LEVEL OF ATTAINMENT AND RETENTION OF KNOWLEDGE ABOUT ELDERLY DEPRESSION AND SUICIDE HELD BY DIRECT CARE STAFF AT LONG-TERM CARE FACILITIES

A Thesis
by
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ABSTRACT

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(December 2011)

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Depression and suicidal ideation are pervasive among elderly residents and patients in long-term care (LTC) facilities, but they are frequently unrecognized and undertreated. Research suggests adequately treating depression can decrease health-care costs for seniors. The purpose of this study was to assess the base knowledge and rate of learning and retention among direct care and other LTC staff. A study utilizing a nonprobability sampling of 86 available subjects was conducted using a demographic questionnaire and a test regarding knowledge of elderly depression and suicide. It was a repeated measures design that assessed caregiver knowledge prior to a training intervention, immediately following the intervention and again one month later. The data were analyzed using a paired-samples t-test of difference in means. Positive correlations were found between knowledge and education and experience, with more educated and experienced staff having greater ability to retain new knowledge. The results of this study support the use of ongoing LTC staff trainings.

DEDICATION

Dedicated to my father, my mother, Barbara Ellen, David, Bobbi, and Brian.

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I would like to thank the individuals who were instrumental in the development and completion of this thesis.

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CHAPTER 1

Introduction

The United States is experiencing growth in its elderly population: people age 65 and above. This growth will be substantial as the Baby Boomers, individuals born between 1946 and 1964, reach old age (Hooyman & Kiyak, 2005). The increase in the older population is the result of at least two factors. First is increased life expectancy, which is projected to rise from 77.6 years in 2005 to 82.6 years in 2050 (Hooyman & Kiyak, 2005). Second, more people are living longer. The oldest-old, individuals age 85 and above, comprised 12% of the elderly population in 2000, but are projected to make up 23% of the elderly population in 2050 (Hooyman & Kiyak, 2005). Although better educated and possessing greater financial resources than the current cohort of elders, Baby Boomers will likely face the inevitable cognitive and physical declines of old age (Cavanaugh & Blanchard-Fields, 2006).

As the perceived quality of life deteriorates for many aging Baby Boomers, they will likely be as susceptible to depression as todays cohort of elders: people age 65 and above (Cavanaugh & Blanchard-Fields, 2006; Kau-Nu, 2009). In a meta-analysis involving 5,328 subjects, Pinquart, Duberstein, and Lyness (2006) found that "… depression is one of the most common psychiatric disorders among the elderly, affecting not only quality of life but also contributing to higher risk of late-life medical illness, disability, institutionalization and suicide" (p. 6). Moody (2006) reported that depression is the primary cause of elderly suicide. In fact elders, people age 65 and above, have the highest incidence of suicide among all age groups in the United States (Brody, 2007). This makes control of depression essential

to the well being of an individual as he or she ages. According to Serby and Yu (2003), approximately 1% of the elderly population suffer from major depression, 2% suffer from dysthymic disorder–a persistent mild depression, 4% suffer from adjustment disorder with depressed mood, and 15% suffer from depressive symptoms not meeting criteria for the various depressive syndromes defined in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV). In all, depression affected almost 5 million elderly Americans in 2002 (Molony, 2002). Although depression is common among elders, it is not a normal part of aging. It can and should be treated (Aronson, Bennett, & Gurland (Eds.), 1983).

The number of depressed elderly individuals will likely grow with the increase in the population of Americans age 65 and above, potentially creating a significant social problem. Even if the incidence rate of depression remains the same as it is today, the increase in the elderly population will result in an increase in the number of depressed elders. The expanding elderly population will place a greater burden on the care system implemented to provide services for the infirm unable to live on their own. Depressed elders tax the care system even further. Richardson and Barusch (2006) reported that depressed elders experienced twice the hospital stays, decreased recovery rates and increased morbidity compared to nondepressed elders. Additionally, they found up to half of all elders living in nursing homes displayed symptoms of depression, and depressed nursing home residents were 59% more likely to die during their stay than nondepressed residents.

Unfortunately, elderly depression and suicidal ideation--thoughts of suicide, are often unrecognized and underdiagnosed, and the problem is prevalent in long-term care (LTC) facilities such as nursing homes and assisted living facilities (Brown, Lapane, & Luisi, 2002).

As the people with the most contact with elderly residents in LTC facilities, caregivers are often in the best position to identify the signs of elderly depression and suicidal ideation. A caregiver can be defined as anyone who provides assistance to another person in the performance of self-care Activities of Daily Living (ADLs) such as bathing, dressing, eating, and grooming oneself, or Instrumental Activities of Daily Living (IADLs) which include preparing meals, taking medication, using the telephone, and managing money. Caregivers can be informal, such as family members, friends, and neighbors, or formal, such as individuals with training and certification who are paid to provide care. For the purpose of this study, formal caregivers were defined as individuals with a Certified Nurse Assistant (CNA), Medication Aide (MA), or Medication Technician (MT) certification, employed in LTC facilities or employed by a company that provided in-home care.

Depression can be treated through psychotherapy, alternative treatments such as exercise, acupuncture, and herbal supplements, or medical treatments such as the use of antidepressant medication and electroconvulsive therapy. Each of these treatments can be implemented alone, or in combination with the others. However, there are drawbacks to each type of treatment, which means appropriate treatment will depend on the needs and traits of the patient. Medication is the most common form of treatment for elderly depression in the United States. Effective and sometimes necessary to treat major depression, its use carries numerous risks that include side effects such as drug-drug interactions and damage to the liver, kidneys and other organs (Pinquart et al., 2006). In addition to identifying signs of depression, caregivers are often in the best position to identify side effects from medication and nontherapeutic effects from nontraditional treatments for depression.

Due to their intimate interaction with residents and ability to observe signs of depression and monitor the progress of treatment, formal caregivers should be aware of the signs of depression and suicidal ideation, different forms of treating elderly depression that have proved effective and potential risks and side effects. This study will answer four research questions related to the knowledge of elderly depression held by formal caregivers and the retention rate of the information they receive through their ongoing training:

1. What is the level of knowledge of elderly depression and suicide held by formal caregivers?
2. To what extent do formal caregivers employed by in-home care companies and LTC facilities learn knowledge presented to them as part of their ongoing training?
3. To what extent do staff retain this newly learned knowledge?
4. How do the results of the three previous questions vary by years of experience, educational attainment, and certification?

CHAPTER 2

Review of Literature, Theoretical Model, and Hypotheses

The Aging of America

White Americans born in 1900 had a life expectancy of 47 years (Hooyman & Kiyak, 2005). Nonwhite Americans born in that same year had a life expectancy of only 33 years (Lord, 2002). In 1900, 3.1 million elders comprised just 4.1% of Americans (U.S. Department of Health and Human Services, Agency on Aging, 2006). By 1960, the American elderly population had increased to 9.1% of the total population. Since 1960, the growth rate of people 65+ has been the highest of any age group (Knight-Klimas & Stefanacci, 2005). From 1980 onward, this growth has been greatest among nonwhite elders. "Between 1980 and 2000, the elderly population increased by 26% among whites, 35% among blacks, 173% among Hispanics and 274% among Asians" (Merck & Co., 2005, Population Characteristics section, para. 3).

In 2000, the total population age 65+ reached 35 million, or 12.4% of the national total (The Orange County Commission on Aging, 2003); life expectancy for white Americans had risen to 79.5 years for women and 74.1 years for men (Hooyman & Kiyak, 2005). Life expectancy also increased for nonwhites, who made up 16% of the elderly population in 2000, reaching 73 years for women and 66 years for men (The Orange County Commission on Aging, 2003). That same year, 12.5% of the elderly population consisted of

the old-old, individuals age 85 and above, the fastest growing group among the elderly (Puccini & Bush, n.d.). The total number of the old-old was 28 times greater than in 1900 (Hobbs, 2001). Naturally, the number of centenarians is also increasing. Kestenbaum and Ferguson (2006) calculated that there were 21,830 centenarians in 1990, 32,920 in 2000 and a projected 52,800 on January 1, 2010.

It is estimated that 20% of the American population, or 1 person in 5, will be 65+ by the year 2050 (Orange County Commission on Aging, 2003). Hooyman and Kiyak (2005) reported life expectancy for people born in the United States in 2050 is projected to be 82.6 years. The greatest increase in elders will continue to be among nonwhites, who are projected to constitute 25% of the elderly population in 2030 (Food Security Institute: Center on Hunger and Poverty, 2003), 31% by 2040 (Merck & Co., 2005), and 39% by 2050 (SeniorJournal.com, 2006).

Depression

This predicted increase in the number and percent of elders is important because, even among elders themselves, depression rates increase with age. Wallace and O'Hara (1992) stated that "the prevalence of mental health disorders increased across these age categories: 21.9% at age 70, 24.2% at age 75, and 31% at age 79," with the "most noticeable" increases of depression among the "old-old" (p. 398). Results of a cross-sectional and longitudinal study using the Center for Epidemiological Studies Depression Scale (CES-D) demographic data and social support information showed a significant increase in depression as elders age, with the most rapid increase in depression for individuals age 85 and above (Wallace & O'Hara, 1992).

Suicide Awareness Voices for Education [SAVE] (2009) defines depression as an imbalance of neurotransmitters, chemicals in the brain that carry messages between neurons—the "basic unit[s] of the nervous system" that function "to transmit and store information" (Kolb & Whishaw, 2003). The neurotransmitters most commonly associated with depression are serotonin, norepinephrine, and dopamine (National Alliance on Mental Illness [NAMI], 2006). Depression is classified as a mood disorder by the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition, Text Revision* [DSM-IV-TR] (American Psychiatric Association, 2000). The depressive disorders defined under the category of mood disorders in the DSM-IV-TR include major depressive disorder (MDD), dysthymic disorder, and depressive disorder not otherwise specified (depressive disorder NOS). A diagnosis made using the DSM-IV-TR considers symptomatology, duration of symptoms, and the ruling out of alternative possible diagnoses. MedicineNet.com (2009) humanizes depression by defining it as:

> An illness that involves the body, mood, and thoughts, that affects the way a person eats and sleeps, the way one feels about oneself, and the way one thinks about things. A depressive disorder is not the same as a passing blue mood. It is not a sign of personal weakness or a condition that can be wished away. People with a depressive disease cannot merely "pull themselves together" and get better. Without treatment, symptoms can last for weeks, months, or years. (para. 1)

Major depressive disorder, also called clinical depression and unipolar depression, is the most severe type of depression, the one most likely to be associated with suicide, and the leading cause of medical disability in the United States for people age 15 to 44 (National

Institute of Mental Health [NIMH], 2008). It is predicted to be the "…second leading cause of disability world-wide" by 2020 (Schoevers et al., 2009, p. 169). "Of all persons who experienced MDD, nearly one-half wanted to die, one-third considered suicide, and nine percent reported a suicide attempt" (ScienceDaily.com, 2005, para. 4). MDD also has a "strong relationship" to drug and alcohol dependence (ScienceDaily.com, 2005). It is estimated that 17% of Americans will experience major depressive disorder some time during their lives (Kau-Nu, 2009; Oquendo et al., 2001). People can develop a depressive disorder at any age, and major depressive disorder is twice as common among women than among men, with up to one in five women and one in ten men developing depression during their lifetimes (Nemade, Reiss, & Dombeck, 2007). It occurs equally between boys and girls before they reach puberty (Kau-Nu, 2009). Typically, there is a period of three years between onset of the disease and treatment (ScienceDaily.com, 2005).

Taking race, ethnicity and education into account, Riolo, Nguyen, Greden, and King (2005) found that, overall, whites suffered from MDD significantly more than blacks or Mexican Americans. While study results showed "…poverty was a significant risk factor for major depressive disorder…" regardless of race, whites were 1.5 times more at risk for MDD when living in poverty (Riolo et al., 2005, p. 998). Riolo et al. (2005) also found that Mexican Americans had a significantly greater risk for MDD when they possessed less than an eighth grade education. Researchers at the Mailman School of Public Health found that indigenous Americans also have an "elevated risk of major depression" (ScienceDaily.com, 2005). Oquendo et al. (2001) obtained results comparable to Riolo et al. (2005) in a similar study. However, Oquendo et al. (2001) included a group of Cuban-Americans, which had levels of MDD comparable to Puerto Ricans, in which both males and females had a rate of

MDD significantly higher than that of white males and females. Oquendo et al. stated that the same disparity found in the MDD rate among Latino groups might also be found among black and white Americans if they too were broken into subgroups based upon their countries of origin.

Whites suffered significantly less from dysthymic disorder–a persistent mild depression–than blacks or Mexican Americans, "…but significant interactions occurred between race/ethnicity, sex, and education in relation to prevalence of dysthymic disorder" (Riolo et al., 2005, p. 998). After accounting for sex, Riolo et al. (2005) found that whites with a high school education or greater were significantly less affected by dysthymic disorder than blacks and Mexican Americans, who were significantly more affected by dysthymic disorder according to sex, with females being at greater risk, regardless of educational attainment. NIMH (2008) reported that approximately 3.3 million Americans, or 1.5% of the population; suffer from dysthymic disorder during any given year.

Depression is a highly treatable disorder with proven methods that include medical treatments such as the use of antidepressant medication and electroconvulsive therapy, psychotherapy, exercise, light therapy, and alternative forms of treatment such as acupuncture or the use of vitamins and herbal supplements. Wu et al. (2007) found that 53.6% of the respondents to a national survey of women used complementary and alternative treatments for depression. Factors that influenced the use of alternative treatments included education, race, ethnicity, and the geographic region in which they lived. Immigrants to the United States were more likely to use acupuncture and herbal supplements. Black women living in the southeast were more likely to use medication, while white college-educated women living in the northeast were more likely to use vitamins and herbal supplements (Wu

et al., 2007). Unfortunately for individuals who rely on medical treatment of depression, a study conducted by Snowden (2003) found blacks and Latinos "…were less likely than whites to receive guideline-adherent treatment…" were more likely than whites to leave treatment early, and the disparities "… in quality extend to the elderly" (p. 240).

