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CHAPTER 3: DEPRESSIVE DISORDERS IN OLDER ADULTS

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Overview of Aging Population

- In 2010, 40.3 million individuals were 65 years or older, representing 13% of the total population, with a rapid growth projected during the next two decades.
- Between 2000 and 2010, the male population aged 60 to 74 increased by 35.2%, narrowing the gender ratio gap.
- The elder racial minority groups are projected to increase with non-Hispanic whites increasing by 54% from 2012 to 2030 and 125% for racial and ethnic populations during the same period.

The 2010 Census Bureau found that 40.3 million individuals were 65 years or older, representing 13% of the total population, with a rapid growth projected during the next two decades (U.S. Department of Commerce, 2011). Elders between 60 and 64 years of age showed the largest percent increase in population (55.6%) since 2000 (U.S. Census Bureau, 2010). This age group grew at a faster rate (15.1%) than individuals under the age of 45 (U.S. Census Bureau, 2011) and is expected to rise to 72,091,915 in 2030 and 88,546,973 in 2050 (U.S. Department of Commerce, 2010). Examining age in five-year cohorts, the U.S. Department of Commerce (2010) found an increase in the elder population, except for those between the ages of 75 and 70 years. Interestingly, there was a 30.2% increase in the 90- to 94-year-old population in 2010 compared with the same age group in 2000 and a 29.5% increase in the 95- to 99-year-old population in 2010 compared with the same age group in 2000.

A remarkable change was found between 2000 and 2010 regarding the sex ratio of elders. Defined as the number of males per 100, the sex ratio gap narrowed due to a 35.2%

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increase in the male population aged 60 to 74 compared with their female counterparts' increase of 29.2%. The racial composition of elders is diverse, which demands tailoring of access to and treatment of minority populations. In 2011, 21% of individuals age 65 years or older were members of racial or ethnic populations (U.S. Department of Health & Human Services, 2012). Of the elders included in the 2011 census, 9% were non-Hispanic African-Americans, 4% were non-Hispanic Asian or Pacific Islander and the categories of Native Alaskan or American Indian and biracial add a population of less than 1%. The estimates of older growth by racial groups are projected to increase with non-Hispanic whites increasing by 54% from 2012 to 2030 and 125% for racial and ethnic populations during the same period (U.S. Census Bureau, 2011). Added to this trend is the increasing proportion of African-American, Latino, and Asian-Americans (Areàn et al., 2005; Gelllis & Taguchi, 2003; Harada & Kim, 1995), who tend to have more obstacles than Caucasians in accessing mental health services.

Prevalence and Characteristics of Depression in Older Adults

- Nearly 5 million of the 31 million Americans over 65 suffer from clinically significant depressive syndromes.
- Estimates of major depression in large-scale community studies are generally low, ranging from 1% to 4.6%.
- For elders living in home health care settings, estimates for major depression range from 6.4% to 13.5%.

Nearly 5 million of the 31 million Americans over 65 suffer from clinically significant depressive syndromes. Estimates of clinically significant depressive symptoms range from 10% to 48% (Dozeman et al., 2010; Koenig, Meadors, Cohen, & Blazer, 1988; Peterson, Williams-Russo, Charlson, & Myers, 1996; Steffens et al., 2000; Williams-Russo, Sharrock, Mattis, Szatrowski, & Charlson, 1995). The prevalence rate for dysthymia is approximately 2%, although estimates for minor depression are higher, ranging from 4% to 50% (Buchtemann, Luppa, Branesfeld, & Riedel-Heller, 2012; Blazer, 2002; Beekman et al., 1995; Thota, Sipe, & Byard, 2012). Late-life depression is associated with increased risk of lifetime chronic depression (Murphy & Byrne, 2012).

Prevalence estimates of major depression in large-scale community studies are generally low, ranging from 1% to 4.6%. For elders living in home health care settings, estimates for major depression range from 6.4% to 13.5% and 27.5% for subthreshold depression (Bruce et al., 2002; Gellis, 2010; Shao, Peng, Bruce, & Bao, 2011). In fact, depression is twice as prevalent in home health care as in primary care; it is persistent, intermittent, and is associated with medical illness, pain, and disability (Brown, Kaiser, & Gellis, 2007; Lyness, King, Cos, Yoediono, & Coaine, 1999). Late-life depression is one of the most common psychiatric disorders to present in primary care and home health care settings (Bruce et al., 2002; Gellis & Kenaley, 2008; Gellis et al., 2007; Lyness et al., 1999; Reynolds & Kupfer, 1999). In fact, depression is the third most common reason for consultation with a primary care provider (Singleton, Bumpstead, O'Brien, Lee, & Melzer, 2001).

