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Kristy M. Knight

Medical University of Ohio

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Occupational Therapists’ Knowledge of Interventions Used with Individuals with Alzheimer’s Disease and Their Caregivers

Submitted by

Kristy M. Knight

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Academic Advisory Committee

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Occupational Therapists’ Knowledge of and Interventions Used with Individuals with Alzheimer’s Disease and Their Caregivers

Kristy M. Knight
Department of Occupational Therapy
Medical University of Ohio at Toledo
Abstract

A survey of Ohio Occupational Therapy Association members was conducted to identify occupational therapists’ and occupational therapy assistants’ knowledge of Alzheimer’s disease and the assessments and interventions used for patients and their caregivers. Surveys were sent out to 1,067 occupational therapists and occupational therapy assistants who were members of the Ohio Occupational Therapy Association. Authors of the study received 443 surveys from participants (42% response rate). Participants’ mean knowledge score was 20 correct out of 32. The survey revealed that participants lacked basic knowledge about Alzheimer’s disease. Participants identified the Allen Cognitive Levels test (Allen, 1985), observation of activities of daily living, and the Mini Mental Status Examination (Folstein, Folstein, & McHugh, 1975) as the most frequently used assessments for patients. Caregiver assessments used were interview, observation, and informal assessment. The top three intervention strategies for patients were task simplification, caregiver education, and repetition. Caregiver interventions included education, support groups, and establishment of a routine and respite care recommendations. The results suggest the need for increased education about Alzheimer’s disease in occupational therapy schools and continuing education activities. Not only should educators and clinicians focus on the patient but also the caregivers, because they provide the majority of the care for these individuals. Further research could be explored in the area of attitudes toward patients with Alzheimer’s disease and their caregivers.
Occupational Therapists’ Knowledge of and Interventions Used with Individuals with Alzheimer’s Disease and Their Caregivers

Alzheimer’s disease affects memory, performance of routine tasks, time and space orientation, language and communication skills, abstract thinking, and the ability to learn and carry out mathematical calculations (Corcoran, 2001). The occupational therapist plays a role in enhancing and simplifying the environment of those with Alzheimer’s disease in an effort to improve performance in areas of occupation (Corcoran, 2002). However, little research has been conducted on occupational therapists’ knowledge, and models of practice, assessments, and interventions used for individuals with Alzheimer’s disease and their caregivers. The purpose of the current study was to explore occupational therapists’ and occupational therapy assistants’ knowledge of Alzheimer’s disease. The assessments and interventions used with individuals with Alzheimer’s disease and their caregivers were also explored. A description of Alzheimer’s disease will be provided. A review of the literature involving Alzheimer’s disease knowledge and attitudes will follow. The literature review will conclude with a description of the current study.

Overview of Alzheimer’s Disease

Alzheimer’s disease accounts for four million of all cases of dementia (Bailey, 2000). The disease is a progressive, degenerative brain impairment that is predicted to affect 14 million people by the year 2050 (Bailey, 2000). This disease not only affects the individual, but the family and caregivers of the patient with Alzheimer’s disease. In fact, adult children and spouses provide 70% to 80% of the daily care of those with Alzheimer’s disease (Corcoran, 2002). Care needed during the process of the disease can be all encompassing and present a huge financial
and emotional burden on the family. In fact, it is estimated that a caregiver will spend $47,000 per year to care for an individual with Alzheimer’s disease (Corcoran, 2001).

From the time of diagnosis, the average lifetime expectancy for individuals with Alzheimer’s disease is 8-10 years (Bonder, & Hasselkus, 2001). Ultimately, Alzheimer’s disease is a fatal disease that can be caused by complications from lack of movement, such as pneumonia. Alzheimer’s disease symptoms can be overlapping but can be generalized into three stages. In the early stages of Alzheimer’s disease, individuals will begin to notice forgetfulness that they may think is just a normal part of the aging process. But forgetfulness in Alzheimer’s disease is progressive and interferes with daily life functions (Corcoran, 2001). General symptoms that affect individuals across all three stages include problems with memory, performance of routine tasks, time and space orientation, language and communication skills, abstract thinking, and the ability to learn and carry out mathematical calculations (Corcoran, 2001). Additional symptoms that could occur include inability to find a name for something (anomia), having trouble saying what one wants to say (expressive aphasia), misplacing objects, inability to adapt to new environments, and inability to learn new skills (Fraker, & McKillop, 1989; Corcoran, 2002). As these symptoms begin to progress and become more apparent to others, the person with Alzheimer’s disease may start to isolate him or herself in fear of his or her problem being discovered (Phinney, 1998). Even family members may believe forgetfulness is a part of the aging process and dismiss seeking further help. In the earliest stages these signs are the easiest to overlook.

With progression of the disease, individuals may be able to compensate for memory problems by using such things as writing helpful reminders. Eventually these are no longer useful. Individuals usually require assistance with occupations of daily living midway through
the disease. Symptoms that may have appeared early on become increasingly amplified such as difficulties with communication, judgment, orientation, sequencing, and activity orientation (Corcoran, 2002). Patients with Alzheimer’s disease may increasingly become hazardous to themselves or others by doing such things as leaving the stove on or water running. In addition, inappropriate social behavior of the person can confuse and stress family members, such as removing his or her clothes in an attempt to cool down (Ward, 2003).

In the later stages of Alzheimer’s disease, a person can have a lack of awareness of his or her surroundings and be totally dependent in all self-care. Also, although incontinence can appear in earlier stages it is more likely to happen in the later stages of Alzheimer’s disease (Corcoran, 2001). Movement is markedly impaired, eventually leading to a person becoming non-ambulatory (Corcoran, 2002). If help is not sought out in earlier stages, the later stage is typically the time when families are faced with the decision to put loved ones in nursing homes.

