

An interdisciplinary approach to the management of Alzheimer's disease [electronic review] : a literature review

Kimberly Ann LaVigne
The University of Toledo

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An Interdisciplinary Approach to the Management of Alzheimer's Disease:

A Literature Review

Kimberly Ann LaVigne

The University of Toledo

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Introduction

Alzheimer's disease is a progressive form of dementia characterized by the deterioration of cognitive function and memory. The decline in brain function can become severe enough to affect the person's daily life in work, social activities, and hobbies. Alzheimer's disease is the most common form of dementia of elderly people, affecting approximately 5 million Americans (Alzheimer's Association, 2009g). Due to the growing elderly population, the number of people with Alzheimer's disease is expected to reach more than 13 million by 2050, which is almost a 3-fold increase from the current prevalence of the disease (Hebert, Scherr, Bienias, Bennett, & Evans, 2003).

A definitive diagnosis of Alzheimer's disease can only be made on autopsy. Therefore, a clinical diagnosis can be made by following the guidelines in the DSM-IV-TR (American Psychiatric Association, 2000). Clinical screening with the mini-mental status exam (MMSE) (Folstein, Robins, & Helzer, 1983) is a tool to evaluate early symptoms and can be used to see if further examination of a patient is needed. The progression of the disease is divided into stages to help with management, prognosis, and treatment of the affected person. Because not every patient will experience the progression of the disease in the same way or may not experience the same symptoms, it is important to realize that the stages are used as a framework for the progression of the disease. Many refer to the progression of Alzheimer's disease as being divided into three general stages: early, mid, and late. The Alzheimer's Association divides the progression of the disease into seven stages but notes which of these seven stages fall into the three, more general, classifications. The seven stages used by the Alzheimer's Association are: Stage 1: no impairment, Stage 2: very mild cognitive decline, Stage 3: mild cognitive decline (early stage), Stage 4: moderate cognitive decline (early stage), Stage 5: moderately severe

cognitive decline (mid-stage), Stage 6: severe cognitive decline (mid-late stage), and Stage 7: very severe cognitive decline (late stage) (Alzheimer's Association, 2009f).

The growing number of people with Alzheimer's disease places concern for a better understanding and proper management of the disease. As the disease progresses, complications and increasing cognitive decline place burdens on not only the affected person, but also health care professionals and the caregiver of the affected individual. In order to properly manage this complicated disease, an interdisciplinary approach should be used by the health care team. Throughout the various stages of Alzheimer's disease, management should include cooperation of many different health care professionals from the interdisciplinary team. The physician assistant (PA) or physician, as the primary care provider, will provide the best care for a patient with Alzheimer's disease if he or she seeks additional help from other disciplines such as social work, occupational therapy, psychiatry, and physical therapy. This team of health care professionals can help assess all the different aspects of the disease so that the best management can be provided for the patient and the patient's caregiver. There are also many community resources available, such as care groups, which benefit the patient and family. There are numerous ways to go about the management of the disease, but incorporation of many of these different ideas would be more likely to benefit the patient and patient's family than just one approach. This paper will discuss the management of Alzheimer's disease by the interdisciplinary team. Every team member's role will be addressed for each of the three stages of disease.

Methodology

PubMed and MEDLINE searches were conducted for the following terms: Alzheimer's disease management, interdisciplinary approach to Alzheimer's disease, treatment of Alzheimer's disease, management of cognitive decline, and diagnosis of Alzheimer's disease. Individual articles were also found from the bibliographies of articles from the original search.

Early Stage

In the mild stage of Alzheimer's disease, the patient will begin to experience difficulties in word or name finding, organization, and ability to remember recent activities or events. A patient in this stage may also lose valuable objects or have a decreased memory of personal history. However, not all of these symptoms are found in every patient with Alzheimer's disease. The hallmark symptom of Alzheimer's disease is insidious-onset impairment in the ability to recall new information (Alzheimer's Association, 2009d).

The first stages of the disease require each member of the interdisciplinary health care team to work together with the patient with Alzheimer's disease and the family. A physician assistant, physician, and psychiatrist can all assist in the diagnosis of Alzheimer's disease. Health care professionals including physician assistants, doctors, psychiatrists, occupational therapists, physical therapists, and social workers are all part of the interdisciplinary team for the management of Alzheimer's disease. The diagnosis and further management involving the entire health care team will be discussed further.

Physician Assistant/Medical Doctor/Psychiatrist

Diagnosis of Early Stage Alzheimer's Disease

In the early stages of Alzheimer's disease, it is important for the primary care provider to provide the affected patient and the patient's family with adequate information about the disease. It is common belief that memory loss is a normal part of aging. It is important to distinguish normal decline of cognitive function from aging and dementia. The diagnosis of dementia can be merited if there is evidence of greater memory and cognitive impairments than would be expected from normal aging (American Psychiatric Association, 2000). Therefore, it should be

explained to patients that repetitive memory loss that affects a person's daily functioning is not a normal part of aging. In order for Alzheimer's disease to be diagnosed at an early stage, the early symptoms should be recognized by patients and healthcare providers so that early assessment and management of the disease can begin. Furthermore, the disease process and a description of the progress of dementia should be provided as early as possible after the diagnosis of Alzheimer's disease so that the affected patient is more able to comprehend the disease and ask questions as they arise. This will also allow the patient to take part in the initial decision making for the future. There will be some inevitable changes in cognition as a result from Alzheimer's disease that the patient might wish to be aware of at diagnosis.

Bonder and Dal Bello-Hass provide an overview of the progression of Alzheimer's disease by explaining that the first changes in function and behavior might not even be apparent to close friends and family (2009). As the disease progresses, however, the individual will lose his or her capacity to have meaningful occupations and conversations with deficits becoming apparent to those on the outside. A brief overview such as this provides the patient with information that could raise further, more specific, questions about the disease process. It might also be beneficial for the patient to understand that some feelings that are often experienced include incompetence, frustration, and loss of control. Health care professionals can play a role in helping the patient and caregiver to ask questions and discuss these inevitable changes in day-to-day functioning (Bonder & Dal Bello-Haas).

When Alzheimer's disease is suspected in an undiagnosed patient, proper evaluation, as proposed by the Alzheimer's Association, includes a thorough history (medical and family), Mini-Mental State Examination (MMSE) (Folstein et al., 1983), physical and neurological examination, and laboratory tests to rule out other medical problems such as hypothyroidism or

B12 deficiency (Alzheimer's Association, 2009d). It is common that co-workers or family members will bring the patient in to their health care provider after they begin to notice deficiencies in memory or concentration. The symptoms discussed earlier are often the first signs that a person has Alzheimer's disease.

Diagnosis of mild dementia can be made by using scales such as the Global Deterioration Scale (Reisberg, Ferris, de Leon, & Crook, 1982) or the Mini-Mental State Examination (MMSE) (Folstein et al., 1983) which assess cognitive status. The highest score on the MMSE is 30, and a score of less than 23 indicates dementia (Cummings et al., 2002a). The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) can be used in the diagnosis of Alzheimer's disease. It can also help to distinguish between Alzheimer's and other forms of dementia. It classifies dementia into two subtypes: Early Onset and Late Onset. Early Onset subtype is for anyone diagnosed with dementia at 65 years old or younger, and the Late Onset subtype with the onset after 65 years old (American Psychiatric Association, 2000).

Since the diagnosis of Alzheimer's disease is based on clinical evaluation of mental status, it might be helpful to seek a second opinion from another health care provider. Psychiatrists have access to the various diagnostic tests and are likely to be familiar with various dementias. Consulting a psychiatrist might also be helpful to rule out depression before Alzheimer's disease is diagnosed (Alzheimer's Association, 2009d). A psychiatrist would also be able to administer evaluations to find possible underlying or causative behavioral problems or psychotic symptoms to the dementia symptoms and diagnosis (Cummings et al., 2002a).

