

Symptom and Quality of Life Survey of Medical Oncology Patients at a Veterans Affairs Medical Center

A Role for Symptom Assessment

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BACKGROUND. The current study was conducted to assess symptom prevalence and symptom intensity and their relation to quality of life in medical oncology patients at a Veterans Affairs medical center.

METHODS. Consecutive inpatients and outpatients were asked to complete the Functional Assessment Cancer Therapy (FACT-G), Memorial Symptom Assessment Scale (MSAS), and the Brief Pain Inventory. Symptoms then were analyzed by their relation to Karnofsky performance status (KPS) and quality of life.

RESULTS. Two hundred forty patients participated. The median number of symptoms was 8 per patient (range, 0–30 symptoms). The 5 most prevalent symptoms were lack of energy (62%), pain (59%), dry mouth (54%), shortness of breath (50%), and difficulty sleeping (45%). Patients with moderate intensity pain had a median number of 11 symptoms and patients with moderate intensity lack of energy had a median number of 13 symptoms. The number of intense symptoms increased as the KPS decreased ($P < 0.001$). Patients with moderately intense pain or fatigue also were more likely to experience nausea, dyspnea, and lack of appetite. The number of symptoms rated as present on the MSAS was found to correlate significantly with the FACT-G Sum Quality of Life score.

CONCLUSIONS. Intense symptoms were highly prevalent in this population. The presence of pain, lack of energy, or poor performance status should lead to comprehensive symptom assessment. Patients free of disease nevertheless still may experience intense symptoms. The number of symptoms present may be a helpful guide to quality of life. Routine comprehensive symptom assessment may identify a significant fraction of patients who urgently require intensive symptom palliation. *Cancer* 2000;88:1175–83. © 2000 American Cancer Society.

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Numerous surveys have now documented a high prevalence of symptoms in cancer patients in tertiary care, hospice, and community settings. To estimate the services required for symptom management, it is important for each center to study its own population. To our knowledge, this estimation has not been done for patients in the Veterans Affairs (VA) Medical System, one of the largest health care systems in the United States. The VA has a distinctive population. VA patients are ill with a higher age-adjusted rate of mortality,¹ tend to come from lower socioeconomic strata,² have a median 12th grade education, and are predominantly older men. In a survey of veteran outpatients, significantly worse quality of life was noted with younger

veterans (ages 20–49 years).³ Quality of life has been reported in a group of VA patients with prostate carcinoma.⁴ We report a survey of 240 VA medical oncology inpatients and outpatients with the Memorial Symptom Assessment Scale (MSAS) and the Functional Assessment Cancer Therapy (FACT-G). The purpose of this study was to obtain prevalence data with these instruments in our population and examine possible roles of symptom assessment in relation to quality of life assessment.

PATIENTS AND METHODS

Patients

The Medical Oncology Section provides comprehensive medical care for veteran patients who reside primarily in the state of New Jersey. The East Orange VA campus is the sole tertiary care teaching hospital that provides hematology/oncology services and access to National Cancer Institute cooperative group-sponsored and pharmaceutical company-sponsored protocols. Patients may be self-referred, or they may be referred by another physician in the VA New Jersey Health Care System or other VA hospitals in the country.

This study was approved by the VA New Jersey Health Care System Institutional Review Board and written informed consent was obtained from all patients before participating. Starting on May 9, 1994, consecutive outpatients seen in the hematology/oncology clinic as well as patients admitted to our inpatient service were asked to complete the MSAS,⁵ the FACT-G (Version 3),⁶ and, if they reported pain, the Brief Pain Inventory Short Form (BPI).⁷ The Pain Management Index (PMI) was calculated.⁸ The PMI is a measure of analgesic prescription appropriateness for cancer pain severity based on World Health Organization guidelines. Values range from –3 to +3. Negative values suggest undermedication and positive values suggest appropriate levels of medication. Patients who were enrolled as outpatients were excluded from participation as inpatients and vice versa. The patients surveyed represented a combination of new and follow-up patients. Outpatient accrual of 100 patients was reached on July 12, 1994; inpatient accrual of 140 patients was completed on December 6, 1995. All patients from the outpatient group who were asked to participate did so. Thirteen new inpatient admissions did not participate because of fatigue (3 patients), schizophrenia/dementia (4 patients), inability to answer questions (3 patients), or refusal to participate (3 patients).

