

Evidence-Based Practice Recommendations for Dementia: Educating Caregivers on Alzheimer's Disease and Training Communication Strategies

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The Academy of Neurologic Communication Disorders and Sciences (ANCDS), the American Speech-Language-Hearing Association (ASHA), its Special Interest Division 2 (SID-2, Neurophysiology and Neurogenic Speech and Language Disorders), and the Veterans Administration (VA) collaborated to establish evidence-based practice guidelines for speech-language pathologists working with individuals with Alzheimer's disease (AD). A writing committee was formed and generated a technical report with evidence tables based on systematic review and classification of literature related to assessment and use of direct and indirect interventions with individuals with AD. This clinical report includes a summary of the scientific evidence related to one type of indirect intervention: educating caregivers about AD and training them to use strategies to enhance communicative effectiveness. Seven studies were reviewed and judged to pro-

vide Class I, II, and III evidence to support the education and communication training of family and professional caregivers of individuals with AD. Participant characteristics, nature of the education and training programs, outcomes, methodological concerns, trends across studies, and recommendations for clinical practice as well as future research are discussed.

The Dementia Practice Guidelines Writing Committee was formed as a collaboration between the Academy of Neurologic Communication Disorders and Sciences (ANCDS), the American Speech-Language-Hearing Association (ASHA), and the Veterans Administration (VA) to establish evidence-based practice recommendations for speech-language pathologists working with individuals who have Alzheimer's-type dementia (see Bayles et al., 2005 for more information on the committee).

Weiner (1996) defines dementia as "a reduction or impairment of multiple cognitive abilities, including memory, sufficient to interfere with self-maintenance, work, or social relationships" (p. 3). Alzheimer's disease, the most prevalent form of irreversible dementia, currently affects more than 4.5 million Americans (Hebert, Scherr, Bienias, Bennett, & Evans, 2004). As the disease progresses, affected individuals require care and supervision to safely and adequately meet daily needs. Effective communication between individuals with AD and caregivers, both family and professional, is important for meeting basic and social needs (Hopper, Bayles, Harris, & Holland, 2001). However, many caregivers lack knowledge of how to facilitate communication with individuals with AD. Speech-language pathologists have a role in educating caregivers about AD and related dementias and methods to improve communication with individuals who have AD. The goal of this article, which is one of a series of reports, is to summarize the state of evidence regarding caregiver training in communication strategies to improve interactions with individuals who have AD.

PROCEDURES

Systematic Review of the Literature

A general search was conducted in several electronic databases: Medline (1966–August 2002), Psych-Info (1967–August 2002), and Language and Linguistic Behavioral Abstracts (1960–August 2002). Hand searches were also conducted of relevant

studies cited in articles. The following search terms were used: Alzheimer's/Alzheimer disease, dementia of the Alzheimer's type, dementia, caregivers, caregiver education, communication, and caregiver intervention.

For the purposes of this systematic review, investigators included only those studies in which researchers specifically assessed the effect of interventions involving education to family and professional caregivers about Alzheimer's disease/dementia and training in communication strategies. Articles that did not specifically address individuals with AD or a related dementia were excluded from this review. In total, six studies met inclusion criteria and were reviewed and classified.

Classifying the Evidence

The committee developed an evidence table for classifying research evidence pertaining to speech-language pathology interventions for people with AD. Data from the six studies on caregiver education and training in communication strategies were entered into the evidence table (see the technical report and associated evidence table at www.ancds.org). Each study was reviewed based on several parameters, including the purpose of the study, subject characteristics, internal, external, and content validity, dose-response characteristics (frequency, intensity, duration) of intervention, outcome measures used to document intervention effects and study results. Each article was rated independently by two members of the writing committee to ensure reliability of coding.

DESCRIPTION OF THE STUDIES

In the first two studies, Ripich (1994) and Ripich, Wykle, and Niles (1995) investigated the effects of a caregiver communication training program called the FOCUSED program on three caregiver-related outcomes: (a) knowledge of communication and strategies, (b) attitude toward communication with individuals with AD, and (c) coping and quality of

visits between caregivers and persons with AD. Participants were 17 nursing assistants in a long-term care facility (16 females and one male; ages 20–69; 11 mean years of education; 14.25 mean years of experience). Treatment consisted of six weekly 2-hour training sessions. The training sessions were divided into six modules:

1. information about AD and associated communication deficits,
2. differences among normal forgetting, depression, and AD,
3. value of interpersonal skills in caring for residents with AD,
4. cultural and ethical considerations,
5. stages of AD, concurrent communication characteristics, and ways to maximize communicative ability at each stage, and
6. use and evaluation of FOCUSED strategies.