Elders with major depression in primary care are more likely to die than their counterparts without depression, as elders present their depression as somatic symptoms,

causing delay in treatment (Gallo et al., 2013). However, patients with major depression in primary care using intervention practices were 24% less likely to have died compared with their non-depressed peers (Gallo et al., 2013). Estimates for rates of major depression in medically-ill older adults range from 10% to 12% (Fiske, Wetherell, & Gatz, 2009). Thirty-nine percent of elders residing in assisted living facilities have depression (Jang, Bergman, Schonfeld, & Molinari, 2006; McDermott, Gillespie, Nelson, Newman, & Shaw, 2012). In long-term care settings, prevalence rates for major depression may range from 5% to 54% (Blazer, 2002; McDougall, Matthews, Kvaal, Dewey, & Brayne, 2007; Morrell et al., 2011; Seitz, Purandare, & Conn, 2010; Singleton et al., 2001) and clinically significant depressive symptoms range from 14% to 82% (Hyer, Carpenter, Bishmann, & Wu, 2005; McDougall, Matthews, Kvaal, Dewey, & Brayne, 2007; Seitz et al., 2010). Depression is underdetected in long-term care facilities and, if detected, is inadequately treated (Teresi, Abrams, Holmes, Ramirez, & Eimicke, 2001; Brown, Lapane, & Luisi, 2002). In fact, 28% of older adult residents with depression have received ineffective or no treatment at all (Morrell et al., 2011).

Recent research has shown significant racial or ethnic differences in prevalence rates for depression. A study examining the National Survey of American Life found lifetime major depressive disorder (MDD) prevalence estimates at 17.9% for non-Hispanic whites, 12.9% for Caribbean Blacks, and 10.4% for African-Americans, yet 12-month MDD estimates across groups were similar (Williams, et al., 2012). In a secondary data analysis of the National Survey of American Life among older adult Medicare recipients, depression diagnosis rates were estimated at 7.2% for Hispanics, 6.4% for non-Hispanic whites, 4.2% for African Americans, and 3.8% for others (Akincigil et al., 2012).

Steffens and colleagues (2009) found whites and Hispanics experience nearly three times the prevalence of depression compared with African Americans. Widowed, separated, or divorced elders experience higher prevalence rates of MDD (Chou & Cheung, 2013) than those who were married. As many as 15% of older Latinos, 12% of older Asian-Americans, and 10% of older African Americans meet criteria for minor depression (Arean & Alvarez, 2001). In contrast to Zalaquett and Stens' study (2006) that found no gender differences in the manifestation of depressive symptoms, Teng, Yeh, Lee, Lin, and Lai's study (2013) found that depression was seen more often in men than their female counterparts. However, a systematic review of the incidence of late-life depression in elders 70 years and older found that major depression was more often found in females (Büchtemann, Luppa, Bramesfeld, & Riedel-Heller, 2012).

Risk and Protective Factors for Late-Life Depression

- Significant life events—assuming a caregiver role; bereavement; living in a rural area; being single or divorced or a widow or widower; suffering chronic and multiple comorbid medical conditions; and polypharmacological use—are risk factors for depression.
- Protective factors include positive beliefs and attitudes, exhibiting a higher sense of mastery, greater religiosity, and more positive attitudes toward aging.
- Though depression is not a normal experience of growing older, older adults are at increased risk for experiencing this disorder.

The etiology of depression is often unclear and is fraught with multiple concurrent factors that increase an older adult's chance of developing depressive symptoms. Such factors include the occurrence of significant life events, such as assuming a caregiver role and bereavement (Cole & Dendukuri, 2003; Magnil, Janmarker, Gunnarsson, & Björkelund, 2013; Montesó et al., 2012). In a study of rural dwelling elders, Montesó and colleagues (2013) found that both widowers and widows were at risk for experiencing depression, yet males were more vulnerable for depression than females. In a systematic review of risk factors for depression in community-dwelling elders that involved a qualitative and quantitative synthesis of the data, Cole and Dendukuri (2003) examined 20 studies and found that females were more at risk for depression compared with males. However, the risk for depression, considering gender, may change due to the situation.

Chronic medical conditions may contribute to the development and continuation of depressive symptoms and disorders. Insomnia, especially characterized by difficulty in initiating sleep and maintaining sleep, daytime sleepiness, and prior history of depression increase the risk for depression (Jaussent et al., 2011). Other medical conditions such as diabetes, cardiovascular disease, and arthritis increase the risk of late-life depression. Depressed elders are at a four-fold risk for diabetes and cardiovascular disease, especially those who experienced myocardial infarction, heart failure, or coronary artery bypass surgery; depressed elders with arthritis have a nine-fold risk of falls (Teng et al., 2013). Elders living in long-term homes who suffer from nervous system disorders are at an 11-fold risk of experiencing depression (Wang et al., 2012). In fact, elders with low functioning due to other medical conditions are at increased risk for depression (Montesó et al, 2012; Yang, Berman, Schonfeld, & Molinari, 2006). Additionally, the loss of ability to perform activities of daily living due to medical ailments also increases the risks for elders to experience late-life depression (Yang et al., 2006; Montesó et al., 2012), with men being more at risk compared with women (Montesó et al., 2012). The older adult's perception of their health status also influences the risk for depression, with those who report a poor rating experiencing more depressive symptoms than those who have a more positive perception of their health status (Yang et al., 2006).