When making a diagnosis of Alzheimer's disease, the healthcare provider needs to properly prepare and think about how to properly disclose the diagnosis while taking into consideration the patient's perspective. It is important to include family members, especially

someone who could be the primary caregiver. Other considerations before disclosing the diagnosis are to focus on the patient's quality of life and well-being, discuss future plans with the family, and support the patient's reaction to the diagnosis (Lecouturier et al., 2008). During the disclosure, the primary care provider, patient, and caregiver must all comprehend the diagnosis so each person can aid in decision-making. The disclosure should both enhance the understanding of the illness and help to prioritize the need for faithfulness to a treatment plan (Karnieli-Miller, Werner, Aharon-Peretz, & Eidelman, 2007). Daily function should also be assessed soon after the diagnosis of Alzheimer's disease. Some of these daily functions to be evaluated are feeding, bathing, mobility, dressing, toileting, and ability to manage medications (Cummings et al., 2002a). After the disclosure of a diagnosis of mild Alzheimer's disease, one should assess the abilities and needs of the caregiver, decide if a referral is needed, address advanced care planning, discuss the need for a treatment plan, and look into safety concerns (Hogan et al., 2008a).

One of the most common problems that patients with Alzheimer's disease and their families can face is that of safety, especially with driving. There will most likely come a time when families will need to not allow the person with Alzheimer's disease to drive. Many families dread this point in the disease because it takes the independence away from the family member. It would be beneficial for a health care provider to bring up this topic of driving early in the disease so the family can begin to think of ways to keep the family member from driving. By discussing the topic early, the patient with Alzheimer's might be more understanding about the consequences associated with driving, realizing that the potential to hurt oneself or another human being is increased.

Medical Management of Mild Alzheimer's Disease

While there is currently no cure for Alzheimer's disease, there are some medications available that may help with some of the deficits in language, thinking, and memory. Treatment of Alzheimer's disease will not stop its progression, but medications such as cholinesterase inhibitors are options for treatment of the symptoms for many patients with mild Alzheimer's disease (Hogan et al., 2008b). There are a few different cholinesterase inhibitors available including: donepezil, galantamine, rivastigmine. Cholinesterase inhibitors block the breakdown of acetylcholine in the synapse so that acetylcholine is available to bind to the cholinergic receptors. In Alzheimer's disease, it is thought that synapses in the brain with acetylcholine are affected (Grutzendler & Morris, 2001). These medications can modestly improve symptoms of Alzheimer's disease. Some patients may find that cholinesterase inhibitors can temporarily stabilize cognition or slow the rate of cognitive decline (Cummings et al., 2002b). Cholinesterase inhibitors have some side effects including: nausea, vomiting, muscle cramping, diarrhea, and agitation. These drugs should be administered at low doses and slowly increased so the patient is better able to build up tolerance to the side effects and so that adverse reactions can be monitored (Grutzendler & Morris).

Management of Comorbidities in Mild Alzheimer's Disease

In addition to treating the newly-diagnosed Alzheimer's disease, primary care providers need to maintain management of other comorbidities. Any previous diagnoses should still be treated as usual, and regular checkups should still be routine in case new problems emerge. It has been found that 60 percent of Medicare patients with Alzheimer's disease also have hypertension. Other common comorbid diseases with Alzheimer's disease include coronary artery disease (26 percent of patients) and stroke (25 percent of patients) (Alzheimer's

Association, 2009a). When caring for any patient, especially the elderly, side effects to medications should be carefully considered. It would be beneficial to have patients bring each bottle of medication they use so that a complete list of medications can be assessed for side effects and drug interactions. It is possible that the side effect of one drug could resemble another disease or comorbidity. Comorbidities may arise as sensory deficits such as hearing and vision problems, dental problems, or other chronic disorders like hypertension, arthritis, or diabetes (Cummings et al., 2002b). Proper management of comorbidities is important so that other illnesses do not negatively affect the patient's demented state by increasing agitation. Another important reason to manage comorbidities is that dementia is strongly associated with the development of delirium of patients in the hospital (Hogan et al., 2008a). By keeping the patient's best interest in mind and utilizing methods to increase mobilization and orientation in the hospital setting, the likelihood of delirium and other complications can be decreased (Hogan et al.). Some common comorbidities to Alzheimer's disease are behavioral changes and depression. In the case that the primary care provider is uncomfortable treating these illnesses, a referral to a psychiatrist might be beneficial.

Addressing Advanced Care Planning

Advanced care planning should be discussed early in the disease so that the patient can participate in planning for the future. Additional important decisions that the primary care provider can instruct the patient and caregiver to begin planning for are estate management, durable power of attorney, and determination of competency for making personal and economic decisions (Cummings et al., 2002b). These important topics should be understood by both the caregiver and patient so that thoughtful decisions can be made. Therefore, it is better to begin these discussions with patients when they are still in the mild stage of Alzheimer's disease so

that the patient is better able to comprehend the reasoning and advanced planning. It may be appropriate to set aside some extra time to discuss certain terms with the patient and caregiver. This way, 'do not resuscitate' orders and the role of a durable power of attorney can be properly explained to the family.

Patients with Alzheimer's disease need help from many different health care professionals. While physician assistants and physicians can diagnose the disease and help to manage medications, patients with a dementia often need help with activities around the house. Further assistance with this might be provided for by an occupational therapist.

Occupational Therapy

An occupational therapist works with individuals so that the individual can best function in his or her own environment. These medical professionals are highly trained in helping patients adapt to disabilities that limit or inhibit their performance of tasks and functions. An occupational therapist would be of great help to a patient with Alzheimer's disease because these people are likely to have some kind of disability, whether it is mentally or physically.

Assess for Patient Safety in Mild Disease

One of the first signs that families notice is wandering. Patients with Alzheimer's disease frequently walk around, outside the home, and may end up getting lost. There are programs such as the Alzheimer's Association Safe Return Program that each patient should be registered with in case the individual does get lost (Cummings et al., 2002b). Another way to help keep the patient safe is to assess the risks associated with every day activities. It helps to assess the living environment for possible accidents related to smoking, fire and burns, nutrition, food poisoning, toxic substances, health problems, trauma, driving, and medication (de Poulin et al., 2006).

Occupational therapists can help families evaluate their own household for possible safety hazards and find ways to eliminate or change items and situations around the house that could be dangerous to a patient with Alzheimer's disease.

Assess Patient's Living Conditions and Occupational Ability

Each individual will have a different occupational performance baseline, so it is important for health care professionals to determine the impact of change on each person's occupational and social life. Occupational therapists should use well-directed questions, as well as observations, to determine an individual's occupational functioning ability (Bonder & Dal Bello-Haas, 2009). The patient's functional ability will constantly change and digress throughout the disease. For this reason, it is important for health care providers and caregivers to be aware that continuous decreases in functional ability could occur over years, months, or days. Families and health care providers should be ready to help the patient adapt to tasks as his or her functional ability decreases. An occupational therapist might periodically assess a patient with Alzheimer's disease so that the patient can get continuous help with tasks as his or her dementia progresses. Another way in which the patient's functional ability might be brought to its fullest extent is to have the patient repeat several task steps in different activities which allows for practice of the skill. Patients might be able to engage more easily in tasks if they are adapted to the patients' ability. Repetition of tasks and sequencing of skills will help to engage the patient with Alzheimer's disease in normal activities and give him or her purpose while allowing the activities to be performed at a simplified level (Burns, McCarten, Adler, Bauer, & Kuskowski, 2004). When an occupational therapist is working with a patient with Alzheimer's disease, it might be beneficial for him or her to repeat activities with the patient.