FOCUSED is an acronym for the key features of the communication enhancement program: F = functional and face-to-face; O = orient to topic; C = continuity of topic—concrete topics; U = unstick any communication blocks; S = structure with yes/no and choice questions; E = exchange conversation—encourage interaction; D = direct, short, simple sentences. Written materials, including a training guide and reminder cards of the FOCUSED strategies, were provided to the nursing assistants. Trainers were a certified speech-language pathologist and an assistant director of nursing.

The outcome measures used to assess program effects included a knowledge survey and an attitude survey administered before and after the program participation. Caregivers showed increased knowledge across all areas trained, with significant gains in modules 5 and 6 (stages of AD, concurrent communication characteristics, and ways to maximize communication at each level; use and evaluation of FOCUSED strategies). Caregivers also reported improvement in their attitudes toward and satisfaction of communication with residents with AD.

In a third follow-up study, Ripich and Zioli (1999) investigated whether the FOCUSED program altered the types of questions (yes/no, choice, and open-ended) used by family and professional caregivers, whether these question types affected the success of communication with persons with AD, and whether reinforcement of training results in better maintenance of communication strategies over time.

Participants were 54 dyads consisting of family caregivers and individuals with early to moderate

stage AD, diagnosed using criteria established by the National Institute of Neurological and Communicative Disorders and the Alzheimer's Disease and Related Disorders Association (NINCDS-ADRDA; McKhann et al., 1984). Individuals with AD had a mean MMSE score of 16.89. No other demographic information was provided. Vision and hearing status were not addressed. Family caregivers were divided into three groups: two experimental groups (FOCUSED group and FOCUSED-Booster group) and one control group. Twenty-two caregivers comprised the FOCUSED treatment group (73% female; mean age 61.9 years; mean level of education 13.5 years). Twenty-seven percent were African-American. Ten caregivers comprised the FOCUSED-Booster treatment group (50% female; mean age 63.2 years; mean level of education 13.3 years). Twenty percent were African-American. Twenty-two caregivers comprised the control group (68% female; mean age 62.3 years; mean level of education 13 years). Twenty-seven percent were African-American.

Treatment consisted of an adapted version of the FOCUSED communication training program, which was four weekly 2-hour group sessions presented by the same speech-language pathologist. The training focused on the communication strategy of "structure," specifically with regard to asking yes/no questions rather than open-ended questions. At the end of the FOCUSED training, those caregivers who participated in the FOCUSED-Booster group received via mail an audiotape that reviewed the FOCUSED strategies, a written list of the FOCUSED strategies, written instructions for an activity to complete with their family members during which to use the strategies, and a brief quiz to return to the investigators as reinforcement of what they learned during the communication training program.

The outcome measure was an audio- and video-recorded and transcribed discourse task of planning a night's menu, where questions were coded as to type (yes/no, choice, open-ended) and outcome (successful, failed, uncodable). Two trained graduate students coded the questions and responses and were reported to have 87% interrater agreement. Data were collected three times: baseline, 6 months (posttest), and 9 months (follow-up). Results indicated that the FOCUSED training impacted the types of questions that family caregivers asked, specifically that there were significantly fewer open-ended questions asked at posttest (6 months). With regard to success and failure rates in response to the different types of questions, the percentage of successful communication responses by individuals

with AD was highest for yes/no questions (83%) and lowest for open-ended questions (39%); in contrast, the percentage of failed responses by individuals with AD was highest for open-ended questions (39%) and lowest for yes/no questions (1%). Regarding reinforcement and caregiver maintenance of question types, reinforcement from participation in the booster program did not result in maintenance of caregiver use of communication strategies over time. Training resulted in a significant decrease in caregiver use of open-ended questions from baseline to posttesting, but no reduction was noted at follow-up testing nine months later.

