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Review

Depression in the Elderly: Clinical Features and Risk Factors

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ABSTRACT: Depression in elderlies is not known quite well and thus cannot be treated adequately. The fact that elderliness is accepted as a property of depressive symptoms both by the relatives of the patients and doctors is one of the factors which make it difficult to recognize depression. Existence of multiple physical diseases in elderlies, use of multiple medicines, occurrence of pharmacokinetic and pharmacodynamics changes depending on the age necessitate to take several factors into account while diagnosing and using medicines. In this study, clinical properties and risk factors of depression in old age period was reviewed and the properties of such depressions were summarized.

Key words: Elderly, depression, late-life depression

The biological and psychological changes caused by aging appear slowly in years or decades. Therefore, there is no specific age limit at which people can be accepted as elderly. However, social and economic factors (gain of social security, retirement etc.) have necessitated to determine the lower limit of elderliness. World Health Organization (WHO) determines the elderliness as the reduction in the competency to accommodate the environmental factors and accepts 65 year of age as the lower elderliness limit though they accept it as 60 in some conditions. Even though the lower limit of elderliness is assumed as age of 60-65 mostly the personal transition to become a dependent occurs at about 75 years of age. By achieving healthy living conditions with the advances in science and technology and the medical science accordingly, by gaining success in fight against epidemic diseases with the invention of antibiotics, by the increase of people's educational levels and by the development of health services the health level of the society becomes better, death and birth rates decrease and expected life time in birth increases [1].

Depression is one of the most common mental diseases seen during elderliness. The frequencies of depression and subsyndromal depressive indications are reported between 1 and 4% (approximately 3%) and 10 and 15%, respectively [2, 3]. As the depression seen in elderliness might be a part of a unipolar depressive disorder it can appear for the first time in this period. In many researches, the definition of late life depression is used for the major depressive disorder which appears for the first time at the age of 60 or later [4-7]. The results of the studies performed indicates that the depression seen for the first time in elderliness differs from the depression appearing in early ages in terms of clinical presentation, etiology, response to treatment and prognosis [8]. It is still not certain whether these differences are a result of physiological changes depending on the age or if late life depression is a different type of disorder. In this study, it is aimed to review depression appearing in elderly period in terms of diagnosis, clinical features, predisposing and prognostic factors.

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Diagnosis and clinical features

Major Depressive Disorder (MDD) is a syndrome that negatively affects a person's life and is comprised of certain symptom sets which ruin the functionality of that specific person. The main symptoms of major depressive disorder are depressive mood and loss of interest/desire and/or difficulty in enjoying life (anhedonia). In addition to these main symptoms, detecting three more symptoms listed below and continuation of these symptoms for 15 days is assumed as sufficient to diagnose major depression. These symptoms can be summarized as insignificancy and excessive or unsuitable feeling of guilt; retardation in emotions or thoughts (psychomotor retardation) or agitation; tiredness, fatigue, loss of energy; suicide thoughts and attempts; decrease in attention and concentration, instability; change in appetite and sleep disorders [9]. In addition, pessimism, hopelessness, anxiety, absence of sexual desire and somatic symptoms such as head and back aches can be found in depressive disorder [10]. According to DSM-IV major depressive disorder can be seen in single-episode or be repetitive [9]. Moreover, according to ICD-10 fatigue and low energy symptoms are also among main symptoms and other symptoms are coincide with DSM-IV diagnosis criteria [11].

The conditions in which depressive disorder continues for two weeks but it meets lower than 5 diagnosis criteria are called as minor depressive disorder [9]. In elderlies depressive symptoms called as minor, subsyndromal or sub-threshold, which do not exactly meet the major depressive disorder diagnosis criteria are frequently seen and can cause loss of functionality [3].