Statistical Analysis

The larger number of inpatients (140) was chosen to obtain 100 patients with a cancer pain diagnosis, assuming a prevalence of 70%. Cronbach's α ⁹ was calculated for each instrument used. Pearson and Spearman correlations were utilized to estimate correlations between measurements by different instruments. Rank sum and Kruskal-Wallis tests were used to compare symptom scores for groups of patients. Chi-square analysis was used to compare frequencies of symptoms of outpatients and inpatients.

Statistical analyses were performed with STATA Statistical software.¹⁰

In the MSAS, the patient indicates whether a symptom is present and, if present, the patient then rating of symptom frequency, severity, and distress for each of 32 highly prevalent symptoms. Symptom frequency is rated on a four-point Likert scale with categories of "rarely," "occasionally," "frequently," and "almost constantly" and scaled from 1–4. Symptom severity is rated on a four-point Likert scale with categories of "mild," "moderate," "severe," and "very severe" and scaled from 1–4. Symptom-related distress is rated by the patient on a 5-point Likert scale from "not at all," "a little bit," "somewhat," "quite a bit," and "very much" and scaled from 0.8–4.0.

In the original MSAS study, the symptom score was the average of symptom severity, frequency, and distress for each symptom. Clinicians often are interested in severe symptoms. We defined intensity of symptom scores to determine whether identifying more severe symptom scores would be more informative. A moderate symptom score was defined as present when the symptom score was ≥ 2 . For this to be true, symptom frequency would be classified as at least "occasionally," severity as at least "moderate," and distress as at least "somewhat." A severe symptom score was present when the symptom score was ≥ 3 , when symptom frequency was rated at least "frequently" to including "almost constantly," symptom severity was rated at least "severe" to including "very severe," and symptom distress was at least "quite a bit" to including "very much." Distressing symptoms were symptoms for which the patient rated symptom-related distress as "very much." Physical symptoms (PHYS), psychologic symptoms (PSYCH), global distress index (GDI), and total MSAS (TMSAS) subscales were calculated as previously described.¹ Physical Well-Being, Social/Family Well-Being, Relationship to M.D., Emotional Well-Being, and Functional Well-Being subscales for the FACT-G Quality of Life instrument were calculated as described.²

TABLE 1
Demographics of Study Population

	Overall (N = 240)	Inpatient (N = 140)	Outpatient (N = 100)
Gender			
Male	232	134	98
Female	8	6	2
Age (yrs)			
Median (range)	68 (27–89)	65 (39–89)	69 (27–82)
Mean \pm SD	65.4 \pm 11.9	65.0 \pm 10.4	65.9 \pm 12.3
Tumor type			
Head and neck	12	11	1
Lung	51	41	10
GI	31	26	5
GU	91	36	55
Hematologic	39	13	26
Miscellaneous	16	13	3
KPS			
Median (range)	80 (20–100)	80 (20–100)	80 (50–100)
Mean \pm SD	76.0 \pm 16.6	70.2 \pm 17.7	84.2 \pm 10.4
KPS (%)			
20	2	2	0
30	2	2	0
40	12	12	0
50	15	14	1
60	29	24	5
70	7	4	3
80	113	63	50
90	37	13	24
100	23	6	17

SD: standard deviation; GI: gastrointestinal; GU: genitourinary; KPS: Karnofsky performance status. Patients with > 1 primary cancer site: 13 inpatients, 7 outpatients (miscellaneous for inpatients—glioblastoma, 1; carcinoid, 1; cervix, 1; meningioma, 1; primitive neuroectodermal tumor, 1; sarcoma, 2; unknown primary, 2; melanoma, 1; germ cell, 1; ovarian, 1; and thyroid, 1) (miscellaneous for outpatients—breast, 1; neuroendocrine, 1; and sarcoma, 1).

RESULTS

Demographics

Summary patient data regarding the primary site of neoplasms, Karnofsky performance status (KPS), age range, and gender is presented in Table 1. Two hundred forty patients participated. Of 201 patients with solid tumors, 15 patients (7.5%) had no evidence of disease, 47 patients (23.4%) had locoregional disease, and 139 patients (69.3%) had metastatic disease. Of 39 patients with hematologic malignancies, 17 (44%) were in disease remission. One hundred fifty-one patients (63%) were White, 83 patients (35%) were African-American, and 6 patients (3%) were Hispanic.