In the fourth study reviewed, Orange and Colton-Hudson (1998) conducted a case study examining the effect of their individualized communication enhancement education and training program on four variables:

1. language performance of an individual with moderate AD,
2. amount of challenging behaviors exhibited by the individual with AD,
3. level of caregiver burden, and
4. amount of communication breakdown occurring between a family caregiver and an individual with AD.

Participants were a 77-year-old male with moderate AD (diagnosed by a geriatric psychiatrist with level of impairment indicated by his preprogram assessment score of 17/30 on the Canadian standardized version of the Mini-Mental State Examination [SMMSE; Malloy, Alemyaheu, & Roberts, 1991]) and his 74-year-old spouse. Both were reported to have a minimum of 12 years of education, passed pure tone hearing screenings, and were community dwelling. The authors did not screen for visual acuity loss or depression.

The caregiver communication education and training program, which was based in part on the Communication Enhancement Model of Aging for Individuals with DAT (Orange, Ryan, Meredith, & MacLean, 1995), consisted of twice weekly 90-minute sessions over 12 weeks (24 sessions total). The investigators alternated education and training sessions, with education being the first session of the week and training of strategies being the second session of the week. Education sessions were designed to teach the caregiver about the nature of speech, language, communication, memory, and behavior problems associated with AD and aging, as well as individualized aspects of communication breakdown and repair. During training sessions the

spouse practiced specific speech, language, conversational, nonverbal, environmental, and cognitive strategies (e.g., asking yes/no or choice questions; simplifying grammar and vocabulary; replacing pronouns with proper nouns; using a memory book; correcting misunderstandings by substituting instead of adding information; using slower rate, pitch changes, or syllable and word stress to identify questions and statements and emphasize important information; using nonverbal cues; using external memory aids to help recall autobiographical information) with her husband and one of the investigators to enhance communication.

The investigators used several measures to determine treatment outcomes. Language function was assessed using the following tests: the Arizona Battery for Communication Disorders of Dementia (ABCD; Bayles & Tomoeda, 1991); Boston Naming Test (BNT; Kaplan, Goodglass, & Weintraub, 1983); Action Naming Test (ANT; Obler & Albert, 1986); Peabody Picture Vocabulary Test-Revised (PPVT-R; Dunn & Dunn, 1981); and FAS word fluency test (Borkowski, Benton, & Spreen, 1967). Behavior problems were assessed using the Memory and Behavior Problems Checklist (MBPC; Zarit & Zarit, 1987). Caregiver burden was assessed using the Burden Interview (BI; Zarit, Orr, & Zarit, 1985). Communication breakdown was measured through conversational analysis, specifically four video-recorded lunch and dinner conversations in the participants' home over a 1-week period during both pre- and postprogram assessment. Analysis of these discourse samples followed the trouble source repair sequences used by Orange, Lubinski, and Higginbotham (1996).

The participant demonstrated relative stability on the language performance measures over the 4-month course of the program. With regard to behavior and caregiver burden, frequency of problematic behaviors remained the same while the caregiver's self-rating of her reaction to them decreased slightly, and caregiver burden increased slightly. Results through conversational analysis revealed a reduced amount of problematic utterances (reduced from one-third to one-fifth of conversational utterances) but no change in the pattern of successful versus unsuccessful repairs, with the majority of the communication breakdowns being repaired quickly and successfully even before the intervention began. The pattern of no change in repair may indicate a shift in caregiver perception of what constitutes a problematic utterance. Whereas there was some benefit, it came at the cost of time and effort, which may have contributed to caregiver burden.

The fifth study reviewed for this report was conducted by McCallion, Toseland, and Freeman (1999) who assessed the effects of their Family Visit Education Program (FVEP) on nursing home residents with dementia and their family caregivers by testing three hypotheses:

1. the program would affect nursing home residents' well-being on measures of depression, irritability, and withdrawal and increase residents' positive interactions with family members;
2. the program would significantly reduce the amount of time nursing staff spent managing disruptive behaviors; and
3. the program would significantly increase the use of communication strategies by family caregivers.

