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ORIGINAL ARTICLES

Screening for depression in palliative cancer patients attending a pain and symptom control clinic

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ABSTRACT

Objective: Depression in palliative care patients is often underrecognized. Screening can increase case recognition. The aims of this study were to assess the prevalence of depression in palliative cancer patients attending a pain and symptom control clinic and to investigate the validity and utility of a depression visual analogue scale in detecting depression in the advanced cancer outpatient population.

Method: One hundred and thirty-two oncology outpatients who came for consultation at a multidisciplinary pain and symptom control clinic were asked and agreed to complete the Brief Zung Self-Rating Depression Scale (BZSDS; Dugan et al., 1998) and depression visual analogue scale (DVAS).

Results: The majority of participants (72%) indicated clinically significant depressive symptoms according to the BZSDS (21% in the "mild" depressive symptoms range, 32% in the "moderate" range, and 19% in the "severe" range). Participants indicated low endorsement rates of items related to overt manifestation of depression (e.g., sadness, tearfulness, irritability, and suicide ideation). The DVAS showed high correlation with the BZSDS ($r = .82$) and is a potentially useful screening instrument for detecting depressive disorder in palliative care cancer patients.

Significance of results: The results of the study underline the importance of routine screening to detect depressive disorder in palliative care patients to improve their quality of care. The depression visual analogue scale was found to be an effective simple screening tool, easy to administer and use.

KEYWORDS: Depression, Screening, Palliative care, Oncology, Cancer, Scales

INTRODUCTION

The link between psychological morbidity and malignancy has been observed centuries ago (Goldfarb et al., 1967). Depression is increasingly recognized as a major component of psychological distress in oncology patients, stemming from grief about current and anticipated losses, fear of death, concerns about loved ones, and even the biology of the malignancy (Green & Austin, 1993). The prevalence rate of major depressive syndrome in cancer patients, at some point in their illness trajectory, has been the subject of numerous epidemiological and research-based studies (e.g., McDaniel & Nemeroff, 1993; Akechi et al., 2004). The reported findings vary from as low as 1.5% (Maraste et al., 1992) to as high as 53% (Craig & Abeloff, 1974). The reported incidence of depression in palliative cancer patients also varies from study to study. The results suggest either no excess depression associated with advanced cancer (Massie, 2004) or that clinical depression is more common and it manifested in up to 77% of patients with advanced disease (Bukberg et al., 1984; see also Chochinov et al., 1994;

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Minagawa et al., 1996; Block, 2000; Hotopf et al., 2002; Ly et al., 2002).

Although studies of its prevalence have resulted in wide-ranging estimates, many researchers agree that psychological distress, when manifested as depression, can have a significant adverse impact on patients with advanced cancer (Wilson et al., 2000). Nevertheless, there is considerable evidence that depression is often underrecognized by medical staff in oncology settings (Hardman et al., 1989; Ford et al., 1994; Passik et al., 1998*a*, 1998*b*; McDonald et al., 1999; Stromogren et al., 2001), which can lead to undertreatment. The consequences of underdiagnosed and untreated depression may dramatically diminish the quality of life remaining (Grassi et al., 1996), prolong severe suffering (Cherny et al., 1994), increase the desire for hastened death (Breitbart et al., 2000; Tiernan et al., 2002), enhance suicide ideation (Henriksson et al., 1995), increase psychological burden on family members (Cassileth et al., 1985), and foster noncompliance with treatment regimen, which may hinder the effectiveness of oncology outcome and perhaps survival time (Macleod, 1998).

The National Institute of Health State-of-the-Science Conference Statement, regarding symptom management in cancer, observed that the wide variation in the published prevalence rates of depression in oncology patients can be attributed to issues with population samples, stage of disease, and inconsistencies with the application of a diagnostic criteria and methodology (Patrick et al., 2004).

