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Support Service Use and Interest in Support Services among Lung Cancer Patients

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Summary

Objectives—This study examined support service use and interest in support services among lung cancer patients ($N = 165$) at two comprehensive medical centers in the midwestern United States.

Materials and Methods—Patients completed an assessment of support service use (i.e., receipt of mental health services, complementary and alternative medicine [CAM], and help from a spiritual leader), interest in support services, and physical and psychological symptoms.

Results—Only 40% of patients with significant anxiety and depressive symptoms and 28% of the entire sample reported current mental health service use. However, nearly half (47%) of all patients were receiving support from a spiritual leader. Having late-stage lung cancer and a religious affiliation predicted receipt of spiritual support. Few patients who were not receiving mental health services or spiritual support were interested in these services (range = 4% to 18%). Conversely, although interest in CAM was expressed by a substantial minority of patients (27%) who were not using these services, rates of CAM use were relatively low (22%).

Conclusion—Findings suggest that distressed lung cancer patients underuse mental health services, but many patients receive help from spiritual leaders. Given the lack of interest in mental

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Conflict of Interest Statement

None declared.

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health services among patients who are not receiving them, efforts are needed to enhance palatability of services and identify and reduce barriers to evidence-based service use.

Keywords

lung neoplasms; mental health services; complementary therapies; spiritual therapies; religion; psychological distress

1. Introduction

Lung cancer patients report higher rates of anxiety and depressive symptoms and more unmet psychological needs than other cancer patients [1-3]. Research suggests that as many as 51% of lung cancer patients experience clinically significant distress [4-6]. Untreated psychological distress in cancer patients has been associated with greater pain and disability [7-8], lower adherence to chemotherapy [9], and increased desire for hastened death [10].

Although a substantial proportion of cancer patients show significant distress [3, 5], their rates of mental health service use in the U.S. are typically low [11-12]. One study found that less than half (45%) of advanced cancer patients with a psychiatric disorder received mental health care [12]. Little research has specifically examined lung cancer patients' use of support services (i.e., receipt of mental health services, complementary and alternative medicine [CAM], and spiritual care) [13]. Results of a retrospective chart review at an academic cancer center showed that few newly diagnosed lung cancer patients were seen by social workers (14%), chaplains (7%), or psychiatrists (3%) over a 6-month period [13]. A cross-sectional survey at another academic cancer center found that lung cancer patients were less likely to receive support services (e.g., psychosocial support services, nutritional counseling, physical therapy) relative to gastrointestinal or breast cancer patients (39% vs. 58% and 59%, respectively) [11].

Instead of using traditional mental health services, many cancer patients turn to complementary and alternative medicine (CAM) therapies to reduce their psychological distress and improve symptom management [14-15]. A recent meta-analysis found that the average prevalence of current CAM use across studies of cancer patients in the U.S. was 50% [14]. A population-based survey in the U.S. found that CAM use among people diagnosed with cancer was higher than that of non-cancer controls, with 67% of cancer survivors reporting lifetime CAM use and 43% reporting CAM use during the past year [15]. CAM modalities included alternative medical systems (e.g., acupuncture) and manipulative and mind-body therapies (e.g., meditation, yoga, massage). In addition, a study of CAM use among lung, breast, colon, and prostate cancer patients in the midwestern U.S. found that 30% used CAM during the first three months post-diagnosis [16].

It is unclear whether lung cancer patients' use of CAM and other support services is similar to that of other cancer patients. To the extent that they experience greater distress than other cancer populations, they may be more likely to seek support services. Yet their high physical symptom burden may make it relatively difficult to do so. A survey of lung cancer patients at medical centers in Southern California found some receptivity to support services; specifically, 51% indicated that a psychological service would be helpful to them if available at no cost [17]. However, the proportion of patients accessing these services was not reported. Knowledge of lung cancer patients' interest in a range of support services and a greater understanding of factors that are predictive of support service use is essential for guiding the development of feasible and acceptable interventions.

To address these gaps in the literature, an assessment was administered to lung cancer patients to determine: (1) their use of support services, including mental health services (e.g., psychotherapy, medication), help from a spiritual leader, and CAM (e.g., yoga, meditation, massage); (2) their interest in various support services (e.g., talking to a staff member about their feelings, support group, help from a spiritual leader, CAM); and (3) the factors that predict their mental health service use, help from a spiritual leader, and CAM use as well as interest in support services (i.e., interest in talking to a staff member about their feelings, support group, help from a spiritual leader, and CAM). Predictors included demographics, medical factors, smoking status, anxiety and depressive symptoms, and physical and psychological symptom distress.

