Elder Mental Health: Depression and Dementia

7 CE Hours

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Learning objectives

This workshop is designed to help you:

• Describe the most common types of mental health conditions and issues related to the diagnosis of mental illness in the elderly.
• Analyze the different forms and elements related to dementia / neurocognitive disorders.
• Assess the psychosocial factors that affect the elderly, such as living arrangements and cultural influences.
• Describe the influence of mental illness in the elderly on both the afflicted person and the caregiver, such as depression, and different prevention strategies.
• Facilitate different treatments of mental illness in the elderly and prevention, both through therapy and medications.
• Analyze issues regarding the different services available to assist the elderly mentally ill.

Elder mental health – Case examples

Lillian is an 84-year-old widow who lives with her married daughter. She is often unable to sleep and often stays awake at night with racing thoughts about her future, the health of her daughter, fears of moving to a nursing home and money. She frequently jokes about these racing thoughts with her friends, and knows they are not logical. However, she finds herself unable to control them. On occasion, she is frozen by panic during the day as well. Lillian is somewhat ashamed of these self-termed “silly thoughts,” and she often relies on prayer to stop them. However, they are becoming more and more difficult for her to control. During her last panic attack, she was sure she was having a heart attack and called 911. She is reluctant to leave the house for fear of having another panic attack in public and being embarrassed.

Margaret is a 69-year-old married woman who always amazed friends with her zeal for life. She traveled extensively and was active in a number of social groups and organizations. Nine months ago, Margaret fell and broke her pelvis. While recuperating in a nursing home, she and her husband made the decision to move in with their son and his wife following her release. But Margaret feels she cannot get back into her former pace even though she feels fine physically. For the last two months, she’s lost her appetite, sleeps excessively and has refused to meet friends for lunch or to attend her social groups. Although she is not sure why, she feels like “giving up” and dying. Her daughter-in-law is very concerned and wants Margaret to see a psychiatrist as she feels her mother-in-law is depressed. Embarrassed at the prospect of receiving psychiatric intervention, Margaret refuses and her husband agrees, both saying that psychiatrists are for crazy or weak people.

William is a 73-year-old married man who is often confused about his daily activities. He is having trouble remembering how to proceed with some tasks because he loses track of the sequencing of events. A retired carpenter, he now has problems remembering how to complete simple household repairs. In addition, he cannot always remember the names of people he frequently sees. His wife is very worried and urges him to see a doctor for a physical examination, but William is terrified he will be diagnosed with Alzheimer’s disease. His wife has also noticed that his decline began three months ago and has been very rapid. She also knows that William began taking sleeping pills around that time as well, but is doubtful that a sleep aid could lead to his current daytime problems.

The above cases examples illustrate mental health issues typical to the elderly. The most commonly diagnosed forms of mental illness in the elderly include depression, bipolar disorder, anxiety and non-Alzheimer’s dementia. In the previous examples it appears that:

• Lillian is suffering with anxiety.
• Margaret is probably struggling with depression.
• William may be either developing non-Alzheimer’s dementia, or suffering from severe side effects from taking medication.

While not uncommon, these examples are not normal, and need to be addressed and treated. Yet, many elderly people grew up during an era when mental health intervention was unacceptable. Consequently, persuading an elderly person to seek and accept psychotherapy and/or medication intervention is often very difficult.

The elder population is growing in large numbers in the United States, mainly due to aging Baby Boomers. Dr. Dipal Jeste, M.D., professor of psychiatry and neuroscience at the University of California, San Diego, notes that this population, born between 1946 and 1964, will turn 65 in 2030, compared to only 4 million in 1970 (Jeste, et al, 1999). The numbers of persons 65 and older will be unprecedented in our cultural history in the United States. Part of the reason for the growing number of elderly persons with a mental illness is that so many more people are living much longer, due to innovations in prevention and health care. Consequently, for the first time in U.S. history, persons over 65 will soon outnumber those aged 30-44. Therefore, social services communities will be largely unprepared to handle large numbers of elderly persons with mental illness. The previous lack of large numbers of elderly persons with mental illness has also left researchers with few studies that are comprehensive enough to establish “best practices” for treating mental illness in this population (Jeste, Alexopolous, Bartels, et al., 1999).

Alzheimer’s disease has received a good bit of attention in past years, and most lay people would identify Alzheimer’s disease as a prominent issue confronting the elder population. However, while it is frequently diagnosed in the elderly, other mental illnesses such as depression and bipolar disorder receive little to no attention from the popular press and relatively little interest from researchers. Yet some mental health professionals, including researchers, have now recognized the
increasing numbers of elderly persons with mental illness and are calling for more research, as well as establishment of best practices.

In the September 1999 issue of the Archives of General Psychiatry, researchers warned of an impending mental health crisis among the elderly because there are virtually no geriatric mental health specialists in this country who can handle the impending need for treating mentally ill elderly persons. The authors of this paper (Jeste, Alexopoulos, Bartels, et al.) noted that ageism also plays a role in under-diagnosing mental illness in the elderly due to the fact that many doctors dismiss depression and anxiety, simply because it is expected in this population. The author also alleges that the population in general and doctors in particular, have lowered expectations for the quality of life for the elderly and see little point in trying to improve their mental states. This negative attitude toward elder mental health was also found in a more recent study of physicians who were found to be knowledgeable about depression in the elderly, but saw it as an inevitable outcome of old age, and not necessarily a condition that should and could be successfully treated (Zylestra and Steitz, 2001). However, with recent changes in our society surrounding Medicaid coverage and Health Care Reform, the ability to adequately provide mental health services to the elderly remains to be seen.

How is “elderly” defined?

When we begin a discussion about the elderly, we need to determine what we mean when we say “elderly.” In general, we consider those adults over the age of 65 to be elderly. However, this age cut-off does not begin to explain differences between cohorts of elderly persons. Some elderly persons are disabled by the age of 65 while many others are active and working at their professions into the 80s or 90s. The Administration on Aging, the federal agency designated to serve the elderly, writes on its website that the elderly are defined as those who are a member of the aging populations comprised of people who are at least 60. The Administration on Aging (2009) notes several key issues related to the demographics of the elderly:

- Elderly persons comprise about 12.9 percent of the U.S. population.
- Elderly persons over the age of 85 make up 10 percent of the elderly.

Background

Mental illness is an important contributing factor to the disease burdens of the elderly. While the elderly do not appear to suffer a disproportionate share of most classifiable mental illnesses (depression or schizophrenia, for example), they do have a much higher prevalence of dementing illnesses such as Alzheimer’s disease and are subject to high rates of interpersonal losses. Despite substantial rates of morbidity, the proportion of elderly persons recognized as impaired and who actually receive adequate treatment is markedly lower than in younger groups. This under-provision of services persists despite the fact that treatment of mental illnesses such as depression or paranoia in the elderly has been shown to be as effective as treatment in younger groups. Under-treatment of mental illness in the elderly appears to be a significant factor in the high suicide rate among elderly men, as well as in the premature or inappropriate placement of elderly persons in nursing homes.

According to Institute for Health Metrics and Evaluation (2010), over 20 percent of adults aged 60 and over suffer from a mental or neurological disorder (excluding headache disorders) and 6.6 percent of all disability (disability adjusted life years-DALYs) among over 60s is attributed to neurological and mental disorders.

The most common neuropsychiatric disorders in this age group are dementia and depression. Anxiety disorders affect 3.8 percent of the elderly population, substance use problems affect almost 1 percent and around a quarter of deaths from self-harm are among those aged 60 or above. Additionally, substance abuse problems among the elderly are often overlooked or misdiagnosed.

Research on mental illness in the elderly has been ignored and neglected until very recently. Even with the attention that has been given to the existence of large numbers of patients with Alzheimer’s disease, funding for research in comparison to the frequency and devastating nature of mental illness in the elderly remains inadequate.

Assessments of elder mental health

It is important to consider how mental health symptoms may present quite differently in elderly persons. Older adults tend to acquire psychosomatic complaints in the form of sleep disorders, poor appetite and multiple physical complaints. Their primary care physicians are often the professionals most likely to come in contact with elderly persons and need to be alert to potential depression (Chew-Graham, et al., 2008).

Historically in the United States, our society has treated the elderly population differently. For example, society has viewed and treated this group as less capable and has lowered its expectations for their quality of life (Clark, 1996). These cultural attitudes are undoubtedly an influence on the well-being of the elderly and could be a contributing factor in depression, but this has not yet been researched to any great degree.

In addition, it has been noted for decades that the elderly grapple with different issues due to their life-stage development. To paraphrase the Eriksonian psychosocial life stage theory, persons in the last stages of life are in the midst of a struggle to determine whether their life had meaning, if they contributed in some way to the world, and whether their life was truly worthwhile. Erikson noted that some elderly persons are in a great state of despair in which they are not certain life meant anything, are wracked with feelings of regret, unsure that they made a difference, and are frightened that they were failures, with little time left to make changes. These persons are in a state of anxiety as they struggle to accept that their death is imminent, clinging to and trying to make sense of their lives before dying (Erikson, 1966).
Depression has been the most widely researched mental illness in the elderly, and consequently, there is much more information available regarding depression than for other elder mental health disorders.

**Depression**

The American Psychiatric Association has identified depression as the most commonly diagnosed mental disorder in the elderly, affecting about 5 percent of those individuals ages 65 and over. However, experts suspect that this number is a low estimate. Persons with the highest suicide rate in the United States are over the age of 65, and presumably, many of these suicides can be attributed to undiagnosed depression and lack of appropriate treatment. Over half of those elderly persons who could be classified as depressed receive no treatment for the condition, and only about 10 percent receive appropriate treatment (Katon, et al., 1992).

Diagnosing elder depression can be more difficult due to the existence of their physical problems. Feeling tired, loss of appetite and other physical complaints are all hallmarks of depression. However, in older persons these symptoms can have a physiological basis and may not be signs of depression. Consequently, doctors might dismiss the signs of depression as merely physiological. Depressed elderly persons do tend to have more physical than mental health complaints, and this often makes it difficult to determine whether a physical ailment or depression is the cause of their problems (Landefield, et al, 2006).

Assessment of the elderly can utilize tools specifically designed to provide insight into the particular aspects of an elderly person’s mental state. The Geriatric Depression Scale asks such questions as “are you happy most of the time,” and “do you feel pretty worthless the way you are now?” and offers yes and no answer options. Answers are assigned a value of “1” or “0,” and an overall score of greater than “5” indicates depression (Sheik and Yesavage, 1986).

According to the American Psychiatric Association (2013), the DSM-V outlines a few changes to the “what” and “how” depression is diagnosed:

- Major Depressive Disorder (MDD) is a medical illness that affects how you feel, think and behave causing persistent feelings of sadness and loss of interest in previously enjoyed activities. Depression can lead to a variety of emotional and physical problems. It is a chronic illness that usually requires long-term treatment.

Using DSM-IV, clinicians were advised to refrain from diagnosing major depression in individuals within the first two months following the death of a loved one in what has been referred to as the “bereavement exclusion.” By advising clinicians not to diagnose depression in recently bereaved individuals, the DSM-IV bereavement exclusion suggested that grief somehow protected someone from major depression.

As part of the ongoing study of major depression, the bereavement exclusion has been removed from DSM. This change from DSM-IV, would be replaced by notes in the criteria and text that caution clinicians to differentiate between normal grieving associated with a significant loss and a diagnosis of a mental disorder. Removing the bereavement exclusion helps prevent major depression from being overlooked and facilitates the possibility of appropriate treatment including therapy or other interventions.

While the grieving process is natural and unique to each individual and shares some of the same features of depression like intense sadness and withdrawal from customary activities, grief and depression are also different in important aspects:

- In grief, painful feelings come in waves, often intermixed with positive memories of the deceased; in depression, mood and ideation are almost constantly negative.

Such suicides can contribute to undiagnosed depression and lack of appropriate treatment. Of those elderly persons who could be classified as depressed receive no treatment for the condition, and only about 10 percent receive appropriate treatment (Katon, et al., 1992).

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### Changes to the Bereavement Exclusion

The diagnostic criteria proposed for the manual’s next edition includes language in the criteria for Major Depressive Disorder (MDD) to help differentiate between normal bereavement associated with Major Depressive Disorder and the “Bereavement Exclusion” a significant loss and a diagnosis of a mental disorder, which characterizes bereavement as a severe psychological stressor that can incite a major depressive episode even shortly after the loss of a loved one.

In DSM-IV, there was an exclusion criterion for a major depressive episode that was applied to depressive symptoms lasting less than 2 months following the death of a loved one (i.e., the bereavement exclusion). This exclusion is omitted in DSM-V for several reasons. The first is to remove the implication that bereavement typically lasts only 2 months when both physicians and grief counselors recognize that the duration is more commonly 1–2 years.

Second, bereavement is recognized as a severe psychosocial stressor that can precipitate a major depressive episode in a vulnerable individual, generally beginning soon after the loss. When major depressive disorder occurs in the context of bereavement, it adds an additional risk for suffering, feelings of worthlessness, suicidal ideation, poorer somatic health, worse interpersonal and work functioning, and an increased risk for persistent complex bereavement disorder, which is now described with explicit criteria in Conditions for Further Study in DSM-V Section III.

Thirdly, bereavement-related major depression is most likely to occur in individuals with past personal and family histories of major depressive episodes. It is genetically influenced and is associated with similar personality characteristics, patterns of comorbidity, and risks of chronicity and/or recurrence as nonbereavement-related major depressive episodes.

Finally, the depressive symptoms associated with bereavement-related depression respond to the same psychosocial and medication treatments as non–bereavement-related depression.
The causes of depression vary. The National Institute on Aging (2014) notes that depression can be preceded by a single event such as the death of a spouse or a serious illness. Strokes, heart disease, Parkinson’s disease or diabetes can also lead to depression because older people might be more physically worn down or worried that an illness will force them to undergo significant lifestyle changes.

There is no one cause of depression. For some people, a single event can bring on the illness. Depression often strikes people who felt fine but who suddenly find they are dealing with a death in the family. For some people, changes in the brain can affect mood and cause depression. Sometimes, those under a lot of stress, like caregivers, can feel depressed. Others become depressed for no clear reason.

People faced with life-changing health problems, such as cancer, diabetes, heart disease, stroke, or Parkinson’s disease, may become depressed. They may worry about how the illness will change their lives. They might be tired and unable to cope with things that make them sad. Treatment can help people manage their symptoms and improve their quality of life.

Genetics can also play a role. Studies show that depression may run in families. Children of depressed parents may be at a higher risk for depression. Also, depression tends to be a disorder that occurs more than once. Many older people who have been depressed in the past will be at an increased risk for becoming depressed again.

What to look for:
- An “empty” feeling, ongoing sadness, and anxiety.
- Tiredness, lack of energy.
- Loss of interest or pleasure in everyday activities, including sex.
- Sleep problems, including trouble getting to sleep, very early morning waking, and sleeping too much.

