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Review Article

Aging and Depression

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Abstract

Depression in older adults is a major public health problem that has received an inadequate response from medical professionals. Symptoms of depression can differ from those of younger adults and be related to cognitive changes, physical health problems, and limited social interactions. Depression in older adults can be successfully prevented and treated. Treatment options include antidepressant medication, psychotherapy, and Neuromodulation therapies in cases of severe depression. Programs developed for the treatment of older adults with depression show positive results. Recommendations are offered to improve screening, assessment, and referral for appropriate treatment.

Depression is a common mental disorder in the United States affecting children, adolescents, adults, and older adults. This article explores the relationship between aging and depression, focuses on symptoms of depression in older adults, examines types of treatment, and offers recommendations to screen, assess, and treat older adults. With the number of older adults expected to increase significantly in the United States in the coming years, it is of critical importance to address prevention and treatment of depression in older adults.

INTRODUCTION

Depression in older adults is considered one of the most serious public health problems in the world today [1]. Overall, it is very difficult to determine the number of people with mental illness, including depression, especially since much of it is undiagnosed and diagnostic criteria change over time [2]. Definitions of depression can differ, as can the definitions of "older adult," making it difficult to arrive at accurate estimates of older adult depression. For example, some studies use the age of 65 as the beginning of the elderly or older adult years while others, such as the National Survey on Drug Use and Health, consider age 50 to be the beginning of the older adult years [3]. In 2015, 4.8% of adults in the United States aged 50 or older had a major depressive episode within the past year with 3% who endured "severe impairment" as a result of their depression [3]. Estimates of depression in older adults living independently at home range from 1-15%, and approximately 11.5% of hospitalized older adults and 13.5% of those at home receiving home health services are depressed [4,5]. One study examined adults age 60 and over who were receiving homecare services and found that 26% screened positive for depression [6]. Future research can help to clarify the prevalence of depression in older adult populations living at home with and without homecare services, as well as those older adults in hospitals and nursing homes.

Symptoms of depression in older adults include loss of interest in previously satisfying activities, decreased energy, and decreased mental concentration [4,7]. Some older adults experience depression by either appetite loss or the opposite, overeating [4]. There can be physical symptoms such as headaches and stomach ailments that do not have other causes [4,7].Other symptoms of depression are feelings of worthlessness and hopelessness [2].

Depression in older adults can differ from that in younger adults due to cognitive changes, physical ailments, and reduced social activities [5,8].Untreated depression in older adults can result in physical and cognitive decline, and reduced opportunities for social engagement [9]. Older adults are at elevated risk of depression with 80% living with one chronic health problem and 50% with two or more chronic health problems [4].Biological correlates of depression can include endocrine dysfunction, dementia, vascular disease, diabetes, and vitamin deficiencies such as B12 and folate deficiency [9-12]. It has been known for some time that hypothyroidism in older women can be associated with depression [9,11]. Sleep disturbance is also associated with the development of depression in older adults [7, 13].

Older adults are at greater risk of having physicians pay less attention to their health concerns and have medical problems that go unnoticed and untreated [4,14,15]. Physical complaints can overshadow depression and thus symptoms can be ignored [1].There is evidence that severe depression is more likely to be diagnosed with mild to moderate depression less likely to come to the attention of medical professionals [6]. This serves as a reminder that healthy cognitive aging has yet to be clearly defined [14].

There is a strong correlation between substance abuse and depression and it is very difficult to disentangle this relationship [15, 16]. The substance abuse problems of older adults are often under diagnosed and undertreated by medical professionals [15,16]. Substance abuse, both prescribed as well as illicit drugs,

may precede depression or the search for relief from depression may encourage an older adult to use alcohol or other drugs [16]. More research is needed to sort out the relationship between substance abuse and depression in older adults.

Older women are at greater risk for depression than older men [2,9]. Depression increases the risk of suicide for both women and men and overall rates increased steadily between 1999 and 2014 [17]. While suicide attempts are more common among women, completed suicides are more common among men because they are more likely to use firearms [18]. The highest suicides rates are found among men aged 75 and older [17].

Established treatments for older adults include antidepressant medications, psychotherapy, and neuromodulation therapies that provide electrical stimulation of the brain. Antidepressants are the most frequently used and offer the most research evidence for effectiveness in older adults [19-21]. A meta-analysis of 74 studies found that antidepressants are useful in older populations but can be less effective in patients over the age of 65 [22]. Cognitive decline and co-morbidities can contribute to less effectiveness [22]. A smaller dosage should be initially tried with older adults than with younger adults [23]. As with younger adults, it can take time to determine the most effective antidepressant and the proper dosage [19]. Antidepressants should be taken for at least 12 months after improvement in depression symptoms and some older adults may have to continue indefinitely [23].

Psychotherapy for depressed older adults is provided as a sole treatment or is used in conjunction with antidepressant medication [24]. While showing effectiveness, psychotherapy is underutilized in the treatment of depressed older adults [21, 25]. A meta-analysis of 57 controlled studies found "large effect sizes" with 7-12 therapy sessions showing optimal effectiveness [26]. A more recent meta-analysis of 44 studies on older depressed adults found that cognitive behavioral therapy, life review therapy, and therapy that focuses on problem-solving were the most effective [27]. Cognitive behavioral therapy has received the most research attention and is a structured type of short-term therapy that focuses on helping clients to identify problem thoughts, feelings and behaviors to achieve healthier functioning [28]. Known to be effective with a wide variety of mental health and substance abuse problems, cognitive-behavioral therapy can be tailored to the needs of older adults by focusing on coping with loss, life transitions, and cognitive concerns [24]. There are not yet a sufficient number of studies that compare treatment types to determine whether psychotherapy is more effective than medication or should be used in combination with other treatments [27].