Depression Criteria

Depression is a widely used psychogenically emorphous term that is loosely applied to a wide spectrum of emotional distress symptomatology, such as dysphoric affect, grief at loss, and demoralization in the face of adversity. Depressive mood state is believed to be an expected response, as part of normal adaptation to a prolonged physical illness, particularly when the illness is chronic, painful, incapacitating, and life threatening (Rodin et al., 1991).

Although diagnosis of major depression can be a difficult task when it is associated with any serious medical condition, oncology staff are faced with further complications in trying to discriminate patients with major depression from patients with commonplace depressive symptoms due to the malignancy. Presently, there are no universally accepted criteria for diagnosing depression in cancer patients, and there are no clear established criteria for distinguishing between what can be called "normal" (subclinical) and "abnormal" (clinical) levels of depression on the basis of the nature and severity of symptoms in the terminally ill. The ambiguity becomes even more acute in trying to distinguish between "appropriate" and expected nonpathological psychological reactions to the trauma of a terminal illness and a full-blown depressive disorder. As King et al. (2005) noted, because terminally ill patients are faced with the ultimate existential challenge, it is important not to pathologize their transitional distress states or the variety of emotional reactions that may represent processes of adaptation and coping. At the same time, it is also imperative to recognize and respond to possible signs and symptoms of depressive illness.

The most widely used diagnostic criteria for major depressive episodes are defined as a descriptive cluster of symptoms in the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV-TR; The American Psychiatric Association, 2000). To meet the diagnostic criteria, (a) at least one of two key symptoms must be manifested: dysphoria (depressed mood, sadness) and anhedonia (loss of the capacity to experience pleasure); (b) at least four of seven additional symptoms must also be present: appetite and weight change, sleep disturbances, psychomotor retardation or agitation, energy loss, feelings of worthlessness or excessive guilt, diminished cognitive ability, recurrent thoughts of death. As can be noted, five of the seven accessory symptoms can be the outcomes of the disease process. Even thoughts of death, in certain circumstances, may be realistic and a basis for timely planning rather than morbid.

The DSM-IV-TR's Major Depressive Disorder definition utilizes an "etiologic" approach that asks clinicians to exclude organic symptoms, when they are due to a physical medical condition. This can further complicate the detection and diagnosis of depression in palliative cancer patients in trying to determine which symptoms may be attributable to the malignancy (or related treatments) and which may be due to a mood state that is not reflecting the disease process (as discussed by Endicott, 1984). In dealing with the somatic symptoms dilemma, some researchers suggest an "inclusive" approach, that is, counting all symptoms toward a depressive syndrome regardless of the cause (Kathol et al., 1990). Others suggest a "substitutive" approach, that is, replacing somatic with additional psychological symptoms (Endicott, 1984; Lloyd-Williams, 1999) and still others suggest an "exclusive" approach, that is, eliminating all potentially confounding somatic symptoms (Raison & Miller, 2003). Overall, there is conflicting evidence that any of these approaches may compromise their sensitivity (proportion of the clinically depressed patients scoring above an optimal cutoff score) and specificity (proportion of the nondepressed patients scoring below the optimal cutoff score). King et al. (2005) asserted that the particular approach used should depend on the clinical or research aims of the assessment.

Methodology

To date, there is no proven method or universally applied screening instrument for assessing depression that is validated and standardized for cancer patients at any stage of illness. Although a clinical psychiatric interview is often considered the gold standard for the diagnosis of depressive disorder, very few oncology settings have the resources or expertise to conduct a comprehensive clinical interview or time-consuming thorough assessment. In an effort to devise a screening format suitable for health care providers and appropriate to patients with advanced illness, a few tools have been developed over the years.