There are certain precautions that can be addressed no matter what the level of occupational functioning. For example, it might be beneficial to assess the risk of potential falls and accidents around the house early in the disease so that changes can be made before the disease progresses too much. An occupational therapist may have tools and ideas that can help a patient with Alzheimer's disease function safely around the house. One simple way to aid in fall prevention is to bring color contrast into the house. Some ways to introduce color contrast include providing railings along staircases that are a different color than the wall and putting rugs on the floor at the bottom of a staircase to help distinguish the level ground from the steps. Photographs could also be placed around the house to serve as reminders of family members' faces, and signs can be used to label certain rooms as a guide for the patient with Alzheimer's disease. These simple reminders around the house that cue in the patient as to which room is the bathroom could help prevent additional agitation as the disease progresses and the individual becomes more easily confused or lost.

Some additional ways to avoid unneeded agitation around the house is to allow the patient to dress in his or her own clothing and keep possessions. In addition to reminders placed around the house to help guide the patient, items such as clocks, calendars, and newspapers can be used to help orient the patient to the time and date. Simple things like these will help the patient feel more relaxed at home to provide for an environment that will decrease the amount of agitation (Cummings et al., 2002b). Patients with Alzheimer's disease might be able to perform instrumental activities of daily living such as telephone use, meal preparation, house cleaning, and money management if the environment is adapted to the patient. An occupational therapist can work with a patient with Alzheimer's disease so that he or she can better function around the house. A patient might have to learn new ways to adapt or have appliances placed in the house

for help to perform tasks more easily. Each patient and task will be different, but it may help to error-proof the environment and even begin the task for the patient to help with the process and completion of the activity (Burns, McCarten et al., 2004). In addition to occupational therapy assistance to help a patient perform activities, a physical therapist can help a patient with Alzheimer's disease as well.

Physical Therapy

Physical therapists help patients improve or maintain their functional ability and overall health. A physical therapist works with patients through exercise and range of motion exercises to improve function and even decrease pain. Since Alzheimer's disease is a disease of the elderly, this population can greatly benefit from physical therapy.

Physical Activity in Mild Disease

It has been demonstrated in clinical trials that physical activity has significant benefit on psychological factors, cognitive function, and physical performance in patients with Alzheimer's disease. Physical activity can help to improve mobility, balance, gait, strength, speed, sleep, agitation, and mood. These factors can all have effects on a patient with Alzheimer's disease (Rolland, Abellan van Kan, & Vellas, 2008). Additionally, Alzheimer's disease is linked with reduced muscle mass and physical deterioration which result in an increased risk for falls and fractures, loss of independence, and poorer quality of life (Santana-Sosa, Barriopedro, Lopez-Mojares, Perez, & Lucia, 2008). Maintaining good physical strength and balance in these individuals through physical therapy can help prevent falls which can impact the agitation of a patient with Alzheimer's disease.

A study by Santana-Sosa examined the effects of short-term exercise programs focusing on resistance, joint mobility, and coordination on overall functional capacity and ability to perform activities of daily living in patients with Alzheimer's disease. There was improvement in the patient's muscle strength, coordination, and flexibility, and an associated improvement in ability to perform activities of daily living such as walking, bathing, and dressing, independently. Since decline in ability to perform activities of daily living is the main determinant of quality of life, risk of death, caregiver burden, and institutionalization of patients with Alzheimer's disease, it is important to support physical activity programs with these patients (2008).

Simple exercise programs are also recommended to decrease the morbidity of other diseases that many patients with Alzheimer's disease may have, such as heart and lung diseases. A physical therapist may be able to work with patients to help strengthen them and find a good way to bring physical activity into their lives. Physical therapy and other ways to exercise can be found throughout most communities. A social worker is often a good resource to help find community activities.

Social Worker

Social workers in the health care field assist patients and families in being able to deal with diseases and medical problems. A social worker may help to find a patient in-house care after being discharged from a hospital. These health care workers can help patients with Alzheimer's disease by providing social support or even by providing individual counseling to the patient or caregiver.

Financial Planning in Mild Alzheimer's Disease

Since the timing of progression of the disease is different for each patient, it would be helpful to provide the patient and family with written information for support available from health and social services (Lecouturier et al., 2008). Patients and families should be made aware of the costs and finances associated with treatment and quality of life. Alzheimer's disease might require some financial planning. Some costs are associated with drug treatments, day care centers, hospital costs, comorbidities, loss of working, and changes or adaptations in the household (Schwam et al., 2007). Some families might want to plan their finances or seek aid early in the process while other families might not want to deal with financial decisions early in the disease. It would be good to suggest the patient and family talk to a social worker or financial advisor to help plan for some of the additional costs associated with Alzheimer's disease. In the early stage of Alzheimer's disease, the family and patient should find out what medical costs and interventions are covered by their insurance. Social workers can assist a family in finding a good insurance company, or making sure the correct providers are used for a given insurance company. A social worker might also assist a patient with Alzheimer's disease in finding community programs. Some patients may benefit from programs such as at-home nursing care or rehabilitation programs that a social worker could help find.

Community and Benefit Programs

Many programs can be found throughout a community that can help a patient with Alzheimer's disease. Patients can find programs for social support, therapy sessions, research programs, and even programs to help them better understand the disease. All patients with this disease should be advised to find some community programs. These programs are important for

the patient and caregiver, so any health care provider working with a family affected by Alzheimer's disease should inform the family about community programs available.

Teach Patient About Disease and Progression

Health care providers should provide the patient and family with information about the disease. The Alzheimer's Association's website is a good resource for information about the disease and what to expect with the progression. It is a reliable website so the patient with Alzheimer's disease can get information once he or she is home and perhaps not as emotional about the disease and new diagnosis (Alzheimer's Association, 2009g). Providing the patient with pamphlets about the disease would also be helpful. The diagnosis is likely to leave the patient with many questions about the disease. There are many programs throughout the community sponsored by the local Alzheimer's Association that can help patients to learn about and cope with the disease. Specific programs for a given community can be found through the Alzheimer's Association website (Alzheimer's Association, 2009b).

Support and Social Interactions

The Alzheimer's Association has support groups available in communities all over the country. Groups might be available for the patient with Alzheimer's disease that could provide for social interactions and emotional support by people experiencing the same hardships. Another way for a patient with Alzheimer's disease to participate in social interaction with other patients with Alzheimer's disease would be through cognitive stimulation therapy (CST). This form of therapy includes activities that stimulate memory and retrieval of information. CST was designed to stimulate people in a natural way, therefore reducing the chance for anxiety that can result from being 'put on the spot.' Some topics used in CST are physical games, childhood, sound, food, current affairs, faces/scenes, word association, creativity, orientation, money use,

number games, word games, and team quiz (Spector, Woods, & Orrell, 2008). Cognitive stimulation therapy is a good way for patients with Alzheimer's disease to stimulate their mind while being involved in social interactions. Organizations around the community might have CST for patients with dementia in their care centers that could be attended.

Cognitive stimulation therapy allows the participating patients with Alzheimer's disease to be aware that other people are in the same position. The groups also reinforce questioning, interaction, and thinking which are constantly important in patients with Alzheimer's disease so that they can keep their brains as active as possible (Spector et al., 2008). Woods et al. had a trial using CST to see its affect on quality of life (2006). The study found that improvements in cognition and quality of life went hand in hand with CST. The participants in the study were found to have improved quality of life in relation to memory, energy, relationships, and managing chores (Woods et al.). Improvement in quality of life for patients with Alzheimer's disease is important not only for the patient, but also for the caregiver.

Caregiver

A caregiver is a person who takes care of another person. Many patients with Alzheimer's disease have a loved one as their caregiver throughout much of their life with the disease. Since caregivers need to support and care for not only themselves but also the patient, they often experience a variety of emotions and much stress.

Support for the Caregiver during the Mild Stage

Any healthcare professional should recognize that the caregiver plays a large role in the life of the patient with Alzheimer's disease. The caregiver can provide information about behaviors and activities that might not be apparent in a short office visit. Because of this, the

physician assistant or doctor who is monitoring the disease process should take time to listen to the caregiver who might be the best source of information about the patient's disease progression.

