Late-Life Depression: Prevalence and Presentation, Course and Outcome

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Late-life depression is a prevalent condition. Elderly individuals often assume that depressive symptoms are a normal consequence of aging, and the standard diagnostic criteria for depression may not be sufficiently sensitive to detect late-life depressive episodes. Consequently, depression, particularly subsyndromal depression, remains underdiagnosed, and high levels of medical comorbidity often confound the diagnosis. Failure to recognize depression in primary care may mean that health services are used inappropriately to determine another cause for the signs and symptoms presented by the elderly patient. *(Primary Care Companion J Clin Psychiatry 2000;2[suppl 5]:3–6)*

Depression is a chronic condition that is the most common cause of years lost because of disability worldwide.[1] Depression has been shown to be associated with poorer physical functioning and a greater number of employment days lost than other long-term medical conditions, such as hypertension, diabetes, and arthritis.[2] National screening surveys in the United States have shown an increase in the rate of depressive symptoms in individuals from the age of 65 years onward.[3] These figures therefore indicate that the elderly subgroup of the population is at particular risk.

Life expectancy has been steadily increasing over the last 25 years, and, currently, over 15% of the population are aged 65 years or older,[4] equating to about 423 million people worldwide (including developing countries). This number is expected to increase over the coming years and, combined with the increased risk of depression in old age, will clearly contribute to the projected disease burden.

The management of depression in the elderly presents a significant medical challenge. The mental health burden will grow over time unless adequate and immediate action is taken, in terms of improved diagnosis and increased prescription of appropriate treatment.

PREVALENCE OF LATE-LIFE DEPRESSION

One of the largest epidemiologic studies, the Epidemiologic Catchment Area Study, showed that around 15% of individuals aged 65 years or older living in the community experience symptoms of depression.[5] However, only 1% to 2% of elderly people living in the community are diagnosed as having major depression.[5]

Although major depression appears to be less common in the elderly than in the younger population, DSM-IV diagnostic criteria may not be entirely appropriate for late-life depression, as the full syndrome is rather difficult to diagnose in older individuals.[6] It has been shown that 13% to 27% of elderly residents living in the community have subsyndromal depression or depressive symptoms that do not meet full diagnostic criteria.[7,8] Such subsyndromal depression has been shown to increase substantially with age.[9]

With regard to gender differences, elderly women appear to be at increased risk of developing depressive symptoms compared with men. A recent study found that the prevalence of depression in women aged over 60 years was twice that of men in the same age group.[10] This finding, however, reflects the prevalence of depression in the general population: the DEPRES study (pan-European survey of depression in the general population) found depressive symptoms in women to be higher than in men (10.7% vs. 5.8% overall), a female-to-male ratio of approximately 2:1.[11] The question of whether men suffer with depression to the same extent as their female counterparts has yet to be answered, but studies in young adults suggest that women tend to report a greater number of symptoms than men at interview.[12]

The living environment of the elderly can strongly affect the prevalence of depression. Koenig and Blazer[13] reported that up to a quarter (15%–25%) of residents in nursing homes suffer from major or minor depression, and a more recent study[14] reported that as many as 47% of nursing home residents were depressed compared with 24% of those living independently. High rates of new depression in nursing homes have also been reported:

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around 13% of residents develop a new episode of major depression within 1 year and a further 18% of residents develop new depressive symptoms.[13]

LATE-LIFE DEPRESSION—A COMORBID PRESENTATION

In general, depression in the elderly tends to be associated with physical illness, whereas a family history of depression is more often associated with onset in younger patients.[5] However, elderly people with depression appear to be less inclined to come forward for treatment of depression than their younger counterparts; they often conclude that depressive symptoms are a normal consequence of aging, socioeconomic problems, or physical illness encountered in late life. Primary care physicians often share the same attitude as their elderly patients. Meldon et al.[14] found that elderly patients who described their health as poor were more likely to be depressed (51%) than those elderly patients who reported their health to be good or fair (19% depressed). Late-life depression is often accompanied by symptoms of anxiety; rates of comorbid anxiety symptoms of 60% to 90% have been reported.[15,16] The presence of anxiety is correlated with more severe symptoms.[17]

The decrease in functionality expected later in life can contribute to the underrecognition of depression in the elderly.[6] High levels of coexisting medical disorders can also confound the diagnosis. Both the sufferer and the evaluating physician are often more concerned about concurrent medical conditions, and depressive symptoms may be overlooked. The elderly will more readily report somatic symptoms such as loss of appetite, sleeplessness, motor retardation, fatigue, and anergia than depressed mood. Also, depressed mood, a core diagnostic symptom of depression, is often attributed to normal aging, and the elderly remain reluctant to present it as a symptom. Consequently, physicians do not record the symptom of depressed mood, and patients fail to meet criteria for major depression.[6] Recently, Meldon et al.[14] conducted an observational survey of geriatric patients who presented at an urban, public hospital emergency department. Emergency physicians failed to recognize depression in all those patients found to be depressed on the basis of a self-rated depression scale.