The most widely used method of determining the presence of clinical depression in cancer patients is a cutoff score on one or another of the numerous patient-completed depression inventory scales. These instruments vary in the number of somatic symptoms they contain: from zero (e.g., Hospital Anxiety and Depression; Zigmond & Sanith, 1983) to a few (e.g., Beck Depression Inventory; Beck et al., 1961) to nearly half of the total possible score (e.g., Hamilton Depression Rating Scale; Hamilton, 1960). In addition, the evidence base for the use of many of these tools in cancer or a palliative cancer population is limited (Urch et al., 1998; Lloyd-Williams et al., 2003*a*, 2003*b*); few have been implemented into routine clinical care. Concerns for the frailty of terminally ill patients and the time constraints of medical staff have led some investigators to suggest a single item (Chochinov et al., 1997) or two "yes/no" depression questions (Whooley et al., 1997). The measures are brief and require minimal staff time for administration and interpretation. Yet, some studies indicated inconsistency in predictive value of a single or two depression queries due to discrepancies in sensitivity and specificity (Lloyd-William et al., 2003; Akechi et al., 2006).

Another commonly used tool within general medical and oncology populations is the Visual Analogue Scale (VAS), where patients are asked to rate their mood as a mark on a straight line. The distance on the line is then measured and calculated as a numerical score. VAS measures can be administered quickly, repeated as requested, and tend to have good statistical properties (McDowell & Newell, 1996).

As noted, the large discrepancy in the reported prevalence and severity level of depression in oncology patients may be due in part to the ambiguity and inconsistency in the applied methodology. The methological differences can also intensify the problems in replicating research findings (Zimmerman et al., 1990). There is a need for a validated screening tool for depression in palliative cancer patients.

The primary aims of this study were (1) to determine the prevalence of "cases" of likely depression (as identified by the BZSDS [Dugan et al., 1998] and depression visual analogue scale), in palliative cancer patients attending a pain and symptom control clinic and (2) to investigate the validity and utility of a single VAS in detecting the depression domain and severity in palliative cancer patients.

METHODS

Sample

The study participants were recruited from a population of palliative oncology outpatients, attending a pain and symptom control consultation clinic at a comprehensive cancer center in Western Canada. The criteria for inclusion in the study consisted of a diagnosis of cancer, palliative (i.e., advanced stage disease) and not currently undergoing curative cancer therapy (such as surgery, chemotherapy, or radiation therapy), no documented brain metastasis, ambulatory, a minimum age of 21, the ability to speak and read English, not suffering from cognitive impairment as judged by a mini mental score of at least 28/30 (Folstein et al., 1975), level of alertness that permits independent completion of a self-report questionnaire, the ability to give informed verbal consent, and living at home. Patients whom the medical staff deemed too weak or too tired to complete additional questionnaires were also excluded.

One hundred and fifty consecutive patients who met the study criteria (70 men and 80 women) were invited to participate. Eleven were unwell and 7 refused to participate. In total, 132 patients (63 men and 69 women) agreed to participate and completed the questionnaire. The mean age was 61.2 years (*SD* 12.3 years, range 23–80 years). Pertinent demographic information including sex, age, primary cancer site, and current life/treatment status was obtained from the patients' medical charts. Participants had a variety of primary cancer sites. The five most common in descending order of frequency were breast (28%), lung (22%), gastrointestinal (18%), genitourinary (10%), and gynecological (8%). In addition, 92% of participants had metastatic involvement, and 98% were receiving analgesic or palliative medication. Table 1 shows the sociodemographic characteristics of the study participants.

Procedures

The protocol for this descriptive correlational study met all ethical requirements and was approved by the Palliative Care Division of the host institution. Potential participants who met the aforementioned

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Table 1. *Characteristics of study participants*

Characteristics	Patients (N=132)	
	n	%
Gender		
Male	63	48
Female	69	52
Marital status		
Married	94	71
Divorced/separated	23	17
Widowed	7	5
Common law	3	2%
Single	5	5
Occupation		
Not working	80	61
Technical/support	34	26
Professional	11	8
Managerial	7	5
Age		
23–49	26	20
50–59	39	29
60–69	53	40
70–80	14	11
Disease site		
Breast	37	28
Lung	29	22
Gastrointestinal	24	18
Genitourinary	13	10
Gynecological	11	8
Other	18	14

inclusion criteria were initially approached by a skilled research assistant—a graduate student in psychology who was trained by the investigator. The research assistant had no prior relationship with any of the potential participants. Upon initial approach, patients were given a verbal description of the study, were informed that participation was optional, and were invited to take part. After obtaining verbal consent from each patient, the research assistant proceeded to administer the BZSDS questionnaire. The research assistant remained with all patients during the time they completed the BZSDS to answer any questions. All patients were able to complete the BZSDS questionnaire on their own, within 15 min.

