memory books. A study by Murphy and Oliver (2013) discovered that "Talking Mats," a communication board, resulted in adjustment to accepting increasing levels of care and improved the relationship between individuals with dementia and their caregivers.

Indirect Communication Interventions

According to Clark (1986), indirect intervention techniques are developed by caregivers to, "promote the maximum level of functional communication and to provide opportunities for communication." These interventions can reduce stress, provide emotional security, and support successful patient-caregiver interactions (Clark, 1986).

Examples of Indirect Communication Approaches

Recommended nonverbal/verbal communication strategies:
Clinically recommended verbal and non-verbal communication strategies include the use of simple sentences, slow speech, and eye contact. However, a lack of empirical evidence of efficacy of strategies exists (Wilson, Rochon, Mihaildis, & Leonard, 2012). Small, Gutman, Makela, and Hillhouse (2003) researched the effectiveness of top recommended strategies. Significant findings of ineffective strategies included the use of slow speech, due to working memory deficits, and repetition of messages verbatim versus paraphrasing due to findings that neither option affected comprehension abilities (Wilson et al., 2012). Effective strategies included improved comprehension with syntactically simple sentences (with focus on fewer prepositions); one direction or message at a time; and the use of closed-ended questions (Wilson et al. 2012). However, the effectiveness of a response to the question has less to do with the type of question itself and more with the type of memory targeted (Small & Perry, 2005). Questions geared toward episodic memory, or memory of specific events in time, compared to semantic memory, or memory of general concepts, are less successful given the deterioration in the hippocampus (Small & Perry, 2005).

Caregiver Training Programs: There are a variety of training programs to support caregivers as facilitators of communication. FOCUSED, a program developed by Ripich (1995), is an acronym that is made up of both verbal and non-verbal strategies. These include: Face to Face, Orientation to topic, Continuity of topic, Unsticking communication blocks, Structured questions, Exchange ideas, Direct, short sentences (Ripich, 1995).
Recently, the DVD-based training program, "RECAPS and MESSAGE" (Broughton et al., 2011) was developed for the effective and time efficient instruction of strategies for caregivers through a variety of multi-media. Each part of the title is an acronym supporting memory/cognition and communication abilities. Lastly, a pilot study of a new training program called, "TRACED" (Small & Perry, 2013) displayed the program's goals of combining strategies for compensating for cognition and communication limitations and aids in communicative closeness with caregivers.