Elder depression statistics

According to the Geriatric Mental Health Foundation (2014), an estimated 6 percent of people ages 65 and older in a given year, or approximately 2 million individuals in this age group, have a diagnosable depressive illness. Depression affects approximately 25 percent of those with chronic illness and is particularly common in patients with ischemic heart disease, stroke, cancer, chronic lung disease, arthritis, Alzheimer’s disease, and Parkinson’s disease. Most disturbing among depression statistics is the fact that depression affects upwards of 50 percent of nursing home residents.

In 2002, the annual suicide rate for persons over the age of 65 was over 15 per 100,000 individuals; this number increases for those aged 75 to 84, with over 17 suicide deaths per every 100,000. The number rises even higher for those over age 85. Further, elder suicide may be under-reported by 40 percent or more. Not counted are “silent suicides,” like deaths from overdoses, self-starvation or dehydration, and “accidents.” The elderly have a high rate of completing suicide because they use firearms, hanging, and drowning. Double suicides involving spouses or partners occur most frequently among the aged. In 2010, the highest suicide rate (18.6) was among people 45 to 64 years old. The second highest rate (17.6) occurred in those 85 years or older.

Anxiety

Anxiety is a mental health condition characterized by muscle tension, irritability and insomnia.

Previously referred to as social phobia in the DSM-IV, it has been renamed social anxiety disorder in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). This change reflects a new and broader understanding of the condition in a variety of social situations.

In the past, social phobia primarily was diagnosed if an individual felt extreme discomfort or fear when performing in front of others. Research has shown that this definition is too narrow. With DSM-V, social anxiety can be diagnosed because of an individual’s response in a variety of social situations.

According to the American Psychiatry Association (2013), social anxiety disorder is about more than just shyness and can be considerably disabling. A diagnosis requires that a person’s fear or anxiety be out of proportion—in frequency and/or duration—to the actual situation. The symptoms must be persistent, lasting six months or longer. In DSM-IV, the timeframe was required only for children; DSM-V expands this criterion to include adults as well. The minimum symptom period reduces the possibility that an individual is experiencing only transient or temporary fear.

To be diagnosed with social anxiety disorder, the person must suffer significant distress or impairment that interferes with his or her ordinary routine in social settings, at work or school, or during other everyday activities. Unlike in DSM-IV, which requires that the individual recognize that his or her response is excessive or unreasonable, the DSM-V criteria shift that judgment to the clinician.

The clinician also will work to determine whether the person’s reaction might be explained by such reasons as a more general anxiety or an adverse response to certain medications. If the person suffers from
another medical condition—for instance, stuttering or obesity—the fear or anxiety experienced must be unrelated to the other condition or out of proportion to what would normally be felt.

It is noted by Salzmann (2004) that while clinical rates of anxiety in the elderly are lower overall than rates of anxiety in younger persons, many older adults experience anxiety that does not actually meet clinical diagnostic criteria, but is still troublesome to their overall well-being. He also noted that mixed presentations of anxiety and depression are the most common co-occurring mood disorder diagnoses among the elderly. Other researchers note similar findings. It has been shown that only 2 percent of the elderly fit the criteria for a diagnosis of anxiety, but 40 percent of those diagnosed with depression also presented with anxiety (Cassel, 2004). In addition, many elderly persons with dementia also have concurrent anxiety (Merck Manual, 2005).

It is, however, quite difficult to diagnose anxiety in the elderly. Beck and Stanley (1997) note that the nature of anxiety may change over the lifespan and may be quantified differently for the elderly. Whereas, in younger persons anxiety is characterized as actually facilitating performance, this has not been the case in studies of older persons. This difference in the outcomes of anxiety indicates that anxiety may have different characteristics in the elderly. In the elderly, anxiety most often takes the form of worry. Furthermore, there tend to be five areas of worry in the elderly:

- Family.
- Health.
- Money.
- Work.
- Miscellaneous.

Worries about health tended to be the most common in the elderly.

Harem et al. (2002) noted that the number of elderly persons visiting their doctors seeking treatment for anxiety disorders increased dramatically from 1985 to 1998. Furthermore, they determined that while a number of elderly persons utilized psychiatrists, a large number of elderly persons went to their primary care physicians for treatment and the primary care physicians were far less likely than psychiatrists to offer medication and/or psychotherapy. Consequently, it appears that under-recognition and under-treatment are continuing problems with anxiety disorders in the elderly. Researchers argue that anxiety is highly prevalent yet gets little attention from researchers compared to depression (Lenze, et al., 2000). Beck and Stanley (1997) also noted that anxiety disorders tended to be much more common than affective disorders and major depression.

The Penn State Worry Questionnaire has been utilized in the assessment and diagnosis of worry in younger adults and was recently assessed as a screening instrument for elderly persons. The instrument did require some modifications to fit well with the diagnosis of anxiety in the elderly. The items that were removed were primarily reverse items (i.e., the question “I never worry about anything,” required a higher level of cognitive processing than the non-reversed item, “My worry overwhelms me;,” which is a basic agree or disagree question). The cognitive abilities required to answer a reversed item may be harder for an elderly person with some cognitive impairments and lead to answers that did not reflect the true feelings of the elderly person being assessed (Hopko, et al., 2003).

In addition, the Beck Anxiety Inventory (BAI) has also been found to be effective in the assessment of generalized anxiety disorder in the elderly (Wetherell and Gatz, 2005).

It is important to note that anxiety symptoms in the elderly are often the result of medical conditions as well. For example, cardiac problems can lead to shortness of breath and heart palpitations. Hyperthyroidism can also cause agitation and anxiety (Merck Manual, 2005).

Of all of the anxiety disorders studied in the elderly, generalized anxiety disorder has been the most widely researched. There has been very little systematic investigation of other forms of anxiety disorders, such as post-traumatic stress disorder (PTSD), or phobic disorders. In reviewing past studies of PTSD, researchers noted that the symptoms are similar in the elderly and younger persons that include:

- Reliving of the trauma.
- Avoidance of situations that remind a person of the trauma.
- Hyper-vigilance.

PTSD in the elderly can run a chronic course over a lifetime, with intermittent reappearances, or can start in later years as the result of such events as natural disasters, or being victimized by crime. There has been very little study of PTSD in the elderly, regardless of the course or cause of the disorder (Weintrub and Ruskin, 1999). In a similar fashion, there are very few studies of phobias in the elderly. The small amount of research in this area indicates that the elderly do sometimes present with phobias such as traveling, being alone, insects and close spaces (Lindsey, Briggs and Murphy, 1989).

**Bipolar disorder**

While bipolar disorders are typically thought to emerge relatively early in life, it is estimated by the University of Pittsburg Medical Center that 10 percent of elderly persons with bipolar disorder develop the disorder for the first time after the age of 50 (www.latelifedepression.org). There is a paucity of research on late-onset bipolar disorder, but the early research has indicated that those with late-onset bipolar disorder have a history of major depression. In the manic episodes, elderly persons can present with increased activity, suspiciousness of others, irritability, trouble sleeping and grandiose thoughts. Manic episodes can then rapidly cycle into depression and pose a strong risk of suicide during these abrupt shifts.

In the elderly, bipolar disorder often presents with symptoms of mental confusion and disorientation, and is often misdiagnosed, as it is mistaken for dementia (Medscape, 1998). Oftentimes, elderly persons show less grandiosity and more depressive symptoms, which can also make the disorder more difficult to correctly diagnose (Finn, 2006).

Bipolar disorder in persons over the age of 65 is thought to be relatively rare, occurring in less than 1 percent of the population. However, it is suspected that the disorder is under-diagnosed (Sajatovic and Kales, 2006). Although it is less prevalent than depression, the overall impact of a person with a bipolar disorder is far greater on the mental health system. A study that compared the hospitalization rates and mental health utilization rates of those elderly persons with bipolar disorder as compared to those with depression demonstrated that elderly persons with a bipolar disorder were four times as likely to be hospitalized and to use mental health services (Bartel, Forester, Miles and Joyce, 2000).

To enhance the accuracy of diagnosis and facilitate earlier detection in clinical settings, the DSM-V revised Criterion A for manic and hypomanic episodes, which now includes an emphasis on changes in activity and energy as well as mood. The DSM-IV diagnosis of bipolar I disorder, mixed episode, requiring that the individual simultaneously...
meet full criteria for both mania and major depressive episode, has been removed. Instead, a new specifier, “with mixed features,” has been added that can be applied to episodes of mania or hypomania when depressive features are present and to episodes of depression in the context of major depressive disorder or bipolar disorder when features of mania/hypomania are present. (APA, 2013)

Other Specified Bipolar and Related Disorder

DSM-V allows the specification of particular conditions for other specified bipolar and related disorder, including categorization for individuals with a past history of a major depressive disorder who meet all criteria for hypomania except the duration criterion (i.e., at least 4 consecutive days). A second condition constituting another specified bipolar and related disorder is that too few symptoms of hypomania are present to meet criteria for the full bipolar II syndrome, although the duration is sufficient at 4 or more days.

Substance abuse

Overall, the aging Baby Boomer population has historically used alcohol and drugs much more freely than previous generations, and higher numbers of them are entering their senior years with longstanding alcohol and drug abuse issues. The numbers of elderly substance abusers will only increase over the next few years. Consequently, there will be unprecedented numbers of elderly persons who need treatment for alcohol and drug abuse (NHSDA, 2000).

However, substance abuse is one of the most under-diagnosed disorders in the elderly. Elderly persons are often retired and consequently do not have accountability to an employer who might notice their overuse of chemical substances. The Hazelden Treatment Center notes on its website www.hazelden.org that about 17 percent of persons in this country who are over the age of 60 have issues with substance abuse, including the misuse of prescription drugs. The center notes that some of these persons are chronic abusers who have had lifelong problems, but others develop problems later in life, particularly with painkillers and other prescription medications.

Just as risk factors are different for elderly persons with substance abuse issues, so are the issues with diagnosis of substance abuse. Liberto and Oslin (1995) indicate in their research that late-onset substance abusers tend to respond fairly well to treatment, but are more likely to go undiagnosed, as physicians are not well trained to look for late-onset substance abuse. Substance abuse in the elderly can be hidden by physical illnesses, dementia or depression (Reid and Anderson, 1997). O’Connell, et al., (2003), notes that screening instruments for substance abuse have been designed for younger people and fail to take into account many life-stage differences between younger and older people.

The recently updated DSM-V outlines diagnosis criteria that differs slightly from the previous DSM-IV. Substance use disorder in DSM-V combines the DSM-IV categories of substance abuse and substance dependence into a single disorder measured on a continuum from mild to severe (APA, 2013). Each specific substance (other than caffeine, which cannot be diagnosed as a substance use disorder) is addressed as a separate use disorder (e.g., alcohol use disorder, stimulant use disorder, etc.), but nearly all substances are diagnosed based on the same overarching criteria. In this overarching disorder, the criteria have not only been combined, but strengthened. Whereas a diagnosis of substance abuse previously required only one symptom, mild substance use disorder in DSM-V requires two to three symptoms from a list of 11. Drug craving will be added to the list, and problems with law enforcement will be eliminated because of cultural considerations that make the criteria difficult to apply internationally.

In DSM-IV, the distinction between abuse and dependence was based on the concept of abuse as a mild or early phase and dependence as the more severe manifestation. In practice, the abuse criteria were sometimes quite severe. The revised substance use disorder, a single diagnosis, will better match the symptoms that patients experience.

Additionally, the diagnosis of dependence caused much confusion. Most people link dependence with “addiction” when in fact dependence can be a normal body response to a substance.

Prescription drugs and the elderly

The abuse and misuse of prescriptions drugs among elderly persons is a legitimate concern for mental health practitioners. Psychotropic medications are often times inappropriate for elderly persons to consume because they tend to increase confusion, sleep disorders and falls, and yet 50 percent of all psychotropic drug prescriptions are given to seniors. Elderly persons also have problems understanding instructions on taking medications properly, and it has been demonstrated that doctors do not spend adequate time explaining medication issues to their elderly patients. Even when they understand the instructions, elderly people often fail to take their medications appropriately, partly because they lack the money to buy prescriptions and they attempt to save money by cutting back on their medications (Brazeau, 2001; Carlson, 1994).

Alcohol abuse in the elderly

There are also further distinctions with types of problem drinkers in the elder population. In general, problem drinkers are divided into two types: early-onset and late-onset. Given their much shorter alcohol-problem history, late-onset alcoholics are further differentiated from their early-onset counterparts as less likely to have alcohol-related health problems or to experience physical withdrawal, with a lower frequency of intoxication and with more stable emotional, financial, and social situations (Schonfeld and Dupree 1991).

One primary distinguishing feature of late-onset alcoholism is its apparent development in response to stress, particularly stress connected with aging (Akers and La Greca 1991). Consequently, late-onset alcoholics are also known as “reactive” drinkers (Gomberg, 1990). Stressors associated with aging also have been linked to heavier drinking among early-onset alcoholics and reduced drinking by the elderly with a long-standing alcohol problem (Atkinson, 1984).

As Blazer and his colleagues (1986) point out, the primary distinguishing feature in late-onset alcoholics is their initiation of problem drinking as seniors. This particular feature identifies earlier onset elderly alcoholics from late-onset alcoholics. Mulford and Fitzgerald (1992) found that the late-onset problem drinkers included in their study of DWI offenders would not meet DSM-II or other clinical diagnostic criteria for alcoholism, a factor that may make them easier to treat but also less likely to be identified as in need of treatment. The lowered alcohol tolerance of the aging body may play a role here, making drinking a problem for persons whose consumption levels may be unchanged or relatively moderate.
Risk factors for substance abuse in the elderly

According to O’Connell, Chin, Cunningham and Lawler (2003), bereavement, (as elderly persons lose friends and family members) as well as the difficulty in adjusting to a loss of role identity upon retirement, are risk factors in substance abuse. Menninger (2002) also notes that economic difficulties from living on a fixed income and medical problems are all risk factors for substance abuse. These risk factors are quite different than for younger people who are facing different life-cycle issues. Those most likely to abuse alcohol in the elderly population are males who are under 75 years of age, from lower socioeconomic backgrounds with less education and are widowed or divorced. Interestingly, widowhood was not cited as a risk factor for women (Carlson, 1994).

Atkinson (2008) gives a comprehensive outline of risk factors for substance abuse:

- **Predisposing factors:**
  - Family history (alcohol).
  - Previous substance abuse.
  - Previous pattern of substance consumption (individual and cohort).
  - Personality traits (sedative-hypnotics, anxiolytics).

Dementia

**What is dementia?**

According to the recently published DSM-V, dementia is a neurocognitive disorder. In fact, the term “dementia” has been eliminated and replaced with major or minor neurocognitive disorder. It was believed that the word dementia was stigmatizing toward older individuals and not well accepted by younger individuals with HIV dementia. The new term focuses on the decline from a previous level of functioning as opposed to a deficit. (APA, 2013)

Further, the dementia chapter in DSM-V is titled “Neurocognitive Disorders,” whereas in DSM-IV it was titled “Delirium, Dementia, Amnestic, and Other Cognitive Disorders.” According to DSM-V, changes for delirium include the following:

1. Disturbance in attention (i.e., reduced ability to direct, focus, sustain, and shift attention) and orientation to the environment.
2. Disturbance develops over a short period of time (usually hours to a few days) and represents an acute change from baseline that is not solely attributable to another neurocognitive disorder and tends to fluctuate in severity during the course of a day.
3. A change in an additional cognitive domain, such as memory deficit, disorientation, or language disturbance, or perceptual disturbance that is not better accounted for by a preexisting, established, or evolving other neurocognitive disorder.
4. Disturbances in No. 1 and 3 must not occur in the context of a severely reduced level of arousal, such as coma.