Interestingly, the prevalence of depression has grown in the United States over the last century. Studies of cohorts born between 1917 and 1936, 1937 and 1952, and 1953 and 1966 showed that each successive generation had exhibited an increase in the presence of MDD (Kau-Nu, 2009). Furthermore, Baby Boomers have proved to be the generation with the highest rate of MDD. Middle aged adults, in this case Baby Boomers between the ages of 45 and 64, are the age group at the greatest risk for MDD (ScienceDaily.com, 2005). Given the possibility that the prevalence and rate of depression among Baby Boomers may continue into their old age, the United States may be facing an unprecedented increase in elderly depression.

Serby and Yu (2003) estimated that approximately 22% of Americans age 65+ suffer from some form of mild to severe depression. NIMH (2007) estimated that MDD is present in 1-5% of elders living in the community, 11.5% of hospitalized elders, and 13.5% of elders receiving home health care. Risk of elderly depression increases due to comorbidity with other illnesses and limited ability to function (NIMH, 2008). NIMH (2007) recommends treating elderly depression "…when it occurs at the same time as other medical illnesses. Untreated depression can delay or worsen the outcome of these other illnesses" ("Isn't depression just a part of aging?" section, para. 3).

Suicide

In addition to the effect depression can have on the outcome of medical treatment, there is a link between depression and suicide. SAVE (2009) warned, "untreated or mistreated depression can result in suicide" (para. 3). Brody (2007) stated, "… major depression is the main precipitant of suicide at all ages" ("The Warning Signs" section, para. 4). Depression is a mental illness, and several studies have linked it to suicide. SAVE (2009) claims that 90% of people whom committed suicide suffered from mental illness or a substance abuse problem. NAMI (2006) reported that 90% of the 33,000 Americans who committed suicide in 2006 suffered from a mental illness, the most common being a depressive disorder. Cosgrove-Mather (2003b) reported that 98% of all suicides were due to depression, notwithstanding age. With regard to elders, Hart-Hester (2004) stated that depression is "the major predictor of suicide" (Discussion section, para. 1). Serby and Yu (2003) found that suicidal patients age 65+ are generally "… suffering from their first episode of major depression, which is moderately severe" (p. 39). Brody (2007) reported, "a particularly vulnerable time may be after the diagnosis of a life-threatening disease like cancer" ("The Warning Signs" section, para. 9). Other conditions that can result in depression and an increased risk for suicide among elders are social isolation and divorce or widowhood (Substance Abuse and Mental Health Services Administration [SAMHSA], n.d.). Prior suicide attempts by an individual, or a family history of suicide, also significantly increase the risk for suicide (SAVE, 2009).

Walker and Osgood (2000) found that "…hopelessness in combination with high levels of depression was especially dangerous" (p. 57). Unfortunately, many elders suffer a debilitating disease or injury from which they will not recover, and can only look forward to

continual decline and suffering. Hopelessness can lead to suicidal ideation – thoughts of suicide. Suicidal ideation is actually not a desire to die, but a desire to end the pain, suffering or problem a person feels is overwhelming and impossible to solve. People have a desire to kill their problem, not themselves (SAVE, 2009).

It is estimated that there are 8 to 25 attempts for each successful suicide in the United States (Nemade, Reiss, & Dombeck, 2007). Approximately 750,000 Americans attempt suicide each year (Caruso, n.d.). Although men are three times more likely to die by suicide, women make suicide attempts two to three times more often than men (NAMI, 2006). About 4 elders attempt suicide for each person 65+ who succeeds, compared with 200 suicide attempts by young adults for each young adult who succeeds (Nutrition Health Center, n.d., para. 2). Thus, elders are more likely to complete their suicide attempt.

People 65+ are at the highest risk for suicide compared with all other age groups (Serby & Yu, 2003; Walker & Osgood, 2000; Cosgrove-Mather, 2003b; SAMHSA, n.d.). The suicide rate from 1990 through 2001, per 100,000 people, in the United States was 17.9 for individuals 65-84 years old, rising to 21.1 for individuals 85+. The next highest rate of suicide per 100,000 people was 15.1 for individuals age 35-44, followed by 14.7 for individuals age 45-54 and 14.4 for the 25-34 year old age group (Suicide.org, n.d.). Hart-Hester (2004) reported that elders committed 19% of the 29,199 suicides recorded in the United States during 1999. The 2001 rate of suicide for white males age 85+, the demographic group with the highest rate of suicide in the United States, was 54 per 100,000 people (Suicide.org, n.d.), whereas the overall rate of suicide for the United States in 2004 was 11 people per 100,000 (NIMH, 2007). The rate of suicide for Americans 65+ in 2004 was 14.3 for every 100,000 people, rising to 49.8 per 100,000 elders age 85+ (NIMH, 2007).

Racially, the suicide rate for elder Americans per 100,000 people in 2004 was 15.8 for whites, 10.6 for Asians and Pacific Islanders, 7.9 for Latinos and 5.0 for blacks (NIMH, 2007). Overall, a person age 65+ commits suicide about every 90 minutes (Hart-Hester, 2004).

Elders tend to use more lethal methods of suicide than do younger age groups, and do not threaten suicide for attention seeking or manipulative purposes (Walker & Osgood, 2000). The most common method of suicide among both male and female elders is a firearm, chosen by 78% of males and 35% of females and comprising 71% of all suicides in this age group. The next two most often used methods are overdosing and suffocation, each comprising 11% of the total (SAMHSA, n.d.). Elders also commit passive suicide by refusing to eat or take their medications (Walker & Osgood, 2000; Brody, 2007). Caregivers need to be aware of the various methods of suicide used by elders.

Nonsuicidal Mortality

In addition to its link with suicide, depression is related to increased nonsuicidal mortality among elders. Schoevers et al. (2009) found an association between depression and "excess mortality" among elders living in the community and in care centers. Elders suffering from depression rated as moderate exhibited an "excess mortality risk" 46% greater than those who were not depressed, while elders suffering from a level of depression rated as high exhibited a 35% greater mortality risk than the nondepressed. The counterintuitive findings may be due to the possibility that individuals with depression rated as high received treatment "which may have affected prognosis" (Schoevers et al., 2009, p. 175). Furthermore, elders who had suffered depression due to a single event, or had suffered from

depression that was in remission, did not show an increased mortality risk. "This once more underlines the detrimental effects of chronic depression, that has already been shown to have a profound negative influence for late-life physical and social adjustment, health service use, and well-being" (Schoevers et al., 2009, p. 174). In an analysis of 58 studies conducted between 1997 and 2001 that examined the association between depression and nonsuicidal mortality, Schulz, Drayer, and Rollman (2002) found that 72% of the studies reported a positive correlation between depression and mortality. Schulz et al. (2002) also found that subjects who received "… an 'adequate dose' of an antidepressant treatment … experienced a significant reduction in mortality" (p. 221).

Diagnosis

The high risk of elderly suicide and the increased risk for nonsuicidal mortality make it necessary to screen an elder for depression as part of a proper diagnosis. Misdiagnosis of depression may have played a role in the differing rates of nonsuicidal mortality for elders with depression rated as moderate versus high in the previously mentioned study conducted by Schoevers et al. (2009). Serby and Yu (2003) found elderly suicide victims tended to have "unrecognized and untreated" depressive symptoms. The problem of misdiagnosis and undertreatment of elderly depression is especially pervasive in primary care settings (Bosmans et al., 2006). Elders and their physicians often attribute common symptoms of elderly depression such as memory loss, poor concentration, weight loss and fatigue as inevitable consequences of the aging process (Bosmans et al, 2006; Cosgrove-Mather, 2003b). A proper diagnosis is made more complicated by the comorbidity of medical and neuropsychiatric disorders, along with "… life-stress, and social and financial problems" (Bosmans et al., 2006, p. 1021).

Symptoms of elderly depression are varied and often misdiagnosed as a sign of aging. Evans and Mottram (2000) stated "there is a bias among health professionals and the community in general to accept lower functioning and more symptoms in older people." "Often, the associated complaints are thought of as old age" (Korc & Stapleton, 2009, "Case History" section, para. 7). Depressed elderly individuals often express somatic complaints—common, unexplained physical problems such as headache, chest pains, difficulty breathing, nausea, lower back pain and frequent urination (World Health Organization - U. K. Collaborating Centre, 2003). They also complain of problems "such as loss of appetite, sleeplessness, anergia [an abnormal lack of energy] and loss of interest," which can also be signs of medical ailments (Serby & Yu, 2003, p. 39). Due to the variety of complaints and the possible medical or psychological causes, an elder who expresses these complaints should be given a comprehensive medical and psychological examination to ensure a proper diagnosis.

> To determine the proper diagnosis, your physician must conduct a thorough physical evaluation, to rule out a serious medical condition or medication problem. But, many physicians only focus on possible physical illness, and may not consider that depressed older people are more likely to complain of physical problems. (Psychology Information Online, n.d., "Depression Shares Symptoms with Other Medical Conditions" section)

Serby and Yu (2003) found that 65% of seniors who reported "hypochondriacal symptoms" suffered from untreated depression. When the symptoms cannot be accounted for due to medical reasons, depression should be considered as a cause.

Doctors and caregivers also need to be aware of the co-morbidity of depression and medical disorders, as well as disorders such as adjustment disorder, bereavement, substance-induced mood disorder, sleep disorder, hypochondriasis, and disorders that meet the DSM-IV diagnosis criteria of depressive disorder not otherwise specified (Serby & Yu, 2003). An especially strong tie has been found among depression, heart disease, and mortality (Schoevers et al., 2009; Schulz et al., 2002). Elderly patients who suffer from congestive heart failure combined with depression experience "… more frequent hospital admissions, a decline in activities of daily living, … increased medical costs, … [and] higher mortality rates" (Gottlieb et al., 2004, p. 1542). "What often makes depression in the elderly so insidious is that neither the victim nor the health care provider may recognize its symptoms in the context of the multiple physical problems of many elderly people" (Serby & Yu, 2003, p. 39).

Nondisability Predictors of Elderly Depression

Certain demographic variables such as income and educational attainment affect the emergence of depression. Wallace and O'Hara (1992) found there was a greater likelihood for depression among elders who live alone, compared to those living with others. They also found a correlation between educational attainment, income, and depression, with individuals having higher educational attainment and incomes reporting less depression. SAMHSA (n.d.) reports that divorce and widowhood also increase the risk for elderly depression.

Disability

Cavanaugh and Blanchard-Fields (2006) define disability as "… the effects of chronic conditions on people's ability to engage in activities that are necessary, expected, and

personally desired in their society" (p. 103). The World Health Organization simply defines disability as "impairments in the ability to complete multiple daily tasks" (Hooyman & Kiyak, 2005, p. 110). Both definitions use a medical model, which defines a person according to impairment or handicap, rather than a social model, which considers how the life of a disabled person is affected by "barriers" created by society (Kaduwanema, 2009).

During 2007, 15.5% of noninstitutionalized females age 5+ and 14.3% of noninstitutionalized males age 5+ suffered from some type of disability, comprising 14.9% of the total American noninstitutionalized population age 5+ (Erickson & Lee, 2008). Erickson and Lee (2008) further found that males had a greater incidence of disability between the ages of 5 and 20, with females taking the lead after the age of 20. Examining prevalence of disability of noninstitutionalized Americans by age group, Erickson and Lee (2008) found the lowest incidence at 6.6% among the 5-20 age group. Incidence of disability increased to 12.8% among those age 21-64, 29.7% among those age 65-74, and 52.9% for those age 75 and above. Among all noninstitutionalized Americans 5 years of age and older with a disability, 9.4% suffered from a physical disability and 5.8% suffered from a mental disability, including depression, with some individuals suffering from both a physical and a mental disability (Erickson & Lee, 2008). For elders age 65-74, 23% suffered from a physical disability, and 7.5% suffered from a mental disability. Physical disability increased to 40.3% of noninstitutionalized elders age 75 and above, and mental disability increased to 17.8% (Erickson & Lee, 2008). Racially and ethnically, available statistics showed that among Americans age 21-64 the prevalence for disability was 12.6% among whites, 17% among blacks, 22.5% among indigenous Americans, and 6.3% among Asians. Statistics presented for noninstitutionalized Latinos were for individuals age 5 and above, and showed

a disability rate of 10.7% (Erickson & Lee, 2008). Physical and mental disability is present among all races and its prevalence increases with age.

Although depression can be linked to environmental, genetic, medical, and pharmaceutical factors (Aronson et al., 1983), the most likely indicator for potential depression regardless of race, educational attainment, living arrangement, or financial status is disability (Dent et al., 1999). While examining depressed elderly Medicare recipients, Husaini et al. (2000) found no significant relationship between elderly depression and income, educational attainment and other demographic features. “No statistically significant differences were found between beneficiaries with and without multiple mental health diagnoses, in terms of sex, race, median income or educational level in the zip code of residence, or urban-rural distribution” (Husaini et al., 2000, p. 1246).

Dent et al. (1999) found that disability was also the predominant factor in the relationship between disease and depression. The results of a cross-sectional analysis and a longitudinal study indicated "that disease resulting in disability could lead to depression, whereas disease without disability was unlikely to do so" (Dent et al., 1999, p. 356). These results are supported by data from a survey conducted for AARP by NFO Research (1999). When asked to rate a list of attributes, based on their importance to quality of life, participants rated ‘being healthy, vigorous and physically active’ and ‘being in good spirits’ as the most important. This was true regardless of sex or age (NFO Research, 1999). Dent et al., (1999) concluded:

> ... that the emergence of depressive symptoms was predicted by ill-health and disability and that these factors tended to have the strongest association with depression among the range of variables examined, such as demographic

> background, recent life events, other psychiatric morbidity and social support. (p. 351)

Measuring Disability

Persons with disabilities began to be counted in the United States in 1838, to ascertain the number of deaf and blind citizens. For the 1840 census, people with mental retardation and mental illness were added to the count (Altman & Gulley, 2008). However, there was no consensus on a definition for disability, and even today different criteria are used depending on the organization compiling the data and the intended use of the results. Altman and Gulley (2008) found that questions are usually written by "able bodied" researchers without input from the population they wish to count. They also found a tendency toward using a "uni-dimensional perspective," focusing on specific limitations, rather than "multiple dimensions of the concept of disability" (p. 5).