Problem behaviors, feelings of depression, irritability, withdrawal, and positive interactions of residents with dementia were assessed using the Multidimensional Observation Scale for Elderly Subjects (MOSES; Pruchno, Kleban, & Resch, 1988), the Cornell Scale for Depression in Dementia (CSDD; Alexopoulos, Abrams, Young, & Shamoian, 1988), the Cohen-Mansfield Agitation Inventory (CMAI; Cohen-Mansfield, Marx, & Rosenthal, 1989), the Geriatric Indices of Positive Behavior (GIPB; no reference given), and abstracted data from the MDS+ for psychotropic drug use (number of days in the last week during which the resident received antidepressant, antianxiety, or antipsychotic drug treatment) and use of mechanical restraints (frequency of use of limb or trunk restraints, bed rails, or a chair to prevent rising). Amount of time staff spent managing problem behaviors was measured using the Management of Problem Behaviors (MPB; no reference given). Family caregiver use of communication strategies was evaluated using the Dementia Management Strategies Scale (DMSS; Hinrichsen & Niederehe, 1994). Also measured were changes in family caregiver stress, using a modified version of the Caregiving Hassles Scale (CHS-M; Stephens, Kinney, & Ogrochi, 1991), and overall frequency and quality of family caregiver visits with the residents, using the Visit Satisfaction Questionnaire (VSQ; no reference given), which was developed for this study.

Sixty-six family caregivers and 66 individuals with unspecified but unambiguous diagnoses of moderate to severe dementia participated in the study. Caregivers and patient participants were divided into treatment and control groups. The treatment group comprised 32 caregivers and 32 residents with dementia (mean Mini-Mental State Examination [MMSE; Folstein, Folstein, & McHugh,

1975] score 5.81; mean Global Deterioration Scale [GDS; Reisberg, Ferris, de Leon, & Crook, 1982] score 6.06). The control group comprised 34 caregivers and 34 residents with dementia (mean MMSE score 7.97; mean GDS score 5.79). Vision and hearing status were not addressed.

Treatment consisted of four 1½-hour group sessions and three 1-hour family conferences conducted over 8 weeks. Group sessions involved provision of education on a variety of issues, including the following: the FVEP program (addressing verbal and nonverbal communication and effective structuring of family visits); the cognitive, behavioral, and affective responses of individuals with dementia; the progression of AD and other types of dementia and their impact on communication; commonly experienced strains on caregivers; the impact of family communication strategies on quality of visits, residents' problem behaviors, and family satisfaction with visits; effective verbal and nonverbal communication strategies to use with individuals with dementia; the value of memory aids; and activities that promote interaction and effectively structure family visits. Family conferences involved therapeutic observation of interaction between family and resident with real-time feedback and face-to-face feedback with family in the absence of the resident. Two trainers conducted these meetings, and both had master's degrees (unknown discipline) and experience in working with nursing home residents with dementia and their families.

The investigators administered outcome measures to residents with dementia, family caregivers, and nursing home staff at baseline, 3 months (posttest), and 6 months (follow-up). Residents with dementia showed no worsening of symptoms of well-being as measured by the MOSES, and exhibited fewer verbally agitated behaviors during family visits. Family caregivers demonstrated a statistically significant increase in use of encouragement during communication with individuals with dementia at the first posttest, but not at 6 month follow-up testing. Finally, for individuals in the treatment group, there was a significant reduction from baseline to posttest in the use of mechanical restraints, which the authors interpreted as representative of reduced time spent managing disruptive behavior.

In the sixth study in this review, McCallion, Toseland, Lacey, and Banks (1999) evaluated the effects of a Nursing Assistant Communication Skills Program (NACSP) on well-being of nursing home residents and on nursing assistants' knowledge of AD, knowledge of caregiving responses, and turnover rates.

Participants were 88 nursing assistants (83 females and 5 males; 39 were in the treatment group and 49 were in the wait-list control group). Of these 88 nursing assistants, 25 were Asian, 20 were African-American, two were Hispanic, and 38 were Caucasian, with ethnicity reported as "other" for three individuals. Education varied from less than eight years to graduate or professional work. The mean age and years of service were 40.9 and 7.8, respectively, for the nursing assistants in the treatment group, and 37.9 and 5.9, respectively, for the nursing assistants in the control group. Residents who participated had moderate to severe unspecified dementia. Mean MMSE scores for the treatment and control groups were 6.3 and 4.9, respectively. Average age was 84.5 years for the treatment group and 83.3 years for the control group. Forty-two of the residents in the treatment group were female, and 7 were male; 50 of the control group residents were female, and 6 were male. Hearing and vision status was not addressed.

