Ease of Screening for Depression and Delirium in Patients Enrolled in Inpatient Hospice Care

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Abstract

Background: Major depression and delirium are prevalent, underrecognized, and undertreated in hospice and palliative care settings. Furthermore, they are both associated with significant morbidity and mortality.

Objective: A screening study of patients receiving *inpatient hospice care* was conducted in order to determine the ease of screening for depression and delirium in patients with advanced, life-threatening illnesses by hospice social workers and nurses, respectively.

Methods: A two-question depression screening tool was administered to 20 consecutive patients on admission to a hospice general inpatient care center by social work staff during their initial assessment. A delirium-screening tool was administered *daily* to 22 consecutive patients admitted to the ICC *daily* by nursing staff. Screening results were collected, as were patient and staff feelings about the burden of the screening process.

Results: Of the 20 patients screened on admission for depression by social work, 70% (14/20) screened positive. Of the 22 patients screened *daily* for delirium by nursing, 64% (14/22) screened positive at least once during their admission. Screening for both conditions was considered relatively easy to accomplish by the hospice staff. There were no significant associations between a positive screen of depression or delirium and patient gender, age, ethnicity, terminal diagnosis, or marital status.

Discussion: These results support the notion that depression and delirium are very common in hospice inpatients, and that screening for both is relatively easy and practical for hospice clinicians to conduct.

Key words: assessment; delirium; depression; end-of-life; hospice; palliative care; screening

Introduction

MAJOR DEPRESSION AND DELIRIUM are both very prevalent in patients with advanced, life-threatening illnesses, with rates of depressive symptoms being as high as 58% and those of delirium as high as 88%.¹⁻⁶ In fact, both are among the most common syndromes experienced by patients in this population. Unfortunately, both depression and delirium are under-recognized and therefore under-treated in hospice and palliative care settings.⁷

Depression is hard to recognize in patients with advanced, life-threatening illnesses,⁸⁻¹⁰ and it may be confused with other diagnoses such as delirium and grief. Often, this population does not have immediate access to trained mental health professionals, and many of the symptoms of advanced, life-threatening illnesses or their treatments, such as weight changes, fatigue, sleep disturbances, decreased concentration, and altered appetite, are confounded with symptoms of de-

pression.¹¹ In addition, patients may not recognize or give weight to depressive symptoms in the context of physical ailments.^{2,12,13} Also, it is thought that professionals who work with this population may not be able to appropriately estimate the level of psychological distress of their patients.¹⁴

Delirium is also difficult to assess in the palliative care population. Partly, this might be attributed to confusion regarding terminology and inconsistent use of diagnostic classifications.¹⁵ In addition, the symptoms of delirium are varied and can be mistaken for other psychiatric disorders.^{6,16} As with depression, the lack of trained mental health professionals, the subjectivity of symptoms, and the overlap of symptoms with other medical disorders are also likely to be factors.

Both disorders are associated with significant morbidity and mortality. Depression can interfere with a patient's capacity to make decisions, understand his or her situation, interact with caregivers, and reach final goals.¹⁷ It can also severely impact physical health and quality of life.⁴ The

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behavioral manifestations of delirium, such as agitation, may result in unnecessary medical intervention, distress to family and caregivers, and/or inpatient hospice admission.^{18–23} Delirium can also interfere significantly with the recognition and control of other physical and psychological symptoms, such as pain.^{24–26} Appropriate intervention is often successful in reducing these negative outcomes.^{27–31}

A number of research approaches have been used to assess for depression and delirium in patients with life-threatening illness.^{2,32} However, although useful in a research setting, most of these tools are typically quite long and must be administered by physicians or other highly trained clinicians.³² As a result, they have a high burden of administration, both to patients and staff, making them impractical to implement on a day-to-day basis in a clinical care setting.

Fortunately, there are much shorter screening tools available for both depression and delirium that have demonstrated high sensitivity and specificity in previous research studies. However, to our knowledge, no studies have looked at the impact of the use of these screening tools on clinical care. Many of these can be administered by non-MD clinicians with a modest amount of training. The intent of this study was to determine whether two such tools could be used by the staff in an inpatient hospice setting to screen for depression and delirium on a regular basis, without a high burden of administration to either patients or staff.

Methods

Ethical safeguards

This study was approved by the Institute for Palliative Medicine Institutional Review Board. Both screening tools were incorporated into general inpatient clinical care, and because no interventions were performed and investigators were blind to patients and staff using the tools, informed consent was waived by the Institutional Review Board. All positive screens were reported immediately to the clinical team by the person performing the screen. The team was then able to directly address the issue or obtain psychiatric consultation if necessary.