The aging process presents the occurrence of medical conditions which require pharmacological treatment; sometimes the use of several medications. A polypharmacological regimen in treating a medical and/or psychological disorder(s) increases the risk of depressive symptoms (Kao, Wang, Tzeng, Liang, & Ling, 2012), as well as increasing the risk of falling by six-fold (Teng et al., 2013). The use of sedatives and hypnotics is a strategy to treat insomnia and anxiety, often-occurring ailments in elders. However, while these drugs may resolve the adverse effects of the disorder(s), their side effects or interactions with other drugs may cause depressive symptoms (Magnil et al., 2013). Additionally, medical conditions may require ancillary devices which increase the risk of depression in elders by five-fold (Kao et al., 2012). Other risks for major and subthreshold depression include poor social supports, lack of engagement in leisure activities (Lee et al., 2013; Magnil et al., 2013), high stress levels (Lee et al., 2013), and low education (Teng et al., 2013). Elders with war-related experiences are at higher risk for depression compared with their peers lacking such stressful histories (Strauss, Dapp, Anders, von Renteln-Kruse, & Schmidt, 2011).

Protective factors that guard against the manifestation of depressive symptoms and disorders include having a positive attitude toward aging, practicing a religion, life satisfaction, and a sense of mastery (Hashe, Morrow-Howell, & Proctor, 2010; Jang et al.,

2006). Elders residing in long-term care homes who are satisfied with their life are less likely to experience depression compared with those whose perceptions are less positive (Hashe et al., 2010). Elders who have positive beliefs and attitudes exhibit a higher sense of mastery, greater religiosity, and more positive attitudes toward aging, resulting in a decreased risk for depression (Jang et al., 2006). Additionally, instrumental and emotional support from family members as well as assistance from formal organizations improves the psychological well-being among older adults and moderates the association between functional disability and depression (Chao, 2012). In fact, concordance in the perception of financial, physical, caregiving, social, and environmental needs between community-dwelling elders and their formal or familial caregivers improves the elder's quality of life and decreases the risk for major depression (Hourties, van Meijel, Deeg, & Beekman, 2012).

Comorbidity of Depression in Older Adults

- Comorbidity of depression with physical disorders is common and negatively influences the course of the depression and increases functional impairment, health costs, and use of health services.
- Common medical illnesses known to be associated with depression include cerebrovascular disease, heart disease, stroke, hypertension, diabetes, cancer, neurological conditions, and osteoarthritis.

Depressed elders often experience comorbid medical issues and functional disability (Alexopoulos et al., 1996; DaSilva, Scazufca, & Menezes, 2013; Dauphinot et al., 2012; Proctor et al., 2003), with 23.8% experiencing one or two medical conditions, and 27.7% manifesting three or four medical illnesses (Spangenbrg, Forkmann, Brahler, & Glaesmer, 2011). Medical conditions known to be associated with depression include heart disease, asthma, hypothyroidism, stroke, dementia, diabetes, cancer, chronic pain, and arthritis (Chou & Cheung, 2013; Gellis et al., 2012; Krauskopf, 2013; McCarthy et al., 2009). Adjusting for demographic factors, socioeconomic conditions, physical morbidities, and dementia, high functional disabilities are associated with major depression (DaSilva et al., 2013). Recent neurological and immunological studies have found that depressive symptoms may be linked to impaired late-life autonomic nerve or peripheral nervous system performance (Dauphinot et al., 2012), affecting heart rate, digestion, respiratory rate, salivation, perspiration, pupillary dilation, urination, sexual arousal, and ultimately causing immune deficiency.

Negative outcomes of comorbid medical conditions and associated depression include poor social support, impaired functional status, increased disability, and increased rates of mortality and suicide (Brown, Kaiser, & Gellis, 2007; Center for Disease Control and Prevention, 2013; Preyde & Brassard, 2011; Teng et al., 2013). In a national longitudinal study (Teng et al., 2013), older adults with chronic depression have a higher risk of mortality compared with those with less chronic conditions. The risk for mortality increased for older adult males with depression and cardiovascular conditions; the risk for mortality in older adult females increased with non-cardiovascular conditions. Depression associated with physical illness increases levels of functional disability (Gellis & Kang-Yi, 2012; Proctor et al., 2003), use of health services (Beekman, Deeg, Braam, Smit, & van Tilburg, 1997; Saravay, Pollack, Steinberg, Weinsched, & Habert, 1996), and health care costs (Callahan, Kesterson, & Tierney, 1997; Manning & Wells, 1992; Preyde & Brassard,

2011; Simon, VonKorff, & Barlow, 1995), particularly among older adults. It also delays or inhibits physical recovery (Covinsky, Fortinsky, Palmer, Kresvic, & Landefeld, 1997; Katz, 1996).