Symptoms

Symptom assessment with the MSAS showed that the patients surveyed had multiple symptoms, with a median number of eight symptoms per patient. The mean GDI was 0.94 (range, 0–3.24), the mean PSYCH subscale score was 0.79 (range, 0–3.52), the mean

TABLE 2
Symptom Prevalence by Increasing Level of Symptom Intensity

Symptom	Prevalence	Moderate or greater symptom intensity	Severe or greater symptom intensity	Severe distress
Lack of energy	62%	23%	16%	60%
Pain	59%	18%	22%	52%
Dry mouth	54%	15%	8%	12%
Shortness of breath	50%	14%	12%	16%
Difficulty sleeping	45%	13%	18%	20%
Feeling drowsy	44%	9%	7%	16%
Worrying	40%	14%	8%	12%
Feeling nervous	37%	13%	7%	20%
Cough	33%	13%	5%	18%
Weight loss	33%	8%	8%	11%
Lack of appetite	29%	8%	13%	15%
Feeling irritable	28%	5%	2%	17%
Sexual interest	18%	4%	7%	7%

PHYS subscale score was 0.75 (range, 0–2.59), and the mean TMSAS score was 0.62 (range, 0–2.12). All subscale scores for the MSAS correlated significantly with the KPS ($P < 0.0001$). All MSAS subscales, except the PSYCH subscale and the number of symptoms, correlated significantly with extent of disease.

Cronbach's α for the GDI was 0.82, for PSYCH was 0.74, for PHYS was 0.80, and for TMSAS was 0.87. The organization of the MSAS instrument allows for more detailed analyses of symptom severity and distress, in addition to estimates of symptom prevalence. In Table 2, the ranking and rate of incidence of the 12 most prevalent symptoms by overall prevalence and then by progressively intensive symptom scores are listed. Of note as well is the disparity between symptom severity and distress. This is most pronounced for the symptoms of fatigue and pain.

In comparing inpatients with outpatients, significant differences were present in the prevalence of weight loss ($P < 0.001$), dyspnea ($P < 0.006$), constipation ($P < 0.005$), problems with sexual interest ($P < 0.003$), and difficulty swallowing ($P < 0.002$), with higher values for inpatients.

The number of symptoms, moderately intense symptoms, and severely distressing symptoms all varied significantly with KPS (all $P < 0.0001$, Kruskal-Wallis test) (Table 3).

We examined whether the number of intense symptoms might correlate with the extent of disease (Table 4). For the group as a whole, the number of symptoms ($P < 0.02$), moderately intense symptoms ($P < 0.005$), severe intensity symptoms ($P < 0.03$), and distressing symptoms ($P < 0.02$) varied with the extent of disease. This relation held for hematologic malig-

TABLE 3
Median Number of Symptoms and Karnofsky Performance Status

	KPS < 60% (N = 31)	KPS 60-80% (N = 149)	KPS 90-100% (N = 60)	P value
No. of symptoms	13 (0-23)	9 (0-25)	5 (0-21)	<0.0001
Moderate or greater symptoms	9 (0-21)	4 (0-18)	1 (0-9)	<0.0001
Severe or greater symptoms	3 (0-13)	2 (0-12)	0 (0-6)	<0.0001
No. of distressing symptoms	4 (0-16)	3 (0-17)	0 (0-6)	<0.0001

KPS: Karnofsky performance status.

Values reported are the median and range.

P values determined by Kruskal-Wallis analysis.

nancies (disease remission vs. active disease) but not for nonhematologic malignancies. One reason may be that patients who were without evidence of disease (NED) also were symptomatic. In our sample, these patients reported a median of 9 symptoms (range, 0-24), a median of 3 moderately intense symptoms (range, 0-14), a median of 1 severely intense symptom (range, 0-7), and a median of 1 distressing symptom (range, 0-14). The most symptomatic patient was a woman with a history of ovarian carcinoma who had severe chronic peripheral neuropathy and radiation enteritis from cancer treatments given 10 years previously.

