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Anxiety in Terminally Ill Cancer Patients

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Abstract

Context—Anxiety in terminal cancer is linked to diminished quality of life, yet overall it is poorly understood with regard to prevalence and relationship to other aspects of psychological distress.

Objectives—This study examines anxiety in terminally ill cancer patients, including the prevalence of anxiety symptoms, the relationship between anxiety and depression, differences in anxiety between participants receiving inpatient palliative care and those receiving outpatient care, and characteristics that distinguish highly anxious from less anxious patients.

Methods—Participants were 194 patients with terminal cancer. Approximately half (n = 103) were receiving inpatient care in a palliative care facility and half (n = 91) were receiving outpatient care in a tertiary care cancer center. The Hospital Anxiety and Depression Scale was used to assess anxiety and depression, and was administered along with measures of hopelessness, desire for hastened death, and social support.

Results—Moderately elevated anxiety symptoms were found in 18.6% of participants (n = 36) and 12.4% (n = 24) had clinically significant anxiety symptoms. Level of anxiety did not differ between the two treatment settings. However, participants receiving palliative care reported significantly higher levels of depression and desire for hastened death. A multivariate prediction model indicated that belief in an afterlife, social support, and anxiolytic and antidepressant use were unique, significant predictors of anxiety.

Conclusion—Severity of anxiety symptoms did not differ between the study sites, suggesting that anxiety may differ from depression and desire for hastened death in the course that it takes over the duration of terminal cancer.

Keywords

Anxiety; cancer; palliative care

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Introduction

Anxiety is one of the most common reasons for psychiatric consultation in terminally ill cancer patients and has been linked to lower levels of quality of life, increased levels of insomnia, decreased trust in physicians and poor treatment compliance (1–4). Patients with advanced or terminal cancer often experience anxiety surrounding the treatment process, disease progression, uncontrolled pain, dying, and uncertainty as to what happens after death (5–7). Anxiety also can negatively impact recovery from medical procedures, and may even impact survival time in cancer patients (8). However, despite its significant impact on patient quality of life, the causes and consequences of anxiety have rarely been the focus of systematic research in patients with advanced cancer (9–11).

Only a handful of studies have focused specifically on anxiety in advanced or terminally ill cancer patients. Estimates of prevalence of anxiety disorders range from 2% to 14% of patients with advanced cancer (4, 12–14). Generalized anxiety disorder (4.8%–5.8%) and panic disorder (5.5%), the most common diagnoses, were found at rates that exceeded those found in the general adult population (3.1% and 2.7% respectively [11, 12]). Significant anxiety symptoms are estimated in 25% to 48% of advanced cancer patients (3, 14, 15). Elevated rates of anxiety disorders and symptoms are also more common in females, unmarried patients and those with poor physical functioning (4, 16).

Studies examining the relationship between disease severity and anxiety in terminal cancer have generated conflicting findings as to whether patients receiving only palliative care experience more (17) or fewer (16) symptoms of anxiety than those receiving potentially curative treatment. A review of the literature of psychiatric disorders in patients with advanced cancer (14) concluded that anxiety disorders were increasingly common as patients progressed from having advanced disease to terminal disease. Still other studies have observed no relationship between disease severity and anxiety (18). These inconsistent findings regarding the relationship between anxiety and disease severity warrant further investigation.

One of the challenges associated with identifying anxiety in advanced cancer patients is that anxiety is often entangled with other types of psychological distress such as depression, worry and negative affect (11, 19, 20). The frequency of co-morbid anxiety and depressive disorders in advanced cancer patients has resulted in the identification of a mixed anxiety/depression phenotype of depression in cancer patients (21). These findings exemplify the complex relationship between anxiety and depression in patients with a terminal illness and underscore the difficulties in studying anxiety at the end of life.