While elders only make up 13% of the population, they account for approximately 20% of all suicides and have a higher completion rate compared with their young counterparts (Center for Disease Control and Prevention, 2013; Hoyert, Kung, & Smith, 2005; Peaerson & Brown, 2000). In the U.S., suicide rates for males and females age 65 years and older were elevated with a ratio of 150 suicides per 100,000 between 2000 and 2010 (Lapierre et al., 2011). White males 85 years and older have the highest suicide completion rates (45 per 100,000) (Centers for Disease Control and Prevention, 2013). Social inequalities play a role in suicidal ideations and suicide in older adults, including financial strain and an annual income of less than $20,000 (Gilman et al., 2013). Additionally, elders who are divorced or separated, living alone, have previous psychiatric history, a previous suicide attempt, less than a high school diploma, a lack of social support, and suffer from comorbid medical conditions have an increased risk for suicidal ideations or suicide (Gilman et al., 2103; Peters, Kochanek, & Murphy, 1998; Wiktorsson, Runeson, Skoog, Ostling, and Waem, 2010). Retrospective studies identified that greater than 70% of late-life suicide victims had contact with their primary care provider within 3 to 6 months prior to their death (Conwell, Olsen, Caine, & Flannery, 1991; Conwell, 1994; Diekstra & van Egmond, 1989; Frierson, 1991; Tadros & Salib, 2007; Uncapher & Areán, 2000). Elders with late-life depression are more likely to present somatic symptoms during their visits to their primary care physicians compared with their younger counterparts who present with more psychiatric symptoms (Tadros & Salib, 2007), which decreases the likelihood of detecting depressive symptoms and initiating treatment. Additionally, the majority of older patients who experience late-onset and untreated depressive symptoms usually suffer high rates of comorbid illness and/or fears of pain or dependency on others (Duberstein, 1995).

Beliefs and perceptions by health professionals also contribute to not detecting depression and suicidal ideations, hence increasing the risk for suicidal attempts and completions. In a study of 159 staff members at four long-term care facilities, Tracey and Heck (2013) compared the beliefs of depression as a normal aging process between paraprofessional staff (certified nursing assistants) and professional staff (social workers, licensed practical nurses, registered nurses, and mental health counselors) working at long-term care facilities. Interestingly, professional staff viewed depression as a normal part of aging and that older adults are less likely to commit suicide compared with paraprofessional staff who believed that depression and suicide were not normal behaviors in elders (Tracey & Heck, 2013). These findings indicate the need for training for those working with the older adult population, involving normal geriatric development, methods for identifying depressive symptoms, and prevention and treatment for depression in different elder care settings.

Depression Screening

- The goal of screening is early identification and, thus, prevention through early intervention.
- Key criteria to be used by agency personnel to justify mental health screening for late-life depression include the following:

- Is the national incidence of depressive disorders in the older adult population high enough to justify the cost of screening in an agency?
- Does the problem have a significant effect on the quality of life of the older adult?
- Depression symptomatology varies significantly for each elder.
- Is effective treatment available?
- Are valid and cost-effective screening instruments available?
- Are the adverse effects (if any) of the screening tests acceptable to social workers and older adult clients?

- The literature demonstrates the following in relation to the above questions:
  - Depression is prevalent among older adults in a wide variety of settings, and social workers encounter older adults in many areas of clinical practice.
  - Depression among older adults manifests in various presentations and causes serious health and social consequences.
  - Effective psychosocial and pharmacological treatments are available for depression.
  - Valid cost-effective depression screening procedures exist.
  - Older adults are not averse to screening for depression, outside of the time and effort required to complete a short interview or form, if the need for the screening is explained clearly and the screening is conducted in an empathetic manner (Gellis & Kenaley, 2008; Gellis & Taguchi, 2003).
  - Universal screening where every elder in a program or group is routinely screened is more effective in identifying those with depression than conducting case screening, an approach used to screen individuals at risk for depression (Berman & Furst, 2011).

A number of standardized self-report rating scales for assessing the presence and severity of depressive symptoms include the Center for Epidemiological Studies-Depression Scale (CESD), Geriatric Depression Scale (GDS), Zung Self-Rating Depression Scale, Beck Depression Inventory (BDI-II), the Patient Health Questionnaire-9 (PHQ-9), and clinician-interview instruments, including the Hamilton Rating Scale for Depression (HAM-D), the Montgomery Asberg Depression Rating Scale (MADRS) and the Cornell Scale for Depression in Dementia (CSDD). All of these measures are frequently used in long-term care settings (see Table 1 for citation and download information). Older adults are not averse to screening for depression, outside of the time and effort required to complete a short interview or form, if the need for the screening is explained clearly and the screening is conducted in an empathetic manner (Gellis, 2009; Gellis & Kenaley, 2008: Gellis & Taguchi, 2003).

Table 1. Screening Tools for Identifying Depression Disorders in Old Adults

Administration	Screening Tool	Resource
Self-report	Geriatric Depression Scale http://www.neurotransmitter.net/depressionscales.html	Brink et al., 1982

Clinician	Hamilton Rating Scale for Depression http://www.neurotransmitter.net/depressionscales.html	Hamilton, 1960
Self-report	Center for Epidemiologic Scale for Depression http://www.neurotransmitter.net/depressionscales.html	Radloff, 1977
Self-report or Clinician	Patient Health Questionnaire (PHQ-9) http://www.americangeriatrics.org/education/dep_tool_05.pdf	Kroenke & Spitzer, 2002
Self-report	Beck Depression Inventory	Beck & Beck, 1972
Clinician	Cornell Scale for Depression in Dementia http://www.health.gov.au/internet/publications/publishing.nsf/Content/ageing-rescare-natframe.htm~ageing-rescare-natframe08.htm	Alexopoulos et al., 1988
Clinician	Montgomery Asberg Depression Scale http://www.sfaetc.ucsf.edu/docs/MADRS.pdf	Montgomery & Asberg, 1979

- For DSM diagnosis:
  - Structured Clinical Interview for DSM-5 (SCID)
  - Mini-International Neuropsychiatric Interview (MINI) is available in several languages. Register and download the instrument free at: https://www.medical-outcomes.com/indexSSL.htm.

