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Untangling the Complexities of Depression Diagnosis in Older Cancer Patients

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Abstract

This review article discusses the complexities of diagnosing depression in older, geriatric cancer patients. There has been little research conducted with this population on the assessment, recognition and treatment of depression, and thus increased attention is required to improve care for these individuals. Depressive symptoms often manifest themselves differently in both cancer patients and in older patients, and therefore a modified and adapted way of assessment must be employed when thinking about diagnosing and treating these patients.

Keywords

Depression Diagnosis; Cancer; Geriatrics

Introduction

The prevalence of depression in the elderly with cancer ranges from 17 to 25% (1). When considering psychiatric symptoms in cancer, depression receives the most attention because of its high prevalence, cost, and enormous impact on the individual and family (1). Yet, despite the existing high prevalence rates and deleterious effects of depression, elderly patients are far less likely to be diagnosed with major depression or dysthymia than any other age group (2), and significant depression is thus frequently left underdiagnosed and undertreated in older cancer patients (3–5).

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One reason depression is often underdiagnosed in older, cancer patients is that depressive symptoms manifest themselves differently in both later adulthood and in cancer patients. For example, the symptoms of cancer and the side effects of treatment often overlap with many symptoms of depression. Therefore, depressive symptoms may be difficult to separate from other problems associated with cancer such as pain, anxiety, or difficulty in adjusting to the cancer diagnosis (1). Depression in older adults is also difficult to diagnose. Symptoms profiles may differ from younger adults as older adults often present with more somatic complaints as opposed to affective complaints (i.e. sadness, guilt and self-criticism). Taken together, diagnosing depression in older, cancer patients is specifically challenging (6).

This review focuses on depression assessment in cancer patients, in geriatric patients and lastly, in geriatric cancer patients. This paper suggests a novel way of conceptualizing and diagnosing depression in older, cancer patients that requires a modified and adapted way of assessment. Current treatment options will also be discussed.

Diagnostic Criteria for Major Depressive Disorder (MDD)

Like all psychiatric disorders, a diagnosis of Major Depressive Disorder (MDD) has specific criteria. The two most important symptoms are depressed mood and loss of interest or pleasure. These are generally referred to as the “gateway” symptoms of depression (for list of all criteria see Table 1). At least five of the symptoms of depression in Table 1, including one gateway symptom, need to be endorsed by the patient to qualify for a diagnosis of major depression.

Depression in Cancer Patients

When specifically examining depression in cancer patients, the rates have ranged from 6 to 25% (7,8). The variation in these rates is due to the methodology of the study, the depression criteria used, and the cancer site studied (See 1 for full review of prevalence rates of depression in patients with cancer). It is likely though that a greater number of cancer patients demonstrate subsyndromal depressive symptoms, and therefore would also benefit from proper treatment (9).

The ability to appropriately identify, assess, and treat depression in cancer patients is becoming increasingly important. Depression is associated with decreased quality of life, significant deterioration in recreational and physical activities, relationship difficulties, sleep problems, more rapidly progressing cancer symptoms, and more metastasis and pain compared with non-depressed cancer patients (10). Depression may not cause these issues, but the presence of depression typically worsens the distress experienced from these physical and psychosocial symptoms, and can interfere with effective coping. In a recent study, depression was found to be an independent predictor of poor survival in patients with advanced cancer (11), and suicide risk in cancer patients is higher compared to patients with other medical illnesses (12). This emphasizes the point that proper assessment of depressive symptoms in cancer patients is critical, so that appropriate interventions can be offered in a timely fashion (11).

Unfortunately, depression is one of the most difficult psychiatric problems to diagnosis in cancer patients (13). The primary difficulty is that many symptoms of cancer and side effects of treatment overlap with the symptoms of depression. For example, significant weight loss, sleep problems, fatigue/anergia, difficulty concentrating, and thoughts of suicide may be either symptoms of depression *or* symptoms of cancer and/or its accompanying treatment side effects. The shaded symptoms in Table 1 are all symptoms that overlap with depression and cancer or side effects of treatment, leaving only the

gateway symptoms of depressed mood and loss of interest or pleasure as the two “pure” symptoms of depression in cancer patients.