The Role of the Occupational Therapist with Alzheimer’s Disease

The occupational therapist can provide assistance to the person with Alzheimer’s disease and his or her caregiver throughout the course of the disease. The therapist may suggest memory aides (Corcoran, 2002) such as visual step-by-step instructions on how to do the laundry. Certain tasks can be broken down into more manageable steps, such as using the microwave for cooking instead of the stove. In the final, severe stage of Alzheimer’s disease, the person may be non-ambulatory and require the caregiver to do heavy lifting. The therapist can teach the caregiver proper techniques for transferring the individual in order to prevent injuries and lessen the workload on the caregiver. Finally, caregivers could be instructed to set a “safe zone” in the house where the family member with Alzheimer’s disease will be able to wander without being harmed while the caregiver takes a few moments to rest (Corcoran, 2002).
The occupational therapist, along with the patient and family members, should keep in mind that structured predictable treatments suit memory-impaired individuals best. The person’s natural living environment has built in cues and prompts to help the person with Alzheimer’s disease maintain a sense of autonomy and independence for some time (Ward, 2003). The individual may not be able to learn new skills but an occupational therapist can set up the person’s environment to promote occupations to reinforce over learned skills, such as feeding oneself. In addition, the therapist can evaluate and modify the environment of the patient. A simple modification may be reducing the amount of glare in all rooms. Glare may produce visual hallucinations in the patient with Alzheimer’s disease (Radomoski, 2002). The therapist should recommend simplification of one’s environment in terms of reducing clutter and labeling objects (Corcoran, 2002). Adaptive equipment, such as a preprogrammed telephone, become important for individuals to compensate for memory deficits to maintain independence (Shamberg, 2002). Built up utensils could be issued so the patient may be as independent as possible with feeding. In fact, researchers have documented that individuals with Alzheimer’s disease who use adaptive equipment decline less in self-care occupations and have less behavioral issues compared to those individuals with Alzheimer’s disease who do not use adaptive equipment (Gitlin, Corcoran, Winter, Boyce, & Hauck, 2001).

One important factor concerning care of individuals with Alzheimer’s disease and their caregivers is quality of life. The field of occupational therapy can increase the quality of life for these people. Understanding a patient’s entire social situation promotes holistic care of the individual and caregiver, by being able to adjust intervention strategies used for the patient and caregiver. The Alzheimer’s Association Function-Oriented care would greatly improve the quality of life for all involved and give the therapist a direction for assessments and intervention
(Corcoran, 2001). If an occupational therapist can identify preexisting skills and use those to improve patients’ participation in activities of daily living it could decrease caregiver burden.

The family and caregivers should always be considered as part of the therapy process. Family members provide 70-80% of the care for the individual so it is recommended to receive input from caregivers regarding the client’s home environment. The therapist will be able to suggest ways to lessen the burden of the caregiver. An occupational therapist can educate caregivers on proper transfer techniques, for example. The therapist should actively engage the entire family throughout all of the stages of Alzheimer’s disease in order to achieve better outcomes, such as reduced wandering. These outcomes reflect upon the effectiveness of the therapist to meet the needs of the patient as well as the family (Bonder, & Hasselkus, 2001).

**Occupational Therapy Models of Practice and Assessments**

Models of practice help to guide the therapist when evaluating and/or developing a treatment plan for a particular client. Individuals with Alzheimer’s disease struggle to maintain autonomy as their disease progresses. Increasingly, they must rely on others to care for them and that is where the interjection of the occupational therapist or occupational therapy assistant becomes important, not only for the individual but also the caregivers.

The Canadian Model of Occupational Performance (Canadian Association of Occupational Therapists, 1991) is a client centered approach based on the premise that a relationship exists between person, environment and his or her occupations. These occupations are in the form of self-care, productivity, and leisure, in response to internal and/or external demands of the environment (performance contexts). The interaction between person, environment, and occupation makes up an individual’s occupational performance. Occupational performance allows a person to complete tasks that fulfill occupational roles. All of the different
roles that can make up a person give him or her an identity and self-esteem. If any of these foundations (performance components, task learning experiences, or performance contexts) are lacking, a person will have difficulty with occupational performance. Client-centered practice creates a client-therapist partnership, gives clients choices about occupations, and stresses the influence of the environment on each individual. Individuals with Alzheimer’s disease and their caregivers will benefit from this client-centered approach because of how the therapy sessions are tailored to meet the client’s specific needs, while incorporating what the individual’s role(s) are into therapy sessions. If the client is unable to participate in the process the caregiver may be interviewed by the therapist. The therapist enables the client to achieve goals set by the client or caregiver (Pedretti, & Early, 2001). The Canadian Model of Occupational Performance (Canadian Association of Occupational Therapists, 1991) can use the Canadian Occupational Performance Measure (COPM) (Law, Polatajko, Pollock, McColl, Carswell, & Baptiste, 1994) as an assessment. The COPM measures changes in self-perception of occupational performance areas. This involves the client’s own rating of importance and satisfaction in occupational performance areas. The COPM can be used to identify what he or she thinks is important to work on and also what he or she is interested in doing in terms of occupation.