Among available diagnosis systems there are no depressive disorder diagnosis criteria which is specific to elderlies. However, according to the findings practically observed and supported by research studies, clinical features of depression observed in elderlies may be different than the one seen in early ages. In addition, some features specific to elderlies may make diagnosis and treatment of depression difficult. The most important factor is the fact that elderlies have difficulty in expressing their depressive moods. Depressive moods, lost of interest and anhedonia can be seen as a feature of elderliness. Therefore, it is not expressed as a complaint. In this age group; vegetative symptoms such as sleeplessness, loss of appetite and somatic symptoms such as constipation and pain are expressed more easily. Together with age, the frequency of medical diseases increases and the symptoms can be evaluated as part of the medical illnesses. When the losses and medical conditions that occur in elderlies are taken into account and assuming the depression symptoms as normal or acceptable, attributing tiredness, loss of appetite and sleep disorders to medical diseases, trend of hiding complaints if cognitive problems are encountered, difficulties in elderlies in expressing their emotions and their trend towards the somatization of their emotions negatively affect the diagnosis of depression [12, 13].

It is proposed that hypochondriac complaints, psychomotor retardation/agitation and psychotic symptoms in elderlies are more abundant in comparison with young people [2, 3, 4]. The most common thought disorders are delusions of persecution and the delusion of considering to be caught by an illness whose treatment is impossible. Feeling of guilt is seen relatively less in this age group and the existence of guilt feelings indicate that there might have been a depressive episode in younger ages. Nihilistic delusions are those that accompany depression in older age. There are fewer hallucinations than delusions [14]. On the other hand, there are also studies reporting that there is no difference in late-period depression in terms of atypical appearance and psychotic symptom existence as well as in terms of intensity of depression and loss of functionality [4].

In MDD, loss of attention and concentration as well as disorders in cognitive functions such as short term memory and recall process can be observed [15-17]. Similarly, it is reported that executive functions and cognitive functions such as memory and attention are distorted in late life depression [18-22]. It was determined that mainly processing speed is affected in late life depression and that accordingly impairments in executive functions, working memory, memory and language are encountered. Factors such as age, depression intensity, race, vascular factors and education were found to be related to cognitive dysfunction in late life depression [23]. It was determined that neuropsychological test performances of the patients over the age of 60 with unipolar depressive disorder are lower than those of the healthy persons in the same age groups. More than half of the patients showed explicit dysfunction in information processing, visuo-spatial functions and executive functions. It was emphasized that retardation in information processing is a characteristic feature for late life depression [24]. It is reported that there is a relationship among dysfunction in executive functions, relapse, recurrence and subsyndromal depressive symptoms [19]. Indeed, retardation in processing speed and dysfunction of executive functions seems to be peculiar to elderly period though the losses in cognitive functions in late life depression resemble those observed in younger ages.

Due to the existence of white matter hyperintensities in elderlies having moderate intensity depression, it was determined that they showed lower performances in cognitive functions particularly in memory-restoring, language and executive function tests [25]. It is

suggested that in late life depression dysfunction in cognitive functions, particularly memory and executive functions, of a group of patients cannot be cured by treatment and these patients enter into a demential process [24]. Losses in cognitive functions with the aging make the understanding of the effect of depression on cognitive functions difficult in this period. Cognitive functions defined as fluid abilities such as speaking and problem solving diminishes with age. However, cognitive functions requiring experience and expertise and known as crystallized abilities increases with the age [26]. As investigating the cognitive losses observed in elderliness period the effect of aging, depression and dementia differential diagnosis must be taken into account.

Risk factors for depression in elderly period

Elderliness is a stage in which the features gained in former stages become mature and integrated. For an elderly who has formerly experienced healthy development periods; formation of ego integrity, acceptance of life's negative and positive sides as a whole, no regret towards the former life experiences and no fear for future is expected [27]. Elder age together with the broad life experience can provide advantage in struggling against the stress factors. On the other hand, losses increase with elderliness, indispensable disconnections occur in social communication, difficulties in physical skills appears and physical illnesses and multiple medicine use come to the fore [28-32].