2. Methods

2.1. Participants and procedures

Following institutional review board approval, lung cancer patients were recruited from the oncology clinics at the Indiana University Simon Cancer Center (IUSCC; Indianapolis, IN) and the Roudebush VA Medical Center (Indianapolis, IN) from November 2010 to October 2011. Eligible lung cancer patients were English speakers who were 18 years of age or older. Early-stage lung cancer patients were oversampled in order to examine the effect of disease stage on study outcomes. Patient eligibility was assessed via medical record review followed by consultation with the patient's oncologist. If the oncologist determined that a patient was too ill to complete the study, that patient was not approached. A research assistant approached potentially eligible patients during a clinic visit to describe the study and obtain written informed consent.

Enrolled patients completed a 30 to 40-minute telephone assessment of their demographic information, smoking status, physical and psychological symptoms, support service use, and interest in support services. Patients received a \$25 check for their participation. All participants received a brochure describing support services at the study site. Both sites offered comprehensive mental health services, chaplaincy services, and referrals to palliative care and hospice.

2.2. Measures

2.2.1. Demographic and medical information—Demographic information was self-reported, and medical information (i.e., lung cancer type and stage, time since diagnosis, and cancer treatments received) was obtained via chart review.

2.2.2. Smoking status—Smoking status was assessed using two validated items from the Behavioral Risk Factor Surveillance System Survey [18].

2.2.3. Support service use—Patients reported whether they were currently receiving mental health services, including psychotherapy/counseling, psychotropic medications, and support groups. If they were receiving services, they were asked to identify the type of service received and the location of these services (IUSCC, VA, or community). In addition, patients indicated whether they were currently receiving support from a spiritual leader (e.g., pastor, rabbi, minister, or priest) or CAM (i.e., yoga, meditation, hypnosis, massage, or another service).

2.2.4. Interest in support services—Patients' interest in support services was assessed with a series of yes or no questions regarding six services available through the medical center or in the community. Support services included psychosocial services (i.e., talking to a staff member about your feelings and how you are coping with the illness, support group,

family counseling, couples counseling), help from a spiritual leader (e.g., pastor, rabbi, minister, or priest), and CAM (i.e., yoga, meditation, hypnosis, massage, or another service).

2.2.5. Anxiety and depressive symptoms—The valid 14-item Hospital Anxiety and Depression Scale assessed symptoms of anxiety and depression during the past week [19-20]. For the present research, coefficient alphas for Anxiety and Depression subscales were .84 and .82, respectively.

2.2.6. Physical and psychological symptom distress—The valid Memorial Symptom Assessment Scale-Short Form (MSAS-SF) [21] assessed the presence (yes/no) and distress associated with 28 physical symptoms (5-point scale, 0=*not at all* to 4=*very much*) and the presence and frequency of four psychological symptoms (4-point scale, 1=*rarely* to 4=*almost constantly*) during the past week. The Physical symptom distress (PHYS) and the Psychological symptom distress (PSYCH) subscales of the MSAS-SF were included in the present analyses. The PHYS score is the mean distress of 12 physical symptoms, whereas the PSYCH score is the mean distress of four psychological and two physical symptoms. The range of subscale scores is 0 (minimal distress) to 4 (maximal distress). For the present research, coefficient alphas for PHYS and PSYCH subscales were .80 and .83, respectively.

2.3. Statistical analyses

Descriptive statistics were computed to characterize study variables. Chi-square analyses and t-tests were used to examine whether variables differed between study sites. Next, logistic regression models estimated the unadjusted, bivariate effects of demographics, medical factors, smoking status, anxiety and depressive symptoms, and physical and psychological symptom distress on mental health service use, help from a spiritual leader, and CAM use as well as interest in support services (i.e., interest in talking to a staff member about their feelings, support group, help from a spiritual leader, and CAM). A second set of logistic regression models simultaneously estimated all significant bivariate effects. All reported *p* values were two-sided, and a value of $p < .05$ was considered statistically significant.

3. Results

3.1. Sample characteristics

Of the 187 eligible lung cancer patients who were approached regarding this study, 96% ($n=180$) consented to participate and 4% declined participation. Most lung cancer patients who consented to participate ($n=167$, 93%) completed the assessments. Reasons for withdrawal prior to completing assessments included medical conditions (i.e., hearing loss or cognitive impairment; $n=2$), death ($n=2$), inability to reach the patient via phone ($n=2$), and study refusal ($n=7$). Primary reasons for study refusal before or after the consent process were psychological and physical stress, time constraints, and dissatisfaction with conducting assessments via telephone. Data from two patients were omitted from analyses due to missing values.