This difficulty in diagnosing depression in cancer patients has led to the development of several diagnostic approaches used for the assessment of depression in this group including inclusive, etiologic, substitutive, and exclusive approaches. Overall, these categories differ on the symptoms used for the diagnosis of depression and/or whether or not it incorporates the origin or etiology of the depression. For example, the etiologic approach determines whether a somatic symptom is either illness or treatment related *or* due to depression whereas the exclusive approach excludes the somatic symptoms such as fatigue and appetite/weight change that can be seen in many cancer patients (13).

For the oncologist, busy clinics and lack of specific training in identifying depression make it unrealistic to conduct a complete diagnostic interview for depression. To screen cancer patients for depression (see Table 2), we suggest asking the two gateway questions of depressed mood and loss of interest or pleasure since these are the two “pure” symptoms of depression in cancer patients. In fact, in a recent review of the literature, Mitchell (14) examined data from seventeen studies to determine whether or not using these one or two questions in the detection of depression in cancer settings is valid. The findings showed that the use of *both* questions assessing, respectively, ‘sad mood’ and ‘lost of interest’ had a sensitivity of 91% and a specificity of 86% with the PPV being 57% and the NPV being 98%. Therefore, screening patients for depression using these two symptoms – depressed mood and anhedonia - may indicate to a busy clinician the patients who require more in-depth psychiatric assessment and possible intervention. To help distinguish between the somatic symptoms of depression versus side effects of disease, it may also be helpful to discuss symptoms suggested by Guo et al. (15) such as late insomnia, mood variation, anxiety, and loss of sexual interest, which offer succinct and specific evidence for a diagnosis of depression in cancer patients.

Validated questionnaires may also be useful to help oncologists screen for depression. There are four well-validated, self-report measures that are commonly used to assess depression: the Hospital Anxiety and Depression Scale (HADS), the Center for Epidemiologic Studies on Depression, (CESD-20), the Beck Depression Inventory (BDI) and the Geriatric Depression Scale (GDS). All of these measures are easy and quick to administer and will likely provide a clinician with a baseline measure of depressive symptoms. If a patient endorses either sad mood or loss of interest, administering one of these self-report measures establishes the diagnosis of depression, and a baseline from which to measure symptomatic improvement.

Depression in Geriatric Patients

Late-life depression is becoming an increasing public health concern based on the burgeoning aging population and the association among depression and many co-morbidities experienced by older adults. The high prevalence rates of geriatric depression are not surprising given that geriatric depression often affects individuals with chronic medical illnesses, cognitive impairment or disability (16) and typically is associated with functional impairment, disability, increased economic costs and mortality. For example, late-life depression is often associated with peripheral body changes such as hypercortisolaemia, increased abdominal fat and risk of Type 2 Diabetes, hypertension, and decreased bone density and cognitive impairment (17,18).

There has been a great deal of attention in the literature directed at the proper recognition and assessment of depression in later adulthood. The recognition and assessment of depression in this population is difficult because older adults are less likely than younger

adults to report the two “gateway” symptoms of sad mood or loss of pleasure or interest (16,19) (see Table 3 for the common and uncommon symptoms of depression in older adults). When compared to younger adults, older adults also tend to report fewer cognitive/mood symptoms such as self-criticism, guilt, and sense of failure (19–21). Older adults are more likely to endorse somatic symptoms of depression such as sleep problems and stomach aches (19–21). However, the somatic symptoms of depression are a particular source of concern when assessing mood, because these symptoms may be confounded with general aging issues or physical health problems.