When measuring disability among the elderly, researchers tend to rely on an individual's ability to independently perform ADLs and IADLs. Burwell and Jackson (1994) stated that inability to independently perform ADLs and IADLs was an acceptable determinant of disability because it was "a direct indicator of the need for care" ("Defining the Elderly Disabled" section, para. 2). Altman and Gulley (2008) disagreed, arguing that focusing on "self care limitations" causes a "uni-dimensional perspective" toward elders because "disability is being operationally defined in terms of whether or not the elderly person is independent or needs help and not on the physical or mental functioning limitations they experience or the restrictions in social activities they previously enjoyed" (p. 6).

Need for Care

Advancing age "dramatically" increases the need for personal assistance as well as the amount of assistance an individual requires due to disability (Burwell & Jackson, 1994). Hobbs (2001) found that 9% of individuals age 65-69 required assistance with ADLs and IADLs. The Centers for Disease Control and Prevention (2009a) reported that 3.4% of noninstitutionalized adults age 65-74 and 10% of those ages 75+ needed assistance with personal care. Hobbs (2001) further found that the number of elders age 85+ who needed help increased to 50%, that women are more likely than men to need assistance, and that blacks and Latinos tended to need assistance more than did whites. Burwell and Jackson (1994) stated that "…the most prevalent type of disability [for elders living in the community] was the need for [human] assistance with bathing," followed by toileting, dressing, transferring and eating ("Levels of Disability Among the Elderly Living in the Community" section, para. 1).

Burwell and Jackson (1994) found that the majority of long term care in the United States was provided by family and friends, known collectively as "informal caregivers." The most common informal caregiver was a spouse or an adult daughter, many of whom were age 65+. The average age of a spouse caregiver was 70 (Burwell & Jackson, 1994). A growing caregiving concern is the "sandwich generation" - adults raising their own children while caring for elderly parents and relatives. Kreiser (2006) estimated there were more than 16 million Americans "sandwiched" between the younger and older generations for whom they care.

The presence of depression also increases the need for assistance, as well as the time required for caregivers to provide help with ADLs and IADLs (Gavin, 2004). This is true even in a home care setting. The severity of depression symptoms also affects required care. Gavin (2004) found elders with "many depressive symptoms" were more than three times as likely as nondepressed elders to receive care from informal caregivers. Additionally, an elder with "many depressive symptoms" required an average of six hours of help weekly from family and friends, while a person with "few" symptoms received an average of 4.3 hours of weekly care, and an elder without depressive symptoms received 2.9 hours of care (Gavin, 2004).

Elders with a disability are often unable to obtain the level of care needed for them to remain in their homes, leading to admission into a LTC facility. Currently, 1.5 million elders, representing approximately 5% of the American elderly population, live in LTC facilities. The population of potential elderly LTC residents is projected to increase more than 50% by the year 2020 (Walker & Osgood, 2000). As previously cited, elderly nursing home residents are more likely to be depressed than elders living in the community, and more likely than noninstitutionalized elders to die during their stay. Depressed nursing home residents also take longer to recover from injury, illness and disease.

Effect on North Carolina

Between the years 2000 and 2030, North Carolina faces a projected 121% statewide increase in residents 65+, and a 144% increase in residents 85+ (North Carolina Division of Aging and Adult Services, 2007). The expected increase in the population of elderly residents could prove problematic for North Carolina. The elderly population increase is

expected to occur in both urban and rural areas. A growing elderly population may be especially challenging for rural areas, which tend to face economic and logistical limitations that may make it difficult to meet the needs of elderly residents. The North Carolina Division of Aging and Adult Services (2007) reports that "… rural residents and their communities face-isolation by distance … sparse resources that cannot adequately support education and other public services, and weak economic competitiveness" (p. 17). Furthermore, elders living in economically depressed rural counties are more likely to be single, of low economic status and suffering from disability or illness (Calhoun & Rash, 2009). Of the 20 most populous states, North Carolina has both the highest number and percentage (39.8%) of rural residents (North Carolina Division of Aging and Adult Services, 2007). Rising rural elderly populations could create problems due to the economic and logistical limitations faced by these regions. These challenges, combined with slowing economic growth throughout the state, may force state and local government to further limit resources available to their elderly citizens, significantly reducing the resources available for rural elders. A growing elderly population in a region of limited resources makes both the formal and informal long-term caregiver even more important in the detection and successful treatment of depression.

Symptomatology

In addition to physicians and mental health professionals, formal and informal caregivers should be aware of the many and sometimes subtle signs of elderly depression, which include: a lack of energy or fatigue; sleeping too much or too little; an increase or decrease of appetite or weight; feeling down, worthless or guilty; loss of memory or ability to concentrate; loss of interest in pleasurable activities the person once enjoyed; and talk of

hopelessness, death or suicide (Lamb, n.d.; The AGS Foundation for Health in Aging, n.d.). Aronson et al. (1983) recommend that caregivers must:

> be alert to the most dangerous symptoms of depression such as insomnia, hypochondriasis, appetite changes, agitation, and self neglect. Probe for feelings of despair and suicidal intent as appropriate. Consider hospitalization if depression is rapidly progressive, resistant to treatment, or accompanied by suicidal intent. (p. 68)

Of course, medical, pharmacological and environmental factors must be ruled out as the cause of changes in the elder's thought or behavior if a diagnosis of depression is to be made (Aronson et al., 1983). For example, both cognitive impairment resulting from dementia and medical problems leading to delirium can mimic depression in the elderly. Physicians need to be aware of the subtle differences in the ways depression, dementia, and delirium are manifested in elderly patients' affect, memory, self-awareness, and performance of ADLs and IADLs (Gagliardi, 2008). Caregivers must also be aware that even more common among elders than clinical depression are combinations of depressive symptoms that can be just as debilitating as major depression (Brown et al., 2002). Brown et al. (2002) reported that treating depressive symptoms reduced declines in physical functioning and quality of life, just as treatment of major depression produced the same results.

Cost of Elderly Depression

As previously stated, lack of proper treatment for depression affects a person's physical health and increases the risk of disability and suicide (Pinquart et al., 2006), as well as increasing monetary and societal costs beyond those of proper diagnosis and treatment.

Gavin (2004) reported that the calculated cost of care provided to disabled elders in the community by family and friends, if they were paid the wage of a home health aide, as being $9 billion a year. This amount did not consider the costs of formal treatment such as doctor visits, hospital stays or medication. It also did not include the cost of transportation for medical visits or shopping (Gavin, 2004). Gavin further reported that elders suffering from even moderate depression required more time from caregivers than elders with common chronic health problems such as heart disease, diabetes, arthritis and vision problems.

Depression also affects the cost of medical treatment. Sowers (2003) reported that costs for depressed elders receiving outpatient medical treatment were 43-52% higher than costs for nondepressed elders receiving outpatient treatment for the same malady. Sowers found the costs for inpatient medical treatment were 47-56% higher for depressed elders than for nondepressed elders receiving the same inpatient treatment. Even after considering all aspects of health care and including an "adjustment for chronic medical illness," Sowers found "only a small percentage" of the increased cost of treating depressed elders was used for treating depression, meaning that the medical problems of depressed elders simply cost more to treat than the same medical problems in nondepressed elders (p. 1). The data suggested that the cost of treating depression would be more than offset by the lower medical costs of treating those patients' other maladies. Sowers stated "…that improving recognition and treatment of depression in elderly patients may be cost-neutral or even lead to decreased medical costs over all" (p. 1).

Similarly, Husaini et al. (2000) compared the cost of medical care for elderly mentally ill Medicare recipients to that of their peers without a mental illness. They found that the majority of the overall cost of treating the mentally ill elders went toward treating

physical ailments, not mental illness, and "…the highest ratio of mental health to total health costs was for patients diagnosed with depression" (p. 1246). Husaini et al. concluded that treatment of depression might actually reduce overall health costs.

Undertreatment of Elderly Depression

Despite the availability of effective treatments, elderly depression continues to be "seriously undertreated" (Wu et al., 2007). There are various reasons for this shortcoming. One is the lack of knowledge about elderly depression. Paraprofessionals with certifications such as CNA, MA, and MT have the most contact with residents in LTC facilities, but the least knowledge of elderly depression compared with more educated staff such as nurses, social workers, and activity staff (Ayalon, Arean, & Bornfeld, 2008). This is a problem due to the nature of the complex care needs of elders. Cherry et al. (2007) stated "geriatric-focused education" for caregivers of elders is necessary because "chronic multiple disease states coupled with changes in psychosocial needs, is more difficult to manage than care for other age groups" (p. 38).

Eldercare is adversely affected by the inadequate training and low educational attainment required by states to obtain CNA, MA, or MT certification. Cherry et al. (2007) stated that "little, if any, geriatric training is included in their education," while "training has not kept pace" with the needs of the elder care industry and "ineffective" teaching methods are often used (p. 39). In the state of North Carolina, CNA program candidates are not required to possess a high school diploma or a GED. Instead, they are required to pass a basic skills test and possess a ninth grade reading level (C. Lang, personal communication, August 16, 2011). North Carolina does require that CNAs working in a skilled care facility,

otherwise known as a nursing home, possess a high school diploma or a GED. Although not required by the state, assisted living facilities usually require CNAs to possess a high school diploma or GED (C. Lang, personal communication, August 16, 2011). A caregiver with MA certification works in a skilled care facility and must possess CNA certification, and a high school diploma or GED is a prerequisite to entering a MA certification program (C. Lang, personal communication, August 16, 2011). It is not necessary to possess CNA certification to become a MT. A MT works in an assisted living facility and receives training in-house from the facility. A MT can only be employed in an assisted living facility, and self-service materials are available through the state of North Carolina (C. Lang, personal communication, August 16, 2011).

Several barriers exist that can inhibit adequate training for certified caregivers. One is the demographic makeup of the majority of certified caregivers in the United States. Most certified caregivers are minority women from economically disadvantaged backgrounds, possessing at most a high school diploma or GED, and are poorly paid, often living at or below poverty level (Beck, Ortigara, Mercer, and Shue, 1999; Squillace et al., 2009). It can also be challenging for certified caregivers living in rural areas to obtain adequate education and training (Cherry et al., 2007). Another barrier is a focus on corporate profit and self-protection. Institutional priorities are skewed and promote defensive and substandard care (Pelletier, 2005) while pursuing efficiency over meeting the cognitive needs of the residents (Engelman, Altus, Mosier, and Mathews, 2003).

Due to a lack of educational attainment and training resulting from the various barriers faced by certified caregivers, paraprofessional caregivers are too likely to consider depression a normal part of aging, and are less familiar with signs of depression and the

effectiveness of various treatments (Ayalon et al., 2008). Ayalon et al. (2008) found that educational attainment and age were the only variables that "… were significantly associated with knowledge and beliefs about depression" (p. 360). Older caregivers and caregivers with higher levels of education knew more about elderly depression, with educational attainment bearing the greatest impact on a caregiver's knowledge and beliefs (Ayalon et al., 2008). Additionally, experience working with elders, whether considering total experience or time worked at a particular facility, did not improve staff knowledge. Exacerbating matters is the fact that paraprofessionals rarely received mental health training as part of their initial education (Ayalon et al., 2008). Ayalon et al. (2008) determined that trainings for paraprofessional caregivers should be provided and geared toward meeting their deficiencies in knowledge regarding care for depressed elders. A study conducted by Silverberg, Taylor-Vaisey, Szalai, and Tipping (1995) found that subjects receiving continuing medical education benefited from the trainings and retained the new information over time.

Undertreatment of elderly depression is also a result of various barriers to treatment. One barrier is a lack of doctors, therapists, nurses and staff trained to work with elders. When treating mental health problems, as well as any medical disorder, it is necessary to have a proper diagnosis. Already, many elders suffering from depression do not have access to an appropriately trained professional. Instead, they receive treatment from a primary care physician, who has often not received training to diagnose and treat mental illness among elders, or may lack sufficient time or resources (Robinson-Whelen, Hughes, Taylor, Hall, & Rehm, 2007).

As a nation, the U.S. is experiencing a shortage of geriatric healthcare professionals and paraprofessionals trained to work with elders. In 2005, 5% of social workers had a

practice they identified as geared toward geriatric clients, and only 720 of 200,000 pharmacists had geriatric certification, while use of medication among elders was higher than average (Mankin Lamascus, Bernard, Barry, Salerno, & Weiss, 2005). Mankin Lamascus et al. (2005) also found the ratio of 3.7 healthcare workers per Medicare recipient is expected to fall to 2.4 workers for each recipient. Worse, many healthcare workers themselves are aging Baby Boomers. The average age of a nurse is 45, while the average age of faculty in nursing education programs is 50 (Mankin Lamascus et al., 2005). Some areas of the country are already severely affected by an inadequate number of doctors, therapists, nurses and paraprofessional staff trained to work with elders, especially for those needing treatment for depression. This is particularly true for the rural elderly and people with disabilities (Robinson-Whelen et al., 2007).

Ageism

Perhaps the greatest challenge to providing effective psychotherapeutic treatment for elders will be finding qualified professionals without ageist bias. The term ageism was "… coined by Robert Butler … to describe [negative] stereotypes about old age" (Hooyman & Kiyak, 2005, p.1). Ageism is a prejudice that will likely be experienced by elders regardless of sex, race or socioeconomic status (Hooyman & Kiyak, 2005). Cavanaugh and Blanchard-Fields (2006) define ageism as "the untrue assumption that chronological age is the main determinant of human characteristics and that one age is better than another" (p. I-13). Ageism is especially problematic in the United States due to a youth idolizing culture (Nelson, 2004).

Rosowsky (2005) stated, "Research has shown that clinical professionals devalue the care specialties that are related to aging" (p. 56). Only 10% of American medical schools require courses on aging or experience working with elders, and less than 3% of medical school students choose to take electives pertaining to treating the elderly (Cosgrove-Mather, 2003a). Cosgrove-Mather (2003a) reported that the United States has approximately 42,000 pediatricians, while only 9,000 physicians have chosen to specialize in geriatric medicine, a number far too small to meet the needs of a burgeoning aging population. An assessment of clinical psychology doctoral students in six universities around New York City concerning their attitudes toward working with elders found a strong preference for working with young adults while avoiding working with elders (Weiner, Brok, & Snadowsky, 1987).