Caregivers are likely to be experiencing much stress. During office visits, a few minutes might be spent talking to the caregiver just to see how things are going. Each caregiver may find his or her own ways to best deal with the agitation and difficulties associated with the disease. Some strategies that could be useful to caregivers which would encourage the patient with Alzheimer's disease to be active would be to: organize daily activities into a consistent pattern and maintain them to build routines, speak with the patient about things that happened in the past since he or she will lose recent memory first, and avoid distractions by working in quiet environments (Baum & Edwards, 2003).

There are also support groups available through the Alzheimer's Association. These support groups are free, and the caregivers can attend as they please. Support groups can be recommended to a caregiver so that he or she can get some time away from the stresses at home. Since other caregivers attend the support groups, the people attending can help each other and provide one another with ideas and helpful hints from their own experiences. Caregiver support groups allow the caregivers to listen to or express concerns about the disease. Sometimes just knowing that other people are in similar situations can help emotionally.

Education for the Caregiver about the Mild Stage

The Alzheimer's Association and the National Institute on Aging have websites that can help the caregiver to learn about Alzheimer's disease (Alzheimer's Association, 2009g; U. S. National Institute on Aging [NIA], 2009). Since the caregiver might not have much time or many opportunities to talk to a physician assistant or doctor about the disease in person, simple

resources such as these can greatly benefit a caregiver. These sites can help the caregivers find education, counseling, respite, and support to benefit them and the patients. The Alzheimer's Association has offices throughout the U.S. which provide for many local programs that support caregivers and can provide information and help with personal care as well (Hogan et al., 2008a).

Caregivers can be educated about the mild disease stage so they can know what to expect from day to day in the abilities of their loved one. Patients with mild stage Alzheimer's disease can follow directions with 3-step commands, learn simple tasks, and solve problems with some assistance. If caregivers know what to expect with the mild stage, they can be more adaptive and even responsive to the patient because they will have an understanding about what is going on. Caregivers should also know that they will gradually need to assume the responsibility of decision making for the patient with Alzheimer's disease. Problem-solving skills may begin to decline in this early stage of the disease so the caregiver might wish to begin to take on some of these responsibilities (Baum & Edwards, 2003).

Additionally, the caregiver should begin to understand about the disease progress. This understanding can help the caregiver to accept the disease and adapt to the changes that are inevitable for his or her loved one. Some difficulties in the mild stage are seen in making complex decisions, problem solving without assistance, knowing what day of the week it is, and learning complex tasks. Social activities might not be impaired this early in the disease (Baum & Edwards, 2003). Increased changes or decreases in abilities might signify progression of the disease to a later stage.

During the mild stage of Alzheimer's disease, it is important for the patient and caregiver to learn about the disease. This disease is complicated and not always easy to live with and accept. For these reasons, the mild stage of Alzheimer's disease requires much planning and

coordination between health care providers of different backgrounds to best help the patient. There is no specific time frame any patient has to spend in a certain stage of the disease. The progression of the disease is ongoing. The interdisciplinary team of health care providers can continue to guide a patient and caregiver from the mild to moderate stages of Alzheimer's disease.

Moderate Stage

In the moderate stage of the disease, there can be major deficits in cognitive function and major gaps in memory. For these reasons, it is likely to be essential that the patient receive help with day-to-day activities. A patient in the moderate stage may have trouble remembering important information such as his or her own address or telephone number. In the moderate stage of Alzheimer's disease, it is also likely for a person to wander, forget the day of the week, and choose improper clothing for the day (Alzheimer's Association, 2009f). The primary care provider plays a significant role with the patient throughout the moderate stage of the disease as well as the mild stage.

Physician Assistant, Medical Doctor and Psychiatrist

Diagnosis of Moderate Disease

Moderate stage Alzheimer's disease is diagnosed just like the mild stage is with scales such as the Global Deterioration Scale (Reisberg et al., 1982) or the Mini-Mental State Examination (MMSE) (Folstein et al., 1983). A psychiatrist or general practitioner can use these scales and the DSM-IV-TR to help in the diagnosis of the moderate stage of the disease (American Psychiatric Association, 2000). One of these health care professionals would be appropriate to help diagnose the progression to the moderate stage after seeing the patient throughout the disease process. The primary care provider should schedule regular appointments with an individual in this stage to watch the progression (Hogan et al., 2008a).

Addressing Driving Problems

The patient with Alzheimer's disease in the moderate stage of the disease should be regularly assessed for safety. The primary care provider may use a variety of scales to monitor a

patient in the moderate stage of Alzheimer's disease. Various safety tools can be useful in clinical practice to identify risk factors of patients that have a form of dementia. During the moderate stage of disease, the patient is more likely to wander and want to drive when he or she is incapable of following directions and driving safely. In addition to wandering and driving, there may be safety issues around the house. A caregiver and family should be made aware of safety issues so that interventions can be made and accidents can be avoided.

Many families and caregivers find it difficult to bring up the idea that their loved one should no longer drive. The ability to drive a car allows for independence. It may be difficult to tell a loved one that he or she should no longer drive because other people on the road could be put at risk. Driving is contraindicated in people who, for cognitive reasons, have problems performing multiple instrumental tasks of daily living independently. A level of functional impairment to this extent is seen in moderate stages of Alzheimer's disease (Hogan et al., 2008a). Some signs that a person should not drive are: forgetting where a familiar place is, making slow decisions, driving at inappropriate speeds, becoming confused or angry while driving, and confusing the brake and gas pedals. Some state agencies have driving tests that can be taken, but if none are available, the local Alzheimer's Association may be able to provide a list where driving assessments are available (Alzheimer's Association, 2009e).

There are also driver rehabilitation specialists who are usually occupational therapists who have additional training in driving rehabilitation (American Medical Association, 2003). Driver rehabilitation specialists can be good resources to use when a patient has Alzheimer's disease and is still driving. The primary care provider or the current occupational therapist for the patient may recommend that he or she sees one of these specialists. Driver rehabilitation specialists perform driver evaluations and also provide rehabilitation for driving when it is

needed. Driving evaluations performed by these specialists include assessment of medical history, driving history, medications, vision, reaction time, and more (American Medical Association).

A study was conducted at the University of Iowa which compared people with Alzheimer's disease to people without dementia on a road test. It was found that the biggest problems for drivers with Alzheimer's disease were lane violations such as hugging the center lane while another car was approaching or swerving. The study also found that some patients with Alzheimer's disease drove well when compared with the other non-demented drivers. A correlation was made between risky driving ability and low scores on neurological exams of multitasking abilities. These multitasking exams assessed people's ability to bring cognitive, visual, and motor skills together to make quick decisions (Neergaard, 2009). Neurological exams such as these might be a good way to help families decide when their loved one should stop driving.

In certain families, the male is the main driver. If this man develops Alzheimer's disease, it would be incredibly difficult for the wife to tell him he could no longer drive because it would be switching his role completely. There are many different problems a family might face when trying to get the patient with Alzheimer's disease to give up the car keys. Some ideas that may help the situation are making the health care provider be the 'bad guy' by having him or her tell the patient to give up the keys. This will take some of the burden off the family. It might also be helpful for the health care provider to write an actual prescription for the patient to give up the keys. Some other families try moving the car or selling the car so that there is not a car available for the patient to drive. It might be possible to dismantle the car so if the patient attempts to

drive alone, the car will not start. One other idea is to have a police officer tell the patient that his or her driving is reckless and no longer allow him to drive.

Medical Management of Moderate Disease

The medical management remains important in the moderate stage of the disease. The three cholinesterase inhibitors, donepezil, galantamine, rivastigmine, used to treat mild Alzheimer's disease can also be used for the moderate stage. Research has also indicated that use of memantine can be used for the treatment of moderate disease. Furthermore, it is recommended that patients with moderate Alzheimer's be treated for agitation. Many patients experience agitation in the form of sundowning, anxiety, psychosis, depression, aggression, or anger (Cummings et al., 2002b). Many of these forms of agitation can be treated with various medications.