- Steps in screening:
  - Obtain the person's agreement to be screened.
  - Explain the purpose for the screening.
  - Administer and score the screening tool per the instructions.
  - If the screen is positive, make initial treatment referrals for further diagnostic assessment to the older person's primary care physician for possible psychotherapy and antidepressant medication.

- The social worker is in a unique position to:
  - Identify resources if financial barriers exist.
  - Address stigma through psychoeducation.
  - Encourage client follow-through with the referral.

Evidence-Based Treatment

Pharmacological Interventions

- Antidepressants are widely used and are safe and effective for the treatment of moderate to severe depression in older adults. All antidepressants are equally effective, though the most widely studied are tricyclic antidepressants and selective serotonin reuptake inhibitors (SSRIs). Medically-ill older adults have fewer adverse effects with SSRIs, which has led them to be more widely prescribed in primary care settings.
- As older adults are prescribed more medications for other medical diseases, the likelihood of self-medication, multiple drug use, drug interactions, and unpleasant side effects increases.

Based on several literature reviews of pharmacologic treatment for late-life depression, antidepressants are reported as a safe and first-line treatment for depressed older adults (Barkin, Schwer, & Barkin, 2000; Mamdani, Parikh, Austin, & Upshur, 2000; Chelmali, Chahine, & Fricchione, 2009; Salzman, Wong, & Wright, 2002; Solai, Mulsant, & Pollock, 2001). Almost all antidepressant medications are equally effective for treating major depression (Blazer, Hybel, Simensick, & Harbin, 2000; Salzman et al., 2002).

During the past two decades, over 30 randomized placebo controlled clinical trials as well as many comparative trials (Das Gupta, 1998; Salzman et al., 2002) have been conducted that have documented the efficacy and safety of tricyclic antidepressant (TCA) and selective serotonin reuptake inhibitor (SSRI)antidepressant medications for older adults with depression. Dolder, Nelson, and Stump (2010) conducted a review of 14 studies examining the efficacy and safety of two more recently developed antidepressants, escitalopram, an SSRI and duloxetine, a serotonin-norephinephrine reuptake inhibitor (SNRI). In contrast with those who received escitalopram, duloxetine-treated patients experienced improvement in their depressive symptoms. Both medications were generally well-tolerated; however the adverse side effects experienced included constipation and dry mouth, two pharmacological side effects common in older adults. Naturalistic studies have shown that medically ill older adults have more adverse effects to TCAs than to SSRIs (Cole, Elie, McCusker, Bellavance, & Mansour, 2001; Landreville, Landry, Baillargeon, Guerette, & Matteau, 2001), and the use of SSRIs in primary care has become more common (Crystal, Sambamoorthi, Walkup, & Akincigil, 2003).

As older adults are prescribed medications for mental health conditions and comorbid illnesses, the likelihood of self-medication, multiple drug use, drug-drug interactions, and unpleasant side effects increases. Common side effects of SSRIs include nausea, constipation/diarrhea, weight changes, sexual dysfunction, gastrointestinal bleeding, dry mouth, and hyponatremia (Dolder, Nelson, and Stump, 2010; Chemali et al., 2009). The antidepressant dose for older adult patients is "generally one-third to one-half of that recommended for a younger adult patient because of anticipated effects of aging on the pharmacodynamic effects of antidepressants and on pharmacokinetic parameters including drug distribution, metabolism, and elimination" (Ellison Kyomen, & Harper, 2012, p. 2009). Non-adherence to medication, especially antidepressants by older adults with major depression, is a major concern in treatment management (Grenard et al., 2011). In fact, between 24% and 28% of older adults are non-adherent in taking their medications (Keaton et al., 2009). For older patients, initial partial response of antidepressants may take up to 6 to 8 weeks, although subjective sense of improvement earlier in treatment may occur and suggests the likelihood of continued benefits (Ellison et al., 2009).

Biological Interventions

During the past decade several advances have been made in the use of biological treatment modalities for late-life depression, especially for the severely depressed elder. In a review of 22 studies (van Schaik et al., 2012), including three randomized clinical trials, continuation or maintenance electroconvulsive therapy (ECT) proved to be efficacious, safe, and well-tolerated by clients age 55 years or older. Considering the side effects of ECT, high-dose right side unilateral (RUL) electrode placement brief pulse ECT results in milder cognitive side-effects, yet has equal efficacy compared with bilateral electrode placement ECT, and greater efficacy compared with lower doses of RUL ECT (Alexopoulos & Kelly,

2009). Approved by the U.S. Food and Drug Administration in 2005, vagus nerve stimulation plus treatment as usual has shown efficacy in treating resistant depression when compared with treatment as usual (Alexopoulos & Kelly, 2009). Another new and efficacious advancement is the use of deep brain stimulation, which stimulates portions of the basal ganglia resulting in reduction of symptoms or remission of depression. These advancements have shown efficacy for elders with persistent and major depressive symptoms and the possibility for increasing their quality of life and functionality.