Rosowsky (2005) provided several reasons why healthcare professionals prefer to work with younger people. One may be the attitude of healthcare professionals toward old age. There is a tendency to see old age as a "stage of deterioration" thought of as a "painful and sad time of life," making it "painful and sad to work with old people" (Rosowsky, 2005, p. 56). A second reason may be "… fiscal disincentives and a lack of clarity that often exists about the professional's role with elders. Working with older adults involves more collateral work and a greater blurring of professional functions" (Rosowsky, 2005, p. 56). A third reason may be that many healthcare professionals "… feel inadequately prepared to work with older adults and thus feel uncomfortable when they are called upon to care for them" (Rosowsky, 2005, p. 56). Yet another reason healthcare professionals may prefer to work with younger people is because old age is devalued in American culture.

> In our youth-oriented society all that is new, novel, and fresh is to be desired; being old is equipped with loss, illness, and eventual death. Why, then, work

> with the old? What benefits can be gained by the client and by the worker? (Weiner et al., 1987, p. 3)

Weiner et al. (1987) also state that "… the feelings that we have about our own aging process and our own age play a large part in determining whether or not we want to work with older people" (p, 3).

Ageism also affects the scope of treatments and services available to the elderly. Professionals often complain that elders "respond less well to treatment" and "are a poor investment in the future" (Rosowsky, 2005, p. 56). Healthcare professionals may view working with elders as being "… like 'shoveling sand against the tide'" (Rosowsky, 2005, p. 56). Therefore, elders are less likely to receive preventive medicine. For example, 95% of 5-year-old children have received up to date vaccinations, while only 10% of people age 65+ received screenings for common problems such as low bone mass, glaucoma and prostrate and colorectal cancer (Cosgrove-Mather, 2003a). Although 20% of elders suffer from a mental illness, they are much less likely to receive treatment for it compared to children or younger adults (Cosgrove-Mather, 2003a). Cosgrove-Mather (2003a) also found that 40% of the clinical prescription drug studies conducted between 1991 and 2000 excluded people age 75+, the age group with the highest rate of prescription drug usage (Centers for Disease Control and Prevention, 2009b). This is an unfortunate finding considering that up to 17% of hospitalizations for elders are the result of "drug misuse" (Cosgrove-Mather, 2003a).

Patient Resistance to Treatment

Another barrier to treatment is resistance by the patient. Hooyman and Kiyak (2005) reported that the current cohort of elders is unlikely to seek help from mental-health

professionals, instead attributing their psychological problems to medical ailments, "social conditions" or normal aging (p. 238). This may be due to "…societal stigmas, limited knowledge about mental disorders, and a lack of confidence in mental health workers" (Hooyman & Kiyak, 2005, p. 238). Other issues that may lead to resistance to treatment include lack of transportation, architectural barriers, cultural barriers, limited or no reimbursement for outpatient psychological treatment, and large copayments for psychological treatment (Hooyman & Kiyak, 2005).

Although today's Baby Boomers and younger generations are accustomed to and accepting of psychotherapy, they are still more likely to self-treat for depression than to seek help from a mental health professional. In 2006, more people read self-help books, obtained psychological information and advice from the Internet, and attended self-help groups than sought treatment from a mental health professional (Norcross, 2006). Baby Boomers also practice a harmful form of self-treatment. Sherer (2006) stated:

> The rise in middle-aged drug use parallels an increase in depression among the baby boom generation. One 2005 study found that the highest risk of major depressive disorder was among adults aged 45 to 60 and that more than 57% of patients with major depressive disorder suffered from comorbid alcohol or drug use. ("A Variety of Substances Involved" section, para. 4)

While female Baby Boomers are more open to receiving professional treatment for depression, a stigma against seeking professional treatment for depression still exists among males (Value Options, n.d.). It is possible that as they age, Baby Boomers will continue to self-treat for depression instead of seeking help from a professional.

Baby Boomers who do seek treatment from a mental health professional generally forgo addressing the cause of their depression and instead insist on taking medication (Kapes, 2006). This leads to Baby Boomers who receive treatment being in a "never-ending cycle in treating their depression" (Kapes, 2006, "Who and What Can Help" section, para. 5). Kapes (2006) stated "the last thing most want to hear is that they should go to therapy each week for treatment. Instead, they opt for the easy and quick route of medication, which may or may not work" ("Who and What Can Help" section, para. 5). The lack of substantive treatment for depression and the looming number of potential Baby Boomers needing treatment from a care system that is already pressed to effectively treat our current population of American elders makes it likely Baby Boomers will not receive the level of treatment they need.

> As the Baby Boomers become older adults over the next several years, one can expect both the need and the demand for mental health services to increase: Need is likely to change because Boomers have higher prevalence of depression and other mental disorders than do the GI Generation and Depression era cohorts. (Knight, 2010, "Introduction" section, para. 1)

Despite the Baby Boomers increased knowledge of mental illness and apparent acceptance of treatment, it is probable many will continue to forgo effective professional treatment and needlessly suffer from depression as they age.

Religion and Depression

While resistant to traditional treatment of depression, many elders already engage in a type of self-help. There is a strong involvement in religious activities among elders. Approximately 35% of people age 60-74 and 48% of elders 75+ attend a religious service at least once a week (The Association of Religion Data Archives, n.d.). An additional 18% of

people age 60-74 and 14 % of elders 75+ attend a religious service at least once a month (The Association of Religion Data Archives, n.d.). Similarly, 66% of elders pray daily (The Association of Religion Data Archives, n.d.). This is important because regular involvement in religious activities correlates with positive mental health. "Religious involvement and spiritual commitment have been positively associated with an array of subjective well-being indicators such as greater life satisfaction, decreased depressive symptoms, optimism, less anxiety, and better emotional adjustment among older adults" (Yoon & Lee, 2007, p. 283). Conversely, health problems that limit or prevent involvement in church participation and activities are associated with increased depression (Mitchell & Weatherly, 2000).

Despite some measures that suggest less religious involvement, Baby Boomers are also likely to use religion as a form of self-help. Baby Boomers show a lower rate of weekly church attendance, 28%, compared to the weekly attendance rate of 35% for people 60-74 years of age and 48% for elders age 75+ (The Association of Religion Data Archives, n.d.). Similarly, fewer baby boomers, 34%, claim a strong affiliation with a particular religion compared to 40% of people age 60 to 74 and 50% of elders age 75+ (The Association of Religion Data Archives, n.d.). Although it may seem Baby Boomers are not as religious as the current cohort of elders, other indicators of faith suggest Baby Boomers are actually very similar in their belief in a higher power or force. Daily prayer is practiced by 63% of Baby Boomers compared to 66% of Americans age 60+ (The Association of Religion Data Archives, n.d.). Seventy-seven percent of Baby Boomers strongly believe in the existence of God, a higher power or cosmic force, as do 78% of Americans age 60-74 and 70% of elders age 75+ (The Association of Religion Data Archives, n.d.). Similarly, 67% of Baby Boomers and 72% of elders find strength in religion, while 70% of Baby Boomers and 75%

of elders find comfort in religion (The Association of Religion Data Archives, n.d.). Overall, religious faith is nearly as prevalent among Baby Boomers as it is among American elders.

Indicators of faith will likely strengthen among Baby Boomers as they have among all age groups. A survey conducted by The Pew Forum on Religion & Public Life (2010) suggested Americans become more religious as they age. Although great disparity in religious beliefs and practices may be found between age cohorts, all cohorts tend to increase their level of faith and faith related activities as they age. This increase can be found in areas such as certainty about the existence of God, importance of religion, daily prayer and weekly church attendance. This implies a correlation between religiosity and age, indicating the lack of a cohort effect for age.

Some indicators of faith are relatively constant within cohorts. For example, 71% of the Greatest Generation, born before 1928, maintained a stable belief in a certain existence of God without doubt, from the late 1980s to the late 2000s (The Pew Forum on Religion & Public Life, 2010). The Silent Generation, born between 1928 and 1945, rose slightly in their belief in its certainty of God's existence, from 66 to 68%, during that same time period (The Pew Forum on Religion & Public Life, 2010). Baby Boomers who were without doubt about God's existence increased from 59% in the late 1980s to 65% in the late 2000s (The Pew Forum on Religion & Public Life, 2010). A similar trend can be found in regard to people unaffiliated with a specific religion. Members of the Greatest Generation unaffiliated with a particular religion made a small increase from 3% in the early 1970s to 5% from the late 2000s (The Pew Forum on Religion & Public Life, 2010). Members of the Silent Generation without a particular religious affiliation increased slightly from 6% in the early 1970s to 8% in the late 2000s (The Pew Forum on Religion & Public Life, 2010). Religiously unaffiliated

Baby Boomers remained steady at 13% from the late 1970s to the late 2000s (The Pew Forum on Religion & Public Life, 2010). The data suggest that the belief in the certainty of the existence of God and religious affiliation within cohorts remains stable.

Conversely, large increases in faith can be found over time in the percentage of members of a cohort who claim religion is very important in their lives. Among members of the Greatest Generation, 63% said religion was important to them in the late 1970s, but by the late 2000s, 75% said religion was very important in their lives (The Pew Forum on Religion & Public Life, 2010). In the late 1970s, 56% of the Silent Generation stated religion was very important in their lives: this number grew to 67% in the late 2000s (The Pew Forum on Religion & Public Life, 2010). The greatest increase in people who stated religion was very important in their lives was among Baby Boomers: those numbers grew from 39% in the late 1970s to 60% in the late 2000s (The Pew Forum on Religion & Public Life, 2010). The data suggest that the importance of religion in the lives of Americans increases as they age.

The 60% of Baby Boomers who stated religion was very important to them in the late 2000s were approximately 44-62 years old. Interestingly, at approximately the same age range in the early 1990s, 62% of the Silent Generation stated religion was very important in their lives, and 63% of the Greatest Generation made that same statement when they were in the same age range during the 1970s. A comparable trend can be found when analyzing the percentage of each generation that reported daily prayer when they were of the same range in age. Sixty-two percent of Baby Boomers reported practicing daily prayer in the late 2000s, 60% of the Silent Generation reported daily prayer in the early 1990s, and approximately 65% of the Greatest Generation reported daily prayer in the 1970s. Thus, Baby Boomers may

follow the same trend, making it important to incorporate the use of religious activities and faith in the prevention and treatment of elderly depression.

Summary

Overall, approximately 22% of American elders suffer from some form of depression. Depression among the elderly is caused by numerous factors with the most significant being disability, including that which has been caused by disease. There are a variety of effective treatments available, such as the use of medication, psychotherapy, exercise, full-spectrum light therapy, and various other treatments. Unfortunately, there are several barriers to the treatment of elderly depression, a significant and growing problem with both societal and monetary costs. The barriers include lack of appropriate training for paraprofessional LTC staff, primary care physicians, and other geriatric workers; an ageist bias among care professionals; a large rural population lacking sufficient resources; and a chronic shortage of professional and paraprofessional caregivers trained to work with people 65+. These issues are made worse by reluctance among elders to seek help to treat their depression.

Theoretical Model

This study compares the knowledge about elderly depression held by certified formal caregivers and noncertified staff (See Appendix A, Theoretical Model, Figure A1). Staff members' level of knowledge should be affected by their experience, educational attainment, and whether they are certified. Testing can be used to determine the level of knowledge regarding elderly depression before conducting a staff training on the topic, to determine the amount of information learned during the training, and to measure the amount of information retained over time.

Hypotheses and Rationales

Six hypotheses were derived from the theoretical model and are listed below.

1. The posttest score will be greater than the pretest score.

Subjects should acquire new knowledge during the training if the training is to be deemed successful. Assuming new knowledge is acquired, the newly acquired knowledge will result in an increased posttest score. A study conducted by Silverberg et al. (1995) found that the posttest scores of subjects receiving continuing medical education were greater than their pretest scores.

2. The posttest score will be greater than the follow-up score.

Due to the way memory functions, subjects are likely to forget some of the newly acquired knowledge during the one-month period between the posttest and follow-up test. This is especially true since there will be no planned, structured reinforcement of the newly acquired information in the period between tests. Silverberg et al. (1995) found that posttest scores were greater than follow-up scores.

3. The follow-up score will be greater than the pretest score.

While some knowledge acquired during the training will likely be lost during the period between the posttest and the follow-up test, the subjects should retain some new knowledge if the intervention is to be deemed successful. The amount of knowledge that is retained should give the subjects more knowledge about elderly depression and suicide than they possessed prior to the training. Silverberg et al. (1995) found that follow-up scores were greater than pretest scores.

4. The greater the experience, the greater the initial knowledge.

Through their experience, caregivers should acquire knowledge about elderly depression and suicide by working with depressed and suicidal elderly residents and patients. Although this hypothesis contrasts with the findings of Ayalon et al. (2008)–that experience does not play a role in knowledge about elderly depression and suicide–it seems logical that subjects with greater experience working with depressed and suicidal elders will have acquired, through their experience, "experiential" knowledge regarding depression and suicide among the people for whom they care. The experience of each caregiver would be different, and the knowledge staff would acquire through their experience would be affected by the work environment, their cultural upbringing, their individual personalities, and the psychological and physical condition of the residents or patients they serve. The specific type of experience each staff member possessed would likely have a greater impact than the amount of experience over time. However, it could be assumed that over time a caregiver would be exposed to a variety of cases, so length of experience should still be a factor.

5. The greater the educational attainment, the greater the initial knowledge.

Some knowledge about elderly depression and suicide should have been received through the education required to enable the subjects to work in the field of long-term elder care. Therefore, subjects with greater educational attainment should have a higher level of knowledge about elderly suicide and depression than subjects with less educational attainment. Ayalon et al. (2008) found that education is the greatest predictor of caregiver knowledge regarding elderly depression.

6. Certified direct care staff will have greater initial knowledge than noncertified staff.

Noncertified staff included maintenance workers, kitchen staff and administrators, occupations not trained to work directly with residents or patients. Some of these occupations were filled by subjects with even less educational attainment than certified staff. Considering the findings of Ayalon et al. (2008) regarding educational attainment, greater initial knowledge of elderly depression should be expected among certified subjects than noncertified subjects.

CHAPTER 3

Methodology

Conceptualization and Operationalization

Knowledge level as a concept is knowledge base, defined as "an individual's general background knowledge, which influences his or her performance on most cognitive tasks" (American Psychological Association, 2009, p. 216). Knowledge level was determined by the scores on a 20-item forced-choice test given during a staff training about elderly depression and suicide.