Memantine is currently an option for treatment of moderate to severe dementia. It is the first drug that acts on the glutamatergic system, and it antagonizes the N-methyl-D-aspartate (NMDA) receptor. It has been hypothesized that sustained activation of the NMDA receptor occurs in Alzheimer's disease (Bakchine & Loft, 2008). Memantine works because it helps to block this receptor. This medication partially activates the receptor at low concentration, thus allowing normal conduction. However, it inhibits excessive stimulation of the receptor at a higher concentration that occurs in a pathological condition (Hsiung & Feldman, 2008). One study testing memantine for the treatment of patients with Alzheimer's disease found it to be both safe and well-tolerated for short and long-term clinical trials (Farlow, Graham, & Alva, 2008).

Management of Comorbidities in the Moderate Stage

The need to monitor medical comorbidities increases as Alzheimer's disease progresses. Other diseases can heighten the possibility of agitation in patients with Alzheimer's disease. There are many changes and adaptations that a patient with Alzheimer's disease has to cope with, so proper care for other diseases can only help the patient to feel more comfortable. Some diseases such as depression might develop after the diagnosis of Alzheimer's disease. Patients with comorbid depression can be treated with both pharmacologic and non-pharmacologic interventions to help with the depressive symptoms.

Advanced Care Planning

If advanced care planning has not already been discussed, it would be beneficial to both the caregiver and patient to discuss it during this stage of the disease. Advanced care planning may require much thought and planning, so it should be brought up as soon as possible in the disease process and be mentioned throughout the disease. It is very important that a durable power of attorney be chosen at this stage, if not earlier. The patient may also need to set up a living will. Both of these are important in legal planning and should be decided before the patient reaches a later stage in the disease. If the patient has not already seen an occupational therapist for assistance with function around the house and a driving evaluation, a recommendation to occupational therapy would also be appropriate at this point in the disease.

Occupational Therapy

Assess Functional Ability in the Moderate Stage

The functional ability of a patient with Alzheimer's disease will continue to digress throughout the disease. Adaptations will need to be made on an ongoing basis to help the patient

perform daily tasks. As the disease progresses, patients will need to perform occupations differently in order to compensate for their change in skill ability. The caregiver and other people in the patient's life should help him or her engage in tasks that are less challenging and demanding. It has been found that once a person with Alzheimer's disease requires more assistance to perform every day activities, caregiver burden increases (Bonder & Dal Bello-Haas, 2009). An occupational therapist could work with the family to make these every day activities easier for the patient in hopes to decrease this added burden.

Tracking functional ability with tests and scales provides a means for following the patient's decline over the years. The occupational therapist working with the patient has the best sense for functional decline, and certain tests might help as well. This kind of tracking with the MMSE (Folstein et al., 1983) or activities of daily living assessments may be important if the family wants to monitor a patient's progression. If a patient is taking an Alzheimer's medication, it might be useful to have tests and scales done to show if the medication is slowing down the progression of the disease or not. Medications can be expensive for families, so if a benefit can be shown through a scale or examination, families might be more likely to want their loved one to continue to use the medication.

In the moderate stage of Alzheimer's disease, a patient might start to decline in activities such as feeding, toileting, grooming, and bathing. Some patients in this stage may not be able to be left at home at all or for extended periods of time due to safety reasons and changes in tone, gate, and movement (Bonder & Dal Bello-Haas, 2009). Occupational therapists can help these patients find better ways to perform these activities safely and adequately. These health care professionals can recommend that caregivers try different strategies to help the patient better perform activities of daily living. However, health care professionals need to realize that every

patient is different and oftentimes a caregiver must go through a process of 'trial and error' to see what works best with his or her own loved one (Bonder & Dal Bello-Haas).

Occupational therapists can also encourage a person with Alzheimer's disease to consider activities which can provide both meaning and a feeling of achievement. Some activity-oriented interventions consist of dance, music, and crafts which can provide the patient with feelings of achievement and pleasure. Additionally, occupational therapists can suggest to the caregiver to allow the patient to perform simple, yet meaningful, chores and tasks around the house or neighborhood. Some of these activities such as mowing the grass, volunteering at food banks, playing with grandchildren, and looking at pictures of family can provide the patient with Alzheimer's disease opportunities to complete a tasks or activities which allows him or her to feel satisfaction and allow social interaction (Bonder & Dal Bello-Haas, 2009). The addition of a physical therapist is also helpful so that the patient is better fit to perform some of these tasks on his or her own.

Physical Therapy

Physical Activity in the Moderate Stage

Physical therapy can be used throughout the moderate stage of disease as well as the mild stage. It has been found that physical activity may affect cognition because of the cognitive training during the activity or the cognition throughout the social interactions involved (Rolland et al., 2008). Physical therapy, done either at home or in at an office, can also be useful because it puts more purpose into the patient's everyday life. The activity gives the patient something to do, along with providing health benefits. One study examined the effect of exercise programs including balance, walking, and flexibility on the affect and mood of patients with Alzheimer's

disease. The study found that the patients who participated in exercise programs had better outcomes in mood and affect than those who participated in social conversation (Williams & Tappen, 2007).

It has been found that higher levels of physical activity increase energy expenditure, improve bowel movement, and can result in better food intake, better sleeping habits, increased mood and quality of life, and is also better for cognitive functioning (Rolland et al., 2008). These benefits can have a positive impact on not only the progression of Alzheimer's disease, but also the common comorbidities of the patients. If a patient is physically weak because of a comorbidity such as heart or lung disease or a previous fall, physical therapy can help the person gain strength back again. It may be challenging to get cognitively impaired adults to engage in exercise activities because of the fear of falling, deconditioning, and effects of medications and fatigue (Williams & Tappen, 2007). Because of these difficulties, a trained physical therapist is often needed with physical activities to support strength and coordination in these individuals. While therapy and training may be time-consuming, it is still important to aid in prevention of falls and perhaps slow down the loss of physical ability. In addition to physical activities, a social worker can help a patient in the moderate stage of disease to find other appropriate activities throughout the community to participate in.

Social Worker

Financial Planning for the Moderate Stage

The moderate stage of Alzheimer's disease will likely require more money to be spent on outside help. Moderate Alzheimer's disease and the associated deterioration of activities of daily living might increase the need for financial spending on household changes so that activities are

easier for the patient to perform. Safety concerns for the patient might also call for further financial spending. The patient might also need to attend a day center if he or she is no longer able to stay at home safely while the caregiver goes to work or runs errands. A social worker would be able to help the patient and family find economic and environmental resources to help with these extra finances.

Other community resources that can help a patient with financial problems could be meals on wheels. If a patient needs assistance with getting food or medications because of financial reasons, a social worker could work with the patient. There could be ways to get discounts on medications and other resources might be available to help with medication costs for these patients. The social worker is a good resource to find help throughout the community.

Community and Benefit Programs

Teach and Educate about Moderate Disease and Progression

Community resources and information found through the Alzheimer's Association and National Institute on Aging can be useful to families and patients throughout the moderate stage of Alzheimer's disease (Alzheimer's Association, 2009f; NIA, 2009). The family is likely to have questions throughout the disease. Questions are especially likely to arise during this middle stage of the disease because of all the changes the patient will be experiencing. Since a doctor's visit is not always an option every time a question arises, it would be helpful to hand out pamphlets about the disease. The websites can also provide for adequate information for patients and families on a day-to-day basis.

Social Interactions in the Moderate Stage

Patients with Alzheimer's disease in the moderate stage should still be encouraged to be involved in social interactions. Patients with Alzheimer's disease should try to stimulate their brains through conversation to help their cognition. Furthermore, cognitive stimulation therapy, as discussed before, has been found to make improvements in quality of life. Some areas where improvement was shown are: memory, relationship with significant other, energy level, and ability to complete chores (Woods et al., 2006). As a result, improved quality of life can decrease agitation which is likely to make life more calm and comfortable for both the patient and the caregiver.