Considering these difficulties, it is not surprising that late life depression is underdiagnosed and under-recognized (22). In addition to the mismatch between the symptoms of depression reported by older adults and the symptoms outlined in the DSM-IV, older adults tend to seek out medical rather than psychological services for their somatic complaints of depression (23) and older adults are much more hesitant about reporting mental health difficulties to professionals compared to younger adults (24). Given this difficulty in recognizing depression in older adults, the rates of geriatric depression are considered to be higher than the already high rates stated above (22). Thus, clinicians should be aware of older adults’ particular clinical presentation of depression, and be able to recognize, identify and recommend the best treatment to these individuals (see Table 3).

Suicide is also a major concern in older adults, and is almost twice as likely as in younger populations (25), making assessment and recognition of geriatric depression even more important. In fact, many older adults who commit suicide are reported to have visited a primary care physician shortly before suiciding (26). The issue of suicide is of even more relevance in older adults with cancer who are at higher risk for suicide compared to older adults with other medical illnesses, even after controlling for psychiatric illness and risk of dying within the year (27)

Depression in Geriatric, Cancer Patients

Identifying depression in older cancer patients presents a unique challenge to clinicians and researchers as it combines the difficulty of diagnosing depression in cancer patients with the complexities of detecting depression in older adults. As discussed, the two “gateway” symptoms of depressed mood and loss of pleasure or interest are crucial for assessing depression in cancer patients, yet older depressed patients are less likely to endorse these questions. Of interest, the somatic symptoms tend to be more relevant for older patients; however as in depression in younger cancer patients, many symptoms of the disease and side effects of treatment overlap with common somatic symptoms of depression in older adults (see shaded items in Table 3).

Despite these difficulties, the research in this area provides a guide for specific suggestions for identifying depression in older, cancer patients (see Table 4). A screen of the two gateway symptoms of depression should be administered first (i.e. depressed mood and loss of interest). Even though it is less common for older adults to endorse the two gateway symptoms, a proper and thorough assessment of depression should still begin with asking about these two symptoms. Even if the patient denies these gateway questions, it is important to elicit information about other potential symptoms of depression in this sample including “general malaise” as opposed to being depressed or loss of interest, or “general” aches and pains or stomach aches as opposed to specific tumor site pain or specific side effect of cancer treatment. Hopelessness may also be an important aspect to discuss; many cancer patients express some hope for the future, so reporting little or no hope may be a sign of depression. Sleep is difficult for both cancer patients and older patients; however, it is important to ask if the patient wakes-up in the middle of the night (middle insomnia) and has difficulty getting back to sleep because they worry or feel anxious. An older depressed

patient may also report mood variation during a day. For example, the patient may report that during part of the day their mood is normal (i.e. euthymic), however, they may spend most of the day with a general malaise. Research also suggests that establishing a good rapport in a more open-ended manner with older patients is essential, so that the patient feels comfortable reporting depressive symptoms.

Treatment of Geriatric Depression

Fortunately, effective treatments exist for late-life depression; both medications and/or psychotherapies have been shown to adequately manage and treat late-life depression. In terms of medications, while there has been a recent increase in the number of medication trials for late-life depression, historically, treatment in this area is based on findings from studies of younger patients. There are many reasons why the results from these trials on younger patients may not be applicable to older patients, such that older adults often have multiple medical conditions that may exacerbate their depression, may take many medications that cause depression or interact with antidepressants, and may metabolize medications more slowly and are more sensitive to side effects than younger adults (28).

Despite these concerns, there is sound evidence supporting the use of medications in treating late-life depression, especially at moderate to severe levels. (e.g. 29). Based on expert consensus guidelines for unipolar nonpsychotic major depression, the first-line treatment for late-life depression is an antidepressant (selective serotonin reuptake inhibitor [SSRI] or venlafaxine XR preferred) plus psychotherapy (28). In a more recent review of late-life depression, Alexopoulos (16) summarizes that SSRI's and SNRI's are the first line antidepressants, followed by bupropion and mirtazapine. While often started at low doses, optimal antidepressant doses are usually similar to doses seen in younger adults.