Experience is defined as "the state, extent, duration, or result of being engaged in a particular activity (as a profession)" (Gove, 1986, p. 800). For the purposes of this study, experience was the total number of years subjects had worked in the field of providing care to elders in LTC facilities or in-home care settings, regardless of subjects' position or amount of contact with residents or patients. With the exception of subjects with less than one year of experience, who stated experience in terms of months, all other subjects rounded their experience to the appropriate whole number of years worked.

Education is conceptualized as educational attainment, "the amount of formal education a person has achieved" (Botterweck, n.d.). Formal education:

> takes place in institutions that specialize in education and that we call schools. Instruction is led by teachers who are not students' intimates, whose principal

> occupation is education, and who stress learning through verbal and written description and guided inquiry (Dougherty & Hammack, 1992, p. 536).

For the purposes of this study, education was operationalized by the variable educational attainment, with attributes being GED, high school diploma, and more than a high school diploma.

Certification is defined as "an official assurance that someone possesses the attributes he or she claims to have. Legal certification of a profession is the warranting by a state that the people certified have attained a specified level of knowledge and skill" (Barker, 2003, p. 62). For the purposes of this study, the subjects were classified as a certified CNA, MA, or MT recognized by the state of North Carolina, or not certified.

Data Collection

The researcher was employed as an Instructor/Consultant on a Geriatric and Adult Mental Health Specialty Team, one of 20 teams across the state. This particular team covered eight rural counties in North Carolina located in areas known as the High Country and Piedmont. The teams provide free trainings regarding care for elderly residents and patients suffering from mental illness. The teams are funded by the state of North Carolina with a combination of state and federal money. The researcher developed the training and conducted it as part of his duties as an employee on the team.

The researcher used a nonprobability sampling of available subjects (N=86) (Babbie, 2007). This type of sampling was chosen due to the ready availability of subjects, low cost, time restrictions, and ease of access to the facilities. A time-series quasi-experimental design without a control group was used in this study. A control group was not used because the

employment guidelines under which the researcher worked mandated all individuals receive the approved training. If a control group had been used, its subjects would not have received the training. Without the training, it would be expected that the control group would not show any improvement.

The study was conducted when facility staff received training mandated by the state of North Carolina to earn contact hours. Contact hours are required to maintain certification. Due to the team's perceived value of the trainings, team members always encouraged all staff to attend the trainings. The training coordinators at numerous sites noted improvement in the performance of certified staff after attending the trainings and encouraged and sometimes required noncertified staff to attend as well (A. Lehman, personal communication, April 2009; K. Lewis, personal communication, September 29, 2008). The researcher contacted the facilities scheduled for upcoming trainings and explained the study, its purpose and requested permission to conduct the study at that particular facility. Due to time constraints and a desire to acquire as many test subjects as possible, facilities that averaged at least 15 participants per training were chosen.

The data collection instrument (See Appendix B) to evaluate subjects' knowledge about elderly depression and suicide was developed by the researcher based on information that should be considered basic knowledge for staff working with the elderly in a care provision capacity. The questions were developed with information from evidence-based research already used by the team during trainings, information the researcher had acquired in the course of the literature review, and information the researcher had used in a past job to evaluate individuals for the presence of depression and the need for inpatient psychiatric treatment as a member of a mobile crisis team. The face validity of the instrument was

evaluated and confirmed by the researcher's colleague and team leader, Barbara Warren, MSW, LCSW. The instrument was a 20-statement questionnaire regarding elderly depression, its treatment, and suicide. The subjects answered Agree or Disagree for each statement. The test score was the number of correct answers for each test. A repeated-measures design was implemented in which the same instrument was used as a pretest, a posttest and a follow-up test. A reliability analysis was made using SPSS, obtaining an alpha reliability of .665. The study received approval by the Appalachian State University Institutional Review Board.

At the beginning of the testing and training session, the subjects were given an explanation of the study and its purpose, and were then invited to participate in the study. Subjects were informed that participation was voluntary, they may withdraw from the study at any time, and choosing to not participate in the study did not affect their employment in any way. Subjects were further informed that any identifying information would remain confidential. All subjects agreeing to participate were given a consent form to sign. The signed consent forms were collected and verified for completeness before continuing with the study. The researcher assigned a code number from 1-86 to each subject, which was used as his or her form of identification for the remainder of the study, and made a key matching the name with the code number, ensuring the information was correctly matched with the appropriate subject. This procedure enabled the identity of each subject to remain confidential. The key linking each subject to their assigned number was stored in a locked file cabinet to which only the researcher had a key.

After signing the consent form, subjects received the "background information" questionnaire (See Appendix C). The subjects wrote their assigned identification number on

their “background information” questionnaire. Since some subjects were unable to read, or did not speak English as their native language, each question was read aloud by the researcher and explained to the group. All answers were later transferred to a database with the data corresponding to the number assigned to that subject, enabling the researcher to examine data provided by a particular subject. The database did not contain subjects’ names. The researcher collected all background information questionnaires after they were completed, and passed out the pretest questionnaires.

The researcher prenumbered the pretest, posttest and follow-up tests with the assigned identification numbers. When passing out each test, the researcher called out the name of the subjects, and gave them the tests with the numbers that corresponded with their names on the number key. The researcher used the key matching the name of each subject with his or her assigned identification number, so he could ensure the answers and scores on the three test questionnaires could be matched to the same subject.

At no time was the test actually called a test. Instead, it was called a survey to avoid producing any potential anxiety that might be associated with or caused by “taking a test”. To further avoid inducing the anxiety some people experience when taking a test, Agree or Disagree was used rather than True or False, negating the sense there is a right or wrong answer. The subjects answered each question by writing “A” for Agree, or “D” for Disagree in the space provided. The questions were read to the subjects, but no explanations of the questions were given. After completion, the researcher collected the pretests.

The subjects then received training about elderly depression, its treatment and suicide. The training was based on a PowerPoint presentation developed by the researcher

(See Appendix D). Immediately following the training session, the subjects were given the same 20-question test as a posttest. Subjects used their assigned numbers as their identifiers. The results of the pretest and posttest were transferred to the database containing each subject's background information.

One month later, the subjects again received the same 20-item test as a follow-up test before receiving their regularly scheduled training. The tests had been prenumbered, and the key was used to ensure each participant used the correct assigned identification number on the test. The completed tests were collected before the day's scheduled training began. There was no interaction between the researcher and the subjects during the period from the initial testing and training session to the follow-up session. All original forms, including the consent forms, background information questionnaires and tests, were stored in the same file cabinet as the key matching participants' names to their assigned numbers.

Data Analysis

This study was conducted using a repeated-measures design with an intervention (Green & Salkind, 2008). The data were entered into an SPSS database. A two-tailed paired-samples t-test of difference in means was used to analyze the data. It examined the level of knowledge learned and retained by staff for hypotheses 1-3, and the level of knowledge held by staff, based on the variables used in the study for hypotheses 4-6. The confidence level used to indicate statistically significant differences was $p<.05$.

It was necessary for the researcher to recode the data into two categories for the variables experience, educational attainment and certification to make it usable in the study. For experience, subjects were placed into the categories of 5 years of experience or less and

more than 5 years of experience. The categories for educational attainment consisted of subjects with a high school diploma, GED or less and more than a high school diploma. For certification, subjects were placed into the categories of certified CNA, MA, MT, or not certified.

CHAPTER 4

Results

Characteristics of the Sample

The subjects of this study were employees of nursing homes, assisted living facilities, and senior centers that provide in-home care services. Their occupations included direct care staff, administrative staff and staff involved in the daily operation of the facilities. Their educational attainment ranged from individuals without a high school diploma to those with college degrees (See Appendix E, Table E1). The mean years of education completed was 12.186, the standard deviation was 1.818, and the median was 12. Experience ranged from less than one year to more than 30. The mean years of experience was 8.347, the standard deviation was 8.695, and the median was 4. There was an attempt to choose facilities in which noncertified staff as well as certified staff normally attended trainings, and facilities with staff that included racial and cultural minorities. The subjects included immigrants, nonnative speakers of English and other minorities, migrants to the area in which the study was conducted and regional natives. The study consisted of 86 subjects, including five males comprising 6% of the test population, only two of whom were certified direct care workers.

Test Results

As predicted by hypothesis 1, the posttest scores were greater than the pretest scores and the difference was statistically significant, indicating that subjects benefited from the training ($p<.001$) (See Appendix E, Table E2).

Hypothesis 2 states that the posttest scores will be greater than the follow-up scores. The difference in test scores was in the predicted direction and statistically significant ($p<.01$) (See Appendix E, Table E3). It was expected that, un-reinforced, some information learned during the training would be forgotten during the period between the posttest and follow-up test.

In terms of the overall training, hypothesis 3 anticipated an increase in scores between the pretest and the follow-up test. This hypothesis was upheld, indicating the material learned during the training was retained at a statistically significant level, and supports the effectiveness of the training ($p<.001$) (See Appendix E, Table E4).

Hypothesis 4 states that the greater the experience a staff member possesses the greater the initial level of knowledge, predicting a higher score on the pretest for staff with greater experience. As predicted, subjects with greater experience scored higher on the pretest than subjects with less experience, and the difference was statistically significant ($p<.001$) (See Appendix E, Table E5).

With respect to education, hypothesis 5 predicts that subjects with greater educational attainment will score higher on the pretest than subjects with less educational attainment. This hypothesis was supported and the difference in scores between the two groups of subjects was statistically significant ($p<.001$) (See Appendix E, Table E6).

Hypothesis 6 predicts that certified staff will score higher than noncertified staff on the pretest. However, subjects who were certified scored lower on the pretest than subjects without certification ($p<.001$) (See Appendix E, Table E7). Hypothesis 6 was thus not supported.

CHAPTER 5

Discussions and Conclusions

The data support hypotheses 1 through 3, indicating that information disseminated during the trainings was learned and retained by staff. The results of this study are consistent with those of the study conducted by Silverberg et al. (1995). This supports ongoing training about elderly depression and suicide. It also suggests trainings on other issues regarding care for seniors would be successful.

As predicted in hypothesis 4, a significant positive correlation was found between experience and base knowledge about elderly depression and suicide. This contrasts the findings of Ayalon et al. (2008), in which the only variables that were significant predictors of base knowledge among staff were education and age. Several factors could be the reason for the difference in the results of the studies. One factor could be this study's use of a nonprobability sampling of available subjects. The design of the study conducted by Ayalon et al. may have contributed to the different results. Another factor could be the percent of subjects with five years of experience or less in the study conducted by Ayalon et al. (36.9%) versus that same group in this study (58%). This study had 21% more subjects with 5 years of experience or less than the study conducted by Ayalon et al. It is possible that having significantly different sized groups with more than 5 years of experience was responsible for the difference in the findings. A third factor may be the demographic variability of each study, where 56.1% of the subjects studied by Ayalon et al. were of Asian ancestry, while

this study had no subjects of Asian ancestry. It is possible that a cultural aspect among certified caregivers of Asian ancestry had an effect on the base knowledge of the subjects. The native language spoken by the subjects in each study may be another factor. Ayalon et al. report 46.4% of the subjects in their study spoke English as their native language versus approximately 95% of the subjects in this study. The significantly lower number of subjects that spoke English as their native language in the study conducted by Ayalon et al. may have adversely affected their acquisition of knowledge regarding elderly depression and suicide. It is also possible that the ongoing training the certified caregivers participating in this study received, including that provided by the Geriatric and Adult Mental Health Specialty Team, increased the level of knowledge about elderly depression and suicide, where as the certified staff in the study conducted by Ayalon et al. may not have had the benefit of ongoing training. Since both studies found that greater educational attainment was a significant predictor of base knowledge regarding elderly depression and suicide, prioritizing the hiring and retention of more educated staff would prove prudent for those who employ certified caregivers.

The data support hypothesis 5, which predicts subjects with more education would have more knowledge about elderly depression and suicide. The results of this study are consistent with the findings of Ayalon et al. (2008), that greater educational attainment is equated with greater knowledge. These findings support the use of ongoing training for staff in LTC facilities, in addition to hiring better-educated staff.

Hypothesis 6, predicting certified staff will have greater initial knowledge than noncertified staff, was not supported. Certified staff scored significantly lower than noncertified staff on the test of initial knowledge. The theoretical model was correct to link

education with certification, but the link was not in the anticipated direction. For those with a high school diploma or less, certified staff scored higher on the test than noncertified staff. However, for those with more than a high school education, certified staff scored lower than noncertified staff. As a group, after combining the scores of noncertified staff with educational attainment greater than a high school diploma and a high school diploma or less, noncertified staff showed greater initial knowledge than certified staff. The results of this study and the study conducted by Ayalon et al. (2008) emphasize the need for greater educational attainment and appropriate training for certified staff. These findings suggest increasing educational requirements to obtain certification would provide beneficial results.

The Literature Review showed that treatment of elderly depression could actually reduce health care costs, indicating resources should be directed toward the proper diagnosis and treatment of elderly depression. The results of this study showed that staff learned and retained information about elderly depression and suicide acquired through staff trainings. The results also showed that experience and educational attainment, but not certification, affected staff's level of knowledge, and their ability to learn and retain new information. Therefore, the results indicate training formal caregivers to recognize symptoms of depression is effective in increasing their level of knowledge and the potential for appropriate diagnostic impressions. It also increases the overall potential for better care of elders.

Limitations

Several factors may have led to limitations in this study. The study was conducted as part of the researcher's job with funds that were earmarked through the state of North Carolina requiring a specific type of training. Since the training was conducted at the

subjects' place of employment as part of their ongoing training, and required to maintain their certification, subjects may have felt obligated to participate in the study.

Due to using a nonprobability sampling of available subjects in a specific region of North Carolina, the findings of the study are not necessarily generalizable to the rest of the United States, other regions of North Carolina, or even other facilities within the study area. Similar to this study, Ayalon et al. (2008) used a "convenience sample of sites that were interested in participating in the educational activities offered by the SBHS [Senior Behavioral Health Services] project…" (p. 362). While not using a random sample of subjects increases the likelihood of bias, the similarity of results of the two studies support the findings.