The old dementia terminology required the presence of memory impairment for all of the various dementias. It has been recognized that memory impairment is not the first domain to be affected in all of the other diseases that cause a neurocognitive disorder. For instance, in frontal temporal disorder, language could be affected first. This change in terminology will require that all diagnosing healthcare professionals first establish the presence of a neurocognitive disorder and then determine whether the neurocognitive disorder is minor or major.

In DSM-V, a minor neurocognitive disorder is defined by the following:

- There is evidence of modest cognitive decline from a previous level of performance in one or more of the domains outlined above based on the concerns of the individual, a knowledgeable informant, or the clinician; and a decline in neurocognitive performance, typically involving test performance in the range of one and two standard deviations below appropriate norms (i.e., between the third and 16th percentiles) on formal testing or equivalent clinical evaluation.

- The cognitive deficits are insufficient to interfere with independence (e.g., instrumental activities of daily living, like more complex tasks such as paying bills or managing medications, are preserved), but greater effort, compensatory strategies, or accommodation may be required to maintain independence.

- The cognitive deficits do not occur exclusively in the context of a delirium.

- The cognitive deficits are not primarily attributable to another mental disorder (e.g., major depressive disorder, schizophrenia).

In DSM-V, a major neurocognitive disorder is defined by the following:

- There is evidence of substantial cognitive decline from a previous level of performance in one or more of the domains outlined above based on the concerns of the individual, a knowledgeable informant, or the clinician; and a decline in neurocognitive performance, typically involving test performance in the range of two or more standard deviations below appropriate norms (i.e., below the third percentile) on formal testing or equivalent clinical evaluation.

- The cognitive deficits are sufficient to interfere with independence (i.e., requiring minimal assistance with instrumental activities of daily living).

- The cognitive deficits do not occur exclusively in the context of a delirium.

- The cognitive deficits are not primarily attributable to another mental disorder (e.g., major depressive disorder, schizophrenia).

When diagnosing a minor neurocognitive disorder, one and two standard deviations below appropriate norms are required. In diagnosing a major neurocognitive disorder, two or more standard deviations below appropriate norms are required. This need for cognitive testing will add to patient cost since neither the Mini Mental State Examination nor the Montreal Cognitive Assessment, the common screening tools utilized by many clinicians, yields results in standard deviations. In addition, the requirement that the cognitive deficits are insufficient to interfere with independence is subjective and will cause additional confusion for both clinicians and patients.

Having determined whether a patient has a major or minor neurocognitive disorder, the healthcare professional making the diagnosis must then decide on the etiological subtype of the major or minor neurocognitive disorder. The subtypes that have been listed...
are neurocognitive disorder due to Alzheimer’s disease; vascular neurocognitive disorder; frontotemporal neurocognitive disorder; neurocognitive disorder due to traumatic brain injury, Lewy body dementia, Parkinson’s disease, or HIV infection; substance-induced neurocognitive disorder; neurocognitive disorder due to Huntington’s disease, Prion disease, or to another medical condition; and neurocognitive disorder not elsewhere classified.

**What conditions can cause neurocognitive disorders?**

Doctors have identified many other conditions that can cause dementia or dementia-like symptoms. Many of these conditions are reversible with appropriate treatment.

**Reactions to medications** – Medications can sometimes lead to reactions or side effects that mimic dementia. These dementia-like effects can occur in reactions to just one drug, or they can result from drug interactions. They may have a rapid onset, or they may develop slowly over time.

**Metabolic problems and endocrine abnormalities** – Thyroid problems can lead to apathy, depression or dementia. Hypoglycemia, a condition in which there is not enough sugar in the bloodstream, can cause confusion or personality changes. Too little or too much sodium or calcium can also trigger mental changes. Some people have an impaired ability to absorb vitamin B12, which creates a condition called pernicious anemia that can cause personality changes, irritability or depression. Tests can determine whether any of these problems are present.

**Nutritional deficiencies** – Deficiencies of thiamine (vitamin B1) frequently result from chronic alcoholism and can seriously impair mental abilities, in particular memories of recent events. Severe deficiency of vitamin B6 can cause a neurological illness called pellagra that may include dementia. Deficiencies of vitamin B12 also have been linked to dementia in some cases. Dehydration can also cause mental impairment that can resemble dementia.

**Infections** – Many infections can cause neurological symptoms, including confusion or delirium, due to fever or other side effects of the body’s fight to overcome the infection. Meningitis and encephalitis, which are infections of the brain or the membrane that covers it, can cause confusion, sudden severe dementia, withdrawal from social interaction, impaired judgment or memory loss. Untreated syphilis also can damage the nervous system and cause dementia. In rare cases, Lyme disease can cause memory or thinking difficulties. People in the advanced stages of AIDS also may develop a form of dementia (see HIV-associated dementia, in this chapter). People with compromised immune systems, such as those with leukemia and AIDS, may also develop an infection called progressive multifocal leukoencephalopathy (PML). PML is caused by a common human polyomavirus, JC virus, and leads to damage or destruction of the myelin sheath that covers nerve cells. PML can lead to confusion, difficulty with thinking or speaking, and other mental problems.

**Subdural hematomas** – Subdural hematomas, or bleeding between the brain’s surface and its outer covering (the dura), can cause dementia-like symptoms and changes in mental function.

**Poisoning** – Exposure to lead, other heavy metals or other poisonous substances can lead to symptoms of dementia. These symptoms may or may not resolve after treatment, depending on how badly the brain is damaged. People who have abused substances such as alcohol and recreational drugs sometimes display signs of dementia even after the substance abuse has ended. This condition is known as substance-induced persisting dementia.

**Brain tumors** – In rare cases, people with brain tumors may develop dementia because of damage to their brains. Symptoms may include changes in personality, psychotic episodes or problems with speech, language, thinking and memory.

**Anoxia** – Anoxia and a related term, hypoxia, are often used interchangeably to describe a state in which there is a diminished supply of oxygen to an organ’s tissues. Anoxia may be caused by many different problems, including heart attack, heart surgery, severe asthma, smoke or carbon monoxide inhalation, high-altitude exposure, strangulation, or an overdose of anesthesia. In severe cases of anoxia, the patient may be in a stupor or a coma for periods ranging from hours to days, weeks or months. Recovery depends on the severity of the oxygen deprivation. As recovery proceeds, a variety of psychological and neurological abnormalities, such as dementia or psychosis, may occur. The person also may experience confusion, personality changes, hallucinations or memory loss.

**Heart and lung problems** – The brain requires a high level of oxygen in order to carry out its normal functions. Therefore, problems such as chronic lung disease or heart problems that prevent the brain from receiving adequate oxygen can starve brain cells and lead to the symptoms of dementia.

**What are the risk factors for neurocognitive disorder?**

Researchers have identified several risk factors that affect the likelihood of developing one or more kinds of dementia. Some of these factors are modifiable, while others are not.

- **Age** – The risk of AD, vascular dementia and several other dementias goes up significantly with advancing age.
- **Genetics/family history** – As described in the section “What causes dementia?” researchers have discovered a number of genes that increase the risk of developing AD. Although people with a family history of AD are generally considered to be at heightened risk of developing the disease themselves, many people with a family history never develop the disease and many without a family history of the disease do get it. In most cases, it is still impossible to predict a specific person’s risk of the disorder based on family history alone. Some families with CJD, GSS, or fatal familial insomnia have mutations in the prion protein gene, although these disorders can also occur in people without the gene mutation. Individuals with these mutations are at significantly higher risk of developing these forms of dementia. Abnormal genes are also clearly implicated as risk factors in Huntington’s disease, FTDP-17, and several other kinds of dementia. These dementias are described in the section, “What are the different kinds of dementia?”
- **Smoking and alcohol use** – Several recent studies have found that smoking significantly increases the risk of mental decline and dementia. People who smoke have a higher risk of atherosclerosis and other types of vascular disease, which may be the underlying causes for the increased dementia risk. Studies also have found that drinking large amounts of alcohol appears to increase the risk of dementia. However, other studies have suggested that people who drink moderately have a lower risk of dementia than either those who drink heavily or those who completely abstain from drinking.
- **Atherosclerosis** – Atherosclerosis is the buildup of plaque – deposits in fatty substances, cholesterol and other matter – in the inner lining of an artery. Atherosclerosis is a significant risk factor for vascular dementia because it interferes with the delivery of blood to the brain and can lead to stroke. Studies have also found a possible link between atherosclerosis and AD.
- **Cholesterol** – High levels of low-density lipoprotein (LDL), the so-called bad form of cholesterol, appear to significantly increase a
person’s risk of developing vascular dementia. Some research has also linked high cholesterol to an increased risk of AD.

- **Plasma homocysteine** – Research has shown that a higher-than-average blood level of homocysteine – a type of amino acid – is a strong risk factor for the development of AD and vascular dementia.
- **Diabetes** – Diabetes is a risk factor for both AD and vascular dementia. It is also a known risk factor for atherosclerosis and stroke, both of which contribute to vascular dementia.
- **Mild cognitive impairment** – While not all people with mild cognitive impairment develop dementia, people with this condition do have a significantly increased risk of dementia compared to the rest of the population. One study found that approximately 40 percent of people over age 65 who were diagnosed with mild cognitive impairment developed dementia within three years.
- **Down syndrome** – Studies have found that most people with Down syndrome develop characteristic AD plaques and neurofibrillary tangles by the time they reach middle age. Many, but not all, of these individuals also develop symptoms of dementia.

### How are neurocognitive disorders diagnosed?

Doctors employ a number of strategies to diagnose dementia. It is important that they rule out any treatable conditions, such as depression, normal pressure hydrocephalus or vitamin B12 deficiency, which can cause similar symptoms.

Early, accurate diagnosis of dementia is important for patients and their families because it allows early treatment of symptoms. For people with AD or other progressive dementias, early diagnosis may allow them to plan for the future while they can still help to make decisions. These people also may benefit from drug treatment.

The "gold standard" for diagnosing dementia, autopsy, does not help the patient or caregivers. Therefore, doctors have devised a number of techniques to help identify dementia with reasonable accuracy while the patient is still alive.

#### Patient history

Doctors often begin their examination of a patient suspected of having dementia by asking questions about the patient’s history. For example, they may ask how and when symptoms developed and about the patient’s overall medical condition. They also may try to evaluate the patient’s emotional state, although patients with dementia often may be unaware of or in denial about how their disease is affecting them. Family members also may deny the existence of the disease because they do not want to accept the diagnosis and because, at least in the beginning, AD and other forms of dementia can resemble normal aging. Therefore, additional steps are necessary to confirm or rule out a diagnosis of dementia.

#### Physical examination

A physical examination can help rule out treatable causes of dementia and identify signs of stroke or other disorders that can contribute to dementia. It can also identify signs of other illnesses, such as heart disease or kidney failure, that can overlap with dementia. If a patient is taking medications that may be causing or contributing to his or her symptoms, the doctor may suggest stopping or replacing some medications to see if the symptoms go away.

#### Neurological evaluations

Doctors will perform a neurological examination, looking at balance, sensory function, reflexes, and other functions, to identify signs of conditions – for example, movement disorders or stroke – that may affect the patient’s diagnosis or are treatable with drugs.

#### Cognitive and neuropsychological tests

Doctors use tests that measure memory, language skills, math skills and other abilities related to mental functioning to help them diagnose a patient’s condition accurately. For example, people with AD often show changes in so-called executive functions (such as problem-solving), memory and the ability to perform once automatic tasks.

Doctors often use a test called the Mini-Mental State Examination (MMSE) to assess cognitive skills in people with suspected dementia. This test examines orientation, memory and attention as well as the ability to name objects, follow verbal and written commands, write a sentence spontaneously and copy a complex shape. Doctors also use a variety of other tests and rating scales to identify specific types of cognitive problems and abilities.

#### Brain scans

Doctors may use brain scans to identify strokes, tumors or other problems that can cause dementia. Also, cortical atrophy – degeneration of the brain’s cortex (outer layer) – is common in many forms of dementia and may be visible on a brain scan. The brain’s cortex normally appears very wrinkled, with ridges of tissue (called gyri) separated by “valleys” called sulci. In individuals with cortical atrophy, the progressive loss of neurons causes the ridges to become thinner and the sulci to grow wider. As brain cells die, the ventricles (or fluid-filled cavities in the middle of the brain) expand to fill the available space, becoming much larger than normal. Brain scans also can identify changes in the brain’s structure and function that suggest AD.

The most common types of brain scans are computed tomographic (CT) scans and magnetic resonance imaging (MRI). Doctors frequently request a CT scan of the brain when they are examining a patient with suspected dementia. These scans, which use X-rays to detect brain structures, can show evidence of brain atrophy, strokes and transient ischemic attacks (TIAs), changes to the blood vessels and other problems such as hydrocephalus and subdural hematomas. MRI scans use magnetic fields and focused radio waves to detect hydrogen atoms in tissues within the body. They can detect the same problems as CT scans, but they are better for identifying certain conditions, such as brain atrophy and damage from small TIAs.

Doctors also may use electroencephalograms (EEGs) in people with suspected dementia. In an EEG, electrodes are placed on the scalp over several parts of the brain in order to detect and record patterns of electrical activity and check for abnormalities. This electrical activity can indicate cognitive dysfunction in part or all of the brain. Many patients with moderately severe to severe AD have abnormal EEGs. An EEG may also be used to detect seizures, which occur in about 10 percent of AD patients, as well as in many other disorders. EEGs also can help diagnose CJD.

Several other types of brain scans allow researchers to watch the brain as it functions. These scans, called functional brain imaging, are not often used as diagnostic tools but are important in research, and they may ultimately help identify people with dementia earlier than is currently possible. Functional brain scans include functional MRI (FMRI), single photon-emission computed technology (SPECT), positron emission tomography (PET), and magnetoencephalography (MEG). FMRI uses radio waves and a strong magnetic field to measure the metabolic changes that take place in active parts of the brain. SPECT shows the distribution of blood in the brain, which generally increases with brain activity. PET scans can detect changes in glucose metabolism, oxygen metabolism and blood flow, all of which can reveal abnormalities of brain function. MEG shows the electromagnetic fields produced by the brain’s neuronal activity.

#### Laboratory tests

Doctors may use a variety of laboratory tests to help diagnose dementia and/or rule out other conditions, such as kidney failure, that can contribute to symptoms. A partial list of these tests includes a complete blood count, blood glucose test, urinalysis, drug and alcohol tests (toxicology screen), cerebrospinal fluid analysis (to rule out specific infections that can affect the brain), and analysis of thyroid...
and thyroid-stimulating hormone levels. A doctor will order only the tests that he or she feels are necessary or likely to improve the accuracy of a diagnosis.