Another possible way to have the patient interact socially is to have him or her attend an adult day center. One study found that day care allows for rehabilitative processes in functioning and even enhancement of emotional well-being. Also, day centers were found to have a positive effect on the attending patients. There was found to be either stabilization or improvement in the subjective well-being and dementia symptoms in the people attending a day center in the study (Zank & Schacke, 2002). A day center might be a choice for a patient in order to allow a family member to still be the primary caregiver and still keep a job. A patient at a day center has benefits such as social interaction and immediate care while still being able to live at home with a caregiver. In the moderate stage of disease, a patient might not be able to be left alone, so attending a day center might be a great option. The assistance of a day center can be very helpful to the caregiver as well.

Caregiver

When taking care of a patient with Alzheimer's disease, it is important to take a few extra minutes to ask how the caregiver is doing. Those few extra minutes might be enough for the caregiver to realize that someone cares and that his or her own health and wellbeing is important. It is not uncommon for a caregiver to be depressed and feel helpless in this disease.

Social Support and Caregiver Stress in the Moderate Stage

Caregivers have to deal with a high level of stress from dealing with the disease, knowing their loved one losing cognition, financial burdens, and lack of free time, as well as many other changes. These are some of the reasons why caregivers can become depressed throughout the disease process of Alzheimer's disease. Caregiver type can also be a strong predictor of depression. It has been found that being a spouse caregiver is associated with a higher level of depression than other kinds of caregivers. The same study found that family adaptability is a good secondary stress predictor of caregiver depression. Caregivers who reported more family adaptability and help were shown to have less depression (Deimling, Smerglia, & Schaefer, 2001).

Physician assistants or the primary care provider can attempt to address family issues so that they can be discussed and figured out. Deimling et al. (2001) recommends two possible approaches to lower caregiver depression. One approach is to address family issues of adaptability to enhance resolution with care-giving decisions. For example, there might be disputes or disagreements amongst various family members with decisions about the patient's care. A second approach, after family issues are addressed, is to help in the decision-making process. If the primary care provider can act as the mediator in a family meeting, it might be more likely that problems can be addressed and eventually resolved. In some situations, the

family of the caregiver might want to be involved in decision-making for the patient with Alzheimer's disease. When this is the case, it is important for the caregiver to discuss plans and choices with the family. When caregivers were less satisfied with the decision-making process, they were more likely to have higher levels of depression.

Another reason that caregivers may become depressed is by not participating in any positive or meaning-based reappraisals. Caregivers often only think about the negative things about caregiving and forget about some of the positive aspects of it. This can begin to decrease the ability of caregivers to cope with stress. It might be helpful for caregivers to participate in interventions with positive reappraisal of caregiving to help them cope through reinforcement on an emotional level (Hilgeman, Allen, DeCoster, & Burgio, 2007). The caregiver should try to remember why he or she is a caregiver and perhaps think about the good feelings the role can provide for them. The primary care provider could try to bring up ideas of positive reappraisals if the caregiver seems depressed or to be having negative thoughts. Also, caregiver groups sponsored by the Alzheimer's Association can provide support and information to the caregivers who attend. As mentioned before, these groups are great ways for caregivers to get support and tips and talk to other people in their same position. Support groups allow caregivers to express their concerns, resentments, pleasures, or sorrows openly to caring people. Groups such as these might also provide a caregiver with positive reappraisal for caregiving. Caregivers who could find positive aspects of caregiving across time were found to have less depression, behavioral bother, and daily care burden (Hilgeman et al.).

Education about the Moderate Stage

When the patient is in the moderate stage of disease, the caregiver will notice a decline in both functional ability and cognitive ability. The health care provider in primary care can help

caregivers to be made aware of what to expect in the moderate stage of disease. The changes and deficits that occur in this stage of disease account for much additional demand stress on the caregiver (Baum & Edwards, 2003). In addition to recommending the National Institute on Aging and Alzheimer's Association websites for information, the primary care provider should do some education on his or her own (Alzheimer's Association, 2009f; NIA, 2009). Caregivers can be informed about possible difficulties in their loved one's behavior. The patient's abilities in learning and problem solving might also be limited, but the patient may be able to follow simple 1- and 2-step commands (Baum & Edwards).

Since the caregiver is under a lot of stress during the moderate stage of the disease, he or she might need help with ways to cope with the changes. Primary care providers might be able to help caregivers find ways to interact with the patient with Alzheimer's disease and interact with the family as a means of reducing or resolving possible conflict from the stress (Deimling et al., 2001). Some other ideas to give caregivers is to encourage activities they have previously enjoyed since there is no new learning required, break activities into steps, and find activities that couples can do together such as dancing, walking, and bowling (Baum & Edwards, 2003). While these suggestions seem simple, the caregiver might appreciate these ideas as alternatives to the daily routine that is causing stress.

The moderate stage of Alzheimer's disease requires interdisciplinary management because of the progression of the disease. As the patient's cognition and function continues to digress with the disease course, management with the interdisciplinary team becomes more important. Both the patient and the caregiver continue to require support as the patient goes from the moderate to the late stage.

Late stage

Severe Alzheimer's disease can be noted when the patient's functioning is dramatically decreased. A person with late-stage disease will usually have difficulty eating and swallowing, lose the ability to communicate with words, need full-time help with personal care, and be more vulnerable to infection due to possible bed rest. The amount of time and care that one patient needs often requires more than one caregiver can provide, thus requiring that the patient to stay at a long-term care facility (Alzheimer's Association, 2009c).

Physician Assistant, Medical Doctor, and Psychiatrist

Diagnosis of Severe Dementia

The severe stage of Alzheimer's disease can be recognized when a patient needs full-time care and aid when performing basic activities of daily living. The MMSE (Folstein et al., 1983) and Global Deterioration Scale (Reisberg et al., 1982) can also be helpful in determining the severe stage. Typically, a patient in this stage of Alzheimer's disease will have a score of 10 or less on the MMSE (Herrmann & Gauthier, 2008). Patients in this stage may lose their capacity to recognize speech, need help with eating and toileting, and may become unable to walk without assistance. In the final stage of disease, the person might not be able to respond to the environment, lose the ability to speak, and eventually lose the ability to control movement (Alzheimer's Association, 2009f).

Medical Management in the Advanced Stage

As discussed earlier, memantine is a treatment option for moderate to severe Alzheimer's disease. There is also some evidence that cholinesterase inhibitors can benefit patients with severe disease, but more studies should be done before this can be confirmed (Herrmann,

Gauthier, & Lysy, 2007). In a study focusing on rivastigmine, one of the cholinesterase inhibitors, it was found that the drug had a positive effect on the rate of cognitive decline in patients with severe Alzheimer's disease. The subjects in the same study who were treated with a placebo were more likely to show a decline in cognition. Additionally, the study revealed that, compared with placebo, rivastigmine treatment showed a reduction in aggressiveness over the 26 week trial. This drug had little adverse effects including anorexia, nausea, and vomiting, and was well-tolerated throughout the study (Burns, Spiegel, & Quarg, 2004).

The physician assistant and caregiver will need to determine if medical management for Alzheimer's disease should be continued into the severe stage. Some things to be considered with medical management include side effects and benefit on the given patient. Patients may react differently to different medications. There may be a point in the progression of the disease when the effects of the medication on a patient seem to be decreasing or not having an effect at all. For these reasons, the patient and the progression of the disease on the medication should be continuously monitored, especially in severe disease. If it is desired, there are some medications available for these patients.

Management of Comorbidities in the Advanced Stage

Management of other diseases as well as Alzheimer's disease should be discussed with the caregiver and family of the patient. Many medications have side effects, so if a medication is not helping a patient in the severe stage of Alzheimer's disease, it might be beneficial to talk to the family about discontinuing some medications. It should not be assumed that the family would bring up the topic of treatment options or discontinuation of treatment on their own. Families might not understand palliative treatment or realize that it could be an option. Some medications previously indicated for the treatment of chronic diseases may need to be

discontinued to promote a better quality of life for the patient. Discontinuing some of these medications may also reduce burden on the patient, from both adverse effects and costs (Holmes et al., 2008). It is best to discuss these options with the family and try to keep the patient as comfortable as possible. Each family and situation is different, but each treatment option should be discussed.