Study population

This prospective screening study was conducted in a convenience sample of English-speaking patients consecutively admitted to *inpatient hospice care*.

Screening process

Depression. A two-question depression screening tool developed by Whooley et al.³³ was administered to 20 consecutive patients on admission to a hospice general inpatient care center (ICC) by social work staff during their initial assessment. This instrument, extracted from the Primary Care Evaluation of Mental Disorders (PRIME-MD) questionnaire, operates in the range of many other validated depression-screening tools, but it eases the burden of administration by being so short.^{33,34} A study by Robinson and Crawford,³⁵ using this two-question tool in 22 hospice inpatients and 69 patients receiving palliative care at home, found a sensitivity of 100% and specificity of 78% when compared with DSM-IV criteria for a major depressive episode and a sensitivity and specificity of 100% when compared with ICD-10 symptoms for a moderate or severe depressive episode without psy-

chotic features in the 22 hospice patients. This tool asks the following two questions:

1. During the past month, have you often been bothered by feeling down, depressed, or hopeless?
2. During the past month, have you often been bothered by little interest or pleasure in doing things?

A “yes” answer to either question is considered a positive screen.

Delirium. A delirium screening tool was administered to 22 consecutive patients admitted to the ICC *daily* by nursing staff. This tool, the Confusion Assessment Method (CAM), is an instrument designed to be administered in less than 5 minutes by trained interviewers.^{36,37} In its initial validation studies, the CAM was found to have a sensitivity of 94%–100% and specificity of 90%–95% when compared with DSM-IV criteria for delirium.³⁶ For this study, we chose the shorter, four-question version of the CAM, which can be administered even more quickly, and which has accuracy similar to the full nine-question version.³⁸ This tool consists of the following four questions for the staff member (as opposed to the patient):

1. Is there any evidence of an **ACUTE (sudden) change** in mental status (confusion, disorientation, hallucinations, delusions) from the patient’s baseline (last known stable level of functioning) *and/or* does this change **fluctuate** during the day, that is, tend to come and go or increase and decrease in severity?
2. Has the patient had **difficulty focusing attention**, for example, being easily distracted or having difficulty keeping track of what was being said?
3. Is the patient’s **thinking disorganized or incoherent**, such as rambling or irrelevant conversation, unclear or illogical flow of ideas, or unpredictable switching from subject to subject?
4. Overall, is the patient’s **level of consciousness ANYTHING BUT ALERT**; that is, hyper-vigilant (overly sensitive to stimuli, easily startled), lethargic (drowsy but easily arousable), stuporous (difficult to arouse), or comatose (unarousable)?

A positive answer to questions 1 *and* 2 and *either* 3 *or* 4 is considered a positive screen.

Ease of administration evaluation

At the time of screening, each patient was asked to rate the ease of administration of the depression screening on a 5-point scale (1 = strongly disagree [*very burdensome*], 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree [*very easy*]). In addition, each staff member was asked to rate the ease of administration for themselves, and also as that staff member perceived it to be for the patient. These inquiries were worded:

1. The patient felt this screening test was a significant burden (depression tool).
2. The rater felt this screening test was a significant burden to administer (depression and delirium tool).
3. The rater felt this screening test was a burden to the patient (independent of what the patient said [depression tool]).

Inpatient care staff underwent two 1-hour training sessions for orientation to the problems of depression and delirium, and the screening tools to be used. Training included teaching on how to use the tools and education on the diagnostic features of depression and delirium, as well as examples of dysfunction in the areas being evaluated. In addition, two 1-hour feedback sessions after the completion of data collection were conducted with the inpatient staff to get subjective feedback on the use of the tool, how the process could be improved, and about incorporation into admission and daily nursing assessments.

Statistical analyses

Demographic characteristics, the percentage of patients with a positive screen for depression or delirium, and the average patient and staff rating of screening burden were determined. Patients who screened positive for depression or delirium were compared with those who did not using χ^2 -analyses looking for differences in gender, age, ethnicity, terminal diagnosis, and marital status.

Results

Demographic data are presented in Table 1. Subjects are representative of the population served by the hospice.

Depression

Of the 20 patients screened on admission for depression (a total of 20 individual screens, by 2 social workers), 9 patients answered "yes" to question 1, 3 patients answered "yes" to question 2, and 2 patients answered "yes" to both questions, for a total of 14 patients (70%) who screened positive for depression (Table 2).