The Model of Human Occupation (Kielhofner, & Burke, 1980) was designed to put an emphasis on occupation. This model broadly allows the therapist to gather data about the client’s circumstances, so as to understand the client’s occupational strengths and limitations. Occupational therapists then use the client’s strengths and limitations to appropriately plan therapy sessions. According to the Model of Human Occupation (Kielhofner, Forsyth, & Barrett, 2003), the human is composed of three elements: volition, habituation, and performance capacity. Volition is what motivates the individual to choose what he or she finds enjoyable. The
organization of behaviors into routines allows habituation. Merely by repeating the action the individual is sustaining the behavior. For example, an individual with Alzheimer’s disease maintains the ability to dress him or herself longer than using a computer, simply because it is a pattern that he or she has repeated numerous times in his or her life. The individual’s performance capacity is shaped by his or her mental and physical abilities and lived experiences. Volition, habituation, and performance capacity are interrelated along with the environment to offer opportunities and constraints on a person. The occupational therapist can analyze the person with Alzheimer’s disease and his or her environment to better understand what is causing the occupational dysfunction. The Model of Human Occupation also developed assessment tools based on this model. From the data collected the therapist can develop strategies to use in therapy sessions. One such assessment is the Volitional Questionnaire (VQ) (De las Heras, Geist, Kielhofner, & Li, 2002) which is appropriate for individuals with dementia. The VQ relies on a client’s actions when involved in a certain occupation in three to five different contexts. This assessment is a scale of how much energy a client directs into each activity. The scale has fourteen items that describe values, interests, and personal causation. These fourteen items are scored by a rating of passive, hesitant, involved, and spontaneous. The therapist will be able to use such information to decide the most positive environmental contexts and strategies to produce development of the client’s volition. Another assessment is the Role Checklist (Oakley, Kielhofner, & Barris, 1985) which provides information about the roles a person values and anticipation of participation in these roles in the past, present, and future (Kielhofner, 2002). This checklist has ten occupational roles that the client and/or therapist respond by indicating if they have held the role in the past, present, or plan to in the future and how much they value the role. The therapist can uncover themes occurring in the client’s life such as loss of roles, lack of
involvement in valued roles, and incompatible future role responsibilities. For example, a checklist of a person with Alzheimer’s disease may reveal that all future roles may not be attainable secondary to the progression of the disease process. Instead, the therapist can help the client and his/her family concentrate on present roles (Kielhofner, 2002). An additional assessment that would assist in the therapy process of clients with Alzheimer’s disease is the Assessment of Occupational Functioning-Collaborative Version (AOF-CV) (Watts, Hinson, Madigan, McGuigan, & Newman, 1999). The AOF-CV provides the client with a view of his or her own strengths and limitations in personal causation, values, roles, habits, and skills. This measure produces qualitative information and a quantitative profile of aspects affecting occupational participation (Kielhofner, 2002).

The Allen’s Cognitive Disability model of practice believes that due to biological reasons a person will be unable to respond to environmental cues but maintains the ability to remember previous knowledge of tasks (Allen, 1985). The assessment used with this model is the Allen Cognitive Level test (ACL). In this assessment, a client uses a leather lacing task that employs his or her problem solving abilities while engaged in a perceptual-motor task. Depending on how the client performs on the test he or she will be given a score. This score can predict what type of tasks he or she can perform. For example, an individual rated a 4.0 on the ACL scale should be able to brush his or her own teeth but needs a verbal cue when to do so. An occupational therapist can use this model of practice and assessment to set up an individual’s environment according to his or her needs based on his or her level (Allen, 1985).

Several additional tools are available to occupational therapists when assessing someone with Alzheimer’s disease. It is important to include the families in the assessment process so that any gaps of information may be filled in by them. The Disability Assessment for Dementia
(DAD; Gelinas, Gauthier, McIntyre, & Gauthier, 1999) was designed to assess the disability level of community dwelling persons who have Alzheimer’s disease. Questions are asked about the care recipient’s ability to initiate, organize, and perform in the categories of occupations of daily living, instrumental occupations of daily living, and leisure occupations. The occupational therapist would use information from the DAD to assess if an individual with Alzheimer’s disease could live independently in the community and what type of supports are needed for the individual. The Kitchen Task Assessment (KTA; Radomski, 2002) is useful for identifying initiation, organization and safety in kitchen tasks such as cooking on the stovetop. This assessment was standardized on individuals with Alzheimer’s disease and is based on measuring the strengths of the individual in kitchen occupations allowing the occupational therapist to provide occupations that the person may participate in with great success (Corcoran, 2002). The KTA also can be used to determine whether a person is safe enough to live independently (Radomski, 2002). These assessments are helpful when treating someone with the disease, but other factors such as knowledge and attitudes towards patients could affect the quality of care given by the occupational therapist.

Knowledge/Attitudes of Occupational Therapists towards Alzheimer’s Patients

The Alzheimer’s Disease Knowledge Test (ADKT; Dieckmann, Zarit, Zarit, & Gatz, 1988) assesses the level of knowledge of caregivers, professionals, and others involved in care of persons with Alzheimer’s disease. The ADKT consists of 20 multiple choice questions consisting of one correct answer, 3 incorrect answers, and an “I don’t know” answer. The test is scored by the number of correct responses. In order to assess reliability and validity of the ADKT, 18 graduate gerontology students and 29 undergraduate students in a gerontology class
completed the ADKT (Dieckmann, Zarit, Zarit, & Gatz, 1988). Internal consistency of the ADKT ranged from .71 to .92. The authors also produced evidence of content validity.

Edwards, Plant, Novak, Beall, and Baumhover (1992) used the ADKT (Dieckmann, Zarit, Zarit, & Gatz, 1988) and the Facts on Aging Quiz II (FAQ2; Palmore, 1988) to assess the knowledge of Alzheimer’s disease and aging among baccalaureate nursing students. The FAQ2 test is a twenty-five-true/false questionnaire assessing one’s knowledge of aging. Ninety-nine nursing students, ranging in age from 20-45, with 89 percent female, completed the ADKT and FAQ2. Eighty-five percent of all respondents had some former course work related to Alzheimer’s disease. The mean score on the ADKT was fifty-three percent and fifty-six percent on the FAQ2. The authors reported that questions pertaining to percentage of persons with Alzheimer’s disease, treatment, and Medicare payment received the most incorrect answers. Previous education or personal experience did not predict a higher score on either test. The low scores on both the ADKT and FAQ2 indicated the need for an emphasis on gerontological areas in a nursing curriculum. Along with this, the authors recommend that teaching methods should be evaluated for effectiveness. The authors also indicated that students were not adequately prepared to work with patients who have Alzheimer’s disease.

The purpose of the research conducted by Hyde (1996) was to determine the amount of knowledge of Alzheimer’s disease of home health care nurses. Forty-three home health care nurses completed a demographic questionnaire and the ADKT (Dieckmann et al., 1988). Fifty-three percent of the nurses scored below seventy percent on the ADKT. Out of the forty-three nurses in this research study, thirty stated they gained the most knowledge of Alzheimer’s disease while working in the field. This could be evidence of a low amount of curriculum time spent on Alzheimer’s disease and other related dementias. Predictors of a higher score on the
ADKT were those nurses who had 6-10 years of experience in home healthcare. More years of education also correlated with a higher degree of correct answers. Like in the Edwards et al. (1992) study, this study also implied a greater need for Alzheimer’s disease education for professional caregivers.

