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Review

Late-life depression: epidemiology, assessment and diagnosis

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Abstract

Background: Rates of depression increase with age, and it is estimated that almost 1 in 4 older people is depressed. However, the majority of such depressed elderly go un-recognized and un-treated due to various patient, clinician, and systemic factors. **Aim:** We intend to review the epidemiology, assessment and diagnosis of depression to provide necessary information to help mental health clinicians to correctly identify and assess patients with late-life depression. **Method:** Comprehensive literature search using online databases in the field of late-life depression. **Results:** Risk factors for depression in the elderly include chronic medical illnesses, social isolation, being a carer, poor social support, bereavement, past history of depression, substance use, and cognitive impairment. Suicide is more common in the depressed elderly than in younger age groups and deserves particular attention during assessment. Syndromal depression often goes unrecognized as it can present in the elderly as somatization, hypochondriasis, and psychomotor retardation or agitation. Accurate and timely diagnosis is also complicated by the fact that late-life depression is often associated with cognitive impairment, physical disability, and anxiety. A diagnosis should only be arrived at after a comprehensive history taking, observation of the patient's behaviour, and corroborative history from a reliable informant. **Conclusions:** Depression is common in older adults, and is a major public health issue. Very few depressed elderly consult their general practitioners for help, and consequently remain unrecognized and untreated. Timely screening and appropriate assessment can lead to effective treatment and resolution of symptoms and thereby can significantly reduce morbidity and mortality.

Key words

Assessment, Depression, Diagnosis, Elderly, Epidemiology, Late-Life

Introduction

There is no universal agreement on when 'late-life' or 'old age' starts, and hence any cut off age for 'late-life' is likely to be arbitrary. In the context of late–life depression, there is some consensus that it refers to an episode of depression that occurs after the age of 65.[1]

The UK has a fast growing ageing population with nearly 12 million people aged 65 and above in 2018.[2] In other words, over the next 20 years the population of older adults aged 65-84 years old will increase by 39% and the proportion over the age of 85 years will have increased by 106%.[3]

Depression is common in older people. It is estimated that 1 in 4 older people is depressed, warranting treatment.[4,5] Rates of depression increase with age, it is more common in those with co-existing physical illnesses, it is more common in those residing in institutions, and in those from socio-economically disadvantaged groups and ethnic minority groups.

Although older people consult their General Practitioners (GP) twice as much as other age groups,[5] only one in six older people with depression discuss their symptoms with the GP, and only less than half of these receive adequate treatment.[6] Reasons for such under-recognition and under-treatment could include patient factors (not seeking timely and appropriate care, stigma, seeing depressive symptoms as part of old age and being inevitable), clinician factors (limited awareness of late-life depression among health care professionals, being distracted by patients presenting with somatic symptoms, lack of time in consultations, etc.) or 'system' factors.

From public health and healthcare perspectives, under-recognition and under-treatment of depression in the elderly is a matter of concern. Hence perhaps it is unsurprising that depression is the second leading cause of disability in the world regardless of age.[7]

In this paper, we discuss the epidemiology, assessment, and diagnosis of late-life depression (also referred to as depression in the elderly) and thereby hope to equip the non-specialist with the necessary information in correctly identifying and assessing patients who suffer from late-life depression. This paper is intended as a clinical review paper for use by practicing clinicians. We also wish to highlight that this paper is mostly set in the context of the UK population, although the general principles of assessment and diagnosis are relevant across populations.