Treatment consisted of five 45-minute group sessions and four 30-minute individual conferences conducted by a master's level social worker with experience in dementia. Group sessions were designed to provide education on a variety of issues, including the following: rationale for NACSP (designed to address knowledge of dementia, verbal and nonverbal communication, memory aids, and problem behaviors); impact of normal age-related changes on communication; progression of dementia; techniques for more effective verbal and nonverbal communication with individuals with dementia (e.g., using hearing aids and glasses; having adequate lighting; limiting background noise and other distractions; avoiding correcting, reorienting, and attempting to engage in rational conversation; recognizing the dementia-related communication deficits each resident was experiencing; seeing all behaviors as communication attempts; maximizing the use of remaining strengths); memory aids; and a three-step communication-based approach to handling problem behaviors (find and respond to the need, find the memory, and ensure safety). Individual conferences included an opportunity for nursing assistants to interact with the residents with dementia and receive individualized feedback from the trainers regarding technique and use of strategies to enhance communication. Frequency and duration of these meetings were unknown.

Outcome measures were administered to nursing assistants and residents with dementia at baseline and 3, 6, and 9 months. Resident well-being was measured using the CSDD, the CMAI, three subscales of the MOSES (withdrawal, irritability, and

disorientation), and abstracted data from the MDS+ regarding the frequency of psychotropic drug and mechanical restraint use during the prior week. Knowledge about AD and behavior management in the nursing assistants was assessed using the Knowledge of Alzheimer's Test (KAT; Maas & Buckwalter, 1990), a 33-item true-false instrument assessing knowledge about dementia, and the Penn State Mental Health Questionnaire (MHQ; Spore, Smyer, & Cohn, 1991), a 20-item instrument assessing knowledge of general behavior management issues and identification of agitation, depression, disorientation, and responses to these behaviors. Researchers also collected turnover rates of the nursing assistants at the same time points (baseline, 3, 6, and 9 months).

Results indicated a significant decrease in physically nonaggressive and verbally aggressive behaviors in residents with dementia, as well as a significant improvement in depressive symptoms (as measured by change in score on the CSDD). However, there was no intervention effect for the use of restraints and no significant effect for psychotropic drug use. With regard to nursing assistants, there was no significant finding regarding improved knowledge of Alzheimer's disease. Significant changes were found in knowledge about problem behavior management; however, these changes were not sustained at follow-up testing. Nursing assistant turnover rate declined significantly from baseline to follow-up testing in the treatment group as compared to the control group.

Are There Clinically Applicable Trends Across the Studies Focused on Educating Caregivers on Communication Strategies?

The following are trends that emerged across studies.

1. *Educating caregivers on communication strategies may contribute to more successful conversational exchanges.* Preliminary evidence indicates training is beneficial to both professional and family caregivers. The training can be focused on general principles as well as individualized recommendations, although less is known about what constitutes the latter. Researchers from three studies (McCallion, Toseland, & Freeman, 1999; Orange & Colton-Hudson, 1998; Ripich & Ziol, 1999) reported that education about general communication strategies (e.g., asking yes/no questions, simplifying grammar, using a memory book) made a significant impact on caregiver communication patterns. McCallion, Toseland, and Freeman (1999) found that educating

caregivers increased the amount of encouragement and decreased the amount of criticism they used when interacting with individuals with dementia. Ripich and Zioli (1999) reported that caregivers used more yes/no questions and fewer open-ended questions after training. The caveat, however, was that caregivers did not maintain these changes over a 12-month period. Orange and Colton-Hudson (1998) showed that a spouse was able to benefit and change her conversational exchanges when given specific strategies regarding individualized communication breakdown patterns, such as using specific requests for clarification. One of the studies (Ripich & Zioli, 1999) evaluated the effects of caregiver education on the responses of individuals with dementia. The investigators found that yes/no questions resulted in the highest percentage of communication successes by individuals with early and moderate AD, as compared with open-ended questions.