**Psychiatric evaluation**
A psychiatric evaluation may be obtained to determine whether depression or another psychiatric disorder may be causing or contributing to a person’s symptoms.

**Pre-symptomatic testing**
Testing people before symptoms begin to determine whether they will develop dementia is not possible in most cases. However, in disorders such as Huntington’s where a known gene defect is clearly linked to the disease, a genetic test can help identify people who are likely to develop the disease. Since this type of genetic information can be devastating, people should carefully consider whether they want to undergo such testing.

Researchers are examining whether a series of simple cognitive tests, such as matching words with pictures, can predict who will develop dementia. One study suggested that a combination of a verbal learning test and an odor-identification test can help identify AD before symptoms become obvious. Other studies are looking at whether memory tests and brain scans can be useful indicators of future dementia.

**Is there any treatment?**
While treatments to reverse or halt disease progression are not available for most of the dementias, patients can benefit to some extent from treatment with available medications and other measures, such as cognitive training.

Drugs to specifically treat AD and some other progressive dementias are now available and are prescribed for many patients. Although these drugs do not halt the disease or reverse existing brain damage, they can improve symptoms and slow the progression of the disease. This may improve the patient’s quality of life, ease the burden on caregivers or delay admission to a nursing home. Many researchers are also examining whether these drugs may be useful for treating other types of dementia.

**Alzheimer’s disease**
Alzheimer’s disease falls within the category of neurocognitive disorders, as it is considered a form of dementia. In the early stages, the most common symptom is difficulty in remembering recent events, known as short-term memory loss. When AD is suspected, the diagnosis is usually confirmed with tests that evaluate behavior and thinking abilities, often followed by a brain scan if available; however, examination of brain tissue is required for a definitive diagnosis. As the disease advances, symptoms can include confusion, irritability, aggression, mood swings, trouble with language, and long-term memory loss.

DSM-V now recognizes a less severe level of cognitive impairment, mild NCD, which is a new disorder that permits the diagnosis of less disabling syndromes that may nonetheless be the focus of concern and treatment (APA, 2013). Diagnostic criteria are provided for both major NCD and mild NCD, followed by diagnostic criteria for the different etiological subtypes. An updated listing of neurocognitive domains is also provided in DSM-V, as these are necessary for establishing the presence of NCD, distinguishing between the major and mild levels of impairment, and differentiating among etiological subtypes.

Although the threshold between mild NCD and major NCD is inherently arbitrary, there are important reasons to consider these two levels of impairment separately. The major NCD syndrome provides consistency with the rest of medicine and with prior DSM editions and necessarily remains distinct to capture the care needs for this group. Although the mild NCD syndrome is new to DSM-V, its presence is consistent with its use in other fields of medicine, where it is a significant focus of research, particularly in individuals with Alzheimer’s disease, cerebrovascular disorders, HIV, and traumatic brain injury.

Most of the drugs currently approved by the U.S. Food and Drug Administration (FDA) for AD fall into a category called cholinesterase inhibitors. These drugs slow the breakdown of the neurotransmitter acetylcholine, which is reduced in the brains of people with AD. Acetylcholine is important for the formation of memories, and it is used in the hippocampus and cerebral cortex, two brain regions that are affected by AD. There are currently four cholinesterase inhibitors approved for use in the United States: tacrine (Cognex), donepezil (Aricept), rivastigmine (Exelon), and galantamine (Reminyl). These drugs temporarily improve or stabilize memory and thinking skills in some individuals. Many studies have shown that cholinesterase inhibitors help to slow the decline in mental functions associated with AD, and that they can help reduce behavioral problems and improve the ability to perform everyday tasks. However, none of these drugs can stop or reverse the course of AD.

A fifth drug, memantine, (Namenda) is also approved for use in the United States. Unlike other drugs for AD, which affect acetylcholine levels, memantine works by regulating the activity of a neurotransmitter called glutamate that plays a role in learning and memory. Glutamate activity is often disrupted in AD. Because this drug works differently from cholinesterase inhibitors, combining memantine with other AD drugs may be more effective than any single therapy. One controlled clinical trial found that patients receiving donepezil plus memantine had better cognition and other functions than patients receiving donepezil alone.

Doctors may also prescribe other drugs, such as anticonvulsants, sedatives and antidepressants, to treat seizures, depression, agitation, sleep disorders and other specific problems that can be associated with dementia. In 2005, research showed that use of “atypical” antipsychotic drugs such as olanzapine and risperidone, to treat behavioral problems in elderly people with dementia was associated with an elevated risk of death in these patients. Most of the deaths were caused by heart problems or infections. The FDA has issued a public health advisory to alert patients and their caregivers to this safety issue.

**Vascular dementia**
There is no standard drug treatment for vascular dementia, although some of the symptoms, such as depression, can be treated. Most other treatments aim to reduce the risk factors for further brain damage. However, some studies have found that cholinesterase inhibitors, such as galantamine and other AD drugs, can improve cognitive function and behavioral symptoms in patients with early vascular dementia.
The progression of vascular dementia can often be slowed significantly or halted if the underlying vascular risk factors for the disease are treated. To prevent strokes and TIAs, doctors may prescribe medicines to control high blood pressure, high cholesterol, heart disease and diabetes. Doctors also sometimes prescribe aspirin, warfarin or other drugs to prevent clots from forming in small blood vessels. When patients have blockages in blood vessels, doctors may recommend surgical procedures, such as carotid endarterectomy, stenting or angioplasty, to restore the normal blood supply. Medications to relieve restlessness or depression or to help patients sleep better may also be prescribed.

**Other dementias**

Some studies have suggested that cholinesterase inhibitors, such as donepezil (Aricept), can reduce behavioral symptoms in some patients with Parkinson’s dementia.

At present, no medications are approved specifically to treat or prevent FTD and most other types of progressive dementia. However, sedatives, antidepressants and other medications may be useful in treating specific symptoms and behavioral problems associated with these diseases.

Scientists continue to search for specific treatments to help people with Lewy body dementia. Current treatment is symptomatic, often involving the use of medication to control the Parkinson’s and psychiatric symptoms. Although anti-Parkinsonian medication may help reduce tremor and loss of muscle movement, it may worsen symptoms such as hallucinations and delusions. Also, drugs prescribed for psychiatric symptoms may make the movement problems worse. Several studies have suggested that cholinesterase inhibitors may be able to improve cognitive function and behavioral symptoms in patients with Lewy body disease.

There is no known treatment that can cure or control CJD. Current treatment is aimed at alleviating symptoms and making the patient as comfortable as possible. Opiate drugs can help relieve pain and the drugs clonazepam and sodium valproate may help relieve myoclonus. During later stages of the disease, treatment focuses on supportive care, such as administering intravenous fluids and changing the person’s position frequently to prevent bedsores.

**Can dementia be prevented?**

Research has revealed a number of factors that may be able to prevent or delay the onset of dementia in some people. For example, studies have shown that people who maintain tight control over their glucose levels tend to score better on tests of cognitive function than those with poorly controlled diabetes. Several studies also have suggested that people who engage in intellectually stimulating activities, such as social interactions, chess, crossword puzzles and playing a musical instrument, significantly lower their risk of developing AD and other forms of dementia. Scientists believe mental activities may stimulate the brain in a way that increases the person’s “cognitive reserve” – the ability to cope with or compensate for the pathologic changes associated with dementia.

Researchers are studying other steps people can take that may help prevent AD in some cases. So far, none of these factors has been definitively proven to make a difference in the risk of developing the disease. Moreover, most of the studies addressed only AD, and the results may or may not apply to other forms of dementia. Nevertheless, scientists are encouraged by the results of these early studies and may believe it will eventually become possible to prevent forms of dementia.

**Possible preventive actions include:**

- **Lowering homocysteine** – In one study, elevated blood levels of the amino acid homocysteine were associated with a 2.9 times greater risk of AD and a 4.9 times greater risk of vascular dementia. A preliminary study has shown that high doses of three B vitamins that help lower homocysteine levels – folic acid, B12 and B6 – appear to slow the progression of AD. Researchers are conducting a multicenter clinical trial to test this effect in a larger group of patients.

- **Lowering cholesterol levels** – Research has suggested that people with high cholesterol levels have an increased risk of developing AD. Cholesterol is involved in formation of amyloid plaques in the brain. Mutations in a gene called CYP46 and the apoE E4 gene variant, both of which have been linked to an increased risk of AD, are also involved in cholesterol metabolism. Several studies have also found that the use of drugs called statins, which lower cholesterol levels, is associated with a lower likelihood of cognitive impairment.

- **Lowering blood pressure** – Several studies have shown that antihypertensive medicine reduces the odds of cognitive impairment in elderly people with high blood pressure. One large European study found a 55 percent lower risk of dementia in people over 60 who received drug treatment for hypertension. These people had a reduced risk of both AD and vascular dementia.

- **Exercise** – Regular exercise stimulates production of chemicals called growth factors that help neurons survive and adapt to new situations. These gains may help to delay the onset of dementia symptoms. Exercise also may reduce the risk of brain damage from atherosclerosis.

- **Education** – Researchers have found evidence that formal education may help protect people against the effects of AD. In one study, researchers found that people with more years of formal education had relatively less mental decline than people with less schooling, regardless of the number of amyloid plaques and neurofibrillary tangles each person had in his or her brain. The researchers think education may cause the brain to develop robust nerve cell networks that can help compensate for the cell damage caused by AD.

- **Controlling inflammation** – Many studies have suggested that inflammation may contribute to AD. Moreover, autopsies of people who die with AD have shown widespread inflammation in the brain that appeared to be caused by the accumulation of beta amyloid. Another study found that men with high levels of C-reactive protein, a general marker of inflammation, had a significantly increased risk of AD and other kinds of dementia.

- **Non-steroidal anti-inflammatory drugs (NSAIDs)** – Research indicated that long-term use of NSAIDs, ibuprofen, naproxen, and similar drugs, may prevent or delay the onset of AD. Researchers are not sure how these drugs may protect against the disease, but some or all of the effect may be due to reduced inflammation. A 2003 study showed that these drugs also bind to amyloid plaques and may help to dissolve them and prevent formation of new plaques.

The risk of vascular dementia is strongly correlated with risk factors for stroke, including high blood pressure, diabetes, elevated cholesterol levels and smoking. This type of dementia may be prevented in many cases by changing lifestyle factors, such as excessive weight and high blood pressure, which are associated with an increased risk of cerebrovascular disease. One European study found that treating isolated systolic hypertension (high blood pressure in which only the systolic or top number is high) in people age 60 and older reduced the risk of dementia by 50 percent. These studies strongly suggest that effective use of current treatments may prevent future cases of vascular dementia.

A study published in 2005 found that people with mild cognitive impairment who took 10mg/day of the drug donepezil had a significantly reduced risk of developing AD during the first two years of treatment, compared to people who received vitamin E or placebo. By the end of the third year, however, the rate of AD was just as high in the people treated with donepezil as it was in the other two groups.
**What kind of care do people with dementia need?**

People with moderate and advanced dementia typically need round the clock care and supervision to prevent them from harming themselves or others. They also may need assistance with daily activities such as eating, bathing and dressing. Meeting these needs takes patience, understanding and careful thought by the person’s caregivers.

A typical home environment can present many dangers and obstacles to a person with dementia, but simple changes can overcome many of these problems. For example, sharp knives, dangerous chemicals, tools and other hazards should be removed or locked away. Other safety measures include installing bed and bathroom safety rails, removing locks from bedroom and bathroom doors and lowering the hot water temperature to 120F (48.9C) or less to reduce the risk of accidental scalding. People with dementia also should wear some form of identification at all times in case they wander away or become lost. Caregivers can help prevent unsupervised wandering by adding locks or alarms to outside doors.

People with dementia often develop behavior problems because of frustration with specific situations. Understanding and modifying or preventing the situations that trigger these behaviors may help to make life more pleasant for the person with dementia as well as his or her caregivers. For instance, the person may be confused or frustrated by the level of activity or noise in the surrounding environment. Reducing unnecessary activity and noise (such as limiting the number of visitors and turning off the television when it’s not in use) may make it easier for the person to understand requests and perform simple tasks. Confusion also may be reduced by simplifying home decorations, removing clutter, keeping familiar objects nearby and following a predictable routine throughout the day. Calendars and clocks also may help patients orient themselves.

**What research is being done?**

Current research focuses on many different aspects of neurocognitive disorders. This research promises to improve the lives of people affected by the dementia and may eventually lead to ways of preventing or curing these disorders.

**Causes and prevention**

Research on the causes of AD and other dementias includes studies of genetic factors, neurotransmitters, inflammation; factors that influence programmed cell death in the brain and the roles of tau, beta amyloid and the associated neurofibrillary tangles and plaques in AD. Some other researchers are trying to determine the possible roles of cholesterol metabolism, oxidative stress (chemical reactions that can damage proteins, DNA and lipids inside cells) and microglia in the development of AD. Scientists also are investigating the role of the enzyme telomerase.

Since many dementias and other neurodegenerative diseases have been linked to abnormal clumps of proteins in cells, researchers are trying to learn how these clumps develop, how they affect cells and how the clumping can be prevented.

Some studies are examining whether changes in white matter, nerve fibers lines with myelin, may play a role in the onset of AD. Myelin may erode in AD patients before other changes occur. This may be due to a problem with oligodendrocytes, the cells that produce myelin.

Researchers are searching for additional genes that may contribute to AD, and they have identified a number of gene regions that may be involved. Some researchers suggest that people will eventually be screened for a number of genes that contribute to AD and that they will be able to receive treatments that specifically address their individual genetic risks. However, such individualized screening and treatment is still years away.

Insulin resistance is common in people with AD, but it is not clear whether the insulin resistance contributes to the development of the disease or if it is merely a side effect. Several studies have found a reduced risk of dementia in people who take cholesterol-lowering drugs called statins. However, it is not yet clear if the apparent effect is due to the drugs or to other factors.

Early studies of estrogen suggested that it might help prevent AD in older women. However, a clinical study of several thousand postmenopausal women aged 65 or older found that combination therapy with estrogen and progestin substantially increased the risk of AD. Estrogen alone also appeared to slightly increase the risk of dementia in this study. A 2003 study found that people with HIV-associated dementia have different levels of activity for more than 30 different proteins, compared to people who have HIV but no signs of dementia. The study suggests a possible way to screen HIV patients for the first signs of cognitive impairment, and it may lead to ways of intervening to prevent this form of dementia.

**Diagnosis**

Improving early diagnosis of AD and other types of dementia is important not only for patients and families but also for researchers who seek to better understand the causes of dementing diseases and find ways to reverse or halt them at early stages. Improved diagnosis can also reduce the risk that people will receive inappropriate treatments.
Some researchers are investigating whether three-dimensional computer models of PET and MRI images can identify brain changes typical of early AD before any symptoms appear. This research may lead to ways of preventing the symptoms of the disease.

One study found that levels of beta amyloid and tau in spinal fluid can be used to diagnose AD with a sensitivity of 92 percent. If other studies confirm the validity of this test, it may also help doctors to identify people who are beginning to develop the disorder before they start to show symptoms. This would allow treatment at very early stages of the disorder and may help in testing new treatments to prevent or delay symptoms of the disease. Other researchers have identified factors in the skin and blood of AD patients that are different from those in healthy people. They are trying to determine whether these factors can be used to diagnose the disease.