A study by Toth-Cohen (2000) qualitatively explored occupational therapists’ perceptions of their work in providing support and education for the caregivers of patients with dementia and their insights for community practice. All four therapists had baccalaureate degrees with 7-18 years of clinical experience. The therapists were asked to provide input on their experiences of the support they provided to the caregivers. From the therapists’ responses, four common themes appeared: (a) the need for collaboration with patients and their families during and after the therapy process, (b) acknowledgement of family members and caregivers as experts, (c) inclusion of family when deciding goals and treatment, and (d) inclusion of the needs of the patient and families in the home environment. Therapists acquired new skills on how to provide support to everyone involved in the therapy process not learned in the clinic. The therapists stated that caregivers are a key component in the therapy process and must be included in the treatment process. The occupational therapists also became knowledgeable of the influence that the home environment can have on the patient. In the clinic, home situations are simulated but can never replace the real situation at home. The authors reported that therapists who come from more traditional settings have the hardest time adjusting to providing support and education to community dwelling caregivers. Authors of the study also implied that therapists who work mainly in the clinic lack experience with caregivers because their primary focus is on the patient.
Lusardi and Wong (1994) wanted to identify physical therapists’ knowledge of Alzheimer’s disease and researched the methods that influenced this knowledge. Four-hundred and forty-one physical therapists who attended the American Physical Therapy Association 1991 Annual Conference in Boston, Mass, participated in this study. Physical therapy students located throughout the conference recruited the participants. The participants were asked to complete a one page demographic information page and the ADKT (Dieckmann et al., 1988). Physical therapists answered sixty percent of the answers correctly, on average. More knowledge was seen in clinical presentation of Alzheimer’s disease and less demonstrated with treatment strategies, reimbursement issues, and disease epidemiology. The authors reported that the physical therapists had a general understanding of Alzheimer’s disease but lacked the knowledge in important areas such as treatment strategies. Like in previously explored studies, the authors indicated the need for education about Alzheimer’s disease in a variety of clinical settings.

The Current Study

Occupational therapists play a significant role for patients and families with Alzheimer’s disease. The occupational therapist can offer services from the beginning stages to the final stage of Alzheimer’s disease. Their services allow individuals to maintain independence longer while also assisting the caregiver or family members with care issues that may arise. The amount of knowledge a practitioner has about a subject can affect the quality of care received by such individuals. Research on populations such as nurses, nursing students, and physical therapists has explored their knowledge of Alzheimer’s disease patients. However, little literature has researched occupational therapists’ knowledge.

The purpose of this study was to determine the Alzheimer’s disease knowledge level of occupational therapists along with assessments and interventions used currently in the clinic.
Knowledge could potentially affect the care received by the individual with Alzheimer’s disease and related dementias. In this descriptive study, the following questions were proposed:

1. What are occupational therapists’ and occupational therapy assistants’ knowledge of Alzheimer’s disease and other related dementias?
2. What model of practices are occupational therapists and occupational therapy assistants’ using for patients who have Alzheimer’s disease and other related dementias?
3. What assessments are occupational therapists using for patients who have Alzheimer’s disease and other related dementias?
4. What interventions are occupational therapists and occupational therapy assistants using for patients who have Alzheimer’s disease and other related dementias?
5. What assessments are occupational therapists using for caregivers of patients who have Alzheimer’s disease and other related dementias?
6. What interventions do occupational therapists and occupational therapy assistants use for caregivers of patients who have Alzheimer’s disease and other related dementias?

Methods

Participants

Participants were solicited upon approval of the study from a Midwest university’s institutional review board. Once approval had been granted, 1087 individuals who were members of the Ohio Occupational Therapy Association were selected to participate in the study.

Instrument

The questionnaire consisted of four sections (see Appendix A). The first section was designed by the authors of the study and included demographic questions such as participant’s
age, years of education, and position held. Other questions inquired about experiences with Alzheimer’s disease and other dementia related diseases.

The ADKT was the second part of the questionnaire which consisted of 20 multiple choice questions (Dieckmann et al., 1988). The test was scored by the number of correct responses, so a higher score on the ADKT was indicative of more knowledge of Alzheimer’s disease.

The third section was taken from a continuing education article pertaining to occupational therapy intervention for persons with dementia and their families (Corcoran, 2002). Permission to use the questionnaire was granted from the author. The test consisted of 12 multiple choice questions ranging from 0 to 12 right for the total score.

The final part of the questionnaire was designed to assess the therapists’ knowledge, intervention strategies, and assessments used for individuals with Alzheimer’s disease and his or her caregiver. The following qualitative questions were asked:

1. When you work with individuals with Alzheimer’s disease and related dementias, what model(s) of practice do you use?
2. When you work with individuals with Alzheimer’s disease and related dementias, what assessments do you use?
3. When you work with individuals with Alzheimer’s disease and related dementias, what interventions do you use?
4. When you work with individuals with Alzheimer’s disease and related dementias, what assessments do you use for caregivers?
5. When you work with individuals with Alzheimer’s disease and related dementias, what interventions do you use for caregivers?
Procedure

One thousand and eighty-seven occupational therapists and certified occupational therapy assistants who were members of the Ohio Occupational Therapy Association were mailed a cover letter, a four-part questionnaire and a self addressed envelope. A reminder was mailed two weeks after the initial mailing to participants.

Results

Demographics

One thousand and eighty-seven surveys were mailed out to occupational therapists and certified occupational therapy assistants who were members of the Ohio Occupational Therapy Association. Out of the 1,087 surveys mailed out, 20 surveys were returned due to being undeliverable, leaving 1067 valid surveys. Four hundred and forty three surveys were returned (42% return rate) with 434 of those being usable surveys.