Epidemiology

A pan-Europe study (The EURODEP study), which included the UK, found that 14·1% of women and 8·6% of men aged 65 years and over suffer from a depressive disorder severe enough to warrant treatment.[8] A meta-analysis found the point prevalence of major depression in over 75s to range from 4.6% to 9.3%, and the rates for those with sub-threshold depressive symptoms to range from 4.5% to 37.4%. This study also noted that sub-threshold depressive symptoms were two to three times more common than major depression in those aged 55 and over.[9]

Late-life depression, like depression in younger adults, is more common in women. More often than not, depression in later life tends to have recurrent episodes, and the course is complicated. A six-year prospective study noted that less than a third of elderly depressives had complete remission, whereas 32% followed a severe chronic course and symptoms fluctuated in 44%.[10]

Furthermore, the prevalence of late-life depression increases with associated physical comorbidities such as brain disorders (dementia, stroke, Parkinson's disease, etc.) and chronic medical conditions such as diabetes mellitus and hypertension.[11] Box I lists the medical, psychosocial, and psychiatric risk factors for depression in the elderly.

Box 1: Risk factors for late-life depression

Medical

- Chronic medical illnesses, such as diabetes mellitus, COPD, etc.
- Cancer
- Chronic pain
- Brain diseases such as dementia, stroke, Parkinson's disease, cerebrovascular disease, etc.
- Endocrine/metabolic disorders

Psychosocial

- Social isolation
- Change in financial circumstances
- Being a carer
- Poor social support
- Bereavement and loss

Psychiatric

- Past history of depression
- Alcohol misuse
- Comorbid anxiety
- Cognitive impairment

Depression and cognitive impairment

Depression and cognitive impairment frequently co-occur, and the relationship between the two is complex and can be viewed from different perspectives. Late-life depression can be seen as a prodrome of dementia, and so early life depression can be a risk factor for dementia. Other perspectives include cognitive impairment as a feature of dementia, depression as a reaction to dementia, depression affecting the threshold for manifesting dementia, and both (dementia and depression) being independent conditions that share common risk factors.[12]

Depression is a common occurrence in all types of dementia and at all disease stages, including mild cognitive impairment.[13] Depression has a prevalence rate of up to 50% in patients with Alzheimer's disease and can increase caregivers' burden.[14] Depression in Alzheimer's is notable for a higher frequency of motivational disturbances such as fatigue, psychomotor slowing and apathy. It has been suggested that less stringent diagnostic requirements for the frequency and duration of symptoms of depression may be more appropriate for people with dementia.[15] In addition to subjective reports, information from the caregiver about observable mood and behaviour changes can be extremely helpful in arriving at a diagnosis of depression. The mood can be low, irritable, angry, or anxious, and disturbed sleep, appetite, and energy are common. Social withdrawal, lack of interest in self or others, low initiative, and poor motivation, can be part of depression or dementia.[16]

Some refer to a condition called pseudo-dementia: this presents with symptoms masquerading as dementia (i.e. cognitive deficits) but is caused by underlying depression and not dementia – hence the term 'pseudo' meaning false. Sometimes such cases are difficult to distinguish from real dementia, but if treated with antidepressants, they get better, and so do their cognitive functioning. Some of the key features which can help distinguish pseudodementia from depression are given below in Box 2.

Box 2: Dementia and pseudodementia

Dementia	**Pseudodementia**
Has no insight	Has insight
Depressive cognitions are less prominent	Depressive cognitions more prominent
Gradual onset	Sudden onset
Gradual progressive decline	Rapid decline
Vegetative symptoms less prominent	Vegetative symptoms more prominent
Does not respond to anti-depressant treatment	Responds to antidepressant treatment
Mood not depressed	Depressed mood
No risk of suicide	Risk of suicide

Suicide in the elderly with depression

Suicide is more common in the depressed elderly than in younger age groups. Depression in the elderly can also lead to death through non-suicidal means such as by non-compliance with regular medications, social withdrawal, and non-engagement in preventive and curative treatment measures. Depressed older people are more likely than their younger counterparts to act on their suicidal thoughts and thereby commit suicide.[17] Furthermore, the ratio of attempted to completed suicide is highest in older adults –