Pain

Pain was present in 94 of the inpatients (67%) and 47 of outpatients (47%) ($P < 0.002$). The median number of pain sites was one for inpatients and two for outpatients, ranging between one and five for both groups. Of inpatients, 91 patients (64%) had a malignant pain syndrome, 32 (23%) had nonmalignant pain syndromes, and 16 (11%) had a combination of syndromes. The most common pain diagnosis was metastatic bone pain and the second most common was arthritis, with a range of one to four diagnoses per patient. There was a higher proportion of neuropathic syndromes for inpatients compared with outpatients ($P < 0.06$). Somatic nociceptive pain was the major pain category for outpatients (79%). Nonmalignant pain accounted for 34% of inpatient pain diagnoses and 74% of outpatient pain diagnoses ($P < 0.0001$). For both inpatients and outpatients as a group, median worst pain severity was rated as 7 of 10 (range, 0-10). Median average pain was 3 of 10 for inpatients (range, 0-10) and 5 of 10 for outpatients (range, 0-10) ($P < 0.04$). The median analgesic dose was morphine, 60 mg orally, daily (range, 0-3600 mg). Of the inpa-

tients, 28 patients (20%) received adjuvant analgesics. The median PMI was zero, (range, -3+2) for inpatients and was 0 (range, -3+1) for outpatients with cancer pain. BPI pain severity ratings correlated significantly with ratings from the MSAS and FACT-G, and correlation coefficients were highest with BPI Worst pain ratings. Of the patients with arthritis only, 19 were outpatients (8%) and 5 were inpatients (2%). The median age of these patients was 71 years (range, 27-80 years), the median worst pain severity was 5 (range, 1-10), and 9 patients (37%) had severe pain (worst pain ≥ 7 of 10). An additional nine patients had both arthritis and another pain diagnosis. The overall prevalence of pain from arthritis was 14% of patients.

Regardless of intensity, pain never occurred in the absence of other symptoms. Patients with moderate intensity pain had a median number of 11 symptoms (range, 3-30) and a median number of 7 moderate intensity symptoms (range, 1-21). Patients with pain of moderate intensity had an increased relative risk (RR) of experiencing moderately intense nausea (RR, 3.38; 95% confidence interval [95% CI], 1.38-8.25), dry mouth (RR, 3.05; 95% CI, 1.83-5.07), dyspnea (RR, 2.59; 95% CI, 1.40-4.78), lack of appetite (RR, 2.33; 95% CI, 1.48-3.68), fatigue (RR, 2.32; 95% CI, 1.70-3.16), and constipation (RR, 2.24; 95% CI, 1.34-3.74) than patients without moderately intense pain.

Fatigue

The MSAS item "lack of energy" was the most prevalent symptom, occurring in 149 patients (62%). Although fatigue intensity was severe in 38 patients (16%), 142 patients (60%) considered the symptom highly distressing. Patients with moderately intense fatigue had a median number of 13 other symptoms (range, 2-30) and 8 other moderately intense symptoms (range, 1-21). Patients with moderately intense fatigue were more likely to experience dyspnea (RR, 3.17; 95% CI, 1.63-6.15), nausea (RR, 2.85; 95% CI, 1.31-6.19), lack of appetite (RR, 2.30; 95% CI, 1.49-3.55), pain (RR, 2.10; 95% CI, 1.61-2.74), difficulty sleeping (RR, 1.88; 95% CI, 1.38-2.56), and difficulty swallowing (RR, 1.61; 95% CI, 0.96-2.71).

Quality of Life

Quality of life summary subscales from the FACT-G instrument are presented with mean and standard deviation. The mean Physical Well-Being was 21.90 ± 5.35 , the mean Family Well-Being was 21.05 ± 5.73 , the mean Relation to M.D. was 6.99 ± 1.60 , the mean Emotional Well-Being was 16.30 ± 3.82 , the mean Functional Well-Being was 17.35 ± 5.73 , and the mean Sum Quality of Life was 83.59 ± 17.13 . The Cronbach α for Physical Well-Being was 0.77, for Social/Family

TABLE 4
Symptom Intensity and Tumor Stage

Patients with nonhematologic malignancies					
	NED (N = 15)	Local (N = 19)	Regional (N = 28)	Metastatic (N = 139)	P value
No. of symptoms	9 (0-24)	7 (0-17)	6 (0-15)	9 (0-25)	<0.15
Moderate or greater symptoms	3 (0-14)	2 (0-12)	2 (0-12)	5 (0-20)	<0.03
Severe or greater symptoms	1 (0-7)	1 (0-6)	1 (0-7)	1 (0-13)	<0.39
Distressing symptoms	1 (0-14)	1 (0-9)	1 (0-11)	2 (0-17)	<0.30
Patients with hematologic malignancies					
	Remission (N = 17)	Not in remission (N = 22)		P value	
No. of symptoms	5 (0-11)	6 (0-20)		0.028	
Moderate or greater symptoms	1 (0-5)	2 (0-6)		0.027	
Severe or greater symptoms	0 (0-2)	1 (0-8)		0.062	
Distressing symptoms	0 (0-4)	2 (0-13)		0.011	

NED: no evidence of disease.
Values reported are the median and range.
P value by Kruskal-Wallis analysis.