Participants were represented by five races: Caucasian, African American, Asian American, Hispanic, and other. Caucasians made up 96% of the participants and Hispanics were the smallest represented (.5%). Seventy six percent of participants were occupational therapists, with the other 24% being occupational therapist assistants. With regard to gender, overwhelmingly, 95% were female. The mean number of years participants were in the occupational therapy field was 14.41 ($SD = 10.30$) with a range from 0 to 45 years. Fifty percent of participants held a bachelor’s degree, 24% had a master’s degree, and 23% of participants reported having an associate’s degree. A doctoral degree (2%) and certificate (1%) were held by the least amount of the participants.

Knowledge Scores
All 32 knowledge questions were combined and tested for internal consistency by the authors of the current study. This portion of the survey was found to have good internal consistency with a coefficient alpha of .71.

Participants’ knowledge scores ranged from a minimum of 4 correct to 29 correct out of 32 questions. The mean knowledge score was 19.97 out of 32 ($SD = 3.93$) (See Table 1). The major results of the study are as follows. Nearly all participants (88%) knew that the cause of Alzheimer’s disease is still unknown. Eighty percent of participants incorrectly identified the number of individuals currently with Alzheimer’s disease, but 73% knew the prevalence of Alzheimer’s disease would increase in proportion to the number of people over 65. Eighty-six percent of participants were unaware that the evaluation process for individuals with dementia should be standardized. Similarly, 78% of therapists were uninformed about what Medicare will pay for patients with Alzheimer’s disease. Fifty percent of participants believed that orienting had no long term effect on the memory of the patient. Sixty-nine percent of therapists were unsuccessful in identifying the Alzheimer’s Association’s main function as providing family support and education.

Differences in knowledge scores between groups were analyzed using a 2-tailed $t$-test. Various groups were compared for a variety of group differences but none proved to be significant (i.e., gender, type of occupational therapy education, and number of years in the occupational therapy field). Participants who worked with patients with Alzheimer’s disease were compared to those participants who did not work with patients with Alzheimer’s disease with no difference being found between the groups.

*Qualitative Responses*
The final section of the survey contained questions to elicit qualitative answers. Each question will be explored individually in the following paragraphs.

*When you work with individuals with Alzheimer’s disease and related dementias, what model(s) of practice do you use?*

Eighty six different answers were given for question one. The top two answers were the Model of Human Occupation (11%; Kielhofner, Forsyth, & Barrett, 2003), Claudia Allen’s Cognitive Disability Model (5%; Allen, 1985), and the Occupational Performance Model (3%, Canadian Association of Occupational Therapists, 1991).

*When you work with individuals with Alzheimer’s disease and related dementias, which assessments do you use?*

A total of ninety four different types of responses were given for question two. The Allen Cognitive Levels test (Allen, 1985) received the most responses (14%). Participants listed observation of activities of daily living as the second most preferred method of assessment (11%), followed by the Mini Mental Status Examination (10%; Folstein, Folstein, & McHugh, 1975).

*When you work with individuals with Alzheimer’s disease and related dementias, what interventions do you use?*

The participants gave one hundred and fifty different types of interventions. The top three interventions listed were task simplification (13%), caregiver instruction/education (10%), and repetition (10%).

*When you work with individuals with Alzheimer’s disease and related dementias, what assessment do you use for caregivers?*
Forty different types of caregiver assessment methods were given. Interview was listed twenty percent of the time with the next highest assessment method being observation (16%). Thirteen percent of participants wrote informal assessment as their choice for caregiver assessment.

*When you work with individuals with Alzheimer’s disease and related dementias, what interventions do you use for caregivers?*

Ninety six different types of caregiver interventions were given. Nineteen percent of participants listed education as the method for intervention. Next, support groups were recommended by the participants (7%). Four percent of participants listed establish a routine and recommend respite care as the third most popular answer.

**Discussion**

To date, no studies have examined occupational therapists’ or occupational therapy assistants’ knowledge of Alzheimer’s disease. The present study explored occupational therapists knowledge and the most used model of practices, assessments, and intervention strategies used in treating individuals with Alzheimer’s disease. Assessments and intervention strategies used with caregivers of individuals with Alzheimer’s disease also were explored.

Knowledge of Alzheimer’s Disease and related Dementias

The current study found that the members of the Ohio Occupational Therapy Association demonstrated a poor knowledge of Alzheimer’s disease (mean score of 62%). In a study by Lusardi and Wong (1994), physical therapists performed similarly receiving 60% correct on the ADKT. As in the current study, the Lusardi and Wong and the Edwards, Plant, Novak, Beall, and Baumhover (1992) study found no differences between demographics and knowledge scores. The Hyde (1996) study, like the current study, also implied that low knowledge scores at this
level point to the need for more efforts in academia and increased continuing education classes regarding Alzheimer’s disease.

Basic knowledge of Alzheimer’s disease should be the foundation of any education about the disease. Eighty percent of participants in the current study incorrectly answered that about 5% of people over sixty-five have severe dementia caused by Alzheimer’s disease. In fact age is a leading risk factor for Alzheimer’s disease. One in ten individuals age sixty-five and older have the disease, as where, individuals over eighty-five have a fifty percent chance of having the disease (Alzheimer’s Association, 2005). Also, how soon a person is evaluated for the disease is important to rule out reversible disorders. Only 47% of participants in the current study identified ruling out reversible disorders as a reason for a prompt evaluation.

More specifically, the authors of the current study found that an average of 78% of respondents were unaware what Medicare covers for individuals with Alzheimer’s disease. Medicare, which was conceived to provide economically low health insurance to the elderly and disabled people, will cover diagnosis, evaluation, and treatment for Alzheimer’s disease (Alzheimer’s Association, 2005). This knowledge would promote occupational therapists’ and occupational therapy assistants’ to advocate for the ability to treat individuals purely with the diagnosis of Alzheimer’s disease.

Eighty-six percent of participants in the current study could not correctly identify the evaluation process as needing to be standardized. An individual with Alzheimer’s disease will continue to have deficits in performance components. Evaluations should be comprehensive regardless of current reimbursement (Schultz-Krohn, Foti, & Glogoski, 2001). As well as evaluating persons with Alzheimer’s disease, their caregivers must also be evaluated. Along with comprehensive evaluations, they must also be standardized (Corcoran, 2002). Standardized tests
have statistical evidence of validity and reliability. Therapists most frequently listed the Allen’s Cognitive Level Scale (ACLS) (Allen, 1985), observation of activities of daily living, and the Mini Mental State Exam (MMSE) (Folstein, Folstein, & McHugh, 1975) as the most used methods for evaluation. Two of the three frequently identified evaluations are standardized.