4:1 compared to 8:1 to 33:1 for the general population.[18] They are also likely to make more planned attempts at suicide, use more lethal means, and also communicate fewer warnings than younger people. All the above make it imperative that a comprehensive risk assessment is carried out in an elderly patient who has depressive symptomatology. Specific risk factors for suicide in older people include the following: older age, male gender, social isolation, bereavement, history of previous attempts, evidence of planning, chronic illness and drug or alcohol misuse.[19]

Depression in older people has a range of adverse consequences such as poor quality of life, impairment of activities of daily living, physical comorbidities, premature mortality, higher rates of suicide, and cognitive impairment. In addition, late-life depression results in higher utilization of medical and associated health services with its resultant costs and burden to the health sector, family, and society.[20]

Assessment

Many elderly patients fail to recognize depressive symptoms in themselves and tend to view it as part of ageing or see it as associated with other physical illnesses. This delays or prevents them from seeking timely healthcare from their GP or specialists. And even when elderly depressed patients present to their GP, they do so, more often than not, with physical/somatic symptoms and hence go unrecognized and untreated. Somatization, hypochondriasis and psychomotor retardation or agitation more commonly form part of the clinical picture.[21]

Box 3: Assessment of late-life depression

- An in-depth psychiatric history: presenting complaints, duration of complaints, etc.
- History of substance use, medication use and misuse,
- Past medical and psychiatric history
- Pre-morbid personality,
- Family history
- Interpersonal, social and occupational history
- Suicide risk
- Medical issues, physical comorbidity
- Corroborative information, if possible
- Explore psychosocial stressors
- Past treatment details
- Comprehensive mental state examination
- Cognitive assessment
- Relevant physical examination and investigations

Accurate and timely diagnosis is also complicated by the fact that late-life depression is often associated with cognitive impairment, physical disability and anxiety.[22] Another important issue to be kept in mind while assessing the depressed elderly is the risk of deterioration in the patient's physical health due to malnutrition (often due to inadequate oral intake). For example, a depressed elderly person may present to the hospital with repeated episodes of confusion or delirium (caused by hyponatremia). This may resolve quickly on correcting the electrolyte imbalance, only to reappear unless the root cause is treated adequately, i.e. depression (causing malnutrition and secondary hyponatremia), Key aspects of assessment of depression in the elderly are summarized in Box 3.

Given the changing population dynamics, in the UK and most of the Western world, many older people live on their own and with little social support. Loneliness, poor social support, lack of meaningful interactions/work, etc., can predispose and perpetuate depression in the elderly. Similarly, particular attention should be paid to possible substance use (alcohol, tobacco, etc.) in the elderly as this can be a cause and a perpetuating factor for depression in the older population.

Diagnosis

Described below are the ICD-10 and DSM 5 diagnostic criteria for depression.[23,24] Diagnosis is arrived at only after comprehensive history taking, observation of the patient's behaviour and corroborative history from a reliable informant.

ICD-10 diagnostic criteria for depression

In ICD-10 (WHO, 1992) depressive disorders are further divided according to their severity into mild, moderate, or severe depression (See Box 4). It divides symptoms of depression into 'typical' symptoms and other 'associated' symptoms, and further states that symptoms need to be of at least two weeks' duration for a diagnosis of depression to be made.

The three typical symptoms are: depressed mood, loss of interest and enjoyment, and increased fatigability. The seven associated symptoms of depression are: reduced concentration and attention, reduced self-esteem and self-confidence, ideas of guilt and unworthiness, bleak and pessimistic views of the future, ideas or acts of self-harm or suicide, disturbed sleep, and change in appetite with corresponding weight change.