2. *Educating caregivers on communication strategies may contribute to reduced or increased caregiver burden.* Logic would indicate that training caregivers should reduce burden through provision of helpful strategies that increase success of communication interactions. However, some findings suggest that training may reduce the naturalness of interaction and promote the recognition by caregivers of their increased responsibility in the interaction. McCallion, Toseland, Lacey, and Banks (1999) reported a significant decline in professional caregiver turnover rate over a 6-month time period, suggesting a reduction in caregiver burden and increased job satisfaction. In contrast, Orange and Colton-Hudson (1998) found that the family caregiver in their study reported a marginal increase in burden, as measured by the Burden Interview, after treatment, which was administered in the home environment.

3. *Educating caregivers on communication strategies may contribute to improved quality of life.* Evidence suggests that even minimal degrees of change in communicative interaction can have a positive effect on quality of life for individuals with dementia. McCallion, Toseland, and Freeman (1999) and McCallion, Toseland, Lacey, and Banks (1999) reported that individuals with dementia in the treatment groups showed a reduction in symptoms of depression, irritability, and aggression, as measured by the MOSES, CSDD, and the CMAI. Education may also positively affect job satisfaction for professional caregivers. McCallion, Toseland, Lacey, and Banks (1999) found that their training program may have had a positive impact on turnover rates of nursing assistants, with significantly less attrition over 6 months for those in the treatment group as compared to the control group.

4. *Educating caregivers on communication strategies may contribute to maintenance of language abilities of individuals with AD.* In a progressive brain disease, realistic goals should focus on helping patients maintain abilities over time, which is a positive outcome. Evidence is somewhat limited by the fact that few longitudinal studies exist and most are limited in time frame. Of the six studies reviewed, only one (Orange & Colton-Hudson, 1998) involved evaluation of the effects of communication strategies on the language performance of individuals with AD. The investigators showed stabilization of language in a single individual with moderate AD over a 4-month period, as measured by the BNT, FAS, and PPVT.

5. *Educating caregivers on communication strategies increases their knowledge of AD and their understanding of communication breakdown.* Both family and professional caregivers reported increased knowledge and understanding of communication strategies to use with individuals with AD and other types of dementia (McCallion, Toseland, & Freeman, 1999; Orange & Colton-Hudson, 1998; Ripich, 1994; Ripich et al., 1995). Furthermore, Orange and Colton-Hudson (1998) found in their single case study not only an increased knowledge of AD and communication but also increased knowledge of behavior problem management. Whereas caregiver education and training increase knowledge, more information is needed on how effectively trained strategies are incorporated into everyday communicative interactions.

Methodological Concerns

Each of the studies was rated with regard to internal validity (the ability to make causal inferences from the study), external validity (generalizability of the study findings), dose response (information about treatment strength), and construct validity (strength and relevance of the outcome measures) (Bayles et al., 2005). Methodological concerns that arose were related to internal validity, external validity, and dose response characteristics of the treatments.

Internal Validity

Internal validity encompasses research design, randomization of participants, presence of control groups, and the presence and treatment of missing data. Only one of the six studies (McCallion, Toseland, & Freeman, 1999) involved random assignment of participants to one of two conditions. Three

of the studies (McCallion, Toseland, & Freeman, 1999; McCallion, Toseland, Lacey, and Banks, 1999; Ripich & Ziol, 1999) used control groups without random assignment of participants and one study was a case study (Orange & Colton-Hudson, 1998). Missing data due to attrition were reported in only two studies (McCallion, Toseland, & Freeman, 1999; McCallion, Toseland, Lacey, and Banks, 1999).

External Validity

External validity, or the generalizability of the findings, encompasses characterization of participants, fidelity of treatment, and replicability of findings. Participants in all studies were characterized well, with the exception of the individuals with dementia in the McCallion, Toseland, and Freeman (1999) and McCallion, Toseland, Lacey, and Banks (1999) studies, as diagnostic criteria were not stated. Caregivers in the six studies were well described, increasing sample generalizability.

Fidelity of treatment (e.g., treatment clearly described, manuals used, manipulation checks present) was judged to be sufficient for all six studies. All of the programs included utilization of training manuals and had the same administrator over all training sessions. In summary, all six studies were judged to be replicable based on careful description of administration of the education and training programs.

Regarding measurement and procedural reliability, only Orange and Colton-Hudson (1998) reported reliability ratings of data analysis. The investigators reported interrater agreement ranging from 88% to 97%.

Dose Response Characteristics of the Treatment

Dose response encompasses frequency, intensity and duration of treatment. The studies reviewed conducted education and training programs that varied from 12 hours to 36 hours, making it difficult to determine the optimal amount of training and education required to achieve positive effects on patient-caregiver communication.