Social or functional impairment needs to be present to diagnose major depression, and this is easy to miss in those patients who are no longer working and whose social and functional aspirations are reduced. The failure to carefully assess function is considered to be the major cause of the underdiagnosis of major depression in the elderly.

Course and Treatment of Late-Life Depression

Late-life depression mostly follows a chronic course. A first episode of depression in an elderly individual is often predictive of a more chronic course, with late age at onset indicative of slow recovery.[18]

Chronic or recurrent depression occurs in almost all elderly patients and, therefore, there is a need for long-term treatment of patients with late-life depression. The likelihood of receiving antidepressant treatment remains lower in the elderly, however, than in younger adults. To place this in context, results from the recent DEPRES study showed that when a patient with major depression visited the doctor, there was only a 10% chance of the patient being prescribed an antidepressant.[11] In those patients in whom depression was recognized, there was still only a 25% chance of receiving an antidepressant.[11] Such a finding is of concern to elderly patients, considering that depressive symptoms in late life often remain undetected; only a small fraction of elderly patients with depression will receive appropriate treatment.

IMPACT OF LATE-LIFE DEPRESSION

Undiagnosed depression is an important source of excess disability and diminished quality of life in the elderly.[19] Even disability resulting from milder depressive syndromes, common in the elderly, appears to be comparable with that associated with major depression.[7]

Late-life depression is closely linked with the incidence of suicide, and research suggests that the risk of suicide increases with age in individuals with depressive symptoms.[20] Suicide among the elderly without a diagnosable mental disorder appears to be rare.[21]

In the United States, white males appear to be at greatest risk of suicide, and men aged 65 years or older account for 81% of all suicides.[20] Between 1980 and 1992, 74,675 suicides occurred among subjects aged 65 years or older; of these, 4537 occurred in 1980 and 6160 occurred in 1992—an increase of 36%.[22] The overall suicide rate (per 100,000) for people aged 65 years or over increased by 9% between 1980 and 1992. When age was considered, the suicide rate among individuals aged 80 to 84 years had increased by 35% from 1980 levels.[22] In contrast, the suicide rate among individuals aged over 85 years had increased by 15%, and the suicide rate among those aged 75 to 79 years had increased by 11%, over the 12-year period.[22] Interestingly, suicide rates decreased for individuals aged 65 to 74 years, from 1980 levels.[22]

European studies also support older age and male sex as risk factors for suicide.[23–25] For example, a study in Austria demonstrated that suicide rates for men follow a biphasic age-related curve, with a steep increase in suicide rate for men aged 65 years or more (with another earlier peak suicide rate for men in their 20s).[23] Similarly, in Italy, the highest suicide rate was observed for men aged over 65 years.[24] Between 1974 and 1989, suicide rates in Italy increased by 77% in men and by 70% in women among the 65 years or more age group.[24]

Late-life suicide victims, as do younger victims, typically contact their physician prior to their death. According to a recent study, approximately 40% of elderly patients with depressive symptoms who committed suicide had visited a primary care physician during their last week of life.[26] These results suggest that the failure to treat depression in such patients was not associated with restricted access to primary care. The importance of late-life suicide and depression in the primary care context is therefore highlighted.

LATE-LIFE DEPRESSION: THE NEED FOR EDUCATION?

Could the detection and treatment of depression by primary care physicians be improved through educational intervention? A scheme undertaken in the island community of Gotland, Sweden, in 1983 and 1984, sought to answer this question. After physicians received education on the detection and treatment of depression, rates of depressive suicides among all suicides reported decreased from 42% (11/26) to 12% (2/17).[27] Thus, the Gotland Study provides evidence that early recognition and adequate treatment of depression can successfully prevent suicide.[28] Following educational intervention, the prescription of antidepressants also increased, and there was a concomitant decrease in the prescription of major tranquilizers, sedatives, and hypnotics.[29]

Retrospective clinical analysis of the Gotland Study has confirmed that the significant decrease in the suicide rate after the program was a direct result of the effective decrease in depressive suicides in the area served by the participating physicians.[27] Such a decrease in suicide rate, however, appears to be time dependent, with suicide figures returning to baseline levels within 3 to 4 years of the education program. Educational programs of this kind, therefore, need to be repeated at timely intervals.[28]