Treatment

Researchers are continually working to develop new drugs for AD and other types of dementia. Many researchers believe a vaccine that reduces the number of amyloid plaques in the brain might ultimately prove to be the most effective treatment for AD. In 2001, researchers began one clinical trial of a vaccine called AN-1792. The study was halted after a number of people developed inflammation of the brain and spinal cord. Despite these problems, one patient appeared to have reduced numbers of amyloid plaques in the brain. Other patients showed little or no cognitive decline during the course of the study, suggesting that the vaccine may slow or halt the disease. Researchers are now trying to find safer and more effective vaccines for AD.

Researchers are also investigating possible methods of gene therapy for AD. In one case, researchers used cells genetically engineered to produce nerve growth factor and transplanted them into monkey’s forebrains. The transplanted cells boosted the amount of nerve growth factors in the brain and seemed to prevent degeneration of acetylcholine-producing neurons in the animals. This suggests that gene therapy might help to reduce or delay symptoms of the disease. Researchers are now testing a similar therapy in a small number of patients. Other researchers have experimented with gene therapy that adds a gene called neprilysin in a mouse model that produces human beta amyloid. They found that increasing the level of neprilysin greatly reduced the amount of beta amyloid in the mice and halted the amyloid-related brain degeneration. They are now trying to determine whether neprilysin gene therapy can improve cognition in mice.

A clinical trial called the Vitamins to Slow Alzheimer’s Disease (VITAL) study is testing whether high doses of three common B vitamins, folic acid, B12, and B6, can reduce homocysteine levels and slow the rate of cognitive decline in AD.

Since many studies have found evidence of brain inflammation in AD, some researchers have proposed that drugs that control inflammation, such as NSAIDs, might prevent the disease or slow its progression. Studies in mice have suggested that these drugs can limit production of amyloid plaques in the brain. Early studies of these drugs in humans have shown promising results. However, a large NIH funded clinical trial of two NSAIDs (naproxen and celecoxib) to prevent AD was stopped in late 2004 because of an increase in stroke and heart attack in people taking naproxen, and an unrelated study that linked celecoxib to an increased risk of heart attack.

Some studies have suggested that two drugs, pentoxifylline and propentofylline, may be useful in treating vascular dementia. Pentoxifylline improves blood flow, while propentofylline appears to interfere with some of the processes that cause cell death in the brain. (Medicine Net, 2014)

Psychosocial factors of disorders on the elderly

Factors such as where an elderly person lives and who cares for that person can do have an impact on the overall well-being of the elderly person. Studies have demonstrated that those elderly persons who live alone do tend to have more symptoms of depression (Dean, Kolody, Wood and Matt, 1992). Other studies have similar findings. One recent study of elderly Europeans indicated that marital partners tend to be the most important factor in preventing depression in the elderly, but frequent contact with children also predicts less depressive symptoms. Those elderly persons who lived alone experienced the highest levels of depression (Buber and Engelhardt, 2008).

Furthermore, many elderly persons are also caregivers to other elderly persons, usually their spouses, thus causing another psychosocial factor that greatly affects the mental health of many of the elderly. Not only is an elderly person affected by who they live with, he or she is also affected by the setting in which they live. The setting in which an elderly person resides can affect his or her access to care and the quality of the care received. In addition, the cultural influences in the life of an elderly person also exert a profound impact upon their view of mental illness, their coping mechanisms, and their resistance to treatment.

Nursing homes and assisted living

For many reasons, both physical and mental, it is not appropriate for some seniors to live on their own. However, that an elderly person lives in a residential facility does not ensure that mental health needs are being met. It has been estimated that two-thirds of nursing home residents have some form of emotional or behavioral disturbances, and one-half are taking psychotropic medications. However, the medical staff often failed to look at the clients holistically and focused on the behavioral issues only, ignoring the underlying medical causes, such as untreated infections and chronic pain as conditions that added to the mental health issues (Gruber-Baldini, et al., 2004).

Chapin, Reed and Dobbs (2004) also found that depression was underdiagnosed in those elderly persons living in assisted living facilities, and residents had little understanding of mental health resources or how to access those services. Other studies have similar findings, in that many of the assisted living home residents had symptoms of mental illness (Gottman, Peskin, Kennedy and Mossey, 1991).
about 20 percent of those getting treatment still showed significant signs of depression, which is indicative that the treatment received was inadequate and not well-monitored overall.

Some nursing homes have incorporated the use of care managers who educate the family and patient about medication and other forms of treatment, create treatment plans that incorporate the appropriate forms of treatment and monitor the patient’s progress. According to Carolson and Snowden, effective programs have several common elements:

- Screening tools, such as the DSM-IV structured clinical interview, which remains in place despite revisions of DSM-V.
- Antidepressants, closely monitored by the nurse who serves as care manager and who has the authority to adjust medications as needed.
- Psychotherapy, which is most often problem-solving therapy or interpersonal therapy.
- Supervision of case managers by a psychiatrist, who may be on staff or contracted.

After extensive review of the published literature on the treatment of nursing home patients for dementia and depression, the two most common diagnoses seen in this population, there were not a sufficient number of studies to determine what the best practices were for care of the elderly with these diagnoses. The authors determined that neither medication nor therapy totally eliminated symptoms, but interventions can lessen symptoms.

Furthermore, there were not enough studies to determine whether therapy or medication was more effective. A good deal of evidence existed in the studies reviewed to support the use of antipsychotic medication, but there was less support for the use of antidepressants or benzodiazepines. The authors further recommended that there was a need for more accurate screening tools for mental illness and a need for more studies on the efficacy of medication to treat dementia and depression.

An expert interdisciplinary panel led by the American Geriatrics Society (AGS) and the American Association for Geriatric Psychiatry (AAGP) and including representatives from numerous stakeholder organizations has issued a new consensus statement calling for significant revisions to the standards of care for nursing home residents with depression and behavioral symptoms associated with dementia. The AGS and AAGP have also issued health policy recommendations that address implementation of the expert panel’s clinical recommendations.

Approximately 1.5 million older adults currently reside in nursing homes across the United States, and about one-fifth of those residents have symptoms of depression. Up to 40 percent of residents with dementia have both behavioral and psychiatric symptoms that could be alleviated by proper care and treatment. According to the panel, “the current protocols for the screening and management of these problems are inadequate.” Joseph G. Ouslander, MD, former AGS president and co-chair of the expert panel, states, “The current system does not provide enough specific recommendations for nursing home staff to develop optimal, individualized care plans based on their assessment of depression and behavioral symptoms.”

Among its recommendations, the panel calls for routine and regular screening for depression in every nursing home resident. They also call for improved screening instruments and first-line treatment of major depression with antidepressant medications in combination with nonpharmacologic interventions. The consensus statement also outlines numerous approaches for nursing home administrators and staff to improve the environment for residents, thus enhancing their independence, sense of well-being and quality of life.

The panel states that better assessment tools for residents with dementia-related behavioral symptoms are required, as well as careful and regular evaluation to determine whether a resident’s symptoms may be the result of adverse drug interactions or other medical conditions. The panel also states that barriers to using effective drug therapies such as restrictive formularies and attitudes about using psychotropic drugs as “chemical restraints” should be reassessed in order to provide the best care for residents. “Most importantly, we need to take advantage of the large body of research on effective interventions by ensuring that evidence-based mental health treatments are provided in nursing homes,” says Stephen J. Bartels, MD, former AAGP president and expert panel co-chair. “Improving the quality of care for residents with mental health problems will require enhanced training and staffing in nursing home needs, complimented by greater availability of mental health consultation services.”

The AGS and AAGP policy recommendations include:

- Making mental health services more available to nursing homes, particularly in rural areas and those that are publicly financed.
- Including coverage for mental health services and health medications in public and private insurance plans that cover nursing home residents.
- Rewarding facilities that provide appropriate pharmacologic and non-pharmacologic treatment for residents with mental illness.
- Encouraging staff training to identify residents with mental illness.
- Promoting research to identify the best practices in meeting the mental health care needs of nursing home residents.

The consensus statement and policy recommendations are intended to assist regulators at the Centers for Medicare and Medicaid Services (CMS) and other agencies as they make revisions to the current guidelines and quality measures for nursing homes.

**In-home care**

While many elderly persons enter long-term care settings, many more are cared for at home by family members. A recent interview with Dr. Stephen Golant, an expert on elderly housing at the University of Florida, notes that the elderly are moving more towards home-based care, in part due to concerns about the cost of assisted living facilities and nursing homes. In addition, seniors tend to prefer to live in their own homes (AARP, 2014). He stated that this does create burdens for caregivers. The Family Caregiver Alliance also notes the following statistics concerning caregivers in the United States on its website: www.caregiver.org:

- By the year 2007, the number of care-giving households in the U.S. for persons aged 50-plus could reach 39 million.
- Over three-quarters (78 percent) of adults living in the community and in need of long-term care depend on family and friends (i.e., informal caregivers) as their only source of help; 14 percent receive a combination of informal and formal care (i.e., paid help); only 8 percent used formal care or paid help only.
- Even among the most severely disabled older persons living in the community, about two-thirds rely solely on family members and other informal help, often resulting in great strain for the family caregivers. The use of informal care as the only type of assistance by older Americans aged 65 and over increased from 57 percent in 1994 to 66 percent in 1999. The growth in reliance upon informal and social service personnel, notes that the average caregiver is a married woman between the ages of 45-55 who works full time and also devotes an average of 20 hours per week to care giving. The Family Caregiver Alliance also notes the following statistics concerning caregivers in the United States on its website: www.caregiver.org:

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care between 1994 and 1999 is accompanied by a decline in the use of a combination of informal and formal care from 36 percent in 1994 to 26 percent in 1999.

- Thirty percent of persons caring for elderly long-term care users were themselves aged 65 or over; another 15 percent were between the ages of 45-54.

### Elderly caregivers

Those elderly persons who care for others are themselves at high risk for developing a mental illness. The Family Caregiver Alliance notes that:

- **Women experience depression at a higher rate than men.** Women, primarily wives and daughters, provide the majority of care giving. In the United States, approximately 12 million women experience clinical depression each year, at approximately twice the rate of men. A National Mental Health Association survey on the public’s attitude and beliefs about clinical depression found that more than one-half of women surveyed still believe it is “normal” for a woman to be depressed during menopause.

- **Men who are caregivers deal with depression differently.** Men are less likely to admit to depression and doctors are less likely to diagnose depression in men. Men will more often “self-treat” their depressive symptoms of anger, irritability or powerlessness with alcohol or overwork. Although male caregivers tend to be more willing than female caregivers to hire outside help for assistance with home care duties, they tend to have fewer friends to confide in or positive activities outside the home. The assumption that depressive symptoms are a sign of weakness can make it especially difficult for men to seek help.

- **Lack of sleep contributes to depression.** While sleep needs vary, most people need eight hours a day. Loss of sleep as a result of caring for a loved one can lead to serious depression. The important thing to remember is that even though you may not be able to get your loved one to rest throughout the night, you can arrange to get much needed sleep. Hiring a respite worker to be with your loved one while you take a nap or finding a care center or scheduling a stay-over with another family member for a few nights are ways to keep your care-giving commitment while getting the sleep you need.

- **Depression can persist after placement in a care facility.** Making the decision to move a loved one to a care center is very stressful. While many caregivers are finally able to catch up on much needed rest, loneliness, guilt and monitoring the care a loved one receives in this new location can add new stress. Many caregivers feel depressed at the time of placement, and some continue to feel depressed for a long time after.

One well-known study by Schulz, et al., (1995), looked at depression in caregivers of Alzheimer’s patients over a four-year period and concluded that female caregivers overall experience more depressive symptoms, but if men stay in a long-term care-giving role, they begin to become increasingly depressed as time goes on. For men and women, the more difficult a person was to care for in terms of behavior, the higher the levels of associated stress in the caregivers. Furthermore, the authors also noted that perceived levels of high social support tended to buffer caregivers against depression. Overall, in another study, depression was found to be the most commonly reported mental health problem for caregivers (Bergman-Evans, 1994). Other studies have shown that the major risk factor for the development of depression in caregivers is loss of social contacts and support that a caregiver often experiences when devoting so much time to the person in care.

In one recent study it was determined that elderly caregivers typically report an extra 30 days per year of depression than do elderly persons who do not have care-giving responsibilities (Thompson, Fan, Unutzer, and Katon, 2007).

- For the family caregiver forced to give up work to care for a family member or friend, the cost in lost wages and benefits is estimated to be $109 per day.

Caregivers of those persons with dementia are especially at a high risk of developing depression. The Family Caregiver Alliance warns caregivers of the potential consequences of providing long-term care for someone with dementia on the website www.caregiver.org: 

“Researchers have found that a person who provides care for someone with dementia is twice as likely to suffer from depression as a person providing care for someone without dementia. The more severe the case of dementia, such as that caused by Alzheimer’s disease, the more likely the caregiver is to experience depression. It is critical for caregivers, especially in these situations, to receive consistent and dependable support.”

Caring for a person with dementia can be all-consuming. It is different from other types of care giving. Not only do caregivers spend significantly more hours per week providing care, they report more employment problems, personal stress, mental and physical health problems, less time to do the things they enjoy, less time to spend with other family members and more family conflict than non-dementia caregivers. As stressful as the deterioration of a loved one’s mental and physical abilities may be for the caregiver, dealing with dementia-related behavior is an even bigger contributor to developing symptoms of depression. Dementia-related symptoms such as wandering, agitation, hoarding and embarrassing conduct make every day challenging and make it harder for a caregiver to get rest or assistance in providing care.

Unfortunately, many barriers exist that keep caregivers from getting the help they need for depression. According to Grey (2003), caregivers fail to get treatment due to several factors:

- **Caregivers are too focused on the needs of those they care for and do not take time to take care of themselves.**
- **The financial resources of the family are often being used by the person that the caregiver takes care of.**
- **And there is not enough left for the caregiver to pay for therapy and medication.**
- **Few programs exist to provide outreach to caregivers and provide them with support and linkage to resources.**
- **Primary care physicians tend to focus only on the patient and do not address the overall needs of the family system.**
- **Primary care physicians often overlook depression and do not diagnose it in caregivers.**

In some areas, programs do exist to provide respite care for a few hours or even a few days, and other inventive programs are found to give support and counseling to caregivers. However, most states do not have these types of programs. The American Medical Association, as well several states including California, Wisconsin, Minnesota, Pennsylvania and Washington, have developed tools for the assessment of caregivers to identify those who are suffering from depression, anxiety, and other issues and to link these caregivers to resources.
African American elderly

Ethnic minority elderly persons have been understudied overall in mental health and psychiatry. However, their numbers are growing even more rapidly than the elder population in general. For example, the elderly African American population is expected to grow by at least 8 percent by the year 2050. However, African American elderly persons are very much underrepresented in studies of the elderly. Moreover, there are often barriers to mental health treatment for the elderly African American population that can make their treatment more difficult.