Psychosocial Interventions

- Late-life depression is pervasive, debilitating, and intimately linked with the presence and development of medical disorders.
- Patients with depression go undetected or untreated despite the patient's ongoing involvement with a primary care clinician.
- Older adults often prefer to receive treatment for depression, along with care for medical conditions, in primary care settings.
- Psychosocial interventions have been demonstrated to be effective among older adults, particularly those who reject medication because of unpleasant side effects or who are coping with low social support or stressful situations.
- Psychosocial interventions alone are effective with older populations including minorities. Cognitive therapies, including Problem-solving Therapy, are particularly promising among older men and women of diverse ethnic backgrounds.

The majority of primary care patients prefer counseling over medication, which should be kept in mind since patient attitudes and preference affects acceptance of and adherence to the prescribed treatment for depression. Late-life depression is pervasive and has debilitating psychological and medical effects and costs (Ellison et al., 2012) and is likely to go undetected and untreated (Brown, Lapane, & Luisi, 2002; Duberstein, 1995; Teresi, Abrams, Holmes, Ramirez, & Eimicke, 2001). More than one-third of suicide victims have at least one prior suicide attempt, which increases the number of attempts and completed suicides (Rihmer & Gonda, 2011). Elders who attempt suicide are often more frail, more isolated, more likely to have a plan, and determined to complete the suicidal attempt compared with younger suicidal individuals (Administration on Aging, 2012). Elders are more serious in their attempts, with firearms being the most commons means to commit suicide (67%), followed by poisoning (14%), and suffocation (12%) (Administration on Aging, 2012). The lethality of late-life suicide suggests that suicide prevention and interventions must be aggressive (Administration on Aging, 2012). Collaborative care models in primary care (e.g., IMPACT) have demonstrated greater improvement in depression symptoms and reduced suicidal ideation as compared with primary care physician treatment alone (Katon et al., 2010). A randomized clinical trial (Gallo, 2013) examining the efficacy of another suicidal intervention, PROSPECT–Prevention of Suicide In Primary Care Elderly: Collaborative Trial, found that patients with major depression who received the intervention were 24% less likely to die than were the patients with depression who received usual care treatment, indicating that a prevention model is effective in reducing suicidality in elders. The Administration on Aging (2012) suggests the following suicide prevention guidelines:

Key Actions for Aging Services Providers

- ✓ Train aging service providers (and laypersons) to identify warning sign and refer to services those older adults who are at-risk for depression or suicide (e.g., "gatekeeper" training).
- ✓ Introduce depression and suicide screening in the course of non-clinical activity (e.g., senior day care, senior transportation, senior companions).
- ✓ Provide systematic outreach to assess and support high-risk older adults (e.g., recently widowed, socially-isolated older men) in improving life conditions and addressing issues and needs that can reduce stress.

Key Actions for Behavioral Healthcare Providers

- ✓ Screen for suicidal ideation among older adults receiving mental health or substance abuse treatment.
- ✓ Increase the effectiveness of behavioral health services by implementing evidence-based practices for depression, tracking outcomes systematically, and taking steps to improve treatment compliance
- ✓ Offer assertive help after a suicide attempt and help the older adult explore realistic future perspectives.

Key Actions for Primary Healthcare Providers

- ✓ Implement routine standard screening for depression and suicidal
- ✓ Ideation
- ✓ Optimize diagnosis and treatment of late-life depression by using collaborative depression care management interventions (e.g., IMPACT: Improving Mood, Promoting Access to Collaborative Treatment, http://impact-uw.org; PROSPECT: Prevention of Suicide in Primary Care Elderly, http://www.nrepp.samhsa.gov/ViewIntervention.aspx?id=257).
- ✓ Optimize treatment of pain, sleep problems, or other physical symptoms that can decrease an older adult's quality of life and increase suicidal thoughts.
- ✓ Communicate with older suicidal patients before treatment, and include relatives and/or friends or caregivers in treatment talks.
- ✓ Develop and use registries to identify and monitor person after a suicide attempt

Manualized depression interventions that have been modified for older adults and have met evidence-based guidelines include cognitive-behavioral therapy (CBT), problem-solving therapy (PST), behavioral therapy, cognitive bibliotherapy, brief psychodynamic therapy, and life review therapy (Dickens et al., 2013). Evidence-based therapies such as CBT, PST, and interpersonal therapy (IPT) are effective intervention alternatives or adjuncts to medication treatment (Dickens et al., 2013; Gath & Mynors-Wallis, 1997; Gellis et al., 2007; Gellis et al., 2008; Gellis & Bruce, 2010; Hegel, Barrett, Cornell, & Oxman, 2002; Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012; Jacobson & Hollon, 1996; Pen, Huan, Chen, & Lu, 2009; DeRubeis, Gelfand, Tang, & Simons, 1999; Schulberg, Pilkonis, & Houck, 1998). Psychosocial interventions have been demonstrated to be effective among older adults, particularly the 24% to 28% who are non-adherent in taking their medication because of

unpleasant side effects or who are coping with low social support or stressful situations (Choi & Morrow-Howell, 2007; Gellis, 2006; Gellis et al., 2012; Keaton et al., 2009).