The potential implications of unidentified and under-treated anxiety symptoms necessitate more systematic research. By better understanding of the nature and prevalence of anxiety in terminally ill cancer patients, physicians and mental health professionals may be better able to identify patients at risk for experiencing anxiety symptoms, refer those with clinically significant symptoms for appropriate treatments, and perhaps avoid the diminished quality of life and reduced survival time related to anxiety. The present study attempts to address this need by investigating the prevalence of anxiety in a sample of terminally ill cancer patients. A primary study aim was to identify predictors of anxiety, with a focus on treatment-related variables and psychosocial variables that have been previously linked to psychosocial well-being at the end of life (22, 23). In keeping with previous findings in the literature, we expected that social support, religiosity and belief in an afterlife would be associated with lower levels of anxiety, and demographic factors such as female gender and being unmarried would be associated with higher levels of anxiety symptoms. Additionally, in an attempt to clarify the conflicting results in the literature concerning the relationship

between anxiety and proximity to death, anxiety levels were compared between patients receiving inpatient palliative care who were closer to death and those receiving outpatient, life-prolonging care.

Methods

Terminally ill cancer patients were recruited from two New York City area hospitals. All eligible patients had a diagnosis of stage IV cancer and a life expectancy of less than one year. Roughly half of the participants were recruited following admission to a 200-bed palliative care hospital for terminally ill cancer patients; these patients were not receiving any life-prolonging care. The second half of the sample was recruited from a tertiary care cancer center, where they were receiving aggressive, life-prolonging or experimental interventions despite advanced disease. Participants recruited from the palliative care hospital typically had a life expectancy of less than six weeks while those recruited from the cancer center generally had a longer life expectancy (3 to 12 months). All participants were recruited as part of a larger study evaluating a measure of hopelessness in terminally ill cancer patients (24). Institutional Review Boards at Calvary Hospital, Memorial Sloan-Kettering Cancer Center, and Fordham University approved the study.

Hospital records were reviewed to determine whether patients were English-speaking, had sufficient cognitive functioning to be formally assessed or approached (described below), and to verify the presence of a terminal cancer diagnosis and life expectancy of less than one year. Eligible patients were free of significant cognitive impairment, as evidenced by a score greater than 20 on the Mini-Mental State Exam (MMSE) (25), and were able to provide informed consent. Interviews were conducted at the patient's bedside, following clinic appointments, or while participants received outpatient chemotherapy. The study was discontinued if a participant became too ill to continue.

All participants who provided informed consent were interviewed to elicit relevant demographic information including age, sex, race, ethnicity, marital status, education and religion. Medical information, including primary cancer diagnosis, stage and date of diagnosis, use of mental health services and psychiatric medications, was obtained from the patient's hospital record. Participants were then administered a series of self-report measures. Anxiety was measured using the anxiety subscale of the Hospital Anxiety and Depression Scale (HADS) (i.e., the HADS-A), a 14-item self-report measure developed for use in a medically-ill population (26). The HADS includes seven anxiety items and seven depression items, but does not include the somatic symptoms that typically confound assessment of anxiety and depression in medically ill patients (10). The HADS has demonstrated high reliability and validity in a broad range of medically-ill populations (27, 28), with a cut-off of 8 providing the optimal discrimination between patients with and without clinically significant anxiety symptoms. However, Zigmond and Snaith (26), in their original validation study, proposed more conservative cut-off scores, recommending a cut-off of 8 to 10 for identifying the "possible" presence of clinically significant anxiety symptoms and scores of 11 and above indicating "definite" clinically significant anxiety symptoms. Participants also completed the Beck Hopelessness Scale (BHS) (29), the Schedule of Attitudes toward a Hastened Death (SAHD) (30), and the Duke-UNC Functional Social Support Questionnaire (FSSQ) (31), a measure of the functional elements of the social supports of patients in a primary care or medical setting. For participants who were too ill to complete these self-report measures themselves, the items were read aloud by the research assistant.