As noted by Ahmed and Kramer (2006), there is a high level of stigma attached to seeking mental health services for elderly African Americans. Frequently, these elderly persons prefer to seek help from their pastors or other religious leaders. In addition, elderly African Americans tend to be distrustful of the mental health establishment and often feel culturally disconnected to the providers who are very often Caucasian. Furthermore, a lack of cultural understanding has historically led to misunderstanding between older African Americans and the mental health profession.

For example, ethnic majority mental health professionals often overlook many of the life events that older African Americans experienced as severe trauma as a result of segregation and racial violence. Consequently, the mental health establishment often misinterprets the reactions of elderly African Americans towards society as paranoid when these behaviors are, instead, understandable when viewed with a culturally sensitive lens.

In addition, some older African Americans may also express emotional distress in ways that do not have a label in the ethnic majority culture, which are described as “culture bound syndromes.” For example, “falling out” is an emotional state that consists of dizziness and collapse and is widely recognized in the African American culture, but has no real counterpart in Caucasian culture. Some older African Americans may also believe in “rootwork,” which attributes psychological problems to someone placing a hex on an individual.


Hispanic elderly persons

Many Hispanics are reluctant to seek mental health treatment due to language and cultural barriers. This is particularly true among older Hispanics, who often know less English than younger Hispanics.

Furthermore, due to cultural differences, treating Hispanic persons can be difficult if a clinician is unaware of some cultural influences that impact the therapeutic relationship. Ahmed and Kramer cite the work of Anez, et al (2005) and Gloria and Peregoy (1996) to describe common cultural situations:

- **Falisimo** is a term that describes a cultural value among Hispanics that encourages the importance of the family over the individual and for family to be highly valued in general. Extended family tends to be very important and can serve as strength, but also a hindrance to treatment if the family disapproves of treatment for an individual.

- **Simpatia** is a cultural value that emphasizes harmony over conflict. Simpatia, however, can result in Hispanics agreeing with a mental health professional about a course of treatment to avoid creating conflict. However, the person may not follow through with recommendations, but agree to avoid conflict.

- **Personalismo** is the high regard for getting to know another person in a social setting. Hispanic persons may expect and desire to relate on a social level to the clinician and may feel offended if the clinician ignores this need and gets right to business with the client.

- **Respero** is the respect for elders and placing great value on the advice and opinions of the elders of a family. In addition, respero includes the cultural expectation that children will take care of their parents into the elderly years.

- **Fatalismo** is the belief that greater powers control life events and one’s destiny. This belief can lead to a person having a strong external locus of control.

- **Verguenza** is a cultural tradition that revolves around shame. Seeking treatment may bring shame upon a family, and Hispanics will seek to avoid bringing shame if at all possible. This can be a barrier to seeking treatment.

- **Machismo and marianismo** are terms that describe gender roles in Hispanic persons. Machismo refers to the traditional role of a man as a protector and provider for his family. Marianismo is the cultural expectation that a woman will be submissive to men and be a nurturing wife and mother.

In addition, many Hispanics practice various religious belief systems such as Santeria, Espiritismo, and Curanderismo. These systems have some common themes regarding the placing of spells and various healing practices to heal the afflicted. Many elderly Hispanic persons have strong beliefs regarding these practices and may wish to use these instead of traditional mental health treatment.

Asian Americans elderly

Asian Americans are typically expected to care for their elderly parents and do not consider this to be burdensome. Elderly persons expect that their children will care for them and are not as concerned as Caucasians with the notion of being a burden for their children. This high level of family support can be seen as a strength for older Asian Americans.

However, among many of the Asian cultures, there is a high respect shown for authority figures, which can include mental health professionals. This respect will sometimes result in the client agreeing to follow the recommendations of the therapist, but the client will not actually follow through with these recommendations. (Ahmed and Kramer, 2006).
Pharmacological treatment for Asian Americans
Some studies have indicated that Asian Americans do metabolize medications such as benzodiazepines and antipsychotic medications differently than Caucasians do, which can have adverse effects for treatment. Furthermore, many Asians take herbal supplements that can interact in adverse ways with medications (Ahmed and Kramer, 2006).

Cultural issues
In many Asian cultures there is a particular stigma associated with mental illness. There is a primary concern that if mental illness becomes known, other people will not want to marry into the family. Therefore, the family often conceals psychosis until it has reached the critical point, which can make it more difficult to treat.

There are also several culture-bound syndromes described by Ahmed and Kramer (2006) that occur in Asian cultures but do not have a diagnosis in our culture:
- **Amok**, which is most frequently noted in Southeast Asia, that describes a rampage often resulting in death.
- **Phi Pob**: in Thailand, this is a possession by a spirit and most frequently occurs in females.
- **Hsich Ping**, which occurs in Thailand, is the manifestation of symptoms that include agitation, speaking in tongues and hallucinations.
- **Hwa-byung**, which is found primarily in Korea and is the presentation of symptoms such as feeling pressure in the chest, fear, headaches, fatigue and suicidal thoughts; it is believed to be the result of unexpressed anger.
- **Shenjing sheuiaro**, found in China, which results in insomnia, loss of appetite, problems with concentration, memory loss, headaches and sexual dysfunction.
- **Latah** is a disorder mostly found in Malaysian females, which results in disassociated behaviors and extreme startle responses and is believed to be caused by possession.
- **Shin-byung** is found in Koreans and results in anorexia, weakness, and insomnia and is believed to result from the possession by one’s ancestors.

Native American elderly
Native Americans tend to have higher rates of substance abuse, suicide and anxiety than Caucasians or any other minority group. Native Americans have a long history of oppression and abuse from Caucasian society and have suffered many atrocities over the centuries. The resulting poverty, lack of education, grief and ongoing family conflicts have had many negative effects on Native Americans. The cultural mistrust of “outsiders” has its basis in reality and thus, makes it difficult for many Native Americans to accept services from external resources. (It is interesting to note that among some tribes, dementia is viewed as a sign of the ability to communicate with the afterlife and is actually held in high esteem by other tribal members, rather than a negative condition that requires intervention and treatment.)

Elder mental illness prevention
The key issues in preventing major mental illness in the elderly are:
- Increasing the access of seniors to services in the community.
- Eliminating the stigma that many older adults feel towards mental health therapy.

Some research relates to the importance of removing the stigma associated with receiving treatment for mental illness. Prevention efforts to change the attitudes of elderly persons towards the access of mental health services have been studied, and the research indicated that brief psycho-educational outreach could increase the participation of senior adults in outpatient mental health counseling (Alvidrez, Arean, and Stewart, 2005). Other studies have had similar findings, in that providing education to this population group can help remove that stigma and move them into treatment earlier, thus preventing some later problems. “Spiritual and community support have also been shown to help keep elderly persons more active and provide an overall greater sense of well-being. Social supports help to insulate a person against life events such as bereavement and physical illnesses,” (Boyd, 2005).

Suicide prevention
Suicide prevention has received most of the attention in the area of prevention of mental illness and the elderly. There are several risk factors for suicide in the elderly that can be assessed and managed. Certain types of medications can be used in killing oneself rather easily. Therefore, in depressed persons, it is better not to prescribe amitriptyline and dosulepin (Henry et al., 1995).

The increased education and training of general medical practitioners is also critical in the prevention of suicide. A large number of elderly persons who committed suicide were found to have visited their primary care doctor in the month before they killed themselves. Training that is focused on helping doctors recognize the signs of depression would help to prevent some suicides (Vassilas and Morgan 1994; Harwood et al, 2000).

Prevention of depression
There is also evidence that targeted prevention programs can help prevent the development of depression. Wilson, Mottram and Sixsmith (2007) found in their study of elderly persons between the ages of 80 to 90 that not living close to friends and family, dissatisfaction with housing and strong financial concerns were all associated with higher levels of depression. This research indicates that screening procedures that assess these types of concerns in the elderly can then lead to specific interventions to alleviate these risk factors.

In screening the elderly for suicidal intentions, there are some indications that both the Beck Hopelessness Scale and the Geriatric Depression Scale offer insight into the intent of an elderly person. Suicidal ideations in the elderly are typically preceded by problems with physical health as well as higher scores on Beck’s Hopelessness Scale (Hill, et al., 1988). Furthermore, Dennis, et al., (2005) noted that among those elderly persons who suffered from depression, the Geriatric Depression Scale showed that those who had attempted suicide were more likely to have answered yes to the question: “Do you feel your situation is hopeless?” and to have answered no to, “is it wonderful to be alive now?” Therefore, the utilization of these screening instruments can be an effective tool in identifying those elderly persons who are at higher risk of suicide and consequently alert providers to the need for increased monitoring or more intensive interventions.

It is critical for those on the “front lines” who regularly interact with elderly persons receive training to recognize depression in their clients. A recent study examined a program delivered by case managers to high-risk elderly persons. Case managers were trained to provide screening and assessment, education, referral and linkage. The authors studied levels of depression, utilization of mental health services, overall health and levels of social and physical activity. Overall, there was a modest decrease in depressive symptoms, but the participants
were much more knowledgeable about services available to them and understood that engaging in increased levels of activity led to a better sense of well-being, and had overall less physical pain. (Arean, Alexopolus, and Chu, 2007).

Because many of the elderly in the United States live in nursing homes, it is essential that nursing home personnel recognize the signs of depression. A recent study of nursing home residents demonstrated that efforts to educate caregivers to recognize and respond to depressive symptoms in the residents appeared to have a positive effect. The authors studied two groups of caregivers, providing education to recognize depression symptoms to one of the groups. They assessed depressive symptoms over a period of time for residents assigned to all of the caregivers. The residents who interacted with the trained caregivers had overall lower rates of depression than those residents whose caregivers were not trained to recognize symptoms of depression (Cuijpers and Lammeren, 2000).

### Substance Abuse Prevention

Substance abuse prevention takes on three main forms:

1. **Primary prevention** involves efforts to halt the progression of substance abuse that is rather severe, and to stop it from becoming fatal (Carlson, 1994).

Substance abuse is typically underdiagnosed in the elderly population. Substance abuse in the elderly often involves prescription medications or alcohol, rather than street drugs such as marijuana, heroin or cocaine. In treating the elderly, it is critical to realize that prevention efforts against substance abuse often have further-reaching impacts on the elderly person’s health. Substance abuse of alcohol or prescription drugs can have a profound impact on the other medications that an elderly person may truly need for other health conditions. It can also be more difficult to utilize prevention methods regarding prescription medications when many doctors do not consider that the elderly are often more sensitive to medications overall.

Many medications are simply inappropriate for elderly persons due to the tendency of some medications to lead to mental confusion and problems with physical coordination that result in falls and injuries (Carlson, 1994). It would seem incongruous that many physicians who treat the elderly are not aware of these issues, but studies have indicated about 25 percent of elderly persons were prescribed wrong medications (Wilcox, 1994).

Complicated issues accompany elderly persons and medications, in addition to the prevention of the misuse of prescription drugs. Some studies have shown that elderly persons often withhold information from their physicians because they think many of their symptoms are a normal part of aging and not important enough to mention. Other seniors have limited incomes and do not consistently stay on their medications because they cannot afford them. In addition, many doctors do not take enough time to explain side effects and the importance of medication compliance to their patients. Better training with physicians is needed to help prevent prescription medication complications within the elder population (Carlson, 1994).

Carlson goes on to note that prevention of substance abuse in the elderly should focus on general education towards preparing the elderly for life changes, financial preparation and bereavement. In addition, there needs to be more education for the elderly about the dangers of alcohol and prescription drug abuse. However, these prevention efforts need to target not just heavy drinkers, but also those who are infrequent users in order to help them understand the dangers of mixing alcohol and prescription drugs. Furthermore, moderate drinkers need to understand how the physiological differences that accompany advancing age also change the body’s response to alcohol. The quantity of alcohol absorbed within the body at age 45 may be too great for a 75-year-old person. In addition, based on the extensive study of multistate prevention efforts, Carlson noted common factors that should be present for the successful implementation of substance abuse prevention efforts:

1. **Collaboration** – The plans for an elderly substance abuse and misuse prevention initiative should be developed with participation from other state-level agencies involved in services to older adults, include consultation with relevant local and regional service providers and also involve participation by representatives from the aging community.

This recommendation recognizes the various services that might be appropriate entry or target points for prevention efforts and the importance they have had in prevention efforts elsewhere. Early involvement is critical for full utilization of these options in any program implementation. It also acknowledges the diverse interests such groups represent and the need for any initiative to reflect this diversity and draw on its strengths.

2. **Information** – Strategies for any prevention initiative should include compilation and packaging of information about the targeted problem or problems, and where and how to access additional resources and services. Such a package should make maximal use of existing materials and resources, with the primary attention directed to distribution of information rather than development of new materials.

This recommendation addresses the existing availability of diverse informational and training materials and stresses the value of putting them together in such a way as to improve their accessibility through a carefully planned distribution strategy. The goal is to have them more readily and widely identified, reviewed and utilized.

3. **Education** – Considerations for support of education and training should include the elderly clients, their family members, senior and substance abuse services providers, other caregivers and gatekeepers, and health care providers that include physicians.

Effective prevention requires the involvement of the individual at risk plus the complex network of associates and service providers likely to be in a position to perpetuate, identify or intervene in the substance abuse or misuse problem. The recommendation draws on indications that multiple points of action are most effective. It also acknowledges the central role often played by others in the health and well-being of older adults.

4. **Scope-prevention** initiatives for the elderly should be wide in scope and include as part of their aims not only improvement in general health behaviors other than substance abuse and misuse but also support for secondary intervention and treatment.

This recommendation is consistent with the suggestions of experts in the field about the need to include a range of prevention strategies with this age group. It also attends to the often-overlapping causes and consequences of health behaviors among older adults and the advantages of intervening to prevent further health compromises.
5. **Pilot program** – Pilot or demonstration programs should be considered that improve linkages between information and education efforts and individualized attention or counseling.

Standard prevention approaches often fail to lead to the desired behavioral change. One solution identified to improve these outcomes is to complete more personalized follow-up, particularly with high-risk individuals. The recommendation aims to encourage the planners of elderly prevention programs to be innovative and to draw on research knowledge of what is likely to be effective.

6. **Policy** – Finally, prevention strategies should review state and agency policies that affect this age group, seeking to identify areas for specific changes directly influencing substance abuse and misuse and their prevention or intervention, as well as more general policies affecting quality of life and social roles.

This final recommendation addresses the power of policy to shape action. Policy directives have been identified elsewhere as ways to influence medication practice, improve access to substance abuse services and reduce ageism and stereotypes. Policy can lead to social change. Some part of the problems of substance abuse and misuse among the elderly would be substantially reduced with attention to the stigma, discrimination, social isolation and poverty affecting older adults.

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**TREATMENT OF MENTAL ILLNESS IN THE ELDERLY**

The treatment of mental illness in the elderly has been the subject of numerous studies. It has been fairly well established that some form of treatment was better than no treatment at all (Socgin and McElreath, 1994).