A variety of brain stimulation techniques have been developed through the years to address severe depression. These neuromodulation treatments have been developed for persistent depression for which medication is not successful [7, 29]. Noninvasive brain stimulation techniques include electroconvulsive therapy, magnetic seizure therapy, and transcranial magnetic stimulation [29]. Brain surgery techniques include vagus nerve stimulation and deep brain stimulation for severe depression [29].With the longest history of use, electroconvulsive therapy (ECT) is considered the most effective treatment for severe depression and is recommended for older adults [7]. ECT can also be used in combination with antidepressant medication [7, 30, 31]. In phase 1 of a study of older adults with depression, ECT in combination with the antidepressant avenlafaxine (brand name Effexor), was found to be a "highly effective" treatment option for older adults [30]. In phase 2, ECT and venlafaxine together resulted in lower depression scores for study participants than older adults on medication alone [31]. There are not yet a sufficient number of studies to determine whether older adults can achieve the same high remission rates of younger patients with severe depression of 70- 90% [7].Lack of availability of newer neuromodulation treatments and lack of long-term studies on their effectiveness are challenges for the treatment of both younger and older adult populations with severe depression [29].

Physical exercise is recommended as an adjunct to medication and/or psychotherapy. Older adults should be encouraged to exercise within their physical limitations [7]. A meta-analysis of studies of the effects of exercise on older adults found that strength and endurance training reduced depression symptoms [32]. However, in controlled studies of older adults in residential "care homes" in England, symptoms of depression were not reduced through exercise [33]. While any kind of physical exercise can be helpful, yoga has been shown to be effective in reducing depression in younger and older adults [34, 35]. Lack of quality research and difficulty in determining the effectiveness of physical exercise as a treatment for older adults are obstacles to obtaining a clear picture of the effectiveness of exercise [36].

There are several examples of successful programs for older adults with depression [37, 38]. The IMPACT (Improving Mood-Promoting Access to Collaborative Treatment) Program offered screening, a depression care manager who provided an assessment, and then coordinated in-home care in partnership with the primary care physician. After one year, 45% experienced fewer depression symptoms, less physical impairment, and improved quality of life [37, 39]. The PEARLS (Programs to Encourage Active Rewarding Lives for Seniors) is for mildly depressed older adults already receiving in-home care services that focuses on problem-solving, recognition of symptoms of depression, and addressing problems that contribute to depression. After one year, depressive symptoms were significantly reduced and functional and emotional well-being were improved [40]. Barriers to implementation of PEARLS can include too stringent program admission criteria and a heavy home care staff workload [41]. The Healthy IDEAS (Identifying Depression, Empowering Activities for Seniors) Program is designed for older adults with chronic health problems who are receiving home care services [38]. In addition to screening and assessment, participants receive assistance in coordinating their health care and managing their symptoms. As a national model, Healthy IDEAS has proven to be effective in assisting older adults in seeking medical help, improving their level of physical activity, and reducing pain [38].

Prevention of depression in older adults has received little research and clinical attention [42, 43]. Prevention can include education on depression, group support programs, and life review (reminiscing) activities [5]. Physical activity can serve as a protective factor against developing depression and improve

overall health [2]. Programs designed to teach coping skills and improve sleep quality can also be helpful in preventing depression in older adults [43].

An important place to start for prevention and treatment is to screen older adults. While there are a number of general screening tools for depression, the Geriatric Depression Scale (GDS) was developed specifically for older adults. The GDS was originally developed in 1982 with 30 questions to which older adults respond yes/no regarding how they felt during the previous week. A short form of the GDS with 15 questions was developed in 1986 and has been especially useful in older adults with physical illness and/or cognitive impairment, taking only 5 to 7 minutes to complete [44]. When an older adult screens positive for depression, a referral needs to be made for an assessment by a mental health professional and a treatment plan should be developed and implemented.

The following are recommendations to address and reduce depression among older adults:

1) Utilize the Geriatric Depression Scale to screen older adults in primary and specialty care physicians' offices and hospital emergency rooms.

2) For older adults who screen positive for depression, medical practices and emergency rooms should facilitate referral and an appointment with a mental health professional with expertise in treating older adults.

3) Ensure that older adults with depression are evaluated for the use of antidepressant medication by a psychiatrist (psychopharmacologist). If antidepressants are not effective, older adults should be evaluated for neuromodulation treatments such as ECT.

4) Medical professionals should regularly evaluate all medications taken by older adults to ensure they are needed and prescribed in the appropriate dosage.

5) Medical professionals should encourage participation of older adults in activities such as educational and social workshops offered by the community senior center.

6) Local senior centers should provide individual and group support for family members caring for older adults with depression and other problems.

7) Medical professionals and elder advocates should encourage older adults to become physically active in a variety of exercise and stretching programs. These can include tai chi, yoga, zumba gold for seniors, and types of balance exercise.

8) Refer clients to yoga therapists certified by the International Association for Yoga Therapists who can work individually with clients on reducing depression through yogic practices including breath work and meditation.

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