On the other hand, it is important for the primary care provider or a psychiatrist to still assess the patient for treatment of depression in this late stage of disease. The diagnosis and assessment of depression in patients with a decreased ability to communicate can be challenging (Herrmann & Gauthier, 2008). As the disease progresses and the patient gets older, the need for regular checkups and disease management remain important. Some specific health changes that should be managed are continence, swallowing difficulties, and weight and nutritional status (Herrmann et al., 2007).

Extended Care Facilities

The severe stage of Alzheimer's disease might require the patient to attend an extended care facility. The advantages of long-term care should be emphasized and include a routine and structured environment and nursing supervision (Herrmann & Gauthier, 2008). A long-term care facility might be the best option for a patient who needs constant care or monitoring since these are difficult to give at home, especially in the advanced stages of dementia. Advanced stage Alzheimer's disease is also associated with increased behavioral changes which can raise concern for both the patient and caregiver and also influence the need for institutional care (Herrmann & Gauthie). Another option for a person in the advanced stage could be to have daily nursing care. This would allow help with administering medications while also allowing the caregiver to have some time to run errands. When first entering an extended care facility, many

patients get assessed for activities of daily living by occupational therapy. Addition of occupational therapy to the management of a patient with Alzheimer's disease can be started at this time, if it has not been already added to the management.

Occupational Therapy

When patients have severe Alzheimer's disease, they already have significant mental decline. In order for these patients to function as well as possible, given their mental decline, occupational therapy should be added to help the patients. The ability to live either independently or at home with just a caregiver is greatly compromised by Alzheimer's disease. Alzheimer's disease has a large impact on the decline in ability to perform activities of daily living. Tasks that are normally simple and done automatically by people without disease are difficult for patients with Alzheimer's disease. The patients may not remember how to initiate activities, or they may not have the mental capacity to complete a task. Occupational therapists can work with these patients so that tasks are made easier. Occupational therapy can benefit patients with severe disease whether they are still living at home, or they are living in an extended care facility.

Moreover, a study by Baldelli (2007) found that patients with Alzheimer's disease were less agitated and easier to manage when they had adequate behavior in performing activities of daily living. This study involved patients with advanced Alzheimer's disease participating in educational activities on tasks such as cooking, coloring and drawing, gardening, and physical activities. It found that patients who attended an occupational therapy program had less behavioral disorders and therefore were able to receive better care and take less psychoactive

medications. For these reasons, it was suggested that occupational therapy may be a valid addition to treating advanced Alzheimer's disease.

Physical Therapy

Maintenance of physical activity in patients with severe Alzheimer's disease can often be difficult due to behavior disturbances. Decline in physical coordination and promptness accompany severe disease. For these reasons, continuation of physical therapy into the advanced stage is important, because severe Alzheimer's disease can be associated with an increased risk of falls, gait instability, and parkinsonian symptoms (Herrmann et al., 2007). Physical activity during the course of Alzheimer's disease may prevent devastating and common complications of the disease such as mobility disability, weight loss, falls, and even behavior disturbances (Rolland et al., 2008).

This medical discipline is important in assisting a person in many aspects of life in the advanced stages of dementia. Physical therapy can help patients maintain or regain physical agility and stability. Since patients with advanced Alzheimer's disease are likely to be older adults, physical therapy to help these individuals walk and move is important. Common age-related physical problems such as arthritis, osteoporosis, and the resulting fractures may require physical therapy. Maintenance of physical performance can also help older individuals to maintain proper weight and activity. Occupational performance, physical performance, and functional performance can all be benefited with use of therapy.

Social Worker

Financial Planning for the Advanced Stage

Assistance from a social worker might be helpful in the advanced stages of disease if a patient is still living at home with a caregiver who is unable to provide adequate care. Further assistance might be given to families who need financial assistance in paying for treatments or other forms of care. Social work might also be helpful in answering questions and finding information about end of life issues and quality of life in advanced stages of disease.

When a patient is still living at home in the advanced stage of disease, a social worker might do a home safety evaluation. These evaluations are important for people with debilitating disease or older adults living alone or with dementia who might not be able to care for themselves. The social worker may evaluate the house for fall potential and get a general sense as to whether or not the patient is living in a good environment for his or her health. The home safety evaluation can help in the decision as to whether or not extended care facility placement is needed for appropriate care.

Caregiver

What to Expect in Severe Disease

In the late stage of disease, it becomes ever more important for health care professionals to check on how the caregiver is doing as far as health and depression. The caregiver might be in the process of making an adjustment of having his or her loved one brought to an extended care facility. By this point in the disease, the caregiver has been through many changes and much stress. The caregiver might need someone to talk to or be available for questions. Support groups are still helpful for these caregivers, mostly because of the emotional support they can

gain from the other attendees. Aside from support, caregivers should also be made aware that the patient's engagement in activities will be very limited in this stage of the disease. A patient with severe Alzheimer's disease can usually follow a 1-step command which requires the caregiver to be aware and break down tasks and simplify directions (Baum & Edwards, 2003).

Conclusion

Alzheimer's disease affects millions of families and individuals each day. Since there is currently no cure for the disease, it should be managed to the best of our ability so that the least amount of morbidity is placed upon the patient and family. Each individual with the disease is different and could require a different management technique. There are many different disciplines of health care professionals that can work together in order to attain optimal management for a patient. If health care professionals seek each other's help, then the best management for each patient can be fulfilled.

This common form of dementia requires adequate communication between the primary health care provider and the family and patient. The primary care provider should do his or her best to care for the patient while seeking help from providers in other disciplines. By bringing multiple medical disciplines into the management of Alzheimer's disease, the patient is allowed to have the different aspects of the disease cared for. Alzheimer's disease is such a complex disease that optimal management could require both pharmacological and non-pharmacological treatments.

References

- Alzheimer's Association. (2009a). 2009 Alzheimer's disease facts and figures. *Alzheimer's and Dementia*, 5(3), 234-270.
- Alzheimer's Association. (2009b). *In my community*. Retrieved October 17, 2009, from <http://www.alz.org/apps/findus.asp>
- Alzheimer's Association. (2009c). *Living with Alzheimer's*. Retrieved January 15, 2009, from http://www.alz.org/living_with_alzheimers_4521.asp
- Alzheimer's Association. (2009d). *Professionals and researchers*. Retrieved January 15, 2009, from http://www.alz.org/professionals_and_researchers_14294.asp
- Alzheimer's Association. (2009e). *Safety center*. Retrieved January 15, 2009, from http://www.alz.org/safetycenter/we_can_help_safety_driving.asp
- Alzheimer's Association. (2009f). *Stages of Alzheimer's*. Retrieved January 15, 2009, from http://www.alz.org/alzheimers_disease_stages_of_alzheimers.asp
- Alzheimer's Association. (2009g). *What is Alzheimer's?* Retrieved January 15, 2009, from http://www.alz.org/alzheimers_disease_what_is_alzheimers.asp
- American Medical Association. (2003). *AMA physician's guide to assessing and counseling older drivers: Chapter 5: The driver rehabilitation specialist*. Retrieved October 16, 2009, from <http://www.ama-assn.org/ama1/pub/upload/mm/433/chapter5.pdf>
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR* (4th ed.). Washington, DC: Author.
- Bakchine, S., & Loft, H. (2008). Memantine treatment in patients with mild to moderate Alzheimer's disease: Results of a randomised, double-blind, placebo-controlled 6-month study. *Journal of Alzheimer's Disease*, 13(1), 97-107.