**Treatment of depression**

One recent study of various forms of treatment for depression in the elderly concluded that there was enough evidence of the effectiveness of cognitive behavioral treatments and psychodynamic treatments for depression to be recommended for continued usage (Fiske, et al., 1999). One model, in particular, is the IMPACT model. IMPACT is an acronym for Improving Mood, Promoting Access to Collaborative Treatment for late-life depression.

IMPACT is a treatment model that studied approximately 1800 elderly persons who met DSM-IV criteria for major depression or dysthymia. A team that included a primary care physician, depression care-manager and a consulting psychiatrist implemented the model. The study compared groups of elderly persons who received only medication, only psychotherapy, or some combination of both. About 70 percent of participants received medication, 70 percent received psychotherapy and about 90 percent overall received some form of intervention. As participants began to improve, an assigned care manager facilitated creating a relapse prevention plan. The control group of elderly persons received visits with their primary care physician and referral to mental health specialists. About 50 percent of these participants received medication and another 25 percent received mental health intervention. The researchers followed the participants over a 24-month period and found that the IMPACT participants had superior outcomes overall, with less depression than those persons who did not receive the collaborative treatment (Hunkeler, et al., 2006).

However, studies that are more recent have compared the effectiveness of various treatments for depression in which the authors conducted a meta-analysis of 122 psychosocial and psychotherapeutic interventions. The studies primarily involved adults aged 55-76 diagnosed with depression. The meta-analysis looked at:

- Cognitive-behavioral therapy.
- Psychodynamic therapy.
- Reminiscence, relaxation, supportive, control-enhancing treatments.
- Psycho-educational treatments.

It was demonstrated that cognitive-behavioral therapy had above-average effects on depression and overall ratings of well-being. Overall, group therapy or group interventions were less effective than individual therapy. Better outcomes were found in the subjects who received treatment from more qualified therapists, particularly for those therapists who had specialized education in geriatrics (Pinquart and Soerensen, 2001). Therefore, we can conclude from this study that therapists who have specialized training in working with the elderly and who provide cognitive-behavioral therapy on an individualized basis are likely to be the most effective with depressed elderly persons.

**Pharmacological treatment for depression**

Due to the many physiological changes that accompany advancing age, prescribing medication for the elderly can be very challenging. Swift and Triggs, (2006) noted the following physiological changes that occur in the elderly:

- Elevation of gastric pH.
- Reduction of gastric emptying rate.
- Thinning and reduction of absorptive surface.
- Decline in total body size in advanced age.
- Relative increase in total body fat until advanced age.
- Decline in metabolically active tissue.
- Decline in total body water.
- Reduction in liver mass.
- Redistribution of regional blood flow away from liver.
- Reduction in renal tubular function.

Antidepressant treatment is controversial, regardless of the age of the person. There are special considerations in prescribing medication to the elderly to treat depression. Elderly persons have different outcomes associated with the use of serotonin reuptake inhibitors than do younger persons. These medications are effective in younger people, but have a tendency to cause episodes of mania in older people for reasons that are not totally understood (Pinals, 2006).

Salzman, Wong and Wright (2002), concluded after their analysis of multiple studies involving the use of medication in treating the depressed elderly that antidepressants were, in general, effective. No one particular form of antidepressant was found to be superior to another. However, the authors also noted that the incidences of relapse among the elderly were quite high when medications were discontinued, so in conclusion, it was found to be very important for many elderly persons to be prepared to continue maintenance doses on a long-term basis. Another study found similar outcomes. As major depressive disorders do have a rather high chance of recurrence over the life course, it has been recommended that long-term maintenance pharmacological treatment is the best way to manage further recurrence (Flint and Rifat, 2000).
Marital therapy can be effective in helping older persons with depression. The use of marital (dyadic) therapy to assist a person in responding to a spouse’s depression is often helpful for couples. The elder depressed spouse can benefit when the other partner learns to communicate more effectively, reducing counterproductive negative comments (Asen, 2006).

The use of family therapy is also considered by some authors to be an ideal intervention for an elderly person who is suicidal, as the family can give support to the elderly family member. In addition, family therapy can also be a useful intervention with the elderly who are having problems coping with their adult children, who may suffer from their own mental issues and substance abuse problems (Richman, 2004).

In addition, family therapy can assist in maintaining the well-being of an elderly person. One of the keys to determining the best family therapy framework to follow is to complete a comprehensive assessment with the elder adult. The mnemonic PRACTICE (Christie-Seeley, 1984) is a model that is designed to work with the elderly in particular, and it includes the following dimensions:

- **P** - Presenting problem.
- **R** - Roles and rules.
- **A** - Affect.
- **C** - Communication.
- **T** - Time in family life cycle.
- **I** - Illness.
- **C** - Community.
- **E** - Environmental.

- The presenting problem can be the actual mental illness or other systemic issues within the family. It is important for the family therapist to gather information concerning how each family member views the problems of the elderly person.
- In terms of roles and rules, it is critical to assess family functioning before and after the presenting problem arose. The emergence of a mental illness can result in a shift in family roles. The father who was the patriarch and is now incapacitated with depression will often abdicate this role and place the mother into a new role that may be very uncomfortable for her.
- **Affect** involves the assessment of how the family express emotion.
- **Communication** looks to assess who does the talking for the family, which family members do not speak to each other and whether the communication is clear.
- **Time in family lifecycle.** Successful transition to different stages in life requires flexibility to accept the changes that come with different life stages. For example, it is important to assess how elderly people have accepted the change in caregiving roles as children leave home and start their own families. Elderly persons who have been unable to accept this change will have more difficulty with the changes in roles that come at different life cycle stages.
- **Illness** – This dimension of assessment explores the etiology of the mental and/or physical illnesses affecting the family. In addition, it is important to explore the issues of guilt and shame associated with the emergence of the illness.
- **Community** – The interviewer needs to assess what supports exist in the community and what needs are unmet for housing, medical care, social support, etc. The family also needs to be assessed to determine which, if any, supports they are willing to accept.
- **Environment** includes the assessment of housing, finances, employment, neighborhood and cultural context.

**Electroconvulsive therapy**

Electroconvulsive therapy, (ECT), which is sometimes known by the slang term “shock treatment” is highly controversial. It has been shown to be effective, but is generally limited to usage in the most severe cases of depression that are unresponsive to medication and psychotherapy. The National Alliance for the Mentally Ill (NAMI) states on its website, www.nami.org, that ECT has been shown to be effective, but notes that it is very difficult to receive the treatment due to the history of the misuse of the procedure and the many myths surrounding its usage. Without specifically endorsing ECT, the organization does state that it should be considered as a treatment for only appropriately assessed individuals.

There have been other studies that indicated the effectiveness of ECT for treating depression in the elderly. It was noted that 79 percent of those people receiving the treatment showed significant improvement in their depressive symptoms. However, the authors did note a significant number of side effects, including hypertension, impaired memory and mental confusion. Consequently, it was urged that subjects for this treatment be chosen carefully (Kujala, Rosenvinge, Bekkelund, 2002).

Some researchers believe strongly in ECT. Some research indicates that even one treatment of ECT can reduce depression by 21 percent (Williams, O’Brien, and Cullum, 1997). Tew (1999) reported that one-half to three-fourths of depressed elderly persons had favorable outcomes from ECT treatment. Other studies, Zorumski et al., (1988), showed that 80 percent of elderly patients received benefits from ECT. Both Zorumski and Zal (1999), suggest that ECT should be used whenever an elderly person does not respond well to medication, as well as for those who are dangerously depressed with malnutrition or psychosis.

Another meta-analysis of studies of ECT with the elderly showed that 12 studies reported the effects of ECT and found that overall it was found to be effective. In one-third of the studies, ECT was actually found to be more effective than treatments with antidepressants. Overall, the studies did not find any outstanding incidents of negative side effects from the ECT (Salzman, Wong and Wright, 2002).

**Problem-solving therapy**

In addition, many of the elderly who are diagnosed with depression are chronically physically disabled or ill. The co-morbidity of physical illness and depression sets up a vicious cycle in which the physical problems aggravate the depression, but the depression in turn makes it easier for people to give up hope and not adhere to their physical recovery as well. A strong need for integrated treatment exists.

In their study of depressed elderly persons with chronic obstructive pulmonary disease (COPD), Alexopoulos, Rause, Srey and Arean (2007) noted that the lack of energy, loss of interest in daily activities and the general apathy that accompanies depression makes it especially hard for patients with COPD to follow their physical rehabilitation. The authors identified that using a combination of therapy to help with problem-solving skills as well as techniques to help decrease the resistance to treatment appeared to be the most effective in helping to alleviate depression and to have the participants follow their treatment regime for COPD. It appears that the therapy itself had some effect on the depression, but the adherence to the medical treatment also helped participants feel better physically, which could have also alleviated some of the depression. Similar results were found in a study of depression and arthritis in the elderly. The collaborative care approach, which utilized case managers and incorporated the problem-solving therapy approach with clients, was found to result in both decreased problems with arthritis and a decrease in depression (Lin, et al., 2003).
Treatment of bipolar disorder

Many of the medications required to treat bipolar disorders are very strong with a rather high incidence of side effects. This treatment of bipolar disorder in the elderly is made more complicated by the fact that pharmacological interventions for the elderly are different due to physiological changes that occur with advancing age. For example, lithium is the drug of choice to control bipolar disorders in younger people. However, most elderly persons have somewhat diminished renal functioning, and lithium can cause complications with renal function that can be deadly in older persons (Gutman and Gutman, 2006). Interventions which include the use of psycho-education in addition to medication have been shown to produce better outcomes than those studies in which medication alone was used (Colom, Vieta, Martinez-Aran, 2003; Colom, Vieta, Reinares, 2003).

Lithium and divalproex appear to be effective to treat mania in the elderly with bipolar disorder. However, the research in this area is still not very extensive. Other classifications of drugs, such as anti-depressants, have been examined in extremely few studies. There is almost no research on the ideal dosages or the length of administration of the medications. Age-related factors might attenuate benefit and increase vulnerability to side effects of pharmacotherapy. (Young, et al, 2004).

In examining the long-term behaviors of adults with bipolar disorder, it was also noted that persons with this diagnosis often have a hard time being compliant with medication, and this can hamper the treatment of the illness (Martire, et al., 2004).

Treatment for anxiety

There have not been a large number of studies pertaining to the treatment of anxiety in the elderly. One of the few in recent years indicated that risperidone proved useful in the treatment of anxiety disorders (Mornigo, 2004). Benzodiazepines have been used to treat anxiety for decades, but are not always the best course of treatment for the elderly as they tend to cause sedation, mental confusion and lack of physical coordination, even at fairly low doses. In addition, the tolerance for benzodiazepines builds very quickly and therefore requires the use of higher and higher doses to achieve the same results (Ettinger and Kanner, 2006).

In a meta-analysis of the treatment of anxiety in older persons, the average participant had suffered from anxiety for 19 years, had an average age of 69, and two-thirds were women. Behavioral interventions and medication were examined across all studies, and medication appeared to have some advantage over therapy for symptom improvement. Overall, control groups who received no treatment showed improvement in about 30 percent of cases. No particular form of therapy showed superiority over another. Nor were any outstanding differences found between classes of drugs used to treat anxiety (Pinquart and Duberstein, 2007).

Another study comparing different forms of cognitive behavioral therapy (CBT) did show that it was effective for generalized anxiety disorder. An enhanced form of cognitive behavioral therapy included learning and memory aids designed to make the therapy more effective with elderly patients. Homework reminders, troubleshooting calls and a weekly review of all concepts and techniques were compared with standard cognitive behavioral therapy. The enhanced version was found to be more effective.

Cognitive behavioral therapy has shown promise as an effective treatment in the elderly who suffer from anxiety. CBT with the elderly has been studied far less than the use of CBT with younger people, but it has been shown to be effective in younger people. Therefore, it has been generally assumed that it would also work well with the elderly. However, few studies have empirically tested this theory.

Services for the elderly

There is an array of services to help the elderly when they are unable to fully function, either mentally or physically. In general, case management services are not offered exclusively for mental health issues, but programs include services for the mental health needs of the elderly as part of services that are already offered. Most states do have some sort of program to serve the elderly. In Florida, for example, the Department of Elder Affairs has local offices called Area Agencies on Aging that link the elderly to a variety of programs in their county. The state level program is primarily aimed at seniors with physical impairment and offers case management, meal delivery, legal assistance, adult day care, respite services and emergency response. Fees are often charged on a sliding scale basis. In South Florida, which has a high number of senior citizens, private agencies, such as Jewish Social Services of South Florida, offer a wide and comprehensive array of services to the elderly, including in-home therapy and case management.

However, for those elderly who live in rural areas or in states with low numbers of elderly persons, services are often very limited. For the rural elderly in particular, access to services is very difficult. Many elderly persons in rural areas live in poverty and have little access to transportation. However, some efforts, such as mobile teams of psychiatrists and therapists to access rural areas, have provided more help to some communities. Though even 20 years ago, telephonic therapy was heralded as a cutting-edge idea that could provide more access to therapy and other services, there were issues related to funding of these services through Medicare, and this great technological idea never really materialized (Kirchner, 1981).

The New York State Office for the Aging lists detailed services for health care, housing, energy and transportation, and some social services that are primarily related either to persons with Alzheimer’s or caregiver support groups. Yet, “mental health” receives only one link that connects to a list of county mental health departments, with no details given about the type or availability of services. In Texas, the Department of Aging and Disability focuses on a range of services, such as housing and health care and information about adult daycare. But there is no mention of mental health services in any explicit way, and only a link is provided to a general help line for an array of services. Iowa, California and Georgia are among the states that offer a typical range of services to the elderly, including comprehensive services, meal delivery, emergency response, homemaker services and respite care.

Some states, such as South Dakota, offer case management to the elderly as a way to assess needs, link families to resources in the community and hopefully avoid crisis situations before they occur. Assessment and treatment planning are utilized with the ultimate goal of preventing seniors from moving into institutional care before it is truly needed, or in some cases, prevent residential care from occurring at all. Vermont is another state that appears to have a more comprehensive approach to working with elderly persons with mental health needs, through its Elder Care program, which is a joint effort of the mental health and aging departments of the state government. This program provides a senior help line, counseling, case management and medication monitoring specifically aimed at elderly persons.
In addition to state-run programs, many private agencies offer senior care management for private-paying individuals. These agencies typically offer a variety of services, including assessment, medical in-home care, case management and guardianship. Still, many of these agencies, both public and private, do not mention mental health needs as part of their assessment or services. There are some references to dementia and Alzheimer’s disease, but with a few notable exceptions, little reference to or focus on depression, substance abuse, anxiety and other mental disorders.

There has been a small amount of research conducted on the efficacy of case management in the elderly mentally ill. Arean, Alexopoulos and Chu (2007) studied the benefits of case management for a group of low-income, depressed seniors. Low-income seniors who received therapy for depression reported having too many life concerns that could not be adequately addressed in therapy alone, such as financial, transportation and housing problems. The authors conducted a study with control groups of seniors who received only CBT, only case management, and a combination of case management and CBT. The group who received both CBT and case management had better outcomes than those seniors who only received CBT, or only received case management.