Further evidence to support the results of the Gotland Study has recently been presented, following a regional analysis of suicide rates in Hungary. A strong, positive correlation was found between the number of working physicians per 100,000 inhabitants and the rate of diagnosed depression. High numbers of physicians and diagnoses of depression led to a lower rate of suicide, confirming the importance of recognition and treatment of depression for reducing suicide.[30]

Recognition of depression needs to be accompanied by appropriate antidepressant treatment. The failure to treat major depression even when it is recognized must therefore contribute to the suicide attempt and completion rate. The treatment of depression with antidepressants needs to be undertaken using an appropriate dose and for a sufficient period of time. Evidence suggests that subtherapeutic doses particularly of the tricyclic antidepressants, which are very common, provide the means for completing suicide without providing the possibility of proper treatment of the depression. Teaching in the use of safer, more effective antidepressants is a necessary part of education.

ECONOMIC IMPLICATIONS OF LATE-LIFE DEPRESSION

The interaction between depression and physical illness in the elderly is a vicious circle. Depression itself can present with physical symptoms, and antidepressant therapy can improve both sets of symptoms. Depression has been shown to cause an increase in most physical illnesses, and therefore depression needs to be treated as a high priority. Frasure-Smith et al.[31–33] have presented compelling evidence that depression is the single most important risk factor for mortality following myocardial infarction, in both men and women. Aggressive treatment of depression is warranted in these patients.

Failure to recognize depression in primary care may mean that health services are used inappropriately to determine another cause for the signs and symptoms presented by the patient. Also, in elderly hospitalized patients, depression is associated with increased physician and emergency department visits,[34] longer hospital stays, and increased morbidity.[35,36] Such increased morbidity contributes to the burden upon health care resources.

Ten years ago, Koenig et al.[37] found that health care utilization, in terms of inpatient length of stay, was significantly higher for elderly depressed patients than matched controls without depression (25 vs. 16 days). A more recent study has confirmed that such a trend in health service usage continues to exist and showed that depressed elderly medical inpatients receive no more mental health services than nondepressed patients.[38]

Clearly, an increase in the number of elderly patients diagnosed with depression and treated appropriately may well reduce this health care burden. For example, the educational program from the Gotland Study generalized to Sweden would have provided savings in the order of U.S. $26 million.[29]

CONCLUSIONS

Depressive symptoms are highly prevalent in the elderly population. If current life expectancy trends continue as predicted, these full and partial symptom depressions will become an increasingly important public health issue. Late-life depression differs from depression in younger adults in terms of presentation and frequency of medical comorbidity. Consequently, appropriate diagnostic criteria are required to allow accurate diagnosis by the primary care physician. As late-life depression, with or without comorbid anxiety, is a chronic and recurring condition, it requires prolonged, effective treatment. Appropriate treatment may ease the burden that late-life depres-

sion imposes on the individual and society in terms of health care resources, morbidity, increased risk of suicide, and the poorer outcome of concomitant illness.

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Discussion

Late-Life Depression: Prevalence and Presentation, Course and Outcome

Dr. Thompson: You suggested that depression symptoms are more common with age and increase steadily from the age of 65. In primary care, the onset of depression and the prevalence of depressive symptoms are most common between the ages of 18 and 44, and being over the age of 65, retired, is actually a protective factor. So, is it the case that as you get older, you are inevitably more likely to become depressed?

Dr. Montgomery: No. The level of major depression is around 1% to 2% in the elderly, which is lower than in the younger population. However, the level of depressive symptoms is much higher, and the question arises as to whether the diagnostic criteria for major depressive disorder are appropriate in the elderly. The question of depressive symptoms rather than major depression is important in the elderly.

Dr. Salzman: If DSM diagnostic criteria for major depression are used, the prevalence clearly declines from the age of 65, which is quite surprising, since the old notion was that depression and old age are associated. In community, hospital, and nursing home samples, the symptoms of depression, including dysthymia and even subsyndromal depression, do increase with age. This suggests that diagnostic criteria may not be useful for identifying cases of clinically meaningful depression in the elderly and that we have been underestimating depression by basing our diagnosis on DSM diagnostic criteria. What is likely to be true in the community is that more elderly than younger people suffer from depressive symptoms, but they may not meet the full criteria for depression.

Dr. Zisook: The Epidemiologic Catchment Area (ECA) data did not show this *[Robins LN, et al, eds. Psychiatric Disorders in America: The Epidemiologic Catchment Area Study. New York, NY: The Free Press; 1991: 60–69]*. Those data showed that depressive symptoms were more prevalent than the syndrome in late life, but even the symptoms were more prevalent in the 18- to 45-year-old age group than in the older age group.