Measures

BZSDS (Appendix 1)

The Brief Zung Self-Rating Depression Scale (Dugan et al., 1998) is an 11-item self-report version of the original 20 item Zung Self-Rating Depression Scale (ZSDS; Zung, 1965). The ZSDS is a quantitative measurement of the symptoms of depression, and its validity and reliability have been confirmed in studies throughout the world (Davies et al., 1975; Biggs et al., 1978; Gabrys & Peter, 1985; Agrell & Dehlin, 1989). Dugan et al. (1998) and Passik et al. (2000, 2001) demonstrated the utility of the ZSDS as a screening tool for the recognition of depression in cancer patients.

The BZSDS was designed to maximize reliance on emotional/cognitive symptoms of depression (e.g., anhedonia, dysphoria, and hopelessness) while omitting neurovegetative somatic symptoms that are often mimicked and confounded by cancer and its treatment (e.g., fatigue, appetite changes, and insomnia). The BZSDS was found to strongly correlate ($r = .92$) with the full ZSDS and had a high internal consistency ($r = .84$). The average item total correlation for the abbreviated version ranged from $r = .31$ to $r = .68$, which is similar to the reliability analysis of the original ZSDS. According to BZSDS protocol, subjects are instructed to rate how they felt during the previous week on a 4-point Likert scale, with larger numbers corresponding to greater symptom severity. The raw scores (sum of the 11 items, after correcting for the 6 items that are scored in reversed order) are then converted into a self-rating depression score (termed the SDS index scores), which represent percentages of depression measurable by the BZSDS. The SDS index scores comprise four categories of global clinical depression: within normal range (no significant psychopathology), minimal to mild depression, moderate to marked depression, and severe to extreme depression. The BZSDS (and the ZSDS) scores and categories are not meant to offer strict diagnosis guidelines, but rather denote levels of depressive symptomology that may be of clinical significance.

Depression Visual Analogue Scale (DVAS) (Appendix 2)

The Visual Analogue Scale (VAS) is one of the most commonly used measurable techniques for rating a variety of symptoms. For the purpose of this study, the investigator utilized the VAS rating of depression as it is found in the Edmonton Symptom Assessment System (ESAS; Bruera et al., 1994). The ESAS is administered to all patients attending the pain and symptom control clinic and is composed of nine visual analogue scales assessing different symptoms (pain, fatigue, nausea, depression, anxiety, appetite, drowsiness, well-being, and shortness of breath). Each item is intended to capture the range of severity associated with the underlying symptom/experience measured. Each VAS consists of a 100-mm horizontal line, which represents a continuum. Each line is anchored at the ends with a reference: *not at all* at the left, and *worst possible* at the right. Patients are

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requested to place a mark along each line that most accurately represents the intensity of each symptom during the past week.

Data Analysis

Data were analyzed using descriptive statistics (mean scores and standard deviations for all items on the BZSDS were calculated). Pearson correlation coefficients were computed among the BZSDS' items, single items to BZSDS' total, and between the DVAS and the BZSDS' individual item scores, and between the DVAS and the sum total of the BZSDS' total. The data were analyzed using the Statistical Package for Social Sciences (SPSS) with set alpha levels of .05 and .01.

RESULTS

The findings are presented in the following order: (A) the BZSDS responses (severity, correlations among items, and single items to total) and (B) correlations between BZSDS and VAS depression.