Demographic and medical characteristics of the sample appear in Table I. The majority of participants were Caucasian and married. There were approximately equal numbers of men and women. Participants' ages ranged from 36 to 84 years, with an average age of 63 years. The median annual household income was over \$30,000, with a broad range that represented the entire scale. The average participant had completed some college, and 22% were working full or part-time. Nearly half of participants (47%) were diagnosed with stage III or IV non-small cell lung cancer. Patients were, on average, 18 months from the lung cancer

diagnosis. The majority of participants (73%) were former smokers. Twenty-four percent (40/165) of patients showed clinically elevated anxiety or depressive symptoms on the HADS (score 9 on the Anxiety subscale or score 8 on the Depression subscale) [20]. On average, patients reported low levels of distress associated with physical symptoms ($M=.86$, $SD=.66$ on 0-4 scale) and psychological symptoms ($M=.97$, $SD=.86$ on 0-4 scale).

IUSCC and VA participants were compared with regard to demographic and medical factors and study variables. IUSCC patients were more likely to be female, $\chi^2(1, N=165)=19.87$, $p<.001$, and have health insurance, $\chi^2(1, N=164)=36.95$, $p<.001$, than VA patients. IUSCC patients also had greater income, $t(155)=3.49$, $p<.01$, and had been diagnosed earlier, $t(151)=2.08$, $p<.05$, relative to VA patients. Additionally, IUSCC patients had lower levels of depressive symptoms, $t(161)=-2.22$, $p<.05$, and physical symptom distress, $t(163)=-2.34$, $p<.05$, than VA patients. None of the other variables differed between the two study sites.

3.2. Support service use

Twenty-eight percent of patients (47/165) were receiving mental health services. The majority (27/47, 57%) accessed these services in the community, whereas others received services at the VA (9/47), IUSCC (9/47), or both IUSCC and the community (2/47). These services included psychotherapy (9/47), psychotropic medication (45/47), and support groups (3/47). Among patients who showed clinically elevated anxiety or depressive symptoms, 40% (16/40) were receiving mental health services. Nearly half of patients (77/165, 47%) were receiving help from a spiritual leader, whereas only 22% of patients (36/165) reported current CAM use (e.g., yoga, meditation, massage).

Next, we examined the extent to which demographics, medical factors, smoking status, anxiety and depressive symptoms, and physical and psychological symptom distress were associated with mental health service use, help from a spiritual leader, and CAM use. In bivariate analyses, mental health service use was associated with female gender, younger age, being a current smoker, and higher levels of anxiety and psychological symptom distress (see Table II). Multivariate logistic regression analyses revealed that these variables correctly classified 73% of the sample with regard to mental health service use; however, only gender and psychological symptom distress uniquely predicted mental health service use. In bivariate analyses, help from a spiritual leader was associated with a diagnosis of late-stage lung cancer and having a religious affiliation (see Table II). In the multivariate logistic regression model, these two variables correctly classified 64% of the sample with regard to help from a spiritual leader, and both variables were significant unique predictors of this outcome. CAM use was not associated with any demographic, medical, or psychological factors (all p 's $>.05$).

3.3. Interest in support services

Patients' interest in support services also was assessed. Only 9% of patients (11/118) who were not receiving mental health services were interested in talking with a staff member about their feelings and how they were coping with their illness. Few patients expressed interest in couples counseling (3/70, 4%) or family counseling (5/118, 4%). Eighteen percent of patients (29/161) who were not attending a support group expressed interest in joining one. In addition, only 7% of patients (6/88) who were not receiving help from a spiritual leader were interested in receiving this help. Conversely, among patients who were not using CAM, 27% (34/128) were interested in these services.

The extent to which demographics, medical factors, smoking status, anxiety and depressive symptoms, and physical and psychological symptom distress were correlated with interest in

specific support services among patients who did not access these services was examined. Results appear in Table II. In bivariate analyses, interest in talking to a staff member about one's feelings was associated with being an ethnic minority group member and higher levels of depressive symptoms. Multivariate logistic regression analyses revealed that these two variables correctly classified 90% of the sample with regard to interest in talking with a staff member, and both variables uniquely predicted this outcome. Interest in attending a support group was associated with younger age, lack of health insurance, and greater psychological symptom distress. In the multivariate logistic regression model, these three variables correctly classified 83% of patients with regard to interest in attending a support group; however, only lack of health insurance uniquely predicted this outcome. Interest in CAM was correlated with female gender, younger age, late-stage lung cancer, and higher levels of anxiety and psychological symptom distress. Multivariate logistic regression analyses showed that these five variables correctly classified 74% of patients with regard to interest in CAM; however, only younger age and late-stage lung cancer were unique predictors of this outcome. Correlates of interest in family and couples counseling and help from a spiritual leader were not examined due to the small number of participants endorsing those items.