Caregivers as well should be evaluated. Since caregivers provide the majority of care for individuals with Alzheimer’s disease they need collaboration with the occupational therapist. There are few standardized evaluations for caregivers but interview, observation, and informal assessment were the most frequently reported methods for evaluating caregivers. These are all good choices but there are standardized assessments for caregivers. One such assessment is the Zarit Burden Interview (Zarit, Todd, & Zarit, 1986). The interview consists of 29 items that are rated by the caregiver on a 5-point scale. Answers on the 5-point scale range from “never” to “nearly always.” A higher score on the interview is correlated with a greater level of caregiver burden (Zarit et al., 1986). Occupational therapists could use this information to tailor specific interventions to lessen the burden on the caregiver.

Interventions

Quality of life is a key concept for individuals with Alzheimer’s disease and their caregivers. Individuals with Alzheimer’s disease quality of life comes in the form of participating in and enjoying daily occupations (Dooley, & Hinojosa, 2004). In addition, caregiver’s quality of life directly affects the individual he/she is caring for (Dooley, & Hinojosa, 2004).

An individual with Alzheimer’s disease day may be filled with anxiety and frustration because he or she lacks an understanding of the world around them (Corcoran, 2001). Quality of life of an individual can be improved by using function-oriented care (Corcoran, 2001). This
approach emphasizes patient’s preexisting skills and caregiver supports for interventions. Also, the caregiver must encourage the individual to be as independent as possible. An example of this approach would be to suggest a flexible bath schedule and a tub that is easily accessible. The Alzheimer’s Association also supports this approach (Corcoran, 2001). Participants in the current study listed numerous interventions but identified task simplification, caregiver instruction/education, and repetition as the most frequently used interventions. Task simplification is one of the methods used in function-oriented care supported by the Alzheimer’s Association. This allows the person to be independent as possible. Task simplification, whether it is in the environment or personal tasks, help reduces excessive stimuli while providing enough visual or verbal cues to assist the individual with Alzheimer’s disease in daily tasks. For example, giving only one to two word instructions can dramatically increase the patient’s performance with tasks (Corcoran, 2002). Repetition, a technique used in reality orientation, appears to only work on individuals with mild-to-moderate Alzheimer’s disease with a lower level cognitive function and the absence of euphoric behavior. Only 50% of participants in our study knew that the effect of orienting can actually increase confusion in about 50% of patients. Reality orientation only has short term responsiveness (Zanetti, Oriani, Geroldi, Binetti, Frisoni, Giovanni, & De Vreese, 2002). Lastly, caregivers’ education/instruction could be one of the most important predicators of successful interventions because caregivers account for a majority of all individual’s care. Like previous research has suggested, good therapy outcomes are achieved when therapists meet the needs of the patient and the family (Bonder, & Hasselkus, 2001). Family caregivers of individuals with Alzheimer’s disease experience high rates of depression and physical illness (Dooley, & Hinojosa, 2004). Due to the fact that caregivers experience high rates of depression and physical illness they need to be educated about helping
their loved one but they must be assessed and receive intervention. Participants in the current study listed education, support groups, and establish a routine/recommend respite care as their most used caregiver intervention strategies.

**Implications**

As the number of people affected by Alzheimer’s disease rises and the baby boomer population begins to reach the age where they are at a higher risk for Alzheimer’s disease more efforts must be made to increase education strategies. Occupational therapists and occupational therapy assistants encounter patients and their caregivers everyday and have a duty to be properly informed about the disease and how they can best assist the patient and caregiver. The low knowledge scores in the current study clearly represent the need for wide spread education efforts in all clinical areas, as well as in academia.

Only 14% of participants correctly identified the need for standardized assessments for individuals with Alzheimer’s disease. Even less participants listed standardized assessments for caregiver evaluation. More therapists should be made aware of possible standardized assessments to be used with these specific populations. Some possible standardized assessments that could be used are: Kohlman Evaluation of Living Skills (KELS) (Kohlman-Thomson, 1992), Assessment of Motor and Process Skills (AMPS) (Fisher, 1991), and the Functional Independence Measure (FIM) (Keith, Granger, Hamilton, & Sherwin, 1987).

The KELS (Kohlman-Thomson, 1992) assesses activities of daily living and instrumental activities of daily living. The therapist observes or interviews the individual in such areas as safety, money management, and self-care. Items are scored as independent, needs assistance, or not applicable. The occupational therapist could use the KELS to assess whether or not an individual with Alzheimer’s disease could identify safety hazards in the home, for example,
and recommend if the individual could safely live alone in the community. The therapist could also use the results from the KELS to implement intervention strategies for the individual with Alzheimer’s disease. For example, if the person was unable to identify the correct numbers to dial in case of an emergency the therapist could create a phone list of emergency numbers that would be placed by the phone.

Another standardized assessment that could be used would be the AMPS (Fisher, 1991). The AMPS assesses instrumental activities of daily living while also assessing the organizational and adaptive components needed to complete particular tasks. The individual chooses a task he or she would like to perform that is challenging but not overwhelming. The therapist sets up the client’s environment and then administers the test. AMPS training is extensive and expensive, so not all therapists would be able to use this assessment. The therapist would be able to judge if an individual with Alzheimer’s disease would be able to safely, timely, and correctly complete an essential task if living in the community. Also, the assessment would identify areas of decline.

The FIM (Keith, Granger, Hamilton, & Sherwin, 1987) assesses items in self-care, sphincter control, mobility, locomotion, communication, and social cognition. Assessment is in the form of observation of the above tasks and the patient is scored on the way each sub-task is completed. An individual can receive anywhere from a 1 to a 7 for each task completed. The FIM is effective in predicting disability of patients and functional status they would have at home. The occupational therapist would be able to predict what assistance a patient would need at home and whether or not he or she could be independent.