Very little racial or cultural diversity existed among the subjects. This study was primarily comprised of white Americans who spoke English as their native language. Therefore, it cannot take into account the possible differences that might be found in a study comprised of varying racial or cultural groups. The sample in the study conducted by Ayalon et al. (2008) also contained limited racial or cultural diversity. The majority of the subjects was of Asian origin and did not speak English as their native language. The fact that both studies obtained similar results, despite the very different racial and cultural makeup of the subjects in each study, supports the findings of this study.

The significance of the results may also have been limited by the lack of a control group. The lack of a control group makes it impossible to prove the effectiveness of the training as being the cause of any change in knowledge regarding elderly depression or suicide held by staff. Despite the lack of a control group, logically, not having a control

group would not make a difference considering no other training for elderly depression and suicide was held at the facilities used in the study and the short time span between the posttest and follow-up test. The study conducted by Ayalon et al. (2008) also lacked a control group.

Future Research

There was a 41% reduction in the number of subjects who took the follow-up test versus the pretest. While the researcher was given a reason for some subjects not taking the follow-up test, some were off that day, some had quit or been fired, and some were working during the training and unable to attend while others were called to attend to duties during the follow-up test and subsequent training, the reason for the absence of the majority of the subjects during the follow-up test was unknown. Future research could examine the characteristics of the subjects who did not take the follow-up test to look for any common traits that exist among them versus the subjects who did take the follow-up test.

The researcher found that the amount of direct contact the subjects had with the elders for whom they provided care tended to be inversely related to the educational attainment of the subjects. While this was not true for all subjects or all facilities participating in the study, future research can examine the phenomenon of social distance that did exist among subjects and within facilities. It can also explore whether eldercare is adversely affected by social distance.

Future research can examine the discrepancies between this study and the study conducted by Ayalon et al. (2008). Due to the difference the effect years of experience held by subjects had on the respective results, future researchers may want to explore the

correlation between experience and knowledge about elderly depression. Future researchers can also examine cultural differences and biases and how they may influence the acquisition of knowledge and the effectiveness of staff trainings. Due to the difference in the number of nonnative English speaking subjects in the two studies, future researchers can examine the potential difference in the acquisition of knowledge between native and nonnative English speakers during trainings.

Future researchers can also examine the retention rate of information disseminated on other topics during caregiver trainings. Obtaining similar results would support funding caregiver training as a way to decrease the cost of care for elders in home and in LTC settings, as well as improving the overall level of care.

Recommendations

Although not in a position to diagnose, certified staff are in the position to most readily observe behavior and provide valuable information and feedback on patient progress to physicians, psychiatrists, nurses, psychologists, social workers, and other therapists or clinicians. Since misdiagnosis and under treatment of elderly depression is a significant problem, this information should be utilized to properly diagnose and treat elderly depression. Having the most direct contact with the residents of LTC facilities, certified staff should be fully trained to recognize the symptoms of elderly depression, its comorbidity with other medical disorders and common medication side effects. This would enable certified staff to appropriately make requests for medical and psychiatric exams for residents and patients and effectively monitor those who are receiving treatment. Certified caregivers' knowledge could also be beneficial in home care settings, where their knowledge of elderly

depression and suicide resulting from their education, training and experience would likely be greater than that of the family members who are providing the majority of care to the patient.

Especially in the current climate of limited economic and manpower resources, during a time of dramatic increase in the number of elderly Americans, it makes sense to focus on cost-effective ways to meet the most pressing needs of elders and formal caregivers. The study indicates that directing resources to meet the educational needs of certified formal caregivers would yield the greatest benefit since they have the most contact with patients and residents, and are generally younger and have less education and experience than noncertified staff. A significant gain in knowledge could be immediately acquired, and this study shows is at least partially retained.

While trainings about elderly depression and suicide, as well as other issues of aging geared toward certified direct care staff would be most beneficial, noncertified caregivers and the administrators of LTC facilities and in-home care agencies would also benefit. The administration would likely develop an understanding of the issues and environment under which direct care staff work, potentially enabling them to make better decisions regarding staff needs. The noncertified caregivers would be exposed to the training information received by the direct care staff, perhaps initiating and encouraging a common language of recognition, communication and care. The residents and patients of LTC facilities as well as those receiving in-home care would also most likely benefit from care provided by noncertified staff with knowledge acquired through the trainings.

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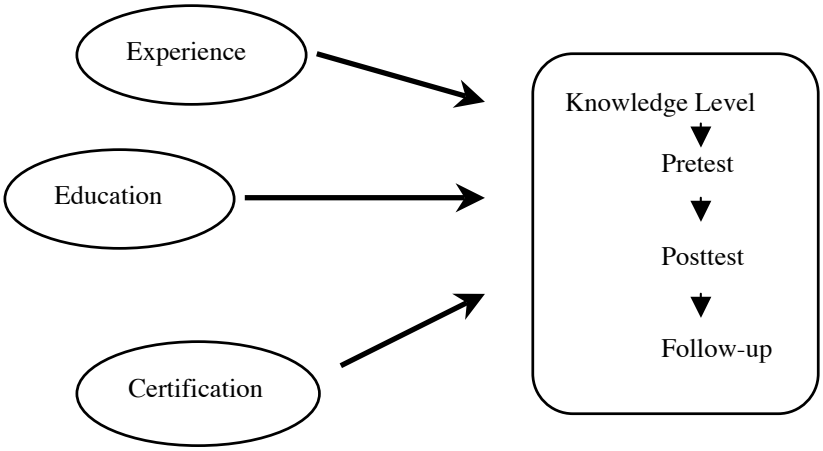
Appendix A

Figures

Theoretical Model

Figure A1.



Appendix B

Elderly Depression and Suicide Test Questionnaire

Assigned #_____ Date_____

Depression Questionnaire

Write an "A" for Agree or a "D" for disagree in the space provided.

_____ 1. Depression is more prevalent among women than men.
_____ 2. It is normal for people to become depressed as they get older.
_____ 3. Attempts to decrease elderly depression have little effect.
_____ 4. The resident/patient will get over the normal loss of friends and family members.
_____ 5. There is nothing you can do as a caregiver to help a depressed resident/patient.
_____ 6. It is beneficial to tell a depressed resident/patient, "You will feel better tomorrow."
_____ 7. The primary care physician is the person in the best position to notice symptoms of depression.
_____ 8. Elderly depression can be difficult to diagnose.
_____ 9. The elderly have the highest rate of suicide among all age groups.
_____ 10. Elderly suicide attempts are seldom successful.
_____ 11. Comments about suicide, made by an elderly resident/patient, are most likely a call for help.
_____ 12. The use of a gun is the most common method of elderly suicide.
_____ 13. Single white males are a greater suicide risk than white females, or males and females of other racial groups.
_____ 14. Suicidal ideation is directly related to a feeling of hopelessness.
_____ 15. People who attempt suicide do not really want to kill themselves, they want to kill their problem.
_____ 16. You should disregard depressive symptoms exhibited by a resident/patient after hearing from their family that, "This is normal for them, they have been depressed all of their life."
_____ 17. A resident or patient should be regularly assessed for depression or suicidal ideation.
_____ 18. Effective treatment for depression is a long-term process that can take years to be successful.
_____ 19. The use of antidepressant medication is the most effective method of treatment for elderly depression.
_____ 20. If you are concerned a person may be suicidal, you should ask them if they are having suicidal thoughts.

Appendix C

Background Information Questionnaire

_____ Assigned Number

Background Information

Name _____

Gender _____

Level of Education _____

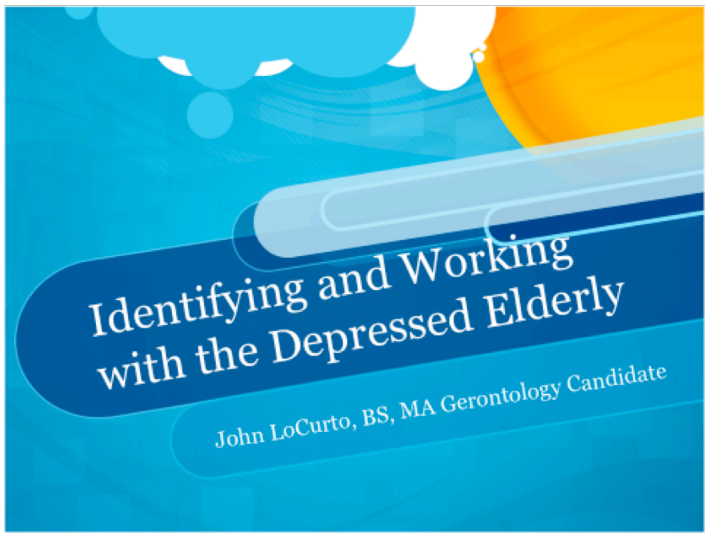
Certification/Position _____

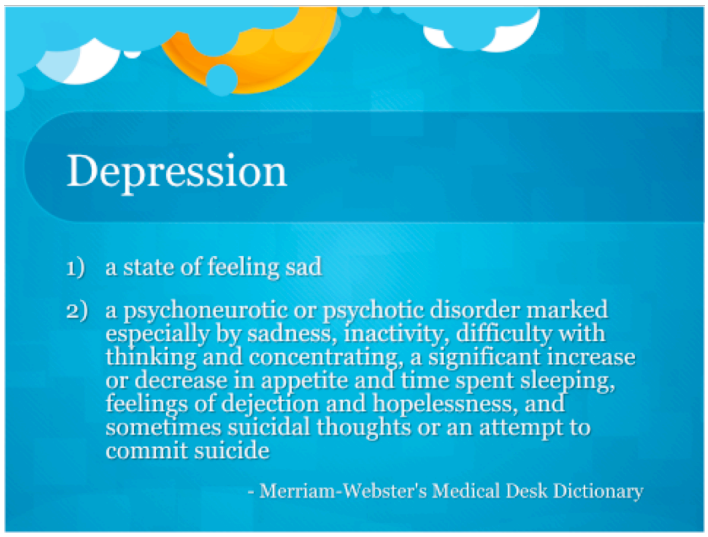
Years of experience at your current level of certification _____

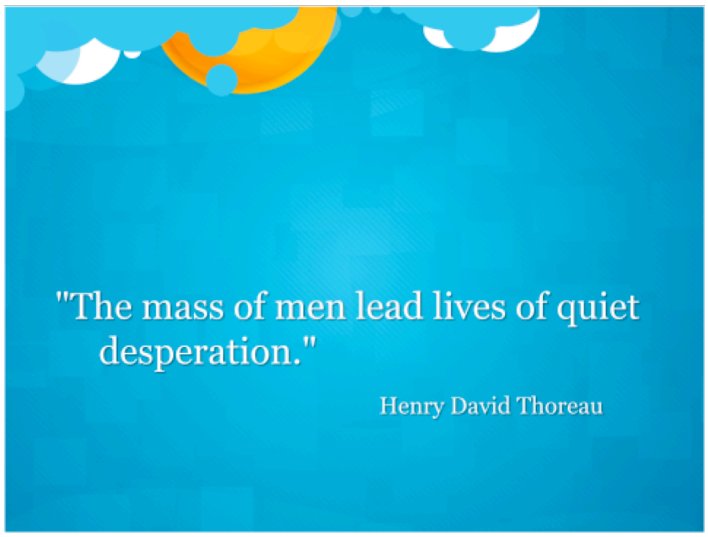
Years of experience, paid and unpaid, in the practice of caregiving _____

Appendix D

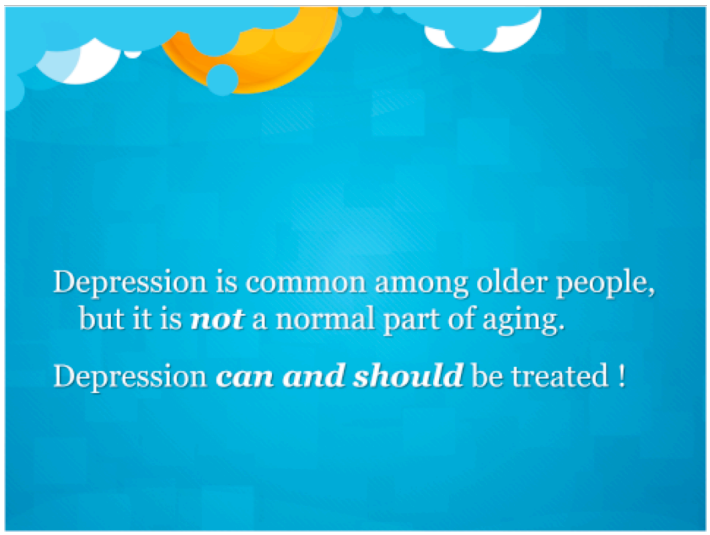
Depression Training Slides


Identifying and Working with the Depressed Elderly
John LoCurto, BS, MA Gerontology Candidate


Depression
1) a state of feeling sad
2) a psychoneurotic or psychotic disorder marked especially by sadness, inactivity, difficulty with thinking and concentrating, a significant increase or decrease in appetite and time spent sleeping, feelings of dejection and hopelessness, and sometimes suicidal thoughts or an attempt to commit suicide
- Merriam-Webster's Medical Desk Dictionary


"The mass of men lead lives of quiet desperation."
Henry David Thoreau


Why is it a problem?
Approximately 27% of older people exhibit signs of depression.
Up to half of all older people living in nursing homes display symptoms of depression.
Depressed nursing home residents are 59% more likely to die during their stay than non-depressed residents.
Twice as many women as men become depressed over their lifetime.
Many people believe depression is a normal part of aging.


Depression is common among older people, but it is *not* a normal part of aging.
Depression *can and should* be treated !


Signs and Symptoms of Depression
Feeling "down" or "blue"
Agitation or irritability
Loss of interest or pleasure in activities once enjoyed
Change in appetite resulting in significant weight loss or gain
Having persistent headaches, stomach-aches or other chronic pain that does not go away when treated
Trouble sleeping or sleeping too much
Agitated movements or slow movements
Lack of energy
Feeling worthless or guilty
Trouble concentrating or making decisions
Poor Memory
Thoughts of death or suicide

The key to identifying depression is observing changes in thoughts or behavior.

Accurate reporting of observations and behavior is necessary for a proper diagnosis.