4. Discussion

This study is among the first to examine support service use and interest in these services among lung cancer patients. Twenty-four percent of patients showed clinically elevated anxiety or depressive symptoms, which is comparable to that reported in prior research with this population [22]. Although most patients had health insurance and all were receiving care at medical centers with numerous support services, only 40% of patients with significant anxiety or depressive symptoms were receiving mental health services. Similarly, a survey found that less than half of advanced cancer patients with a psychiatric disorder received mental health care [12]. Interestingly, although only 28% of the entire sample was receiving mental health services, nearly half (47%) were receiving support from a spiritual leader. In contrast to mental health practitioners, spiritual leaders may have ongoing personal relationships with patients that involve the free provision of counseling and support. In this primarily older adult Christian sample, patients may have been more comfortable relying on spiritual leaders for emotional support.

In contrast to the receipt of spiritual support, CAM use was relatively low, with only 22% endorsing use of these services. Previous studies of patients with mixed cancer types obtained higher estimates of CAM use, which was related to younger age and higher levels of income and education [14, 23]. Thus, the older age and lower socioeconomic status of the current sample relative to other cancer populations may help explain their lower rate of CAM use and the lack of significant predictors of CAM use.

Associations between demographic, medical, and psychological factors and the receipt of mental health services and help from a spiritual leader also were examined. The most robust predictors of the receipt of mental health services were female gender and greater psychological symptom distress, consistent with prior research [12, 24]. In addition, having a religious affiliation and late-stage lung cancer predicted the receipt of help from a spiritual leader. Spiritual concerns have been found to be particularly salient for patients at the end of life [25-26]; thus, it is not surprising that late-stage patients were more likely to receive spiritual support than early-stage patients.

Patients' interest in specific support services also was assessed. Among patients who were not using CAM, 27% were interested in these services. In contrast, few patients who were not using mental health services were interested in speaking with a staff member about their

feelings or participating in couples or family counseling. Similarly, few patients who were not receiving help from a spiritual leader expressed interest in this help. The current results indicate that most lung cancer patients who are not already receiving mental health or spiritual services do not desire such support. However, a significant minority of patients showed interest in CAM, especially younger patients and those with late-stage cancer who may view CAM as a means to alleviate physical and psychological distress.

Limitations of this study and directions for future research should be noted. Although the sample was diverse with regard to income, education, and disease status, participants were primarily Caucasian and Christian. Whether findings would generalize to other cultural and religious groups requires study. In addition, the cross-sectional design precluded assessment of causal relations among variables. Future research may examine changes in lung cancer patients' support service use and interest in support services over the course of the illness. Finally, the extent to which patient referral to palliative care and hospice services affects support service use deserves investigation.

5. Conclusion

The present findings have significant implications for future research and clinical practice. First, findings point to high rates of significant distress and underuse of mental health services among lung cancer patients. However, many patients were receiving spiritual support, which may be more accessible than traditional mental health services. In addition, little interest in mental health or spiritual care was found among patients who were not receiving these services. Research and clinical efforts are needed to identify attitudinal and systemic barriers to appropriate support service use and to enhance palatability of support services for patients. Given the complex psychosocial issues related to the etiology of lung cancer and its high symptom burden, determining how best to address patients' mental health needs is an important goal for research and clinical care.

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Table I*Sample characteristics (N = 165)*

Variable	n (%)	M (SD)	Range
Sex—Male	84 (51%)		
Race/Ethnicity			
Non-Hispanic White	132 (80%)		
African American/Black	32 (19%)		
Native American	1 (0.6%)		
Age (years)		63 (9)	36 to 84
Marital Status			
Married or marriage equivalent	94 (57%)		
Widowed	19 (12%)		
Divorced or separated	32 (19%)		
Single	20 (12%)		
Religious Affiliation			
Catholic	28 (17%)		
Protestant/Other Christian	115 (70%)		
Other religious affiliation	2 (1%)		
None	19 (12%)		
Missing	1 (0.6%)		
Annual Household Income (median)		>\$30,000	<\$11,000 to >\$100,000
Education (years)		13 (3)	5 to 24
Employment Status			
Employed full or part-time	37 (22%)		
Retired	72 (44%)		
Unemployed	50 (30%)		
Homemaker/Other	6 (4%)		
Receipt of Health Insurance	144 (87%)		
Smoking status			
Current smoker	31 (19%)		
Former smoker	120 (73%)		
Never smoked	13 (8%)		
Missing data	1 (0.6%)		
Months since Lung Cancer Diagnosis		18 (22)	.00 to 114
Non-small Cell Lung Cancer Stage (<i>n</i> = 141)			
I	42 (30%)		
II	20(14%)		
III	41 (29%)		
IV	37 (26%)		
Missing	1 (0.7%)		
Small Cell Lung Cancer Stage (<i>n</i> = 24)			
Limited	9 (38%)		