Statistical Analysis

Descriptive statistics were calculated for the overall sample on the demographic, clinical and psychosocial variables. Differences on these demographic, clinical and psychosocial variables between the inpatient and outpatient samples were assessed using *t*-test and Chi-square statistics. Correlation coefficients were used to examine the relationship between anxiety and other psychosocial measures. Finally, multiple regression analysis was used to assess the statistical prediction of anxiety, first entering demographic and clinical correlates and subsequently, variables of interest (e.g., treatment setting, social support).

Results

A total of 248 patients consented to participate in the study, six were deemed ineligible (i.e., were receiving inpatient, life-prolonging care), and 48 participants did not complete the HADS. Of these 48 participants, 12 (25.0%) expired before completing the study, 15 (31.25%) were deemed too ill to continue either because of increasing confusion or disease progression, 20 (41.66%) elected to discontinue the study, and one (2.08%) participant did not complete the HADS because of administrative error. Seven participants omitted a single item of the HADS; for these cases, HADS scores were pro-rated to account for the missing item.

The average participant age was 62.4 years (standard deviation [SD] 12.8; range 28 to 94). The majority of the sample was female (54.6%, $n = 106$) and Caucasian. Participants were highly educated, and almost half of the participants were married. The majority of participants considered themselves to be religious and reported some degree of belief in an afterlife. Complete demographic characteristics are presented in Table 1.

The most common cancer diagnoses included lung (18.0%; $n = 35$), followed by pancreas (14.9%; $n = 29$), colorectal (12.3%; $n = 24$), and breast (11.9%; $n = 23$). All other diagnoses occurred in less than 5% of the sample. Anxiolytics and antidepressants were the most frequently used psychotropic medications, with 23.7% ($n = 46$) taking anxiolytics and 24.7% ($n = 48$) taking antidepressants; 9.8 % ($n = 19$) were taking both anxiolytic and antidepressant medications. Sleep aids were prescribed to 19.6% ($n = 38$) of participants.

Of the 194 participants who were administered the HADS, 103 (53.1%) were recruited from the inpatient palliative care facility and 91 patients (46.9%) from the outpatient tertiary care facility (i.e., were receiving life-prolonging care). At the time of data analysis, dates of death were available for 88 (85.4%) participants from the inpatient palliative care facility and for 50 (54.9%) of the participants from the outpatient, life-prolonging care sample. As expected, the palliative care inpatients were significantly closer to death than those receiving outpatient, life prolonging care. They were also significantly older, more likely to be female, had fewer years of education, and were less likely to be married. The two samples also differed significantly by religious affiliation; however, no clear pattern emerged, and they did not differ by level of belief in an afterlife or by degree of religiosity. Table 1 displays the demographic and medical characteristics of the sample across the two study sites.

Prevalence and Correlates of Anxiety

The overall mean for the HADS-A subscale was 5.58 (SD 4.31; range 0–21). Nearly 70% ($n = 134$) of study participants reported anxiety levels in the average range, falling below the cutoff for identifying clinically significant anxiety (i.e., 8 or above). However, 18.6% of the sample ($n = 36$) obtained HADS-A scores between 8 and 10, suggesting the presence of moderate anxiety symptoms. An additional 12.4% of participants ($n = 24$) reported high levels of anxiety (11 or greater), indicating severe anxiety symptoms. Individual item analysis revealed that the most highly endorsed item on the HADS-A was the presence of

worrying thoughts (mean = 1.03; see Table 2); however, given that only 30% of the sample reported elevated levels of anxiety symptoms, this mean was quite low. This pattern of endorsement held when participants were separated into those with elevated levels of anxiety symptoms (HADS-A ≥ 8) and those with lower levels (HADS-A < 8). The presence of worrying thoughts was the most strongly endorsed item, particularly by those with elevated anxiety (Table 2).