Limitations

The most significant limitation of the current study is that the surveys were only completed by Ohio Occupational Therapy Association members. With the response rate being
42% it does not equally represent every therapist in Ohio. Also, the sample in general could be more diverse in terms of gender and race. Ninety-six percent of participants in the current study were Caucasian and 95% were female.

In general, survey research does have certain limitations. Also, nonresponse error is a limit to survey research. Participants who participated in the current study may have had no interest in the study or maybe were very interested in the topic; nonetheless there is no way to tell whether the returned surveys represent the Ohio Occupational Therapy Association population. All data must be analyzed with care.

Another limitation to this study was the fact that this is the first survey about this specific topic, so there are no other studies to make comparisons. Even though other disciplines knowledge of Alzheimer’s disease has been tested they can not directly be compared to this discipline because of the differences in educational backgrounds.

**Future Research**

Ideas for future research could include increasing the sample size of the survey to include participants nationwide. This would allow for an increase chance of diversifying the sample. A study on attitudes and how it correlates to knowledge scores would be beneficial. A final suggestion for an increase response rate would be an online survey. In today’s era of computers and internet capability an individual may be more inclined to fill out a survey online versus in writing.

**Conclusion**

The current study illustrated occupational therapists’ and occupational therapy assistants’ poor knowledge of Alzheimer’s disease, especially in evaluation processes, Medicare payment, and treatment options. Particularly these areas should be focused on in occupational therapy
schools and continuing education opportunities. Therapy sessions should be viewed as collaboration with the patient, caregivers, and the occupational therapists. Collaboration with these individuals will increase the effectiveness of therapy sessions during and beyond scheduled therapy times.
Reference


De las Heras, C. G., Geist, R., Kielhofner, G., & Li, Y. (2002). *The Volitional Questionnaire (VQ) (Version 4.0)*. Chicago: Model of Human Occupation Clearinghouse, Department Of Occupational Therapy, College of Applied Health Sciences, University of Illinois at Chicago.


Appendix A

Questionnaire

Demographics

1. What is your gender? ______ Female ______ Male

2. What is your race?
   ____ Hispanic          ____ Caucasian
   ____ African-American  ____ Other (please specify)
   ____ Asian-American

3. How many years have you been in the occupational therapy field? _________

4. What is your highest level of Occupational therapy education completed?
   ____ Associate’s degree       ____ Master’s degree
   ____ Bachelor’s degree        ____ Doctoral degree

5. What is your current position?
   ____ Occupational Therapist   ____ Occupational Therapy Assistant

6. What percentage of your time do you work with older adults? _________

7. What percentage of your time do you work with patients with dementia? _________

8. Do you currently care for a family member or friend who has Alzheimer’s disease or a related dementia?
   ______ Yes      ______ No

9. Have you, in the past, cared for a family member or friend who had Alzheimer’s disease or a related dementia?
   ______ Yes      ______ No

Instructions: Please answer the following questions to the best of your ability. Please circle your answer.

1. The percentage of people over 65+ who have severe dementia caused by Alzheimer’s disease or a related disorder is estimated to be
   A. less than 2%.
   B. about 5%.
   C. about 10%.
   D. 20-25%.
   E. I don’t know.
2. The prevalence of Alzheimer’s disease in the general population of the United States is expected to
   A. decrease slightly.
   B. remain approximately the same.
   C. increase in proportion to the number of people over 65.
   D. nearly triple by the year 2000.
   E. I don’t know.

3. The cause of Alzheimer’s disease is
   A. old age.
   B. hardening of the arteries.
   C. senility.
   D. unknown.
   E. I don’t know.

4. Preliminary research concerning the role of heredity in Alzheimer’s disease suggests that
   A. persons with a close relative with Alzheimer’s disease have an increased risk of becoming afflicted.
   B. Alzheimer’s disease is always transmitted genetically.
   C. Alzheimer’s disease is only inherited if both parents are carriers of the disease.
   D. Alzheimer’s disease is never inherited.
   E. I don’t know.

5. Larger than normal amounts of aluminum have been found in the brains of some people with Alzheimer’s disease. Studies investigating the role of aluminum in causing Alzheimer’s disease
   A. have determined that it is the major cause.
   B. have established that it plays a role in the onset of the disease.
   C. are inconclusive.
   D. have proven that it is not a cause.
   E. I don’t know.

6. A person suspected of having Alzheimer’s disease should be evaluated as soon as possible because
   A. prompt treatment of Alzheimer’s disease may prevent worsening of symptoms.
   B. prompt treatment of Alzheimer’s disease may reverse symptoms.
   C. it is important to rule out and treat reversible disorders.
   D. it is best to institutionalize and Alzheimer’s disease patient early in the course of the disease.
   E. I don’t know.
7. Which of the following procedures is required to confirm that symptoms are due to Alzheimer’s disease?
   A. Mental status testing
   B. Autopsy
   C. CT scan
   D. Blood test
   E. I don’t know.

8. Which of the following conditions sometimes resembles Alzheimer’s disease?
   A. Depression
   B. Delirium
   C. Stroke
   D. All of the above
   E. I don’t know.

9. Which of the following is always present in Alzheimer’s disease?
   A. Loss of memory
   B. Loss of memory, incontinence
   C. Loss of memory, incontinence, hallucinations
   D. None of the above.
   E. I don’t know.

10. Although the rate of progression of Alzheimer’s disease is variable, the average life expectancy after onset is
    A. 6 months-1 year.
    B. 1-5 years.
    C. 6-12 years.
    D. 15-20 years.
    E. I don’t know.

11. Most researchers investigating the use of lecithin as a treatment for Alzheimer’s disease have concluded that it
    A. reverses symptoms.
    B. prevents further decline.
    C. reverses symptoms and prevents further decline.
    D. has no effect on the disease.
    E. I don’t know.