There have been a number of studies that have also demonstrated the effectiveness of structured psychotherapy with older patients. Behavior Therapy (BT) (e.g. 30), Cognitive Behavioral Therapy (CBT) (e.g. 31), and Interpersonal Psychotherapy (IPT) (e.g. 32,33) have all been shown to be effective with healthy, older adults in treating depression. In a recent review of recommendations for treating late-life depression, Steinman et al. (34) found CBT to be effective with older depressed adults. CBT is a psychotherapy that focuses on symptoms of depression and examines thoughts, patterns, and behaviors that exacerbate the symptoms. In one study, DBT (Dialectical Behavior Therapy) was found to effectively bolster the effects of antidepressant medication in depressed older adults (35). Namely, the DBT skills training and telephone coaching were found to be helpful.

Regardless of the evidence for effective treatments, several studies suggest that older adults tend to receive sub-optimal treatment (36) and generally demonstrate poor antidepressant medication adherence (37,38). For example, Wei et al. (39) found that psychotherapy is underutilized among older adults with depression and that geographic restrictions to mental health professionals represents a significant barrier to receiving appropriate care. In a qualitative study, Givens et al. (40) investigated antidepressant adherence among older adults and found four themes that emerged to explain resistance to antidepressants. These themes were the fear of dependence, the resistance to viewing depressive symptoms as a medical illness, the concern that antidepressants will prevent natural sadness, and prior negative experiences with medications for depression.

Given the complexities of treating late-life depression in the community, it is not surprising that a multi-modality approach may be needed to effectively treat geriatric depression (38,39). Frederick et al. (41) reviewed different community-based treatment modalities for late-life depression and concluded that a collaborative care model may be the most effective at managing geriatric depression. Collaborative care models for treatment of depression

usually involving primary care physicians, psychiatrists, therapists, psychologists, nurses and social workers who work closely to actively manage the patient. This model appears to be superior compared to education and skills training, geriatric health evaluation and management, or physical rehabilitation and occupational therapy. In sum, Frederick and colleagues (41) concluded treating depression in this population may "…require a multifaceted approach to ensure effectiveness" (p. 33).

Treatment for Depressed Cancer Patients

While there is evidence about the efficacy of treatments for geriatric depression, there is minimal evidence specifically demonstrating the effectiveness of psychological and pharmacologic treatments in cancer patients with depression (42). Medications that are typically used to treat depression in cancer patients are those that are used in treating depression in general, including SSRI's, newer antidepressants, tricyclic antidepressants, and psycho-stimulants. There is growing evidence for supporting the use of Ritalin (methylphenidate) to treat depression in cancer patients based on its quick response time and its alleviation of concomitant symptoms including fatigues, sedation, and poor concentration.

Like treatments for depression in non-cancer populations, psychotherapies also appear to help depressed cancer patients including psycho-educational interventions, cognitive behavioral therapy (CBT), interpersonal therapy, and problem solving therapy. CBT has been found to help depressed cancer patients, in particular, combining behavioral activation with cognitive techniques. While electroconvulsive therapy has been widely used in treating severe depression, it is rarely used in treating depression in a cancer setting. When focusing on older cancer patients, there appears to be no gold standard treatment for depression, and thus further research is warranted in this area. Using evidence from research on community-based treatment for older adults, a combined treatment including both pharmacologic and psychotherapeutic techniques is likely the best option.

Summary and Conclusion

Based on this review, it is clear that diagnosing depression in older, cancer patients is difficult since symptoms of cancer and depression have distinct but overlapping symptom profiles (e.g. fatigue, lethargy, suicidal ideation). In addition, older adults often present with depressive symptoms that differ from younger adults (e.g. more somatic than affective symptoms). Therefore, clinicians need to be able to recognize symptoms of depression in older, cancer patients in order to improve recognition, diagnosis and treatment. This is particularly important given the high suicide rates in both older adults and in older cancer patients.

Diagnosing depression in older, cancer patients should focus on first assessing the two gateway symptoms of depression although less commonly reported (i.e. anhedonia and sad mood), attempting to separate out symptoms of depression and cancer based on onset of symptoms, and focusing on subtle but nuanced symptoms in older, cancer patients. In older cancer patients, there should be a greater focus on symptoms of general malaise, general aches and pains, hopelessness, late insomnia, and daily changes in mood. Increased awareness and attention is warranted in this population to determine the most suitable ways to treat this growing population. In sum, we suggest a modified and adapted way of diagnosing depression in geriatric cancer patients.