(A_1) Severity of Depressive Symptoms

The BZSDS' mean total score (raw index score) was 33.64 ($SD = 4.42$, median 33.12, range 18–44). The VAS depression mean was 66.2 mm ($SD = 13.7$ mm, median 61.7 mm, range 38–100 mm). The mean BZSDS' converted SDS score was 76.00, which is interpreted as meaning that the participants indicated on average 76% of the depression, measurable by this instrument. Using the cutoff index scores recommended by the scale developers for global clinical depression, 21% of the participants ($N = 28$) scored in the range indicative of "mild" depressive symptoms, 32% ($N = 42$) scored in the range of "moderate" depressive symptoms, and 19% ($N = 25$) scored in the range indicative of "severe" level of depressive symptoms. Thus, 72% ($N = 95$) of the participants endorsed the minimal number of items required to support evidence of clinically significant depressive symptoms; 51% were in the moderate range or higher (Table 2).

(A_2) Endorsement of Individual Items

Most of the subjects (91%) endorsed at least one of the BZSDS items as 3 (*good part of the time*) or 4 (*most or all the time*); 72% endorsed two items or more as 3 or 4. Eighty-two percent of the subjects endorsed item 4: "I find it easy to do the things I used to" (reversed) ($M = 3.58$, $SD = .91$); 74% endorsed item 5: "I feel hopeful about the future" (reversed) ($M = 3.45$, $SD = .96$); 66% endorsed item 9: "My life is pretty full" (reversed) ($M = 3.17$, $SD = .99$). The least commonly endorsed items were item 2: only 10% indicated that "I have crying spells or feel like it" ($M = 1.87$, $SD = .74$); item 10: only 14% indicated that "I feel that others would be better off if I were dead" ($M = 2.07$, $SD = .72$); and item 6: only 18% indicated that "I am more irritable than usual" ($M = 1.84$, $SD = .86$). There were no gender differences in the levels of endorsement in this study. This finding is consistent with other research in oncology populations (Deflorio & Massie, 1995; Dugan et al., 1998). A summary of the BZSDS items, including means and frequency of endorsement, appears in Table 3.

Table 2. *Prevalence of Depressive Symptoms (BZSDS)*

	Patients	
Level of depression	*n*	%
I. None (within the normal range)	37	28
II. Mild	28	21
III. Moderate	42	32
IV. Severe	25	19
Total	132	100

Table 3. *Summary of the severity and frequency descriptive statistics for the BZSDS depressive symptoms*

Items	Mean	*SD*	Frequency of endorsing ≥ 3*
1. I feel down-hearted, blue, and sad.	2.06	0.87	16%
2. I have crying spells or feel like it.	1.87	0.74	10%
3. My mind is as clear as it used to be.†	2.44	1.19	38%
4. I find it easy to do the things I used to.†	3.58	0.91	82%
5. I feel hopeful about the future.†	3.45	0.96	74%
6. I am more irritable than usual.	1.84	0.86	18%
7. I find it easy to make decisions.†	2.88	1.03	46%
8. I feel that I am useful and needed.†	3.06	1.15	62%
9. My life is pretty full.†	3.17	0.99	66%
10. I feel that others would be better off if I were dead.	2.07	0.72	14%
11. I still enjoy the things I used to do.†	2.91	1.09	54%
Total items	33.64	4.42	

*3 = good part of the time; 4 = most or all the time.
†Reversed order.

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(A_3) Correlations among BZSDS Items (Table 4)

The highest correlations were found between Item 9: "My life is pretty full" (reversed) and item 8: "I feel that I am useful and needed" (reversed) ($r = .66$) and item 4: "I find it easy to do the things I used to" (reversed) ($r = .62$). A moderate correlation was also found between item 3: "My mind is as clear as it used to be: (reversed) and item 7: "I find it easy to make decisions" (reversed) ($r = .59$).

(A_4) Correlations between BZSDS' Single Items and BZSDS' Total Score (Table 4)

The item-total correlation for the BZSDS ranged from .28 to .78. The three items with the highest item-total correlations were those assessing anhedonia, Item 9: "My life is pretty full" (reversed) ($r = .78$); feeling of worthlessness, Item 8: "I feel that I am useful and needed" (reversed) ($r = .76$); and indecisiveness, Item 7: "I find it easy to make decisions" (reversed) ($r = .75$). The three items with the lowest correlations between single item and BZSDS total were tearfulness, Item 2: "I have crying spells or feel like it" ($r = .28$); suicidal ideation, Item 10: "I feel that others would be better off if I were dead" ($r = .42$); and affect, Item 1: "I feel down-hearted, blue, and sad" ($r = .51$).