Well-Being was 0.67, for Emotional Well-Being was 0.66, for Relation to MD was 0.83, and for Functional Well-Being was 0.82; for the overall instrument, the Cronbach α was 0.88. Significant differences were observed between the inpatient and outpatient categories for Physical Well-Being, Functional Well-Being, and Sum Quality of Life, with lower values for inpatients. Physical Well-Being and Functional Well-Being subscales also were sensitive to changes in KPS. Summary measures for the MSAS and FACT-G correlated well with extent of disease.

Significant correlations of appropriate direction were noted for the summary scales of the FACT-G and the MSAS subscales, with the exception of Relationship to MD, in which only the PSYCH subscale showed significant correlation. The FACT-G Sum Quality of Life also was correlated significantly with the number of symptoms, GDI, PHYS, and PSYCH measured on the MSAS scale. Specific correlations also were noted between the MSAS PHYS and FACT-G Physical Well-Being of -0.76 ($P < 0.0001$), MSAS PSYCH and FACT-G Emotional Well-Being of -0.64 ($P < 0.0001$), and absence of a correlation between the MSAS PHYS, PSYCH, and TMSAS and the FACT-G Relationship to MD domain (Table 5). The correlation coefficient between the number of symptoms on the MSAS and the FACT-G Sum Quality of Life was -0.58 ($P < 0.001$) (Fig. 1). If items related to specific symptoms were removed from the FACT-G instrument (7 items), the correlation coefficient decreased to -0.32 , but re-

mained significant at $P < 0.001$. Correlation coefficients between the number of moderately (-0.61) or severely intense (-0.52) symptoms, or the number of severely distressing symptoms (-0.55) were all similar to the correlation coefficient for number of symptoms alone, and all were significant ($P < 0.0001$).

DISCUSSION

Studies regarding symptom prevalence have focused on patients with advanced cancer in palliative care settings,¹¹⁻¹⁹ pain clinics,²⁰ and in selected groups of cancer patients at tertiary care centers.²¹ These studies have demonstrated a high prevalence of symptoms, particularly lack of energy, pain, dry mouth, shortness of breath, and difficulty sleeping. In the current study we prospectively studied a medical oncology population with a high proportion of patients with metastatic disease, and found these symptoms also to be highly prevalent. Patients with NED also were included as part of this study because such patients also comprise part of the patient population seen by oncologists.

One intuitively would expect a correspondence between symptom severity and symptom distress. Our data suggest that certain symptoms that are not rated by the patient as being very severe still may be quite distressing (Table 2). An example may be the severe level of distress associated with fatigue, which recently has received more attention as an important and highly prevalent symptom.²² Our findings support the

TABLE 5
Correlations between MSAS and FACT-G Parameters (N = 235)

	FACT-G subscales						
	PWB	SFWB	RELMD	EWB	FUWB	SUMQOL	KPS
PHYS	-0.76 <i>P</i> < 0.0001	-0.16 <i>P</i> < 0.0001	-0.05 <i>P</i> < 0.48	-0.49 <i>P</i> < 0.0001	-0.54 <i>P</i> < 0.0001	-0.63 <i>P</i> < 0.0001	-0.62 <i>P</i> < 0.0001
PSYCH	-0.55 <i>P</i> < 0.0001	-0.24 <i>P</i> < 0.0004	-0.13 <i>P</i> < 0.04	-0.64 <i>P</i> < 0.0001	-0.59 <i>P</i> < 0.0001	-0.64 <i>P</i> < 0.0001	-0.37 <i>P</i> < 0.0001
GDI	-0.74 <i>P</i> < 0.0001	-0.22 <i>P</i> < 0.001	-0.08 <i>P</i> < 0.21	-0.65 <i>P</i> < 0.0001	-0.63 <i>P</i> < 0.0001	-0.71 <i>P</i> < 0.0001	-0.58 <i>P</i> < 0.0001
TMSAS	-0.73 <i>P</i> < 0.0001	-0.20 <i>P</i> < 0.002	-0.05 <i>P</i> < 0.48	-0.54 <i>P</i> < 0.0001	-0.57 <i>P</i> < 0.0001	-0.65 <i>P</i> < 0.0001	-0.53 <i>P</i> < 0.0001
NS	-0.64 <i>P</i> < 0.0001	-0.20 <i>P</i> < 0.002	-0.03 <i>P</i> < 0.67	-0.49 <i>P</i> < 0.0001	-0.48 <i>P</i> < 0.0001	-0.58 <i>P</i> < 0.0001	-0.44 <i>P</i> < 0.0001
KPS	0.60 <i>P</i> < 0.0001	0.07 <i>P</i> < 0.25	0.18 <i>P</i> < 0.01	0.39 <i>P</i> < 0.0001	0.59 <i>P</i> < 0.0001	0.55 <i>P</i> < 0.0001	