12. Which of the following statements describes reactions Alzheimer’s disease patients may have to their illness?
    A. They are unaware of their symptoms.
    B. They are depressed.
    C. They deny their symptoms.
    D. All of the above.
    E. I don’t know.
13. Sometimes Alzheimer’s disease patients wander away from home. Caregivers can best manage this problem by
   A. reasoning with the patient about the potential dangers of wandering.
   B. sharing feelings of concern with the patient in a calm and reassuring manner.
   C. making use of practical solutions such as locked doors.
   D. remaining with the patient at all times to prevent the behavior.
   E. I don’t know.

14. Which statement is true concerning treatment of Alzheimer’s disease patients who are depressed?
   A. It is usually useless to treat them for depression because feelings of sadness and inadequacy are part of the disease process.
   B. Treatments of depression may be effective in alleviating depressive symptoms.
   C. Anti-depressant medication should not be prescribed.
   D. Proper medication may alleviate symptoms of depression and prevent further intellectual decline.
   E. I don’t know.

15. What is the role of nutrition in Alzheimer’s disease?
   A. Proper nutrition can prevent Alzheimer’s disease.
   B. Proper nutrition can reverse the symptoms of Alzheimer’s disease.
   C. Poor nutrition can make the symptoms of Alzheimer’s disease worse.
   D. Nutrition plays no role in Alzheimer’s disease.
   E. I don’t know.

16. What is the effect of orienting information (i.e., reminders of the date and the place) on Alzheimer’s disease patients?
   A. It produces permanent gains in memory.
   B. It will slow down the course of the disease.
   C. It increases confusion in approximately 50% of patients.
   D. It has no lasting effect on the memory of patients.
   E. I don’t know.

17. People sometimes write notes to themselves as reminders. How effective is this technique for Alzheimer’s disease patients?
   A. It can never be used because reading and comprehension are too severely impaired.
   B. It may be useful for the mildly demented patient.
   C. It is a crutch which may contribute to further decline.
   D. It may produce permanent gains in memory.
   E. I don’t know.

Over Please
18. When an Alzheimer’s disease patient begins to have difficulty performing self-care activities, many mental health professionals recommend that the caregiver
   A. allow the patient to perform the activities regardless of the outcome.
   B. assist with the activities so that the patient can remain as independent as possible.
   C. take over the activities right away to prevent accidents.
   D. make plans to have the patient moved to a nursing home.
   E. I don’t know.

19. Medicare will pay for which of the following for Alzheimer’s disease patients?
   A. A physician’s diagnostic evaluation of the patient.
   B. Nursing home care experiences.
   C. Homecare expenses.
   D. All of the above.
   E. I don’t know.

20. Which of the following is a primary function of the Alzheimer’s disease and Related Disorders Association (ADRA)?
   A. Conducting research.
   B. Providing medical advice.
   C. Family support and education.
   D. Providing day care for Alzheimer’s disease patients.
   E. I don’t know.

21. Which type comprises the largest proportion of dementia?
   A. Parkinson’s disease
   B. Alzheimer’s disease
   C. Metabolic disorders
   D. Electrolyte imbalances

22. The risk of Alzheimer’s disease
   A. depends on one’s general physical health.
   B. is greatest from 65 to 75 years of age.
   C. doubles with each decade of life after age 65.
   D. is related to one’s exposure to aluminum.

23. Catastrophic reactions are
   A. typical of late-stage Alzheimer’s disease.
   B. generally associated with depression.
   C. usually triggered by obvious factors.
   D. individualized emotional outbursts.

24. Which of the following assessment tools is designed to evaluate a family caregiver?
   A. Assessment of Motor and Process Skills
   B. Kitchen Task Assessment
   C. Comprehensive Occupational Performance Measure
   D. Task Management Strategy Index
25. Which of the following assessment tools measures small units of performance skills?
   A. Assessment of Motor and Process Skills
   B. Kitchen Task Assessment
   C. Comprehensive Occupational Performance Measure
   D. Task Management Strategy Index

26. The evaluation process for persons with dementia should be
   A. Informal
   B. Formal
   C. Standardized
   D. Continuous

27. Mrs. X, a caregiver, wants to take a nap every day. However, her husband’s dementia symptoms include restlessness, so he continually wakes her up to make sure she is okay. Which of the following should NOT be suggested as a possible solution for Mrs. X?
   A. Placing a “Do Not Disturb” sign on the bedroom door
   B. Showing her husband how upset she is to awakened
   C. Distracting her husband with a simple, repetitive chore
   D. Asking a neighbor to take her husband for a walk

28. A labeled, opaque container is an example of which of the following intervention methods?
   A. Object simplification
   B. Adaptive equipment
   C. Establishing a routine
   D. Task breakdown

29. When caregivers set the emotional tone, they are
   A. letting all their feelings show.
   B. keeping things calm and comforting.
   C. breaking down tasks.
   D. using medication to reduce catastrophic reactions.

30. The routine of a person with dementia should be
   A. varied and novel.
   B. boring.
   C. ignored during vacations and holidays.
   D. maintained at all times.

31. Which of the following is an example of task breakdown?
   A. Moving a hospital bed into a room on the first floor.
   B. Providing a leisure activity for a restless individual.
   C. Using one- to two-word instructions.
   D. Getting a lift to church with a neighbor every Sunday.
32. Which of the following is NOT a good way to instruct a family member with dementia to brush his teeth?
   A. Post a picture of the family member brushing his teeth.
   B. Post detailed instructions with diagrams.
   C. Have the caregiver brush her teeth at the same time.
   D. Post a note stating “John-brush teeth now.”

Interventions and Assessments used by occupational therapists

1. When you work with individuals with Alzheimer’s disease and related dementias, what model(s) of practice do you use?

2. When you work with individuals with Alzheimer’s disease and related dementias, what assessments do you use?
3. When you work with individuals with Alzheimer’s disease and related dementias, what interventions do you use?

4. When you work with individuals with Alzheimer’s disease and related dementias, what assessments do you use for caregivers?
5. When you work with individuals with Alzheimer’s disease and related dementias, what **interventions** do you use for caregivers?
Table 1

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Overall Percent Correct</th>
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care activities, many mental health professionals recommend that the caregiver assist with the activities so that the patient can remain as independent as possible.

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** Mean Percent Correct 62.2

** Top 3 correct answers

# Top 3 incorrect answers