(B) Correlations between BZSDS and the DVAS (Table 4)

The DVAS mean score was 61.3 mm ($SD = 13.7$ mm, median 56.7 mm, range 28–100 mm). The DVAS was highly correlated with the BZSDS' total score ($r = .82$) and most of the single-items scores.

DISCUSSION

The findings obtained in this study demonstrate that both BZSDS and DVAS possess useful screening performance. The correlational analysis provides support for the validity of DVAS in a palliative oncology population. This finding is consistent with a pilot study completed by Lees and Lloyd-Williams (1999) and another study done by Ahles et al. (1984), which demonstrated that VAS was an effective screening tool for depression in terminally ill patients. Patients in this current study scored much higher on the BZSDS when compared to other studies using the BZSDS in a large sample of ambulatory cancer patients (Dugan et al., 1998). These results suggest that palliative cancer patients have a higher level of depression. The prevalence of significant depressive phenomenon in this study and the cognisance that depression fosters suffering in palliative cancer patients (Block, 2000) underline a need to incorporate the use of a brief screening measure of depression in routine palliative care practice. (Discussion about other psychiatric disorders in palliative cancer patients is beyond the scope of this study and can be found elsewhere; Derogatis et al., 1983; Breitbart et al., 2004).

Medical oncology staff have been found to dramatically underestimate the severity and prevalence of depression in their patients. Hardman et al. (1989), McDonald et al. (1999), and Meyer et al. (2003) found that oncologists and nurses recognized depression in less than half of their diagnosed patients. Passik et al. (1998*a*, 1998*b*) conducted a large study to ascertain physicians' recognition of depressive symptoms in 1109 cancer patients who completed the ZSDS questionnaire. The researchers found that the oncologists' ratings were highly concordant with patients' endorsement of no significant depressive symptomatology (79% of the time). But oncologists were concordant only 33% of the time when patients indicated moderate to marked depression and 13% of the time when patients indicated severe to extreme depression. The authors noted that the degree of inaccurate classification observed is particularly troubling given that physicians were fully aware that they were expected to rate their patients' depression immediately after an office visit. Thus, underscoring of moderate to extreme levels of depression occurred, even though vigilance on behalf of the clinicians might have been expected to be higher than usual.

The National Institute of Health (NIH) State-of-the-Science Panel highlighted the inability of oncology providers to recognize depression as being a "particularly important" impediment (Patrick et al., 2004). Recognition of depression in palliative care patients is crucial, because underrecognition may lead to undertreatment. Undertreated depression may adversely affect quality of life, reduce response to and compliance with palliative treatment regimens, and perhaps shorten survival time (Macleod, 1998; Stiefel et al., 2001). Depressive symptoms should be recognized as a source of suffering that can be as debilitating as physical complaints. Maguire (1985, 2000; Maguire et al., 1996) has shown that doctors and nurses cannot assume that adult patients will voluntarily report feelings of depressive mood, as fewer than one in four patients disclose emotional problems and concerns spontaneously. Valente et al. (1994) reported similar findings.

It is possible that, amid the myriad of symptoms experienced by palliative cancer patients as a result of their advanced disease, emotional symptomatology may be perceived as being less important or something to be expected. Some patients tend to be stoic, or they may not see any link between cancer

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Table 4. *Correlations among depressive symptoms*