As expected, anxiety was significantly positively correlated with other measures of psychological distress including depression, hopelessness, and desire for hastened death, and negatively correlated with social support. In addition, women reported significantly higher levels of anxiety than men. Participants who reported no belief in an afterlife had the lowest level of anxiety, followed by those with a definite belief in an afterlife. Participants who reported an unsure or "somewhat" belief in an afterlife reported significantly higher levels of anxiety. When belief in an afterlife was collapsed into a two-level variable (no belief versus somewhat/definite belief), participants who reported any level of belief in an afterlife reported higher levels of anxiety than those who did not (complete data presented in Table 3). Anxiety was not associated with other demographic variables (i.e., age, race, ethnicity, education, marital status and religion). Antidepressant and anxiolytic use also was associated with higher levels of anxiety. There also were no significant associations between anxiety and any other medical variables, including time since diagnosis, proximity to death, or primary cancer site.

Anxiety and Depression

In order to investigate the relationship between anxiety and depression, participants were identified as having elevated levels of anxiety symptoms only (HADS-A ≥ 8), elevated levels of depressive symptoms only (HADS-D ≥ 8), elevated levels of mixed anxiety and depressive symptoms (HADS-A ≥ 8 and HADS-D ≥ 8) or normal levels of anxiety and depression (HADS-A < 8 and HADS-D < 8). Mixed anxiety and depressive symptoms was the most prevalent subtype (n = 31, 16.0%) while 14.9% (n = 29) reported only elevated anxiety symptoms and 13.4% (n = 26) reported only elevated depressive symptoms.

These groups differed by several demographic, clinical and psychological variables. Analysis of variance results show a significant main effect for hopelessness, desire for hastened death, social support, and proximity to death (Table 4). Tukey HSD (Honestly Significant Difference) post hoc tests were conducted to determine which groups were significantly different. Participants with mixed anxiety and depression reported significantly more hopelessness and desire for hastened death. Elevated depression only was associated with lower levels of social support and closer proximity to death. Participants were more likely to be prescribed anxiolytics if they reported purely anxiety symptoms rather than mixed symptoms.

Anxiety and Treatment Setting

As displayed in Table 5, anxiety symptom severity was virtually identical across the two treatment samples. Interestingly, depression, social support and desire for hastened death did differ significantly between the two study sites, with the palliative care sample reporting significantly higher levels of distress than the life-prolonging care sample on both measures.

Although there were no differences on overall HADS-A scores between the two treatment settings, when the two treatment settings were compared based on the four categories of anxiety and depression mentioned above, there were significant differences between the groups. The participants receiving outpatient, life-prolonging care were more purely anxious

whereas those receiving inpatient palliative care reported greater symptoms of mixed anxiety and depression (Table 4).

Multivariate Prediction of Anxiety

A hierarchical multiple regression analysis was used to develop a model for identifying variables associated with participants' HADS-A scores. Because a primary goal of this study was to determine if anxiety level was related to treatment setting, all variables that differed significantly between the two treatment settings were included in the first step of the regression model (i.e., as covariates). This included age, gender, years of education and marital status (married/cohabitating versus single, separated, widowed or divorced). This model, including only the covariates, was not statistically significant, $F(4, 173) = 1.97$, $P = 0.10$, $R^2 = 0.044$, but gender was significantly associated with HADS-A score (Table 6). Treatment setting (life-prolonging or palliative care) was entered on the second step of the model, but this too was not significantly associated with HADS-A scores ($F(5,172) = 1.57$, $P = 0.17$, R^2 change = 0.0%).

Finally, additional variables that had a bivariate association with anxiety (use of anxiolytics and antidepressants, social support and belief in an afterlife) were entered simultaneously into the model to identify the unique contribution of these variables beyond the effect of demographic and medical variables. The final model was statistically significant, $F(9,168) = 5.67$, $P < 0.001$, R^2 change =18.9%, with use of anxiolytics, antidepressants, belief in an afterlife, and social support significantly associated with HADS-A score. Gender was no longer significant in the final model.

Discussion

The present study provides a comprehensive examination of anxiety in terminally ill patients with cancer. Participants obtained a wide range of scores on the HADS-A (0 to 21), with the majority of participants reporting low levels of anxiety and others experiencing severe and clinically significant anxiety. Although infrequently studied, these rates of clinically significant anxiety symptoms are consistent with a recent prevalence study examining anxiety disorders in terminally ill cancer patients (11).