Box 4: ICD 10 criteria for mild, moderate and severe depression

Mild depression	2 typical symptoms and 2 associated symptoms
Moderate depression	2 typical symptoms and at least 3 of the other symptoms
Severe depression	All three of the typical symptoms and at least four of the other symptoms

DSM 5 diagnostic criteria for depression

DSM 5 (APA, 2013)[24] categorizes depressive disorders into major depressive disorder, persistent depressive disorder (dysthymia), premenstrual dysphoric disorder, disruptive mood dysregulation disorder, and others. The summary of the diagnostic criteria for major depressive disorder are as follows. Criteria A requires five or more of the following symptoms present over two weeks period,

they are: Depressed mood, Considerably diminished interest in most activities, Weight loss (more than 5% of body weight in a month), Daily insomnia or hypersomnia, Psychomotor agitation or retardation, Tiredness, Feelings of worthlessness, Reduced ability to think or concentrate and Recurrent thoughts of death. For a diagnosis of depression, either depressed mood or loss of interest/pleasure is a must. Criterion B requires that the above symptoms should cause clinically significant distress, or impairment in social, occupational or other important areas of functioning. There is an exclusion criterion C, which suggests that the episode is not due to a substance or a medical condition.

As per DSM 5, the severity of a depressive episode is classified as mild, moderate or severe depending on the number of criteria fulfilled, the severity of those symptoms and the degree of functional disability.

Screening questions: case-finding for depression

The Quality and Outcomes Framework (QOF) of the General Medical Services (GMS) Contract[25] required GPs and practice nurses to use two screening questions in order to increase the detection of depression in patients with diabetes and heart disease.

'During the past month, have you often been bothered by feeling down, depressed, or hopeless?'

'During the past month, have you often been bothered by having little interest or pleasure in doing things?'

A 'yes' to either question is considered a positive test. A 'no' response to both questions makes depression highly unlikely. A further question, 'Is this something you want help with?' may increase the usefulness of the case-finding questions in practice.[26]

Box 5: Rating scales for use in the depressed elderly

Hospital Anxiety and Depression Scale (HADS)

- Self-rated scale, contains two subscales: depression (HADS-D) and anxiety (HADS-A), covers previous week. Scores >8 for each subscale have sensitivity and specificity of 80% and predictive validity of 70%.

Patient health questionnaire (PHQ-9)

- This is a self-rated depression assessment tool scoring each of the nine DSM-IV criteria from 0 (not at all) to 3 (nearly every day). It has been validated in adults over 60 in primary care in the United States and the Netherlands and at a cut-off score of > 9 has a sensitivity of 88% and specificity of 80%.

Geriatric Depression Scale (GDS-15)

- GDS was specifically developed and validated for use in old age,[29] contains fewer somatic items but is only suitable for patients with no, mild, or moderate cognitive impairment (>15/30on mini-mental state examination). In those over 60, a cut-off score of ≥ 5 indicates a case of depression with a sensitivity of 92% and specificity of 54%.

Once depression is suspected, then an assessment of the severity of depression should be made by the practitioner using a structured and standardized scale such as Patient Health Questionnaire (PHQ-9),[27] or the Hospital Anxiety and Depression Scale (HADS)[28] etc. These are described briefly in Box 5.

Clinicians need to bear in mind that depression in the elderly differs qualitatively from depression in younger age groups. Box 6 summarises some key differences in the onset, presentation, risks, and response to treatment.

Box 6: Depression in the young vs. old

Factors	***Depression in young***	***Depression in older adults***
Onset	Early in life	Late in life
Previous psychiatric history	Common	Uncommon
Family history of psychiatric illness	Often	Less common
Symptoms presentation	More affective symptoms	More somatic symptoms, anxiety, hypochondriasis
Comorbid physical illness	Uncommon	Common
Cognitive impairment	Unlikely	More likely
Course and prognosis	Better	Worse
Response to treatment	Better	Poor
Risk of suicide	Low	High

Conclusion

Depression is common in over 65s, and it is a significant public health issue. However, very few depressed elderly consult their GPs for help, and often depression is missed due to various factors such as being masked by various physical health conditions, lack or inadequate assessment by clinicians, lack of training and so on. Consequently, many depressed elderly go unrecognized and untreated. It is expected that this review of the epidemiology, assessment, and diagnosis of late-life depression will equip the mental health clinicians with the necessary information in correctly identifying and assessing these patients.

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