Items	1	2	3	4	5	6	7	8	9	10	11	12
1. I feel down-hearted, blue, and sad.	1.0000											
2. I have crying spells or feel like it.	.4323**	1.0000										
3. My mind is as clear as it used to be.†	.1805	−.0898	1.0000									
4. I find it easy to do the things I used to.†	.2704	.1265	.4056**	1.0000								
5. I feel hopeful about the future.†	.2502*	.2217*	.3997**	.3654*	1.0000							
6. I am more irritable than usual.	.3415**	.3533**	−.2085	.0876	.3044*	1.0000						
7. I find it easy to make decisions.†	.3307*	.1806	.5911**	.4558**	.439**	.4585**	1.0000					
8. I feel that I am useful and needed.†	.1917	−.0759	.3131	.6242**	.4968**	.2991*	.3167*	1.0000				
9. My life is pretty full.†	.3389*	−.1118	.3882**	.3876**	.5037**	.3081*	.5237**	.6619**	1.0000			
10. I feel that others would be better off if I were dead.	.3427**	.2816*	.1625	−.1085	.3066*	.4207**	.4089**	.4414**	.3786**	1.0000		
11. I still enjoy the things I used to do.†	−.1152	−.0362	.3613**	.5724**	.419**	.2037*	.4583**	.3362*	.4722**	.3897**	1.0000	
BZSDS Items to BZSDS Total	.5186**	.2854**	.6224**	.6843**	.7065**	.5887**	.7538**	.7689**	.7876**	.4252**	.6234**	
BZSDS Items to VAS Depression	.7897*	.8692**	.7786**	.9143**	.6656**	.8487**	.8213**	.8634**	.8056**	.8546**	.8466**	
BZSDS total to VAS Depression												.8249

†Reversed order.
*Correlation is significant at the .05 level (two-tailed).
**Correlation is significant at the .01 level (two-tailed).

and depression. Therefore, these patients may be less inclined to express emotional difficulties unless specifically asked. Even when asked, older patients tend to underreport their depressive symptoms (Lyness et al., 1995). Patients may also be reluctant to initiate emotional complaints that may distract their oncologist from curative/palliation efforts, or they may fear negative cultural stigma toward psychological distress. In some settings, patients may be actively discouraged from "thinking negatively," and "negative" feelings may be dismissed or censored. Furthermore, medical oncology staff may not be confident in eliciting psychological and psychiatric morbidity (Block, 2000). Additionally, there is also the heavy case load and work volume in a typically busy oncology clinic (Passik et al., 1998*a*, 1998*b*). It was reported that the average outpatient with cancer complained of about 9.6 distressing symptoms (Portenay et al., 1994). Given the brevity of most office visits, the challenge of detecting and assessing depression in so many polysymptomatic patients can be an onerous task. To make matters worse, reportedly many clinicians find depressive questionnaires too cumbersome and time-consuming for routine use (Weissman et al., 1995). Passik et al. (1998*a*, 1998*b*) also found that oncologists' ratings were highly correlated with patient manifestation of overt mood symptoms such as sadness, tearfulness, and irritability, but that oncologists were less cognizant of more subtle cognitive/attitudinal symptoms such as anhedonia (the loss of capacity to experience pleasure), hopelessness, and worthlessness.

The assertion that oncologists tend to assess depression based on overt manifestation of depressed mood is somewhat disconcerting. Our subjects clearly indicated relatively low endorsement rates of items relating to sadness, tearfulness, irritability, and even suicidal ideation. Furthermore, these overt symptoms showed low correlation with the overall BZSDS total score or the DVAS. Effective management of depression in palliative cancer patients must begin with proper screening. Accurate screening is predicated on the utilization of objective, applied, and efficient tools. Such screening tools may help to raise awareness of patients' depressive affect among medical oncology staff, facilitate communication with patients about their emotional distress, and identify high-risk patients for further evaluation and intervention. This study has shown that the BZSDS is an acceptable assessment tool for depression that can be used by palliative care professionals who do not have a psychiatric background or training. The BZSDS was positively received by patients, and it appeared to enhance communication between patients and oncology staff. In our study, all participants appeared to welcome the opportunity to be asked about their feelings, and it prompted several of them ($n = 27$) to articulate their concerns regarding mood and emotional difficulties with the medical staff. The depression VAS appears to be a sufficiently robust method of screening for depression, and it may be the only tool that is needed for routine use in identifying high-risk palliative patients. But it must be remembered that the depression VAS is not a diagnostic instrument; it can lead to further clinical assessment and, if warranted, treatment or referrals. The practical advantages of the VAS is that it is nonintrusive, simple and easy to administer, can be analyzed at a single glance, and yet it can quickly and reliably quantify the severity of depressive symptomatology in a large number of patients. Additionally, the depression VAS may be more acceptable to very ill cancer patients who are unable or unwilling to complete lengthy and sometimes complicated questionnaires. Furthermore, language and reading skills that may affect a patient's ability to complete a questionnaire are less of an issue in marking a VAS, and the use of a VAS can be more immune to the influences of cultural factors (Bailey et al., 2005). At the very least, depression VASs can lead to open discussion with high-risk patients and would allow clinicians to monitor how a patient's mood/behavior changes over time.