Surprisingly, severity of anxiety symptoms did not differ by treatment setting used as an approximation of illness severity or proximity to death. Moreover, illness severity (sample) was not a significant predictor of anxiety level in any of the multiple regression models. Although a true examination of the relationship between illness severity and anxiety would require a longitudinal analysis, these null findings suggest that patients do not become more anxious as they approach death, and differs from previous cross-sectional studies that found an association between anxiety and disease severity (14,17). However, these prior studies examined differences between patients with different stages of cancer (i.e., early versus advanced illness stage) whereas the present study included only patients with stage IV cancer, studying the relationship between patients receiving outpatient care versus those receiving only palliative care in an inpatient setting. Perhaps any increase in anxiety occurs at an earlier stage of disease progression, such as between early and advanced disease (e.g., at the time of identifying progressive or metastatic disease), rather than at the time of stopping potentially curative treatment.

Although anxiety did not differ between the two samples, there were significant group differences in other measures of psychological distress. Participants in the palliative care sample reported significantly higher levels of depression, hopelessness and desire for hastened death. These results indicate that many aspects of psychological distress do increase as patients approach death, even if anxiety does not. This finding is particularly

interesting because anxiety is significantly correlated with other measures of psychological distress, despite having a different association with disease progression. Hence, it appears that the emergence of clinically significant anxiety may occur early in the course of a life-threatening illness, whereas depression and desire for hastened death do not emerge until much later, after the severity of one's illness has become evident. Differences between patients with pure anxiety and those with elevated anxiety and depression support this assertion. Patients with elevated anxiety and depression were more hopeless and reported greater desire for hastened death than those who were purely anxious. Additionally, patients receiving inpatient palliative care were more likely to have elevated anxiety and depression and those receiving outpatient, life-prolonging treatment were more likely to report elevated anxiety only. Depression may become more of a factor as patients acutely approach death. Differences in the pharmaceutical management of anxiety and depression also may be a factor in differences in patterns of elevated anxiety and depressive symptoms between the two sites. Participants receiving inpatient palliative care may be more aggressively treated for anxiety symptoms at the end of life, and anxiety symptoms may more quickly respond to pharmaceutical intervention than depressive symptoms.

Another aim of this study was to identify the demographic, clinical and psychosocial characteristics of highly anxious patients. Among the strongest predictors of anxiety were social support, psychotropic medication use, and belief in an afterlife. Not surprisingly, social support was negatively associated with anxiety in both univariate analyses and multiple regression models, a finding that is consistent with an extensive research literature (32, 33). The impact of psychotropic medication use also was expected, as anxiolytic and antidepressant medications are well-established for the treatment of anxiety symptoms. What was unexpected, however, was the negative association between belief in an afterlife and anxiety. Although we anticipated that belief in an afterlife might buffer the impact of advanced disease on anxiety, our data indicated precisely the opposite effect; patients with a belief in an afterlife were *more* anxious (on average) than patients who did not hold this belief. This relationship is inconsistent with the existing literature (23) and seems to be primarily driven by patients who report a tentative or "somewhat" belief in an afterlife. This indecision seems to be related to increased anxiety symptoms and may provide a point of intervention for pastoral care services.

There are several limitations that influence the interpretation of the study results. The rates of anxiety found in this study (as well as previous studies) may have been artificially lowered by the participants' use of anxiolytic medications, which was comparable across the two study sites and by possible selection bias. Anxiolytic medications are frequently used and efficacious in reducing symptoms of anxiety (34). Nearly one-quarter of participants at each site were prescribed anxiolytic medications, which would likely lower the level of anxiety experienced by these patients. As patients experiencing heightened levels of anxiety are likely to be prescribed anxiolytic medications, they may report low levels of anxiety. Thus, measures of current distress may not adequately measure a patient's underlying level of anxiety in patients who are "successfully treated"(35).