Types of Depression

- Major Depressive Episode
- Major Depressive Disorder
- Minor Depressive Disorder
- Dysthymic Disorder
- Depressive Disorder Not Otherwise Specified

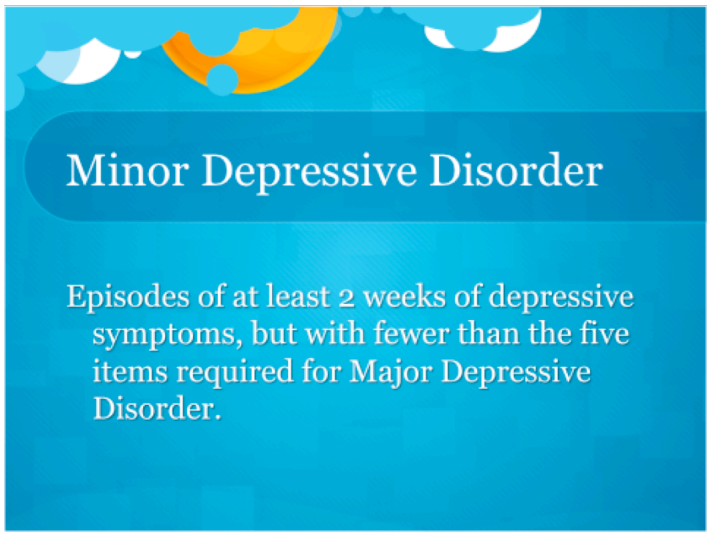
Major Depressive Episode

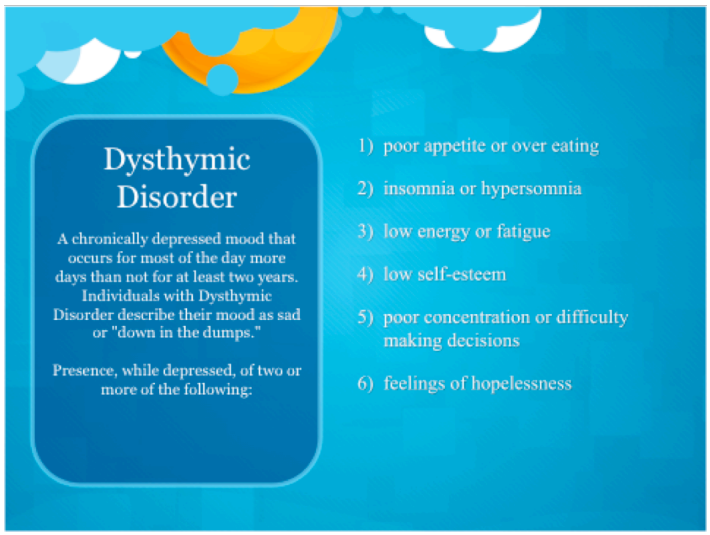
Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

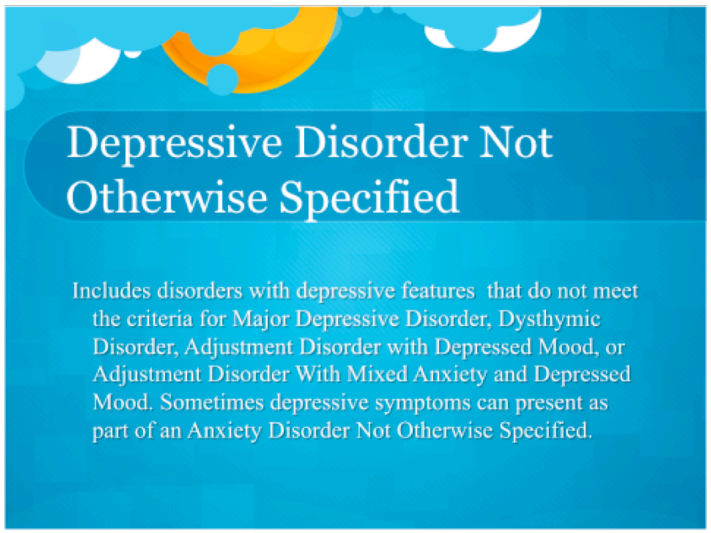
The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

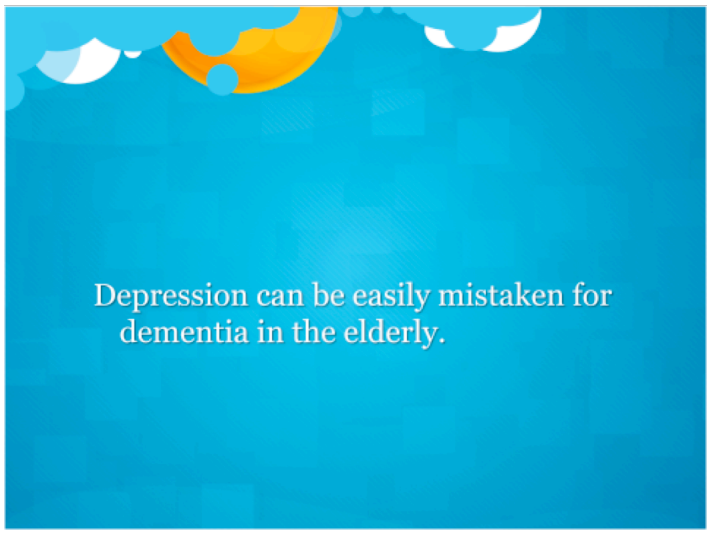
1) depressed mood most of the day, nearly every day
2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day
3) significant weight loss when not dieting or weight gain, or decrease or increase in appetite nearly every day
4) insomnia or hypersomnia nearly every day
5) psychomotor agitation or retardation nearly every day
6) fatigue or loss of energy nearly every day
7) feelings of worthlessness or excessive or inappropriate guilt nearly every day
8) diminished ability to think or concentrate, or indecisiveness, nearly every day
9) recurrent thoughts of death, recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide

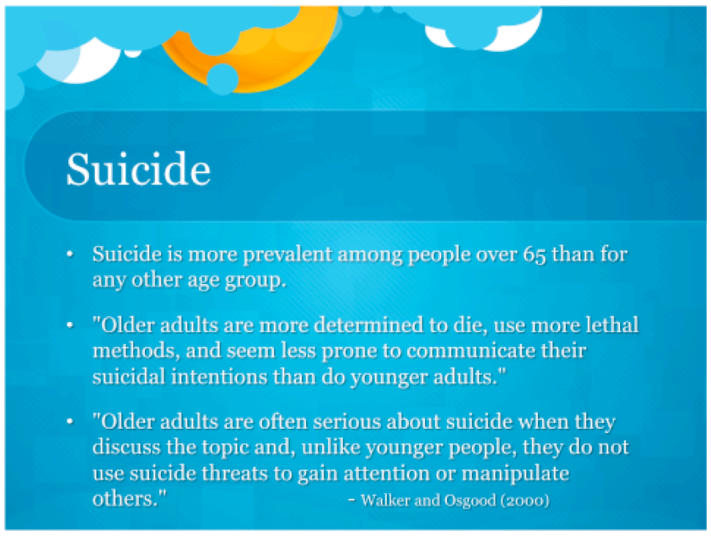

Major Depressive Disorder
• Presence of one or more Major Depressive Episodes
• The Major Depressive Episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified
• There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode

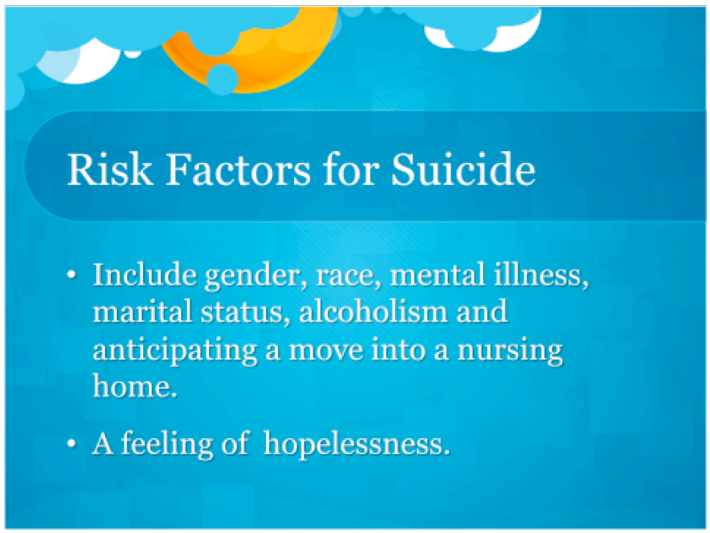

Minor Depressive Disorder
Episodes of at least 2 weeks of depressive symptoms, but with fewer than the five items required for Major Depressive Disorder.

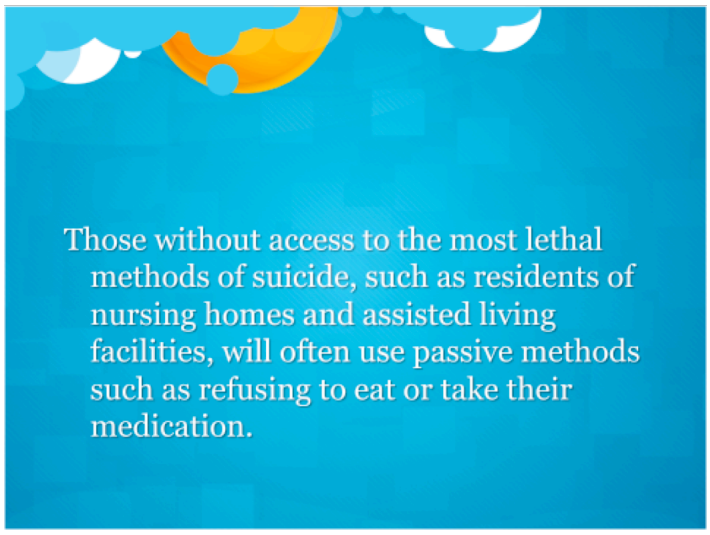

Dysthymic Disorder
A chronically depressed mood that occurs for most of the day more days than not for at least two years. Individuals with Dysthymic Disorder describe their mood as sad or "down in the dumps."
Presence, while depressed, of two or more of the following:
1) poor appetite or over eating
2) insomnia or hypersomnia
3) low energy or fatigue
4) low self-esteem
5) poor concentration or difficulty making decisions
6) feelings of hopelessness


Depressive Disorder Not Otherwise Specified
Includes disorders with depressive features that do not meet the criteria for Major Depressive Disorder, Dysthymic Disorder, Adjustment Disorder with Depressed Mood, or Adjustment Disorder With Mixed Anxiety and Depressed Mood. Sometimes depressive symptoms can present as part of an Anxiety Disorder Not Otherwise Specified.

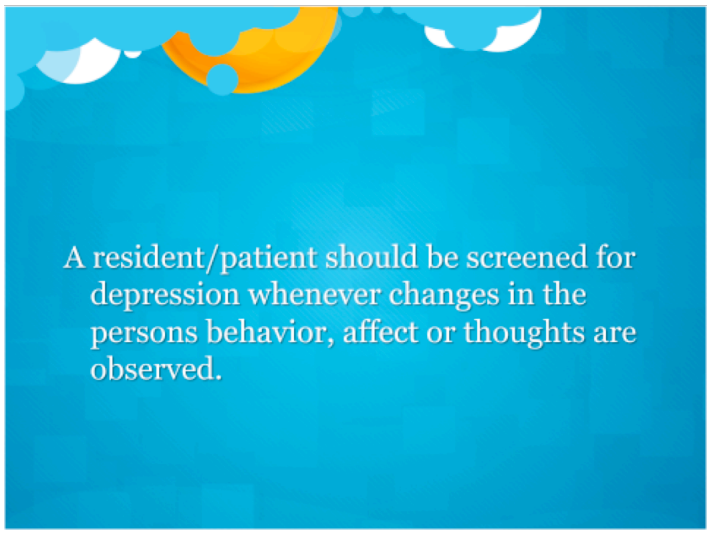

Depression can be easily mistaken for dementia in the elderly.


Suicide
Suicide is more prevalent among people over 65 than for any other age group.
"Older adults are more determined to die, use more lethal methods, and seem less prone to communicate their suicidal intentions than do younger adults."
"Older adults are often serious about suicide when they discuss the topic and, unlike younger people, they do not use suicide threats to gain attention or manipulate others."
- Walker and Osgood (2000)

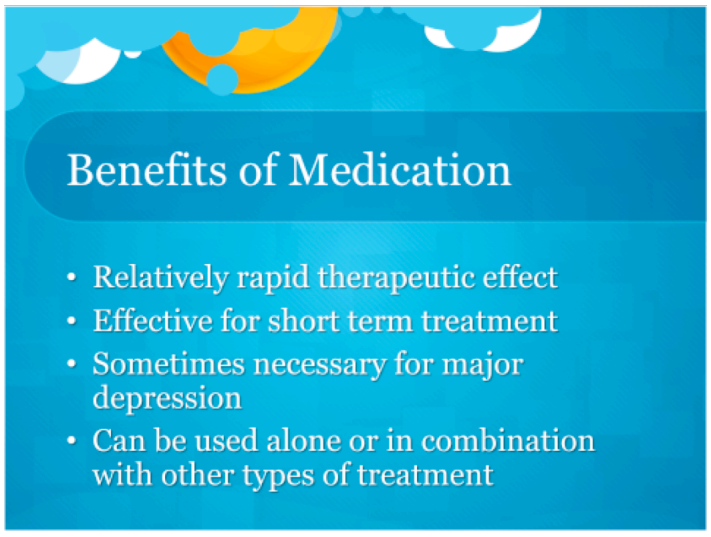

Risk Factors for Suicide
• Include gender, race, mental illness, marital status, alcoholism and anticipating a move into a nursing home.
• A feeling of hopelessness.