MSAS: Memorial Symptom Assessment Scale; FACT-G: Functional Assessment Cancer Therapy; PWB: physical well-being; SFWB: social/family well-being; RELMD: relation to physician (M.D.); EWB: emotional well-being; FUWB: functional well-being; SUMQOL: sum quality of life; KPS: Karnofsky performance status; PHYS: physical symptom subscale; PSYCH: psychologic symptom subscale; GDI: global distress index; TMSAS: total Memorial Symptom Assessment Scale; NS: number of symptoms present.

P < 0.0001 for two-tailed Pearson correlation coefficients.

conclusion that any fatigue is a source of considerable patient distress, and that the presence of fatigue may imply the presence of other significant symptoms. It should be noted that lack of energy and fatigue are highly interchangeable but not exactly equivalent concepts to our patients. Other symptoms, such as feeling nervous and weight loss, were less prevalent but severely distressing when present. A possible explanation for this disparity may lie in the connotations associated with symptoms such as weight loss and fatigue. A special effort may need to be made to cap-

ture high distress—low severity symptoms in clinical assessments if the patient’s quality of life is to be improved. These considerations may be important in planning research priorities and should be confirmed in other populations.¹⁴

We performed an analysis of symptom scores in the MSAS with the concept of symptom intensity. We found patients with lower KPS are more likely to experience intense and/or distressing symptoms. Patients with moderately intense fatigue or pain also have a large number of other symptoms. This con-

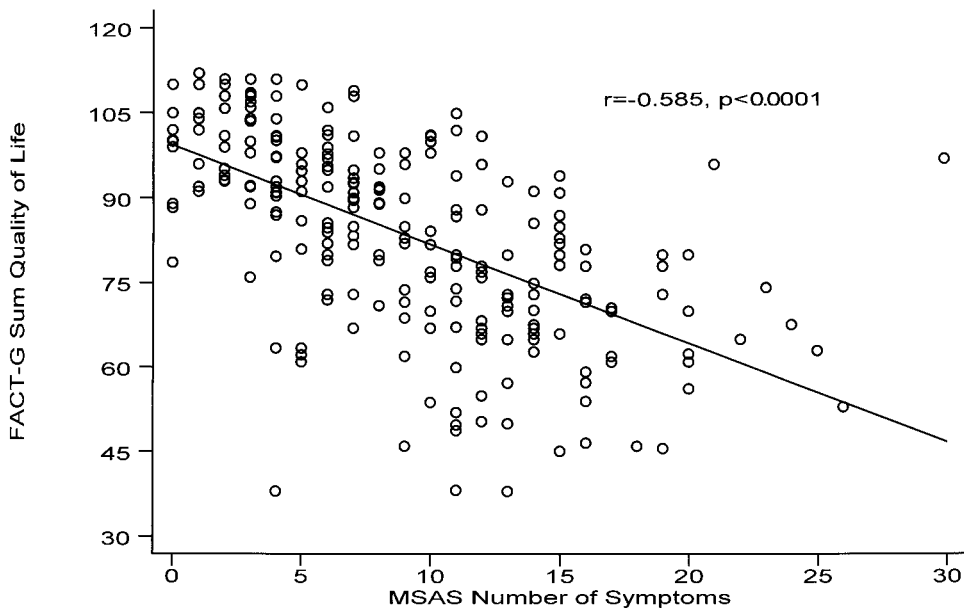


FIGURE 1. Relation of the number of symptoms (Memorial Symptom Assessment Scale [MSAS]) with Sum Quality of Life score (Functional Assessment Cancer Therapy [FACT-G]).

firm a previous observation that patients with KPS \leq 80% have a higher number of symptoms.²³ The association between the number of symptoms and performance status helps to define formally a group at high risk for multiple symptoms and in urgent need of palliation. These results suggest that a significant fraction of our population, perhaps 10–20% at any time, urgently needs intensive palliative care.