Because of the potential confounding influence of somatic symptoms, it is difficult to accurately diagnose anxiety and mood disorders in medically ill populations (9, 10, 36). Thus, we used the HADS, a reliable, valid self-report measure to identify anxiety symptoms, which has been used in many other studies of anxiety in patients with advanced cancer (3, 15, 16). However, unlike the Structured Clinical Interview for DSM Disorders, which is considered the gold standard for diagnosing psychiatric disorders (4), it is not possible to draw definite diagnostic conclusions using the HADS. We identified patients with elevated levels of anxiety symptoms who would likely meet diagnostic criteria for an anxiety or adjustment disorder. Therefore, we are not only identifying patients at risk for "pure"

anxiety disorders, but adjustment disorders as well, which are the most common diagnosis in advanced cancer patients (14, 21, 37, 38). Furthermore, the present study was limited by the unavailability of data concerning pain and functional limitations. The presence of uncontrolled pain and symptom burden are significantly correlated with psychological disorders in advanced cancer patients (16, 39–41). However, recent findings may in fact indicate a weak relationship between physical symptom burden and anxiety (15).

Additional study limitations included the reliance on self-report data. Aside from chart review to determine current medications patients, provided all information. It is also important to note that because the patients receiving palliative care were bed-ridden and significantly sicker than those receiving life-prolonging care, the questionnaires were read aloud to those participants and may have influenced reporting of psychological distress. Studying psychological distress in terminally ill cancer patients presents many challenges including the declining physical health of the participants. Many patients were too ill or cognitively limited to participate in the study, and others did not complete the study because of disease progression and increasing confusion.

Despite the lack of association between disease severity and anxiety, and study limitations, the high rates of anxiety and other forms of psychological distress observed highlight the importance of developing adequate methods for identifying and treating distress. Further, research addressing the optimal ways to bolster patient resources (e.g., social support, uncertainty regarding afterlife beliefs) may help improve quality of life for this vulnerable population.

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Table 1

Demographic Characteristics and Comparison of Samples

Variable	Total Sample	Inpatient Palliative Care	Outpatient Life-Prolonging Care	Df	χ^2 or *t*
	M (SD)	**M (SD)**	**M (SD)**		
Age	62.4 (12.8)	65.6 (13.5)	58.8 (11.0)	192	3.76[a]
Education (years)	14.6 (3.0)	13.7 (3.1)	15.8 (2.7)	187	4.88[a]
Months to death	4.1 (4.1)	1.9 (1.5)	8.1 (4.3)	136	12.47[b]
	n (%)	*n* (%)	*n* (%)	Df	χ^2 or *t*
Gender					
Male	88 (45.5)	39 (37.9)	49 (53.8)	1	4.97[b]
Female	106 (54.5)	64 (62.1)	42 (46.2)		
Race					
White	154 (79.8)	78 (75.7)	76 (83.5)	5	6.24
Black	29 (14.9)	19 (18.4)	10 (11.0)		
Asian	7 (3.6)	4 (3.9)	3 (3.3)		
Other	4 (2.0)	2 (1.0)	0 (0.0)		
Ethnicity					
Hispanic	21 (10.8)	14 (13.6)	7(7.7)	2	2.81
Not Hispanic	172 (88.7)	89 (91.7)	83(91.2)		
Marital Status					
Married	94 (48.5)	31 (30.1)	63 (69.2)	3	32.05[a]
Single	36 (18.6)	26 (25.2)	10 (11.0)		
Divorced	39 (20.1)	25 (24.3.5)	14 (15.4)		
Widowed	25 (12.9)	21 (20.4)	4 (4.4)		
Religion					
Catholic	83 (42.8)	45 (43.7)	38 (41.8)	5	13.29[b]
Protestant	25 (12.9)	9 (8.7)	16 (17.6)		
Jewish	37 (19.1)	14 (13.6)	23 (25.3)		