It was determined that depressive symptoms seen in elder age are related to the advancing of age, being a female, living alone, divorcement, low education level, functionality disorder, comorbid physical illness, low level cognitive dysfunction, cigarette and alcohol use [30]. In this age period, as in younger ages, it was observed that depression is seen more abundantly in females than the males and that females apply to health institutions more [33-36]. It was found that depression is related to loss of life purpose, separation/divorce, health problems, self-care and economic problems. It was determined that there is a strong relationship between the intensity of depressive symptoms observed in elderliness and the existence of stress factors which are shared or not shared with other people [35]. It was reported that the highest risk for major depressive risk is loss of the spouse followed by the existence of a chronic disorder [37]. Furthermore, women having high perception of economic problem, low life satisfaction and low functionality conditions were reported to be more depressive [38]. In addition, depressive symptoms were found to be related to the reduction in intellectual skills, social inhibition and inversed emotional stability [39]. In a meta-analysis study, it was revealed that the existence of a chronic illness and perception of low health increased depression risk [40].

Table 1. Risk factors for late life depression

- Old age
- Being a woman
- Being a widower or single
- Low education level
- The presence of physical illness
- Use of multiple drugs
- Existence of psychosocial stressors
- The presence of brain white matter changes

Many physical diseases whose frequency increase with the aging such as cerebrovascular diseases, Parkinson disease, cancer, diabetes mellitus and thyroid diseases play a role in appearance and continuing of depressive symptoms [7, 41]. As physical diseases can directly cause depressive symptoms, limitation of person's physical activity, reduction in life quality and requiring another person's support can also trigger depression. Medicines such as antihypertensive and corticosteroids which block, increase their emissions, cause up/down regulation, and modify catecholamin or indoleamin systems can cause depression [29, 42]. Increase in the frequency of physical diseases and accordingly the use of medicines with the age enhances the depression risk. A detailed investigation is needed in this perspective as an evaluation of depression in elderlies.

It was reported that in elderlies there is a relationship between brain white matter changes and depressive disorder incidence and that remission rates are lower in patients having microstructural white matter abnormalities [19, 43, 44]. In late life depressive disorder there is a subgroup defined as vascular depression [45]. The symptoms prominent in vascular depression are apathy, psychomotor retardation and disability. In these patients complete remission rates are low and typically there are residual depressive symptoms. An important property of vascular depression is the existence of dysfunction in executive functions. In fact, this kind of depression is called as depression-executive dysfunction syndrome. In elder ages, depression appears with vascular diseases, degenerative brain diseases or their cumulative effect in most of the patients [46]. Risk factors for late life depression are summarized in Table 1.

Table 2. Basic differences between late onset depression and early onset depression

Variables	Late onset depression	Early onset depression
Rate of cardiovascular diseases	High	Low
Familial depression	Low	High
Comorbid psychiatric disease	Low	High
White matter abnormality	High	Low
Executive dysfunction	High	Low
Suicide	High	Low
Apathy and psychomotor changes	High	Low

Differences in early or late onset depression

The depression appearing in late life period for the first time differs from the one in younger ages (Table 2). As compared to depression at younger ages, familial tendency to mood disorders are low while cardiovascular disease rates are high in late life depression. In late life depression, personality abnormalities and marriage problems are expressed less and it is observed that loss of spouse is an important stressor [3, 7, 8, 47, 48]. It is reported that double depression, comorbid anxiety disorder and traumatic life experiences are higher in early-onset depression than those in late life depression [5]. On the other hand, in some studies no differences were found between late-onset depression and early-onset depression in terms of familial psychiatric disease history, vascular pathology and stressful life experiences. In this community-based study it is proposed that there are no phenomenological and clinical differences between early and late-onset depressive disorder [48]. Another perspective has reported that the number of episodes, rates of having cardiovascular diseases, diabetes mellitus, gastrointestinal diseases, medical diseases such as arthritis and medicine usage are higher for elderly having late-onset depression than those having late-onset depression. It was mentioned that the results supports that the patients having early-onset depression exposed to more medical diseases [49]. As increasing frequency of physical diseases in elderliness eases the appearance of depression it can be said that early-onset depression eases the occurrence of medical diseases, cardiovascular diseases in particular.