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Table 1

DSM-IV Criteria for Major Depressive Disorder (MDD)

Five of the following symptoms must be present:
Step 1: Gateway Symptoms of Depression (at least 1 most be present to continue with assessment)
• Depressed mood
• Diminished interest/Loss of pleasure in all or almost all activities
Step 2: Additional Symptoms of Depression
• Weight loss or gain (more than 5% of body-weight)
• Insomnia or hypersomnia
• Psychomotor agitation or retardation
• Fatigue
• Feelings of worthlessness or inappropriate guilt
• Reduced ability to concentrate
• Recurrent thoughts of death or suicide

Note: Shading represents symptoms that may overlap with symptoms of cancer or cancer treatment

Table 2

Diagnosing Depression in Cancer Patients

Step 1: Gateway Symptoms of Depression

Significant Importance: Since many of the symptoms of depression my overlap with cancer and/or treatment, research suggests these questions are of significant importance in cancer patients.

- Depressed mood
- Diminished interest and/or pleasure

Step 2: Additional Symptoms of Depression

Significant Problem: Many of these symptoms overlap with cancer and/or cancer treatment.

- Weight loss or gain
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue
- Feelings of worthlessness or inappropriate guilt
- Reduced ability to concentrate
- Recurrent thoughts of death or suicide

Step 3: Differentiating Depression

Research indicates that the following symptoms may help differentiate depression from cancer symptoms.

- Late insomnia: Waking up in the middle of the night with difficulty getting back to sleep because of worry or concern.
- Mood variation: The patient may not report being depressed all of the time, but may report consistent depressed mood in the morning or evening.
- Anxiety
- Agitation
- Loss of sexual interest

Table 3

Depressive Symptoms in Later Adulthood (Alexopoulos, 2005 Lancet)

COMMON	UNCOMMON
● Sleep problems (insomnia or hypersomnia),	● "Classic symptoms of depression" –
● Stomach aches	● Dysphoria (sad mood)
● General aches and pains	● Anhedonia (lack of interest in activities)
● Diffuse somatic complaints	● Guilt
● Malaise	● Self-criticism
● Hopeless about the future	
● Pain	
● Weight loss	
● Cognitive impairment	
● Peripheral body changes	

Note: Shading represents symptoms that may overlap with symptoms of cancer or cancer treatment

Table 4

Diagnosing Depression in Geriatric Cancer Patients

Step 1: Gateway Symptoms of Depression

Significant Problem: Although these "gateway" questions will have significant importance in diagnosing depression in cancer patients, research indicates that older depressed adults are less likely to endorse these questions as compared to younger adults.

- Depressed mood
- Diminished interest and/or pleasure

Step 2: Additional Symptoms of Depression

Significant Problem: Many of these symptoms overlap not only with cancer and/or cancer treatment, but also with aging.

- Weight loss or gain
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue
- Feelings of worthlessness or inappropriate guilt
- Reduced ability to concentrate
- Recurrent thoughts of death or suicide

Step 3: Differentiating Depression

Research suggests that the following may help to differentiate depression in older cancer patients.

- General malaise: Older patients may be less likely to report 'loss of interest' and 'sad mood,' and more commonly report a general malaise or dissatisfaction.
- General aches and pains/stomach aches: As opposed to cancer or tumor specific pain
- Diffuse somatic complaints: As opposed to specific complaints associated with treatment side effects.
- Hopelessness: Most cancer patients are somewhat hopeful about the upcoming treatment and potential outcome, however older depressed adults may see little purpose or hope to treatments.
- Late insomnia: Waking up in the middle of the night with difficulty getting back to sleep because of worry or concern.
- Mood variation: The reporting mood changes throughout the day.
- Change/Loss of sexual interest