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Variable	Total Sample	Inpatient Palliative Care	Outpatient Life-Prolonging Care	Df	χ^2 or *t*
	M (SD)	**M (SD)**	**M (SD)**		
Baptist	9 (4.6)	6 (5.8)	3 (3.3)		
Other	24 (12.3)	18 (17.5)	6 (6.6)		
None	16 (8.2)	11 (10.7)	5 (5.5)		
Religious					
Yes	104 (53.6)	61 (59.2)	43 (47.3)	3	6.61
Somewhat	37 (19.1)	23 (25.3)	14 (13.6)		
No	51 (26.3)	25 (27.4)	26 (25.2)		
Belief in an Afterlife					
Yes	114 (58.8)	61 (59.2)	53 (58.2)	3	1.92
Somewhat	42 (21.6)	22 (21.4)	20 (22.0)		
No	36 (18.6)	18 (17.5)	18 (19.8)		

[a] $P < 0.01$.

[b] $P < 0.05$.

Table 2

Item Statistics for the HADS-A Subscale

	Total Sample (*n* = 193)	HADS-A < 8 (*n* = 133)	HADS-A ≥ 8 (*n* = 60)
Item	**M (SD)**	**M (SD)**	**M (SD)**
1. I feel tense or wound up	0.88 (0.84)	0.53 (6.62)	1.65 (0.73)
3. I get a frightened feeling as if something awful is about to happen	0.80 (0.93)	0.40 (0.60)	1.69 (0.93)
5. Worrying thoughts go through my mind	1.03 (1.01)	0.59 (0.59)	2.02 (1.24)
7. I can sit at ease and feel relaxed	0.87 (0.87)	0.56 (0.70)	1.55 (0.83)
9. I get a sort of frightened feeling like “butterflies” in the stomach	0.54 (0.76)	0.29 (0.48)	1.08 (0.94)
11. I feel restless as if I have to be on the move	0.96 (0.97)	0.65 (0.81)	1.67 (0.94)
13. I get sudden feelings of panic	0.51 (0.71)	0.24 (0.44)	1.10 (0.83)

Table 3

Correlates of Anxiety (HADS-A)

Variable	M (SD)	*df*	*t or F*
Gender			
Female	6.32 (4.45)	192	2.67[a]
Male	4.68 (3.99)		
Race			
White	5.73 (4.39)	3	0.660
Black	4.72 (3.29)		
Asian	6.43 (6.92)		
Other	4.25 (2.06)		
Ethnicity			
Hispanic	6.90 (4.82)	191	1.48
Not Hispanic	5.43 (4.24)		
Marital Status			
Married	5.44 (4.14)	3	0.436
Single	5.33 (4.81)		
Divorced	6.28 (4.62)		
Widowed	5.36 (3.80)		
Religion			
Catholic	5.59 (3.90)	5	0.291
Protestant	5.56 (5.71)		
Jewish	6.05 (4.36)		
Baptist	4.56 (3.57)		
Other	5.71 (4.33)		
None	4.81 (4.50)		
Religious			
Yes	5.84 (4.16)	3	1.70
Somewhat	6.30 (4.80)		
No	4.67 (4.18)		
Belief in an afterlife			
Yes	5.46 (4.18)	190	3.73[b]
Somewhat	7.19 (4.87)		
No	4.25 (3.52)		
Anxiolytics			
Yes	8.15 (4.60)	189	4.90[a]
No	4.75 (3.93)		
Antidepressants			
Yes	7.19 (4.46)	189	3.05[b]
No	5.03 (4.18)		
	r		

Variable	M (SD)	*df*	*t or F*
Age	−0.07		
Education (years)	−0.04		
Depression (HADS-D)	0.54[a]		
Hopelessness (BHS)	0.54[a]		
Desire for Hastened Death (SAHD)	0.53[a]		
Social Support (FSSQ)	−0.27[a]		

HADS = Hospital Anxiety and Depression Scale; SAHD = Schedule of Attitudes Toward Hastened Death; BHS =Beck Hopelessness Scale; FSSQ = Duke-UNC Functional Social Support Questionnaire.