Even though depression can cause dysfunctions in attention and memory at any age cognitive dysfunctions are more distinct in late-onset depression. Dysfunctions in executive functions become prominent in particular [8]. Murata et al. [50] reported that there exist cognitive dysfunctions which indicate the existence of localized lesions in frontal and subcortical regions in late-onset depression. Deep white brain abnormalities were found to be related to cognitive dysfunctions. In a review study performed for clinical features and pathophysiology of early and late-onset depression it is reported that early-onset depression is related to familial tendency whereas late-onset depression is primarily related to vascular dysfunction. It was concluded that both of the disorders are related to same cortical and subcortical structures. Furthermore, it was assessed that their pathophysiology can be different even though the same neuroanatomic structures are responsible from both of the depression [51].

Treatment and prognosis

The existence of multiple physical diseases in elderly, use of multiple medicines, occurrence of pharmacokinetic and pharmacodynamics changes necessitate many factors to be taken into account while using medicines in this age group. The changes occurring in physiologic system after the age of 65 alter the pharmacokinetic properties of the medicines and

increase the frequency and intensity of side effects [52, 53]. Therefore, it is suggested that low doses of psychotropic medicines should be recommended for elderly at the beginning, then the dose should be increased gradually, lower amount of medicines should be used within the bounds of possibility as low as possible, therapeutic effects should be closely monitored and simple dose schemes should be used [54]. The existence of comorbid medicine or comorbid disease should be investigated and medicine-medicine or disease-medicine interactions should be taken into account while medicating this age group [55].

In a meta-analysis and systematic review study, it was determined that the response to a single pharmacologic treatment is low in late-life depression. However, the half of the patients who did not give response to the treatment gives response to additional treatment or replacement of medicines [56]. It is reported that major depressive disorder recurrence rates are higher in elderly than young people [57]. In another study, it was concluded that response to pharmacotherapy and ECT and remission rates in elderlies are not different than in younger people but relapse rates are higher in elderlies. Higher medical comorbidity causes poor response and tolerance to antidepressants [58]. It is reported that physical illnesses, cognitive dysfunctions and high intensity depression might be related to poor prognosis but it is noted that the results are inconsistent [59].

Application of pharmacotherapy alone might cause remission rates to stay low. Various changes occur with aging and ego starts to have difficulty in carrying out its functions. Particularly the patients with comorbid cognitive incompetency and disability can have difficulties in developing suitable solutions against a stress factor and using effective overcoming methods. Psychosocial interventions applied together with the biological treatments both increase the compliance to treatment and are supportive to the individual in finding suitable solutions [60]. It is known that psychotherapy approaches such as psychodynamic psychotherapy, supportive psychotherapy, cognitive behavioral therapies, group therapy, family therapy and life reviewing therapies are useful though several modifications are necessary for a successful physiotherapy process in elderly [60, 61]. The main principles that should to be taken into account in psychotherapy approaches are: to provide patients to control their emotions, to support individual's ego and hope, to support the patients' relationship with supportive people and relatives, to talk the existent problems of the patients and to provide handling of these problems rationally and in a way to encourage to solve, and to help patients in adopting changing conditions. It was emphasized that subjects such as retirement, physical diseases, cognitive dysfunctions, separation, divorcement, loneliness and death can be dealt with during therapy process [62]

Conclusion

Physiological and psychological changes that occur with aging, chronic and degenerative diseases and multiple medicine usage require a different attention to be shown in medical and psychiatric evaluations of elderlies. Elderlies accept the depressive symptoms and cognitive losses as a normal process of aging and express them as an expected outcome and they do not even express depressive symptoms at all. They can behave timidly and do not tell their problems if not asked explicitly. This may require the psychiatrist to be more active during the intervention. Late life depression differs from early-onset depression as psychomotor changes and cognitive dysfunctions are higher, familial tendency is lower, multiple diseases and use of multiple medicines are higher, it shows close relationship with vascular changes in brain and the prognosis is poorer. In recent years the scientific attention to elderly depression has arisen and accordingly the number of studies in this field has been increasing. As considering that the elderly patients frequently meet with medical doctors and medical stuff in different branches, knowing the risk factors and their clinical presentation will ease the identification and treatment of depression.

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