The close relation of the number of symptoms to overall quality of life is similar to findings in other groups of cancer patients.^{24,25} It is interesting to note that correlation with quality of life did not improve with the number of intense or distressing symptoms. This finding suggests a practical application for the use of the MSAS and other symptom assessment tools, including the review of symptoms, an office procedure that is routine for health care professionals^{26,27} but not always done. The number of symptoms present may serve as an indicator for the need to address quality of life issues during the patient visit, and discussing the most distressing symptoms may be a helpful way to focus the patient interview. Assessing symptom burden is important because both pain and symptom burden have been associated with the desire for death.^{28,29}

Another important group of patients for symptom assessment is patients believed to be free of disease. Our data, and that of others, suggest that a significant fraction of these patients may continue to experience severe symptoms, which may or may not be related to previous therapy and prognosis.³⁰ Psychosocial adjustment and late medical effects of treatment in cancer survivors currently are receiving serious attention.^{31–33} The role of symptom assessment in this population has not been addressed to date and may contribute to patient care and the quality of life of these patients.

The rate of incidence of pain in the veteran population is similar to that reported in pain surveys of other populations.^{34–36} Chronic nonmalignant pain, such as that from arthritis, was highly prevalent in the outpatient group and is recognized to be common and significant in the elderly.³⁷ The prevalence of arthritic conditions has been estimated at 12.7% for men, and increases significantly with age.³⁸ In our patient group, a similar fraction had chronic nonmalignant pain from osteoarthritis and other causes, with a higher proportion in the outpatient group. Although many were outpatients with a better KPS and some were NED, patients experienced severe pain from arthritis. Guidelines for the management of osteoarthritis have been proposed.^{39,40}

Pain never was a solitary symptom, and should be considered a marker for the presence of other symp-

toms. Patients with intense pain are at increased risk for experiencing other severe symptoms such as dry mouth, dyspnea, lack of energy, and weight loss, similar to findings from the SUPPORT study.⁴¹ The strength of these associations may vary by primary site of disease. Our findings suggest that a similar situation may apply for fatigue. Determination of the presence of pain, dyspnea, or lack of energy should be accompanied by assessment of other symptoms.

Recently, approaches to assess and manage pain have been developed for cancer patients.^{42–45} Strategies also have emerged to assess and manage other significant symptoms, such as dyspnea, fatigue, cachexia, and delirium.^{46–50} It is easy to focus on one symptom and forget that patients may have multiple intense symptoms. The presence of multiple severe symptoms may not be appreciated unless these patients are assessed systematically because patients may underreport symptoms.⁵¹ These findings again underscore the need for comprehensive symptom assessment in cancer patients.

Our sample differs in that it is a primarily older population and comprises both inpatients and outpatients. The data illustrate how the prevalence of symptoms also is influenced by the underlying disease distribution and population. Portenoy et al. reported on 243 patients with a mean age of 55 years from Memorial Sloan-Kettering Cancer Center with carcinoma of the breast, ovary, prostate, or colon.²⁴ Pain and lack of energy are highly prevalent in both patient groups but psychological symptoms, such as worrying, feeling sad, and anxiety, were less prevalent and ranked lower in our population. One possible explanation for the lower incidence rate of psychologic symptoms may be related to the higher proportion of male patients in our sample. An alternative explanation is the higher proportion of older patients among veterans, because older patients may experience less distress.^{52–54}

Limitations of this study include the fact that this population had heterogeneous cancer diagnoses. However, because many practices see patients with multiple sites of disease, the prevalence data reported here may be helpful in that practice setting.

These results illustrate the utility of multidimensional tools in understanding the significance of symptoms and their relation to quality of life in these patients. Future research should be directed toward a larger sample of VA cancer patients in both surgical and medical services, testing the use of these tools on a longitudinal basis, and testing the hypothesis that symptom assessment and subsequent symptom palliation improves quality of life.

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