[a] $P < 0.01$.

[b] $P < 0.05$.

Table 4

Correlates of Anxiety and Depression Subtype

	Low Anxiety & Depression (*n* = 107)	**Elevated Anxiety Only (*n* = 28)**	**Elevated Depression Only (*n* = 24)**	**Elevated Anxiety & Depression (*n* = 29)**		
	M (SD)	**M (SD)**	**M (SD)**	**M (SD)**	**df**	***F***
Desire for hastened death (SAHD)	1.53 (2.16)	2.58 (2.66)	5.00 (4.90)	7.12 (4.73)	3	27.69[a]
Hopelessness (BHS)	3.16 (3.49)	5.79 (3.71)	6.76 (4.52)	10.58 (5.02)	3	30.24[a]
Social support (FSSQ)	50.15 (7.66)	47.07 (6.84)	45.33(12.22)	46.55 (10.08)	3	3.97[b]
Proximity to Death (months)	5.08 (4.72)	4.44 (4.11)	2.15 (2.03)	2.76 (2.69)	3	3.97[a]
	n (%)	*n* (%)	*n* (%)	*n* (%)	df	χ^2
Anxiolytics						
No	86 (59.3)	15 (10.3)	22(15.2)	22 (15.2)	3	12.83[a]
Yes	19 (41.3)	14 (30.4)	4 (8.7)	9 (19.6)		
Treatment Setting						
Inpatient	50(48.5)	9 (8.7)	22 (21.4)	22 (2)	3	22.02[a]
Outpatient	58 (63.7)	20 (22.0)	4 (4.4)	9 (9.9)		

HADS = Hospital Anxiety and Depression Scale; SAHD = Schedule of Attitudes Toward Hastened Death; BHS =Beck Hopelessness Scale; FSSQ = Duke-UNC Functional Social Support Questionnaire.

[a] $P < 0.01$.

[b] $P < 0.05$.

Table 5

Psychosocial Characteristics: Comparison of Samples

Variable	Palliative Care	Life-Prolonging care	df	*t*
Anxiety (HADS-A)	5.54 (4.21)	5.62 (4.45)	192	0.12
Depression (HADS-D)	6.83 (4.29)	4.11 (3.80)	192	4.65[a]
Desire for hastened death (SAHD)	4.15 (4.10)	1.80 (3.10)	191	4.45[a]
Hopelessness (BHS)	5.79 (4.84)	4.59 (4.61)	192	1.77
Social support (FSSQ)	49.74 (7.67)	47.18 (9.74)	186	2.01[b]

HADS = Hospital Anxiety and Depression Scale; SAHD = Schedule of Attitudes Toward Hastened Death; BHS =Beck Hopelessness Scale; FSSQ = Duke-UNC Functional Social Support Questionnaire.

[a] $P < 0.01$.

[b] $P < 0.05$.

Table 6

Final Model Predicting HADS-A

Step	Variable	*B*	*SE B*	B	*df*	t
1.	Age	−0.02	0.03	−0.06	1	−0.72
	Gender	−0.69	0.64	−0.08	1	−1.08
	Education (years)	0.06	0.11	0.04	1	0.52
	Marital Status	−0.28	0.75	−0.03	1	−0.37
2.	Treatment Setting	0.70	0.67	−0.08	1	−1.05
3.	Belief in an afterlife	1.78	0.79	0.16	1	2.24[b]
	Anti-depressant use	1.92	0.74	0.19	1	2.59[a]
	Anxiolytic use	2.52	0.73	0.19	1	3.46[a]
	Social support	−0.10	0.04	−0.20	1	−2.66[a]

HADS-A = Hospital Anxiety & Depression Scale–Anxiety subscale; Social support = Duke-UNC Functional Social Support Questionnaire (FSSQ)

[a] $P < 0.01$.

[b] $P < 0.05$.