On a scale of 1 to 5 (5 = strongly agree that screening was easy to administer), the average ratings of the screening process were (Table 2):

TABLE 2. SCREENING AND EASE RESULTS

	Depression (n = 20)	Delirium (n = 22)
Positive screens	14 (70%)	14 (64%)
Staff rated ease of screening	4.40 out of 5	3.71 out of 5
Staff rating of perceived ease of screening to patient	4.45 out of 5	NA
Patient rated ease of screening	4.25 out of 5	NA

Patient rating of ease of administration: 4.25

Social worker rating of ease of administration: 4.4

Social worker rating of perceived ease of administration for the patient: 4.45

Delirium

Of the 22 patients screened *daily* for delirium (a total of 139 individual screens, by 26 nurses), 15 had acute changes and/or fluctuations in mental status (question 1), 17 had difficulty focusing attention (question 2), 16 had disorganized or incoherent thinking (question 3), and 19 had changes in their level of consciousness (question 4).

A total of 14 patients (64%) met criteria for a positive screen (yes to question 1 and 2 and either 3 or 4) on at least one day during their entire inpatient admission (Table 2).

On a scale of 1 to 5 (5 = strongly agree that screening was easy to administer), the average nurse rating of ease of administration was 3.71 (Table 2).

No significant differences in rater ease of administration, rater perception of patient ease of administration, gender, age, ethnicity, marital status, terminal diagnosis, length of inpatient hospice care, or total time on hospice service were found

TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF PATIENTS

Demographic	Depression screen	Delirium screen
N	20	22 (139 screens)
Gender		
Female	55%	50%
Age	69.7 years $\pm$ 16.4 SD	65.8 years $\pm$ 20.9 SD
Ethnicity		
Caucasian	80%	77%
Hispanic	5%	18%
African American	5%	0%
Others/unknown	10%	5%
Marital status		
Married	35%	41%
Widowed	20%	9%
Single	15%	14%
Divorced/legally separated	10%	0%
Unknown	20%	36%
Terminal diagnoses		
Neoplasms	70%	58%
Cardiovascular disease	10%	14%
Pulmonary disease	10%	14%
Other	10%	14%
Average length of inpatient stay	19.2 $\pm$ 12.2 SD days	15.5 $\pm$ 18.9 SD days
Average length on hospice service	101.9 $\pm$ 113.2 SD days	73.1 $\pm$ 78.0 SD days

between those who did and did not screen positive for depression and/or delirium. Also, no differences were found among staff raters. Formal direct and indirect (via their supervisors) feedback from the staff was uniformly positive and staff stated that administration was very easy. Most staff felt that screening for mental health issues had been needed for a long time and were happy to do it. Many felt that this screening should be made standard of practice at this hospice facility. Some feelings of burden were expressed surrounding the use of forms that were set up for data collection rather than for practical use on a day-to-day basis in the inpatient hospice setting.

Discussion

This study evaluated the burden of regular screening for depression and delirium for hospice social workers and nurses, respectively, working on an inpatient hospice unit. For depression screening, involving only two questions and administered once on admission, both patients and staff found the burden to be extremely low. Delirium screening, performed daily by nursing, was perceived as a little less easy to administer, although it was still not considered burdensome. Notably, follow-up sessions with nurses who performed the delirium screening revealed that much of the perceived burden was due to aspects of the data collection form, rather than the screening process itself. In these sessions, most nurses also indicated that administering the screen was relatively easy, and they thought that screening improved patient care by alerting clinicians to be thinking about these diagnoses.

A previous chart review study of depression and delirium recognition in hospice inpatients cared for by the same institution^{39,40} showed recognition rates of 13.7% for depression and 28.3% for delirium. By contrast, 70% of the patients in this study screened positive for depression, whereas 64% screened positive for delirium. Although these are screens and not gold-standard diagnoses made by experienced clinicians, the relatively high specificity of these screening tests found in other studies suggests significant under-recognition, and therefore under-treatment, of both depression and delirium.

The main limitations of this study are relatively small sample size and the lack of a confirmatory gold-standard test, such as a structured clinical interview. These limitations will need to be addressed in a much larger study, in which screening results should be validated by gold-standard diagnostic tests for depression and delirium. In addition, depression screening was done only once because the average length of stay is less than 2 weeks. Depression screening will need to be done more frequently in longer-stay patients. However, the goal of this study was not to provide a definitive diagnosis of depression and/or delirium, but rather, to determine if these conditions could easily be screened by non-MD clinicians who had been provided only a modest amount of training, with minimal burden to patients or staff, at an inpatient hospice care facility.

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Dr. Rao is on the speakers bureaus for Eli Lilly, Astra Zeneca, and Bristol-Myers Squibb. Dr. Ferris is on the speakers bureau for Wyeth Pharmaceuticals. Dr. Irwin is a peer reviewer and faculty speaker for the Neuroscience Education Institute.

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