Variable	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	Range
Extensive	15 (63%)		
Type of Lung Cancer Treatment			
Surgery	95 (58%)		
Chemotherapy	114 (69%)		
Radiation	79 (48%)		
Treatment Center			
Indiana University Simon Cancer Center	137 (83%)		
Roudebush VA Medical Center	28 (17%)		

Table II
Logistic regression analyses predicting use of mental health services, help from a spiritual leader, and interest in support services

Outcome	Predictors	Bivariate Analyses				Multivariate Analyses			
		B	Wald χ^2	Odds ratio	95% CI for odds ratio	B	Wald χ^2	Odds ratio	95% CI for odds ratio
Current mental health service use	Gender ^a	.97**	7.25	2.64	1.30 to 5.33	.85*	5.01	2.35	1.11 to 4.96
	Age	-.06**	8.30	.95	.91 to .98	-.03	1.77	.97	.93 to 1.01
	Smoking status ^b	.86*	4.39	2.36	1.06 to 5.25	.62	1.81	1.85	.76 to 4.55
	Anxiety	.09*	4.38	1.10	1.01 to 1.19	-.04	.37	.96	.84 to 1.10
	Psychological symptom distress	.62**	9.23	1.85	1.25 to 2.76	.62*	3.69	1.86	.99 to 3.49
Current help from a spiritual leader	Late-stage lung cancer ^c	.85*	6.68	2.33	1.23 to 4.42	.74*	4.77	2.10	1.08 to 4.10
	Religious affiliation ^c	2.18**	8.12	8.86	1.98 to 39.74	1.98*	6.58	7.27	1.60 to 33.13
Interest in talking to a staff member about your feelings	White, non-Hispanic race ^c	-1.47*	4.97	.23	.06 to .84	-1.51*	4.85	.22	.06 to .85
	Depressive symptoms	.17*	4.35	1.19	1.01 to 1.40	.17*	3.94	1.19	1.00 to 1.41
Interest in attending a support group	Age	-.05*	4.41	.95	.91 to 1.00	-.03	1.35	.97	.93 to 1.02
	Health insurance ^c	-1.33*	6.68	.27	.10 to .73	-1.27*	5.78	.28	.10 to .79
	Psychological symptom distress	.55*	5.88	1.73	1.11 to 2.69	.46	3.58	1.59	.98 to 2.57

Outcome	Predictors	Bivariate Analyses				Multivariate Analyses			
		<i>B</i>	Wald χ^2	Odds ratio	95% CI for odds ratio	<i>B</i>	Wald χ^2	Odds ratio	95% CI for odds ratio
Interest in CAM	Gender ^a	1.13 ***	7.09	3.08	1.35 to 7.05	.86	3.38	2.36	.94 to 5.88
	Age	-10 ***	12.70	.91	.86 to .96	-.07 *	6.49	.93	.88 to .98
	Late-stage lung cancer ^c	1.05 *	5.30	2.85	1.17 to 6.96	1.16 *	5.25	3.19	1.18 to 8.62
	Anxiety	.12 *	5.94	1.13	1.02 to 1.25	.08	.85	1.08	.92 to 1.27
	Psychological symptom distress	.57 *	6.42	1.76	1.14 to 2.73	.17	.20	1.18	.57 to 2.43

Note. CI = confidence interval. CAM = complementary and alternative medicine. For all chi-square analyses, *df* = 1. Analyses of interest in support services (i.e., interest in talking to a staff member, support group, and CAM) only included data from individuals who were not receiving the service. For mental health service use, *ns* = 164-165; for help from a spiritual leader, *n* = 163; for interest in talking to a staff member, *ns* = 116-117; for interest in attending a support group, *ns* = 160-161; for interest in CAM, *ns* = 125-128.

^aCoded 1 = male, 2 = female.

^bCoded 0 = non-smoker, 1 = current smoker.

^cCoded 0 = no, 1 = yes.

* *p* < .05.

** *p* < .01.

*** *p* < .001.