Dr. Beekman: The findings depend on the characteristics of the sample in the study. Epidemiologic studies can be confusing because some probability samples use the whole elderly population, some stop with 80-year-old subjects, and others have stratified sampling designs. In fact, there are few studies that include cohorts of the very old, for example, starting at 55 years and continuing to 95 years. A few Scandinavian studies *[Beekman ATF, et al. Br J Psychiatry 1999;174:307–311]* with very old cohorts have shown that major depression is quite prevalent among those aged 85 or older.

Dr. Zisook: Correction for general medical health and disability may lower the prevalence of depression in the oldest age group. ECA data were gathered by untrained interviewers who often discounted depression in people with medical illnesses. Older people living in the community have a variety of medical illnesses, and depressive symptoms may simply not be recorded in late life.

Dr. Sadavoy: We put too much effort into trying to answer the question, "How many people get depressed?" It is important, but we know the broad answer: many older people get depressed, but mostly they fail to meet the criteria we have defined for major depression. They do, however, meet many other criteria.

Dr. Salzman: How do we define depression? Asking the question "Do you feel sad or depressed?" provides meaningless answers in the elderly. Using other criteria, such as "withdrawal from life" and "irritability" may give different answers. I think that we should talk about redefining what we mean by depression in late life, or very late life, and how we account for the physical disabilities, diminished cognitive capacities, and the inevitability of decline and death. I agree that focusing our effort on incidence and prevalence is getting us nowhere.

Dr. Thompson: I agree that the Hamilton Rating Scale for Depression and DSM criteria are not so good in the elderly, but I'm concerned about the idea of redefining criteria to suit our objective of showing that depression increases with age. In our community general practice study, in a population of 18,500 to which self-rated scales using symptoms rather than cutoffs were administered, prevalence rates for depressive symptoms remained the same after 65 years of age. They did not increase. This may be because the depressed elderly were not consulting physicians. Unfortunately, we did not include institutions in the sample.

Dr. Beekman: If you combine prevalence data from 14 studies across 11 European countries, you see little change in the prevalence of depression across late life, but a rise in the level of symptoms. It is far more interesting to look at the patterns of risk factors affecting changes in prevalence and the type of depression we are seeing. Across late life, some risk factors increase, such as bereavement and physical illness, but others decline, such as biological vul-

nerability; the most vulnerable people don't live very long. I think late-onset depression has a different pattern of symptoms and underlying risk factors, and this may affect both prognosis and treatment, although we need to know more about it.

Dr. Zisook: We can use DSM in the elderly, if we apply the criteria appropriately, but it would be good to have some alternatives. Often we don't see dysphoria in the elderly, but loss of interest is a common finding. We need to consider comorbidity and disturbances in sleep and appetite as symptoms of depression in later life. I think that DSM is acceptable for assessing depression in the younger old, but it is not so good in the very old and in the old who are very ill. For these categories of patients, we should look at alternatives.

Dr. Montgomery: I also think it unwise to dispense with DSM entirely. We should talk about alternatives, some of which you have mentioned. Should we say that the presence of depressed mood is not appropriate as an essential criterion for diagnosis of major depression in the elderly? This would be similar to the exception that has been made for the diagnosis of major depression in children.

Dr. Zisook: I question the statement that the elderly fail to endorse depressed mood. I think it depends on the language in which we put the questions. If you ask the questions in a rapid, cross-sectional manner—"Are you depressed?" "Do you have sleep problems?" etc.—then it is true that you tend to fail to get depression endorsed. But if you take the time to talk to patients, you can establish how they are feeling. The key issue in diagnosis is that, in a specialized setting we do it pretty well, but for the general population, it is done abysmally. Investigation of depression in the elderly is rarely performed, and when it is, it is usually undertaken in an unacceptable manner.

We also have to ask whether some of the language interpretation is a cohort effect. Are we dealing with groups of individuals who are psychologically less sophisticated and knowledgeable? If we focus on the diagnosis and not the population groups, we will miss the variability. Certainly in the United States and Canada there is variability between different cultural groups in the way that language is understood and how feeling states are understood and expressed.

Dr. Salzman: I agree with that statement. Another factor is who is asking and who is observing. One of the things we ask the elderly is how they are feeling, in clinically relevant ways. Even an interviewer conducting a sensitive cross-sectional analysis may not provide you with the same level of information as a caregiver who observes the older person over a 24-hour period.