CONCLUSIONS AND IMPLICATIONS: WHAT HAVE WE LEARNED FROM THIS REVIEW?

The studies reviewed were classified as Class I (McCallion, Toseland, & Freeman, 1999), Class II (McCallion, Toseland, Lacey, and Banks, 1999; Ripich,

1994; Ripich et al., 1995; Ripich & Ziol, 1999), or Class III (Orange & Colton-Hudson, 1998) evidence for education and communication training of family and professional caregivers of individuals with AD or other types of dementia. Based on this review, recommendations for clinical practice are outlined below.

Appropriate Candidates for Education and Communication Training

- Family caregivers of individuals with AD and other types of progressive dementia living at home or in residential communities
- Nursing assistants providing care for individuals with AD and other types of dementia in residential settings

Content of Education and Communication Training Programs

- Education about AD and its impact on communication
- Education about verbal (e.g., question type) and nonverbal (e.g., using contextual cues) communication strategies to enhance interaction with individuals with AD
- Component with opportunity to practice recommended strategies with individualized feedback

Implementation of Caregiver Education and Communication Training Programs

- Administer education and communication training in at least four sessions
- Provide individual sessions/conferences to discuss individual concerns and/or to provide direct feedback on communicative interaction between caregivers and individuals with AD

Expected Outcomes of Caregiver Education and Communication Training Programs

- For caregivers:
 - Increased knowledge of AD and communication problems
 - Increased knowledge and use of communication strategies, although maintenance of strategy use remains unknown
 - Increased communication satisfaction with individuals with AD

- For individuals with AD:

Unknown based on the literature; may have modest effects on depressive symptoms, irritability, and aggression

May have positive effects on amount or type of communication

UPDATED RESEARCH STUDIES

During the completion of this review, several studies were published that address education and communication training of professional or family caregivers. These studies were not included in the original review but will be briefly reviewed here as they contribute to the evidence supporting the importance of these types of education and training programs.

Done and Thomas (2001) conducted a randomized controlled trial to assess the effects of a communication education intervention for 45 family caregivers of individuals with dementia. The researchers assigned participants to two groups: a treatment group ($n = 30$) in which a speech-language pathologist taught a communication enhancement workshop using videotaped vignettes of communication difficulties and facilitative strategies and a comparison group ($n = 15$) in which participants received similar information in booklet form. Outcome measures were awareness of communication strategies (using a test developed for the study), perceived frequency of communication breakdown at home and the associated level of distress (using a questionnaire-based scale developed for the study), general stress (using a published stress scale), and satisfaction with the program (using a Likert scale questionnaire developed for the study and written descriptions from participants).

Participants in the treatment group demonstrated significantly greater awareness of communication strategies as compared to the comparison group. Both groups reported a decrease in the frequency of problem communication behaviors and associated distress after training, as well as an improvement in the ability to manage problem communication behaviors at home. General emotional stress did not change for either group after training and both groups expressed at least some satisfaction with the program.

Dijkstra, Bourgeois, Burgio, and Allen (2002) assessed the effects of a professional caregiver communication training program on the discourse characteristics of individuals with early, middle, and late stage dementia (unspecified type) living in residen-

tial facilities. Sixty-six residents with dementia were randomly assigned to treatment and control groups (33 in each group). Forty nursing assistants who were assigned to these residents participated. In the treatment group, 21 nursing assistants were trained to use memory books as visual cues or conversation devices and were trained in communication intervention, which consisted of a 1-hour didactic inservice and 2- to 4-week, daily, criterion-based, hands-on training during care routines. During these hands-on training sessions, nursing assistants were trained to use discourse strategies, including discourse-initiating characteristics and responsive characteristics (using short sentences or instructions, giving positive feedback, talking about the resident's life or hobbies, avoiding unhelpful questions, and allowing adequate time for the resident to respond). Nursing assistants were observed daily and then provided with feedback regarding their use of the communication techniques and memory books.

Outcome data included transcripts from structured conversations between residents and nursing assistants about the resident's family, life, or day. After receiving the training, nursing assistants more frequently used facilitative discourse strategies, such as use of cues and encouragement, as compared to the control group. Posttreatment conversations between nursing assistants and residents in the treatment group were judged to have higher coherence ratings and fewer empty phrases when compared to the control group.