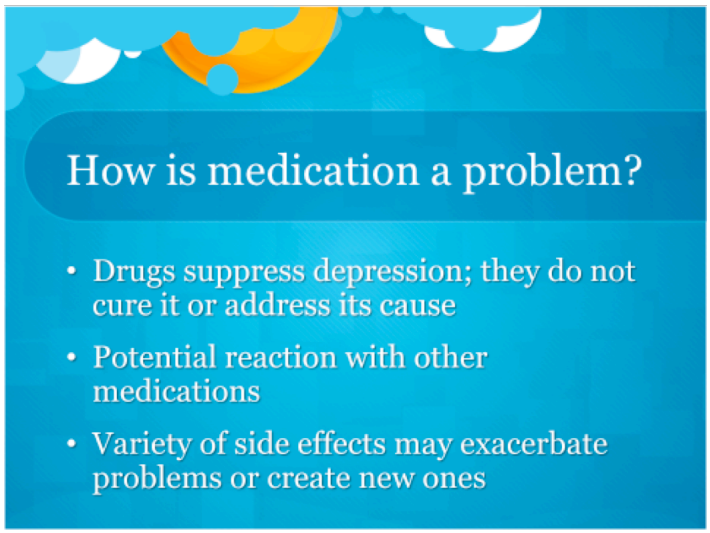

Those without access to the most lethal methods of suicide, such as residents of nursing homes and assisted living facilities, will often use passive methods such as refusing to eat or take their medication.


Screening for Depression Among Nursing Home Residents
• Nursing home residents should be screened for depression 2 to 4 weeks after they are admitted to the nursing home.
• Nursing home residents should be screened for depression every 6 months.
• Nursing home residents who have ideas of suicide should be referred immediately to a mental health professional.
• Scientifically proven tools that healthcare providers can use to help check for depression in older people include the 'Geriatric Depression Scale,' the 'Beck Depression Inventory,' and the ' Cornell Scale for Depression in Dementia.'

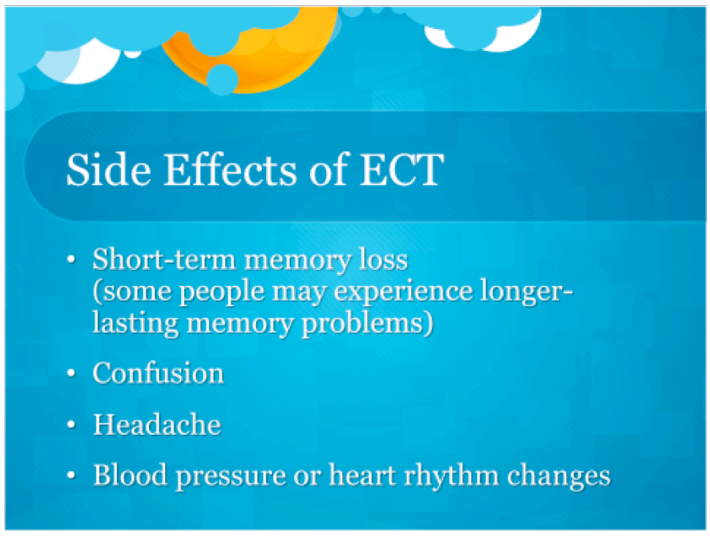

A resident/patient should be screened for depression whenever changes in the persons behavior, affect or thoughts are observed.


Types of Treatment
Medication
Electroconvulsive Therapy
Psychotherapy
Exercise
Alternative Treatments
Health Education


Benefits of Medication
Relatively rapid therapeutic effect
Effective for short term treatment
Sometimes necessary for major depression
Can be used alone or in combination with other types of treatment


How is medication a problem?
• Drugs suppress depression; they do not cure it or address its cause
• Potential reaction with other medications
• Variety of side effects may exacerbate problems or create new ones

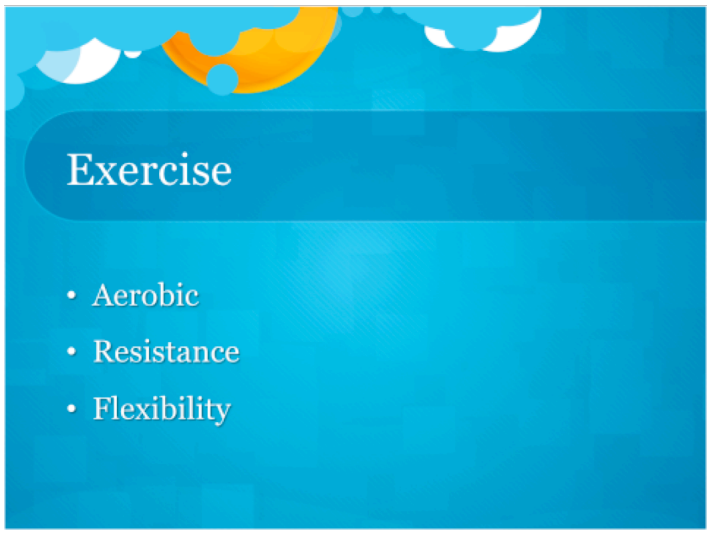

Electroconvulsive Therapy (ECT)
Appropriate for persons suffering from severe depression AND
• not responding to antidepressants
• unable to take antidepressants
• at risk for suicide


Side Effects of ECT
• Short-term memory loss (some people may experience longer-lasting memory problems)
• Confusion
• Headache
• Blood pressure or heart rhythm changes

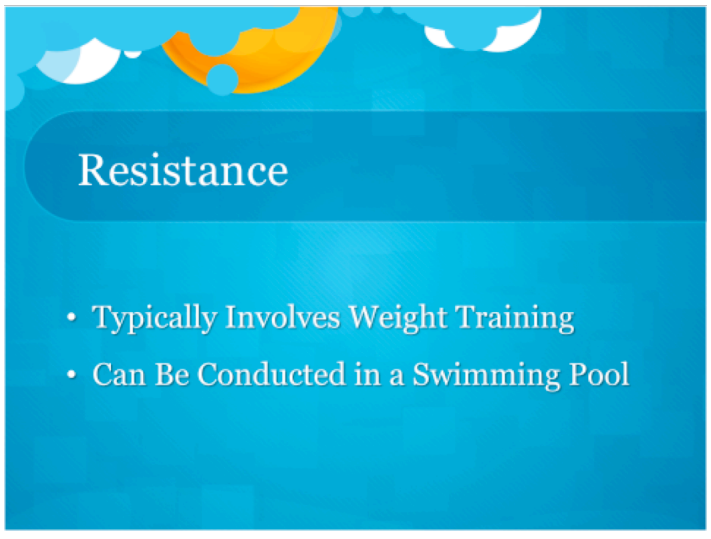

Benefits of Psychotherapy
• Can be used alone or in combination with other types of therapy
• Can be more effective than medication in treating elderly patients without major depression
• No adverse side effects
• Can be conducted with individuals or with groups

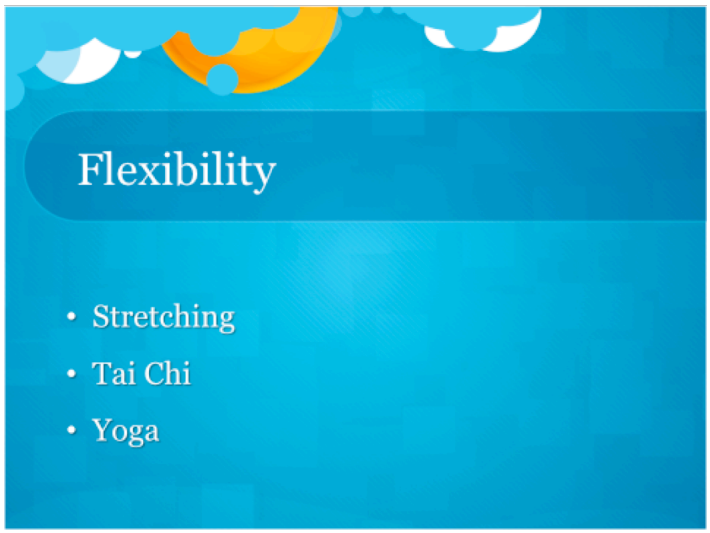

Cognitive Behavioral Therapy and Interpersonal Therapy have proven to be effective in treating elderly depression.

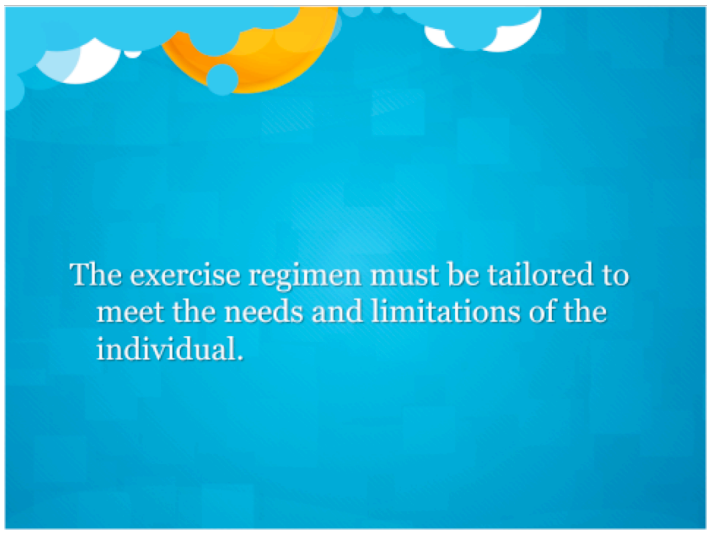

Problems With Psychotherapy
• Needs to be conducted by an experienced geriatric therapist
• May be of longer duration than other types of therapy


Exercise
• Aerobic
• Resistance
• Flexibility


Aerobic
• Brisk Walking - Including Treadmills
• Jogging
• Running
• Cycling - Including Stationary Bicycles
• Swimming

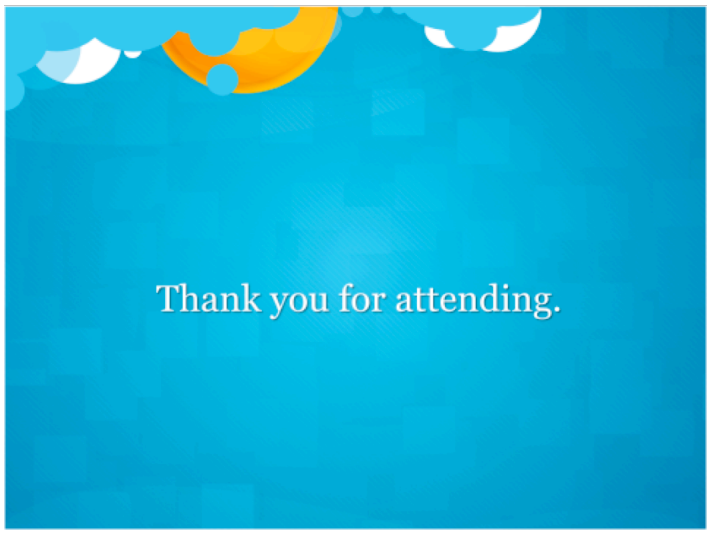

Resistance
• Typically Involves Weight Training
• Can Be Conducted in a Swimming Pool


Flexibility
• Stretching
• Tai Chi
• Yoga


The exercise regimen must be tailored to meet the needs and limitations of the individual.


Alternative Treatments
• Religion/Spirituality
• Socialization
• Light Therapy
• Herbal/Nutritional Supplements
• Acupuncture
• Humor
• Make it Feel Like Home


Health Education
Knowledge Is Power !


Thank you for attending.

Appendix E

Tables

Table E1: Characteristics of the Sample

Number of Subjects	86
Sex	94% female, 6% male
Certification*	50 (58%) Certified, 36 (42%) Not Certified

Variable	Range	Mean	Median	Standard Deviation
Years of Experience**	0.5-36	8.347	4	8.695
Educational Attainment (Years)	8-18	12.186	12	1.818

* Certified CNA, MA or MT

** In the field of elder care, regardless of position

Table E2: Test Score Differences of Posttest and Pretest

Variable Pair	Mean	T-value	DF
Posttest-Pretest	2.817	12.52***	81

$^{+}$< .10 *P< .05 **P< .01 ***P< .001

Table E3: Test Score Differences of Posttest and Follow-up Test

Variable Pair	Mean	T-value	DF
Posttest - Follow-up	0.893	3.620**	55

$^{+}$< .10 *P< .05 **P< .01 ***P< .001

Table E4: Test Score Differences of Follow-up Test and Pretest

Variable Pair	Mean	T-value	DF
Follow-up - Pretest	1.86	7.235***	56

$^{+}$< .10 *P< .05 **P< .01 ***P< .001

Table E5: Pretest Score by Total Paid Experience

Variable Pair	Mean	T-value	DF
Pretest x Experience	11.169	57.182***	82

$^{+}$< .10 *P< .05 **P< .01 ***P< .001

Table E6: Pretest Score by Educational Attainment

Variable Pair	Mean	T-value	DF
Pretest x Educational Attainment	11.220	64.327***	81

$^{+}$< .10 *P< .05 **P< .01 ***P< .001

Table E7: Pretest Score by Certification

Variable Pair	Mean	T-value	DF
Pretest x Certification	11.000	58.552***	84

$^{+}$< .10 *P< .05 **P< .01 ***P< .001

BIOGRAPHICAL INFORMATION

John William LoCurto was born in Niagara Falls, New York. He attended public school through first grade. Mr. LoCurto then attended a private Catholic school, where he received solid instruction in fundamental reading, writing, and math skills, the tools necessary to learn throughout life, and the basic elements to further his formal education. Mr. LoCurto attended high school in Niagara Falls; De Soto, Texas; and Hollywood, Florida, where he graduated at the age of 17. Although it was offered, he chose not to graduate early. Mr. LoCurto studied psychology and biology at Florida State University, but later realized his future lay in becoming a teacher and obtained a Bachelor of Science Degree in Secondary Social Studies Education from Florida International University in 1991.

Mr. LoCurto entered graduate school as a nontraditional student with varied and extensive work experience in human services. After teaching gang kids at an inner city school in Miami, adolescents with life adjustment and behavioral problems at a treatment facility in Asheville, North Carolina, and working with developmentally disabled adults in a compensatory education program in Asheville, he left teaching and began working in the mental health field. Mr. LoCurto worked on a psychiatric unit in Portland, Oregon, and on a mobile crisis team in Tampa, Florida where he screened people and assessed their need for inpatient psychiatric treatment.

Mr. LoCurto is currently obtaining a Master of Arts Degree in Gerontology at Appalachian State University and plans to obtain a Ph.D. in Personality Psychology while studying the link between genetics and personality.