### Conclusion

Mental health of older adults can be improved through promoting active and healthy ageing. Mental health-specific health promotion for the older adults involves creating living conditions and environments that support wellbeing and allow people to lead healthy and integrated lifestyles. Promoting mental health depends largely on strategies which ensure the elderly have the necessary resources to meet their basic needs, such as:

- Providing security and freedom.
- Adequate housing through supportive housing policy.
- Social support for elderly populations and their caregivers.
- Health and social programs targeted at vulnerable groups such as those who live alone, rural populations or who suffer from a chronic or relapsing mental or physical illness.
- Violence or older adults maltreatment prevention programs.
- Community development programs.

There are many elderly persons in the United States who are not receiving appropriate mental health screening, diagnosis and intervention. In addition, many areas of mental illness treatment for the elderly have a paucity of research studies that use control groups and longitudinal outcomes on which to base best practices.

Much of the therapeutic and pharmacological treatments utilized for the elderly are based on studies done with much younger persons and ignore the fact that elderly persons do not have the same psychosocial needs or physiological makeup. In addition, elder clients may not respond as well to therapy interventions as would a younger person, so their medications may also affect them differently. Though many elderly persons in the United States are also from ethnic minority groups, very few social workers, therapists and psychiatrists are given the appropriate cultural diversity training to enable them to engage their elderly clients most effectively.

Many nursing homes do not have staff adequately trained to recognize mental health issues or the fact that residents may be overmedicated. Consequently, residents may be prescribed incorrect medications with the intention of regulating their behaviors. Those elderly persons who live in their homes, either alone or with family, often do not receive appropriate mental health interventions because they generally receive screening, diagnosis and treatment from their general practitioners – medical doctors who lack the expertise needed to recognize and treat mental illness.

At particularly high risk for mental health problems are elderly persons who also function as caregivers. Often, these persons are underserved by social service and mental health agencies in their communities.

A few states have comprehensive service networks for the elderly, and quite a few private agencies exist to help families coordinate services. Many services only focus on Alzheimer’s and/or physical problems and ignore mental health problems. Some mental health prevention services exist, but few are currently funded even though several studies have shown that case management and a problem-solving approach can help to engage elderly persons in treatment sooner and more effectively.

A crisis looms on the horizon, as the lack of expertise in treating mental illness in the elderly and the scarce number of programs and resources collide with a rapidly increasing number of aging Baby Boomers. The call set forth years ago by the American Psychiatric Association has not been fully heeded, and as these needs arise without the necessary preparations in place, there will likely be a long struggle ahead and many lessons to be learned.

### How can you help research on dementia?

People with dementia and others who wish to help research on dementing disorders may be able to do so by participating in clinical studies designed to learn more about the disorders or to test potential new therapies. Information about many such studies is available free of charge from the federal government’s database of clinical trials, clinicaltrials.gov (http://clinicaltrials.gov).

Information about clinical trials specific to AD is available from the Alzheimer’s Disease Clinical Trials Database (http://www.nia.nih.gov/alzheimers) a joint project of the U.S. Food and Drug Administration and the National Institute of Aging (NIA) that is maintained by the NIA’s Alzheimer’s Disease Education and Referral Center.

For clinical trials taking place at the National Institutes of Health, additional information is available from the following office: Patient Recruitment and Public Liaison Office Clinical Center National Institutes of Health Building 61, 10 Cloister Court Bethesda, MD 20892-4754 800-411-1222 | 866-411-1010 (toll free) | TTY: 301-594-9774 (local) http://clinicalcenter.nih.gov/ Voluntary health organizations may be able to provide information about additional clinical studies.
A neurotransmitter that is important for the formation of memories. Studies have shown that levels of acetylcholine are reduced in the brains of people with Alzheimer’s disease.

Alzheimer’s disease – The most common cause of dementia in people aged 65 and older. Nearly all brain functions, including memory, movement, language-judgment, behavior and abstract thinking, are eventually affected.

Amyloid plaques – Unusual clumps of material found in the tissue between nerve cells. Amyloid plaques, which consist of a protein called beta amyloid along with degenerating bits of neurons and other cells, are a hallmark of Alzheimer’s disease.

Amyloid precursor protein – A normal brain protein that is a precursor for beta amyloid, the abnormal substance found in the characteristic amyloid plaques of Alzheimer’s disease patients.

Apolipoprotein E – A gene that has been linked to an increased risk of Alzheimer’s disease. People with a variant form of the gene, called apoE epsilon 4, have about 10 times the risk of developing Alzheimer’s disease.

Ataxia – A loss of muscle control.

Atherosclerosis – A blood vessel disease characterized by the buildup of plaque, or deposits of fatty substances and other matter in the inner lining of an artery.

Beta amyloid – A protein found in the characteristic clumps of tissue (called plaques) that appear in the brains of Alzheimer’s patients.

Binswanger’s disease – A rare form of dementia characterized by damage to small blood vessels in the white matter of the brain. This damage leads to brain lesions, loss of memory, disordered cognition and mood changes.

CADASIL – A rare hereditary disorder linked to a type of vascular dementia. It stands for cerebral autosomal dominant arteriopathy with subcortical infarct and leukoencephalopathy.

Cholinesterase training – Drugs that slow the breakdown of the neurotransmitter acetylcholine.

Cognitive training – A type of training in which patients practice tasks designed to improve mental performance. Examples include memory aids, such as mnemonics, and computerized recall devices.

Computed tomographic (CT) scans – A type of brain scan that uses X-rays to detect brain structures.

Cortical atrophy – Degeneration of the brain’s cortex (outer layer). Cortical atrophy is common in many forms of dementia and may be visible on a brain scan.

Cortical dementia – A type of dementia in which the damage primarily occurs in the brain’s cortex, or outer layer.

Corticobasal degeneration – A progressive disorder characterized by nerve cell loss and atrophy in multiple areas of the brain.

Creutzfeldt-Jakob disease – A rare, degenerative, fatal brain disorder believed to be linked to an abnormal form of a protein called prion.

Dementia – A term for a collection of symptoms that significantly impair thinking and normal activities and relationships.

Dementia pugilistica – A form of dementia caused by head trauma such as that experienced by boxers. It is also called chronic traumatic encephalopathy or boxer’s syndrome.

Electroencephalogram (EEG) – A medical procedure that records patterns of electrical activity in the brain.

Focal familial insomnia – An inherited disease that affects a brain region called the thalamus, which is partially responsible for controlling sleep. The disease causes dementia and a progressive insomnia that eventually leads to a complete lack of sleep.

Frontotemporal dementias – A group of dementias characterized by degeneration of nerve cells, especially those in the frontal and temporal lobes of the brain.

FTDP-17 – One of the frontotemporal dementias, linked to a mutation in the tau gene. It is much like other types of the frontotemporal dementias but often includes psychiatric symptoms such as delusions and hallucinations.

Gerstmann-Straussler-Scheinker disease – A rare, fatal hereditary disease that causes ataxia and progressive dementia.

HIV-associated dementia – A dementia that results from infection with the human immunodeficiency virus (HIV) that causes AIDS. It can cause widespread destruction of the brain’s white matter.

Huntington’s disease – A degenerative hereditary disorder caused by a faulty gene for a protein called Huntington. The disease causes degeneration in many regions of the brain and spinal cord, and patients eventually develop severe dementia.

Lewy body dementia – One of the most common types of progressive dementia, characterized by the presence of abnormal structures called Lewy bodies in the brain. In many ways, the symptoms of this disease overlap with those of Alzheimer’s disease.

Magnetic resonance imaging (MRI) – A diagnostic imaging technique that uses magnetic fields and radio waves to produce detailed images of body structures.

Mild cognitive impairment – A condition associated with impairments in understanding and memory not severe enough to be diagnosed as dementia but more pronounced than those associated with normal aging.

Mini-Mental State Examination – A test used to assess cognitive skills in people with suspected dementia. The test examines orientation, memory and attention as well as the ability to name objects, follow verbal and written commands, write a sentence spontaneously and copy a complex shape.

Multi-infarct dementia – A type of vascular dementia caused by numerous small strokes in the brain.

Myelin – A fatty substance that coats and insulates nerve cells.

Neurofibrillary tangles – Bundles of twisted filaments found within neurons and a characteristic feature found in the brains of Alzheimer’s patients. These tangles are largely made up of a protein called tau.

Neurotransmitter – A type of chemical, such as acetylcholine, that transmits signals from one neuron to another. People with Alzheimer’s disease have reduced supplies of acetylcholine.

Organic brain syndrome – A term that refers to physical disorders (not psychiatric in origin) that impair mental functions.

Parkinson’s disease – A secondary dementia that sometimes occurs in people with advanced Parkinson’s disease, which is primarily a movement disorder. Many Parkinson’s patients have the characteristic amyloid plaques and neurofibrillary tangles found in Alzheimer’s disease, but it is not yet clear whether the diseases are linked.

Pick’s disease – A type of frontotemporal dementia where certain nerve cells become abnormal and swollen before they die. The brains of people with Pick’s disease have abnormal structures, called Pick bodies, inside the neurons. The symptoms are very similar to those of Alzheimer’s disease.

Plaques – Unusual clumps of material found between the tissues of the brain in Alzheimer’s disease. See also amyloid plaques.
Post-traumatic dementia – A dementia brought on by a single traumatic brain injury. It is much like dementia pugilistica, but usually also includes long-term memory problems.

Presenilin 1 and 2 – Proteins produced by genes that influence susceptibility to early-onset Alzheimer’s disease.

Primary dementia – A dementia, such as Alzheimer’s disease, that is not the result of another disease.

Primary progressive aphasia – A type of frontotemporal dementia resulting in deficits in language functions. Many, but not all, people with this type of aphasia eventually develop symptoms of dementia.

Progressive dementia – A dementia that gets worse over time, gradually interfering with more and more cognitive abilities.

Secondary dementia – A dementia that occurs as a consequence of another disease or an injury.

Senile dementia – An outdated term that reflects the formerly widespread belief that dementia was a normal part of aging. The word senile is derived from a Latin term that means, roughly, “old age.”

Sub-cortical dementia – Dementia that affects parts of the brain below the outer brain layer, or cortex.

Substance-induced persisting dementia – Dementia caused by abuse of substances such as alcohol and recreational drugs that persists even after the substance abuse has ended.

Tau protein – A protein that helps the functioning of microtubules, which are part of the cell’s structural support and help to deliver substances throughout the cell. In Alzheimer’s disease, tau is changed in a way that causes it to twist into pairs of helical filaments that collect into tangles.

Transmissible spongiform encephalopathies – Part of a family of human and animal diseases in which brains become filled with holes resembling sponges when examined under a microscope. CJD is the most common of the known transmissible spongiform encephalopathies.

Vascular dementia – A type of dementia caused by brain damage from cerebrovascular or cardiovascular problem, usually strokes. It accounts for up to 20 percent of all dementia.

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References

1. It is projected that there will be an estimated:
   a. 25 million mentally ill senior citizens by 2030.
   b. 100 million mentally ill senior citizens by 2030.
   c. 10 million mentally ill senior citizens by 2030.
   d. 15 million mentally ill senior citizens by 2030.

2. Historically in the United States, our society has viewed and treated the elderly as _________ and has lowered its expectations for their quality of life.
   a. Physically disabled.
   b. More independent.
   c. Less capable.
   d. Less independent.

3. The elderly have a high rate of completing suicide because they use ________, hanging, and drowning.
   a. Prescription medication.
   b. Illegal substances.
   c. Firearms.
   d. Vehicular homicide.

4. The DSM-V now refers to anxiety as social anxiety disorder, however it was previously known as ___________ within the DSM-IV.
   a. Social isolation.
   b. Social phobia.
   c. Internal anxiety.
   d. Public phobia.

5. While ____________ are typically thought to emerge relatively early in life, it is estimated by the University of Pittsburgh Medical Center that 10 percent of elderly persons with bipolar disorder develop the disorder for the first time after the age of 50.
   a. Anxiety disorders.
   b. Social phobias.
   c. Neurocognitive functions.
   d. Bipolar disorders.

6. ____________ are often times inappropriate for elderly persons to consume because they tend to increase confusion, sleep disorders and falls, and yet 50 percent of all psychotropic drug prescriptions are given to seniors.
   a. Alternative treatments.
   b. Psychotropic medications.
   c. Energy drinks.
   d. Dietary supplements.

7. One primary distinguishing feature of late-onset __________ is its apparent development in response to stress.
   a. Alcoholism.
   b. Dementia.
   c. Schizophrenia.
   d. Depression.

8. Medications can sometimes lead to reactions or side effects that mimic:
   a. Sleep apnea.
   b. Strokes.
   c. Dementia.
   d. Depression.

9. Doctors often use __________ to identify strokes, tumors or other problems that can cause dementia.
   a. Brain scans.
   b. Blood tests.
   c. Gamma rays.
   d. EKG tests.

10. These drugs slow the breakdown of the neurotransmitter acetylcholine, which is reduced in the brains of people with Alzheimer’s disease.
    a. Mood stabilizers.
    b. Stimulants.
    c. Cholinesterase inhibitors.
    d. Tricyclics.

11. “Falling out” is an emotional state that consists of dizziness and collapse and is widely recognized in the:
    a. Polynesian culture.
    c. Canadian culture.
    d. European culture.

12. Some studies have indicated that Asian Americans _________ medications such as benzodiazepines and antipsychotic medications differently than Caucasians do, which can have adverse affects for treatment.
    a. Metabolize.
    b. Interpret.
    c. Prescribe.
    d. Masticate.

13. Tertiary prevention involves efforts to halt the progression of substance abuse that is rather severe, and to stop it from becoming:
    a. A problem.
    b. In need of further assessment.
    c. Fatal.
    d. Habitual.

14. ____________ is a treatment model that studied approximately 1800 elderly persons who met DSM-IV criteria for major depression or dysthymia.
    a. IMPACT.
    b. EFFECT.
    c. CONTROL.
    d. DE-NON.

15. Bipolar interventions which include the use of _________ in addition to medication have been shown to produce better outcomes than those studies in which medication alone was used.
    a. Physical therapy.
    b. Cognitive therapy.
    c. In-home services.
    d. Psycho-education.

16. A type of training in which patients practice tasks designed to improve mental performance. Examples include memory aids, such as mnemonics, and computerized recall devices.
    b. Behavioral training.
    c. Neuro training.
    d. Recall training.
17. __________ disease is a rare, degenerative, fatal brain disorder believed to be linked to an abnormal form of a protein called a prion.
   a. Alzheimer’s.
   b. Parkinson’s.
   c. Creutzfeldt-Jakob.
   d. Crohn’s.

18. A _________ is a type of chemical, such as acetylcholine, that transmits signals from one neuron to another.
   a. Proton.
   b. Neurotransmitter.
   c. Neurotron.
   d. Transitron.

19. Pick’s disease is a type of frontotemporal dementia where certain __________ become abnormal and swollen before they die.
   a. Muscles.
   b. Neurons.
   c. Brain tissues.
   d. Nerve cells.

20. Primary progressive _________ is a type of frontotemporal dementia resulting in deficits in language functions.
   a. Dementia.
   b. Aphasia.
   c. Syndrome.
   d. Disease.