Irvine, Ary, and Bourgeois (2003) evaluated the effectiveness of an interactive multimedia training program as compared to a videotaped lecture-based program for professional and paraprofessional (i.e., volunteer) caregivers of individuals with unspecified dementia. Eighty-eight caregivers were randomly assigned to view one of the training programs. Forty-four viewed the interactive multimedia training, and 44 viewed the videotaped training. Both conditions involved training in each of the communication skill areas: speaking skills, reacting skills, redirection, and communication cards to use when interacting with a patient with dementia.

Study outcome measures included pre- and post-treatment knowledge, behavioral intent, and self-efficacy of effective communication skills using a computer-administered test developed by the investigators that closely approximated real-life behavior. Nursing assistants watched video vignettes of four problem situations and four different responses to each situation, one of which was the correct response. To assess behavioral intent, participants

were asked to rate the likelihood that he or she would respond similarly to each of the four responses. All four responses were then listed, and participants were asked to select the best response to assess their knowledge. The best response was then presented, and participants were asked how confident they were in their abilities to respond likewise in order to assess self-efficacy. Based on the outcome data, participants in the interactive multimedia group showed significantly higher behavioral intent to use the best response, identified significantly more correct responses, and had significantly higher self-efficacy in their belief that they would have correctly used the appropriate response at posttest than the videotape lecture group. The interactive multimedia group was also significantly more satisfied with the program as compared to the group who was trained by the videotaped lecture presentation.

Bourgeois, Dijkstra, Burgio, and Allen (2004) evaluated the effects of a similar training program to that of the Dijkstra et al. (2002) study for professional caregivers, but the investigators also were concerned with maintenance of trained communication skills over a period of three months. One hundred twenty-six nursing assistants were assigned to treatment (57 nursing assistants) and control (69 nursing assistants) groups (randomization was not specified). This training program was described as having four components: a didactic inservice to present information regarding effective communication (i.e., announcing care, addressing dementia residents by name, waiting 5 seconds before helping residents, introducing self by name, announcing every activity of daily living, giving short and clear instructions, talking about residents' lives) and memory aids, as well as dementia-related behaviors and effective strategies for responding to these behaviors; one-on-one criterion-based training and feedback regarding the use of the communication strategies during care interactions with the residents; use of memory books as memory aids and instructional tools during care interactions; and a staff management system comprising self-monitoring and supervisory feedback. Training continued until nursing assistants reached training criterion (the average number of sessions required was not reported).

Data analysis involved observation and coding of effective communication skills used by the participants. Observation included use of effective instructions (previously described) and ineffective instructions (i.e., giving multistep instructions, using negative statements, asking unhelpful questions), as well as duration of verbal interaction between

nursing assistants and residents with dementia, frequency of positive and negative statements used by nursing assistants, frequency of disruptive behavior, and duration of memory book use. Results revealed a significant improvement in nursing aids' use of effective communication skills and effective instructions. Furthermore, the nursing assistants in the treatment group maintained the vast majority of these effective communication skills at the 3-month follow-up test. The researchers also reported an increase in the use of positive statements and in the duration of verbal interaction between nursing assistants and residents with dementia. Interestingly, participants exhibited declining frequency of memory book use over the course of the study, although the reasons for this decline were unclear. Also, use of the staff management system declined over the course of the study, with nursing assistants completing self-monitoring forms and supervisors completing supervisor checklists less frequently at post-training as compared to during the training phase.

FUTURE RESEARCH DIRECTIONS

Currently there are only a handful of studies on caregiver training. Nonetheless, these studies include data to support caregiver education and training in communication strategies for individuals with dementia. Important objectives of future research should include examination of the following aspects of caregiver education and training programs:

- The effects on caregiver perception of burden
- The effects on communication and psychosocial outcomes (e.g., depressive symptoms, aggressive or problem behaviors) for individuals with AD
- The effects on quality of life outcomes (e.g., self-satisfaction, job effectiveness) for professional caregivers
- The effects of training generic versus individualized communication strategies
- The effects of strategy training at different stages of dementia severity
- The effects of communication strategies training with culturally and ethnically diverse professional caregivers and individuals with dementia

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