- Baldelli, M. V., Pradelli, J. M., Zucchi, P., Martini, B., Orsi, F., & Fabbo, A. (2007). Occupational therapy and dementia: The experience of an Alzheimer special care unit. *Archives of Gerontology and Geriatrics, 44 Suppl 1*, 49-54.
- Baum, C., & Edwards, D. F. (2003). What persons with Alzheimer's disease can do: A tool for communication about everyday activities. *Alzheimer's Care Quarterly, 4*(2), 108-118.
- Bonder, B. R., & Dal Bello-Haas, V. (2009). *Functional performance in older adults* (3rd ed.). Philadelphia, PA: F. A. Davis Company.
- Burns, A., Spiegel, R., & Quarg, P. (2004). Efficacy of rivastigmine in subjects with moderately severe Alzheimer's disease. *International Journal of Geriatric Psychiatry, 19*(3), 243-249.
- Burns, T., McCarten, J. R., Adler, G., Bauer, M., & Kuskowski, M. A. (2004). Effects of repetitive work on maintaining function in Alzheimer's disease patients. *American Journal of Alzheimer's Disease and Other Dementias, 19*(1), 39-44.
- Cummings, J. L., Frank, J. C., Cherry, D., Kohatsu, N. D., Kemp, B., Hewett, L., et al. (2002a). Guidelines for managing Alzheimer's disease: Part I. Assessment. *American Family Physician, 65*(11), 2263-2272.
- Cummings, J. L., Frank, J. C., Cherry, D., Kohatsu, N. D., Kemp, B., Hewett, L., et al. (2002b). Guidelines for managing Alzheimer's disease: Part II. Treatment. *American Family Physician, 65*(12), 2525-2534.
- de Poulin, C. L., Gelinas, I., Gauthier, S., Dayton, D., Liu, L., Rossignol, M., et al. (2006). Reliability and validity of the Safety Assessment Scale for people with dementia living at home. *Canadian Journal of Occupational Therapy, 73*(2), 67-75.

- Deimling, G. T., Smerglia, V. L., & Schaefer, M. L. (2001). The impact of family environment and decision-making satisfaction on caregiver depression: A path analytic model. *Journal of Aging and Health, 13*(1), 47-71.
- Farlow, M. R., Graham, S. M., & Alva, G. (2008). Memantine for the treatment of Alzheimer's disease: Tolerability and safety data from clinical trials. *Drug Safety, 31*(7), 577-585.
- Folstein, M. F., Robins, L. N., & Helzer, J. E. (1983). The mini-mental state examination. *Archives of General Psychiatry, 40*(7), 812.
- Grutzendler, J., & Morris, J. C. (2001). Cholinesterase inhibitors for Alzheimer's disease. *Drugs, 61*(1), 41-52.
- Hebert, L. E., Scherr, P. A., Bienias, J. L., Bennett, D. A., & Evans, D. A. (2003). Alzheimer disease in the US population: Prevalence estimates using the 2000 census. *Archives of Neurology, 60*(8), 1119-1122.
- Herrmann, N. M., Gauthier, S., & Lysy, P. G. (2007). Clinical practice guidelines for severe Alzheimer's disease. *Alzheimer's & Dementia, 3*, 385-397.
- Herrmann, N. M., & Gauthier, S. M. (2008). Diagnosis and treatment of dementia: 6. Management of severe Alzheimer disease. *CMAJ, 179*(12), 1279-1287.
- Hilgeman, M. M., Allen, R. S., DeCoster, J., & Burgio, L. D. (2007). Positive aspects of caregiving as a moderator of treatment outcome over 12 months. *Psychology and Aging, 22*(2), 361-371.
- Hogan, D. B., Bailey, P., Black, S., Carswell, A., Chertkow, H., Clarke, B., et al. (2008a). Diagnosis and treatment of dementia: 4. Approach to management of mild to moderate dementia. *CMAJ, 179*(8), 787-793.

Hogan, D. B., Bailey, P., Black, S., Carswell, A., Chertkow, H., Clarke, B., et al. (2008b).

Diagnosis and treatment of dementia: 5. Nonpharmacologic and pharmacologic therapy for mild to moderate dementia. *CMAJ*, *179*(10), 1019-1026.

Holmes, H. M., Sachs, G. A., Shega, J. W., Hougham, G. W., Cox Hayley, D., & Dale, W.

(2008). Integrating palliative medicine into the care of persons with advanced dementia: Identifying appropriate medication use. *Journal of the American Geriatric Society*, *56*(7), 1306-1311.

Hsiung, G. Y., & Feldman, H. H. (2008). Pharmacological treatment in moderate-to-severe

Alzheimer's disease. *Expert Opinion in Pharmacotherapy*, *9*(15), 2575-2582.

Karnieli-Miller, O., Werner, P., Aharon-Peretz, J., & Eidelman, S. (2007). Dilemmas in the

(un)veiling of the diagnosis of Alzheimer's disease: Walking an ethical and professional tight rope. *Patient Education and Counseling*, *67*(3), 307-314.

Lecouturier, J., Bamford, C., Hughes, J. C., Francis, J. J., Foy, R., Johnston, M., et al. (2008).

Appropriate disclosure of a diagnosis of dementia: Identifying the key behaviours of 'best practice'. *BMC Health Services Research*, *8*, 95.

Neergaard, L. (2009, May 4). When is it time to give up the car keys? *Daily Herald (Chicago,*

IL), pp. 1-2.

Reisberg, B., Ferris, S. H., de Leon, M. J., & Crook, T. (1982). The Global Deterioration Scale

for assessment of primary degenerative dementia. *American Journal of Psychiatry*, *139*(9), 1136-1139.

Rolland, Y., Abellan van Kan, G., & Vellas, B. (2008). Physical activity and Alzheimer's

disease: From prevention to therapeutic perspectives. *Journal of the American Medical Directors Association*, *9*(6), 390-405.

- Santana-Sosa, E., Barriopedro, M. I., Lopez-Mojares, L. M., Perez, M., & Lucia, A. (2008). Exercise training is beneficial for Alzheimer's patients. *International Journal of Sports Medicine*, 29(10), 845-850.
- Schwam, E. M., Abu-Shakra, S., del Valle, M., Townsens, R. J., Carrillo, M. C., & Fillit, H. (2007). Health economics and the value of therapy in Alzheimer's disease. *Alzheimer's & Dementia*, 3(3), 143-151.
- Spector, A., Woods, B., & Orrell, M. (2008). Cognitive stimulation for the treatment of Alzheimer's disease. *Expert Reviews in Neurotherapeutics*, 8(5), 751-757.
- U. S. National Institute on Aging. (2009). *National Institute on Aging: Alzheimer's Disease Education and Referral Center*. Retrieved January 22, 2009, from <http://www.nia.nih.gov/Alzheimers/>
- Williams, C. L., & Tappen, R. M. (2007). Effect of exercise on mood in nursing home residents with Alzheimer's disease. *American Journal of Alzheimer's Disease & Other Dementias*, 22(5), 389-397.
- Woods, B., Thorgrimsen, L., Spector, A., Royan, L., & Orrell, M. (2006). Improved quality of life and cognitive stimulation therapy in dementia. *Aging & Mental Health*, 10(3), 219-226.
- Zank, S., & Schacke, C. (2002). Evaluation of geriatric day care units: Effects on patients and caregivers. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 57(4), P348-357.

Abstract

The **objective** of this literature review is to recognize the proper management of Alzheimer's disease. **Methods:** A literature review was conducted using MEDLINE and PubMed to identify sources and topics relating to the objective. **Results:** There are three generalized stages of Alzheimer's disease: mild, moderate, and severe. Due to the complexity and progression of Alzheimer's disease, each of these stages should be approached by an interdisciplinary team of health care professionals. This team might include physician assistants, medical doctors, occupational therapists, physical therapists, and social workers to best help the patient with Alzheimer's disease and the caregiver. **Conclusion:** The interdisciplinary team of health care professionals allows for thorough management of Alzheimer's disease. When health care professionals work as a team with Alzheimer's disease, optimal management can be reached through various pharmacologic and non-pharmacologic treatments.