There is evidence that psychosocial interventions alone are effective with older populations, including minorities (Coulehan, Schulberg, Block, Madonia, & Rodriguez, 1997; Mossey, Knott, Higgins, & Talerico, 1996; Munoz et al., 1995). Cognitive therapies, including PST, are particularly promising (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012; McCusker, Cole, Keller, Bellavance, & Berard, 1998; Nezu, 2004; Robinson et al., 1995) among older men and women of diverse ethnic backgrounds (Gil et al., 1996). Patient attitudes and preference for treatment type has been shown to affect acceptance of and adherence to the prescribed depression treatment (Schulberg, Magruder, & deGruy, 1996), and the majority of primary care patients prefer counseling over medication (Brody, Khaliq, & Thompson, 1997; Landreville et al., 2001).

Literature reviews on the effect of CBT on late-life depression noted that CBT was at least as or more efficacious than pharmacotherapy and other forms of psychotherapy such as IPT, brief insight-oriented therapy, PST, and reminiscence therapy (Areán & Cook, 2002; Cuijpers, van Straten, & Smit, 2006; Laidlaw, 2001; Pinquart & Soerensen, 2001; Zalaquett & Stens, 2006). Hofmann and colleagues' 2012 review of a representative sample of 106 recent meta-analyses revealed that CBT was more effective than waiting list control groups, but equally effective in comparison to reminiscence therapy, psychodynamic therapy, and interpersonal therapy. Considering long-term effects of CBT for elders with late-life depression, one meta-analysis revealed that treatment gains of CBT were maintained at the 11-month follow-up. However, overall, the meta-analyses indicated minimal long-term effect and the interactions of effects of CBT with antidepressant therapy (Hofmann et al., 2012), contradicting previous studies (Areán, Gum, & McCulloch, 2003). The later study's sample was limited to low income elders, though, a factor that may have contributed to more successful outcomes. Factors that contribute to success of CBT therapy in reducing or ameliorating late-life depression include the elder's ability to be open to new experiences, be less negatively affected by past stressors, be accountable for stressful life situations, and be open to seek emotional support when symptomatic (Marquett et al., 2013).

In a study of older low-income primary care patients with MDD, Spanish-speaking and English-speaking patients responded equally well to CBT alone versus case management (Miranda, Azocar, & Organista, 2003). Moreover, CBT and supplemental case management were associated with greater improvement in symptoms and functioning than CBT alone for Spanish speakers, but CBT was less effective for those whose first-language was English. Even so, a dearth of studies exists to inform social workers about the use of CBT and associated strategies for successful implementation of CBT among diverse populations, especially older gay populations.

Problem-solving Therapy (PST)

- PST has been found to be effective in frail, homebound, medically-ill individuals, and a short (6-week) course of treatment is as effective as medication in individuals with major and minor depression.

PST interventions for depression by non-medical mental health practitioners have demonstrated effectiveness for homebound, frail, medically-ill populations (Gellis & Bruce, 2010; Gellis, Kenaley, & Ten Have, 2014; Gellis, et al., 2007; Gellis et al., 2012; Mynors-

Wallis, Gath, Davies, Gray, & Barbour, 1997). Adjunct written educational materials for patients and family members have been shown to improve medication adherence and clinical outcomes (Robinson et al., 1997). Some studies have found that six sessions of PST are as effective as pharmacotherapy among ambulatory primary care patients with minor and major depression (Hegel et al., 2002; Mynors-Wallis, Gath, Lloyd-Thomas, & Tomlinson, 1995).

Cognitive-behavioral Therapy (CBT)

- CBT (either individual or group) is at least as or more efficacious than pharmacotherapy and other forms of psychotherapy such as IPT, brief insight-oriented therapy, PST, and reminiscence therapy.
- Combined case management and CBT may have more efficacy than CBT alone for low-income and/or certain minority group members.

Interpersonal Therapy (IPT)

- IPT, another evidence-based intervention for late-life depression, focuses on relationships and conflicts with family and friends. Its purpose is to improve communication in those relationships, and develop or enhance the social support network.

IPT is another evidence-based intervention for late-life depression that focuses on the depressed person's relationships and conflicts with family and friends (Hinrichsen, 1999). The overall purpose is to improve communication in those relationships and to develop or enhance the social support network of the identified depressed patient (Weissman & Markowitz, 1994). Several meta-analytic reviews noted findings of the efficacy of IPT for depression (de Melo, de Jesus, Bacaltchuk, Verdeli, & Neugebauer, 2005; Parker, Parker, Brotchie, & Stuart, 2006; Thase et al., 1997; Weston & Morrison, 2001).

Other Therapies and Interventions

- Adjunct written educational materials for clients and family members improve medication adherence and clinical outcomes.
- Treatment protocols for late-life depression are typically time-limited (6-20 sessions) psychotherapeutic interventions.
- The goal of brief interventions is to treat the problem, specifically, changing the behavior of individuals who are experiencing mental health problems in later life. These psychosocial interventions include assessment and direct feedback, contracting and goal setting, cognitive and behavioral techniques, and the use of educational and other written materials.
- There is unfortunately less available evidence on culturally appropriate mental health treatments for older adults.