The practice of screening for depression hinges on how cutoff scores are set for follow-up and intervention. Passik et al. (2001) suggested using the BZSDS's minimal to mild depression cutoff score (raw score ≥ 22) to capture the vast majority of cancer patients who may suffer from depressive disorder while accepting the possibility of an inflated false positive rate. This is a major consideration when setting this cutoff score, as it implies the need for follow-up in approximately 71% of the patients, according to our results. We recommend using a cutoff point of $\geq$65 mm on a depression VAS consisting of a 100-mm line. This cutoff score ($\geq$65 mm) is in accordance with the mean DVAS score in our study (66.2 mm) and is equivalent to the BZSDS's moderate to marked depression cutoff score (raw score of $\geq$33). According to our study findings, this cutoff score will require follow-up on approximately 50% of patients.

Conclusion and Future Research Implications

The effective management of depression must begin with proper assessment. Critical to the management of depression in palliative cancer patients is the utilization of simple assessment/screening tools for the systematic evaluation of a patient's depression and response to treatment. We believe that the depression VAS merits additional research, including further

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validation against other measures. In this study we did not assess the impact of screening on subsequent management of these patients. Future research will address this issue. We also observed that administering the BZSDS promoted some articulation of emotional concerns by patients to the medical staff. Future studies should investigate if administering a depression VAS stimulates spontaneous communication by patients. Given the severity of illness experienced by many patients with advanced cancer, an interesting research question should address and explore factors that may predispose some and not others to the development of a depressive syndrome. In our study, 28% ($n = 37$) of the subjects indicated no elevated depressive symptoms.

Study Limitation

Key limitations to research of this kind warrant acknowledgement. We deliberately chose a selected clinical population, that is, palliative cancer patients referred to a pain and symptom control clinic. In doing so, we sought out a cohort that may have contained patients with a relatively high depression level. Thus, the results may not be applicable to patients with terminal cancer in other settings. To ascertain the full utility and applicability of the depression VAS it needs to be tested in a broader palliative population.

The findings of our study must also be interpreted with some caution, as the depression VAS used was embedded within the standardized ESAS. Such a configuration may impact the independency of our VAS as a screening tool and the depression criterion measured.

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APPENDIX 1

Brief Zung's Self-Rating Depression Scale

Addressograph (name, DOB, sex, patient number, address)

DATE: ———————

For each of the 11 statements, please put a checkmark (✓) in the column that best describes the way you have been feeling during the past week, including today.

	None OR Little of the Time	Some of the Time	Good Part of the Time	Most OR All of the Time
1. I feel down-hearted, blue and sad				
2. I have crying spells or feel like it				
3. My mind is as clear as it used to be				
4. I find it easy to do the things I used to				
5. I feel hopeful about the future				
6. I am more irritable than usual				
7. I find it easy to make decisions				
8. I feel that I am useful and needed				
9. My life is pretty full				
10. I feel that others would be better off if I were dead				
11. I still enjoy the things I used to do				

APPENDIX 2

Depression Visual Analogue Scale (DVAS)

Please cross the line at the point that best describes your:

Not at all ———————————————————————————— Worst possible

Depression

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