Educational materials written for patients and family members have been shown to improve medication adherence and clinical outcomes (Robinson et al., 1997). Interventions for depression generally range from 6 to 20 sessions, each lasting about an hour (Gellis et

al., 2007; Hegel et al., 2002; Nezu, 2004; Nezu & Nezu, 2001). Interventions for approaching late-life depression:

Questions to ask:

- ✓ How are things at home?
- ✓ How have you been coping?
- ✓ Have you had any stress lately?
- ✓ How are you handling it?

Discuss your concerns with the individual. You can say:

- ✓ It is very common.
- ✓ It is a medical condition.
- ✓ It is very treatable.

Prior to referral for mental health services:

- ✓ Be supportive. Be patient.
- ✓ Allow the individual to express his/her concerns/fears.
- ✓ Listen without being judgmental.
- ✓ Don't take things personally if the client is irritated or angry.
- ✓ Provide choices and be complimentary.
- ✓ Attempt to provide daily activities.

Guidelines for making a referral to a mental health program (from a non-mental health setting such as primary care or a social service agency):

- ✓ If the older client has a psychiatric history.
- ✓ If there is suicidal ideation.
- ✓ If there is risk of suicide or you are concerned about client safety.
- ✓ If there is need for hospitalization.
- ✓ If client needs medication evaluation.
- ✓ If client needs ongoing therapy that can't be provided in your setting.

To address individual and geographic barriers and reduce health costs, telehealth applications (defined as remote patient monitoring, internet, audio, and video technologies) to provide medical and mental health services have been used for the past five decades (van den Berg, Schumann, Kraft, & Hoffmann, 2012). Depression treatment has been shown to be effective when integrated with telehealth technology among depressed older adults with comorbid diseases (Gellis & Kang-Yi, 2012; van den Berg et al., 2012). A recent study examining the collaboration of CBT and telehealth revealed favorable findings in decreasing insomnia and reducing depression (Lichstein, 2013). However, further investigation with a more robust design is warranted to confirm the effectiveness of CBT with telehealth in medically-ill elders. A recent randomized trial of the "Tele-HEART" program providing remote patient monitoring of cardiac disease symptoms and integrated depression care found a 50% reduction in depression symptoms over a 3-month period and cost reductions in emergency department use over a 12-month period (Gellis et al., 2012).

Past research examined the use of internet and telephone therapy to provide depression treatment with positive outcomes (Speck et al., 2008). Since telephone therapy

is generally not covered by reimbursement models, cost-benefits must be taken into consideration. Kiosses and colleagues (2010) examined PATH depression intervention compared with usual care for cognitively-impaired depressed older adults and found that depression significantly decreased over 12 weeks compared with usual care. In another randomized control trial with 138 older adults aged 50 years, participants received either problem solving treatment and behavioral activation (PEARLS) or usual care with reported improvements in depressive symptomatology for the intervention (Ciechanowski et al., 2004). The "Healthy IDEAS" study, examining the impact of an intervention for depression delivered by case managers in community-based agencies to 94 high-risk, diverse older adults, found that, at 6 months, participants significantly improved their knowledge of how to obtain help for their depression and reported increased activity and reduced pain (Quijano et al., 2007).

While life-review therapy has been shown to be efficacious in treating elders with depression, the use of new media and e-mental health has further advanced life-review therapy. Preschla and colleagues (2014) conducted a six week life-review therapy in a face-to-face setting with touch screen computer supplements from the e-mental health Butler system, consisting of exercise instructions (mindfulness, relaxation, and guided exercises) and autobiographical retrieval practice to assist positive valuated life episodes. The study found that this innovative intervention decreased depressive symptoms, and increased self-esteem and sense of well-being (Preschla et al., 2014).

Cost of Depression

The detrimental effects of late-life depression both for individuals and society include enormous costs due to use of health care services and an increased need for nursing care (Lavretsky and Kumar, 2002; Lyness et al., 2009; Blazer, 2003; Beekman et al., 1997; Luppa et al., 2007). In fact, the cost incurred by those who are depressed is significant with the total ambulatory and inpatient costs for depressed older adults being 47% to 51% higher compared with their counterparts without depression after adjusting for chronic medical illness (Katon, 2003). Average six-month total costs were $1,045 to $1,700 higher for the depressed elders compared with the non-depressed elders (Katon, 2003). In a randomized control study, Luppa et al. (2010) found elders with depression had higher pharmaceutical costs, medical supplies costs, and home care costs compared with elders without depression. Additionally, the study found the annual direct costs of elders with depressive symptomatology exceeded the total direct costs of non-depressed elders. Due to the decrease in functionality and co-occurring medical illnesses, depression in late-life is associated with use of health services (Beekman, Deeg, Braam, Smit, & van Tilburg, 1997; Saravay, et al., 1996) and health care costs (Callahan, et al., 1997; Simon et al., 1995; Unützer et al., 1997). It also delays or inhibits physical recovery (Covinsky, Fortinsky, Palmer, Kresvic, & Landefeld, 1997; Katz, 1996).

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