Understanding the symptoms experienced by individuals with lung cancer

By Catherine A. Kiteley, and Margaret I. Fitch

Abstract

The purpose of this study was to gain a better understanding of patients' experience of symptoms of lung cancer upon a first visit to a regional cancer centre and two months later. Sixteen patients were interviewed on two occasions about the symptoms, their impact and what they found most troublesome. Patients were also asked to describe any strategies they used to manage the symptoms. The most commonly identified symptoms were fatigue and pain. Participants described coping with multiple symptoms simultaneously, how those symptoms intensified over time, and using very few strategies. Participants described symptoms as troublesome because they interfered with activities of daily living or evoked emotional or cognitive responses. Fatigue was reported most frequently as troublesome. This work has implications for how patient assessments are conducted and how health care professionals listen to the patients. The patients' descriptions of their symptoms and what strategies they applied is often embedded within the patients' stories about living day-to-day with their lung cancer.

Lung cancer, the leading cause of cancer-related deaths in Canada, accounts for 30% of the cancer-related deaths in men and 25% in women (NCIC, 2005). Despite advances in cancer therapies, the five-year survival rate for non-small-cell lung cancer is 10% to 15%, and the five-year survival rate of patients with small-cell lung cancer is 2% to 5% (Richardson and Johnson, 1993).

The majority of patients with lung cancer experience a rapid and fatal course characterized by the development and progression of symptoms. As symptoms appear and increase in severity, patients with lung cancer experience difficulties managing day-to-day activities. Nurses are in an ideal position to assist patients and their families in managing the symptoms associated with advancing disease. However, before nurses can determine the type of assistance patients with lung cancer may require, information is needed about the patients' experiences with the symptoms. To date, data describing lung cancer patients' perceptions of the symptoms they experience are limited and little is known about which symptoms the individuals themselves find most troublesome. Much of the existing literature describes symptoms from the perspective of the health care provider.

Several investigators have suggested that nurses and patients may differ in their perceptions of symptoms associated with cancer (Grossman, Sheidler, Swedeen, Mucenski, & Piantadosi, 1991; Holmes & Eburn, 1989). The risk in nurses not fully understanding the patient's perception is that they may fail to address issues that the patient deems are important and may base their nursing interventions on their own perceptions without patient validation. Obtaining the patient's perspective regarding the symptoms of lung cancer is therefore necessary to ensure nurses have complete information about the symptoms experienced by individuals with lung cancer.

Catherine Kiteley, RN, MScN, is at Credit Valley Hospital in Mississauga, Ontario.

Margaret I. Fitch, RN, PhD, is Director of the Psychosocial and Behavioural Research Unit at Toronto Sunnybrook Regional Cancer Centre, Toronto, Ontario. E-mail: marg.fitch@sunnybrook.ca

Purpose

Ultimately, we want to describe lung cancer patients' perceptions about their symptoms over the course of their illness. We want to better understand which symptoms patients experience, which they find most troublesome, and the strategies they use to manage the symptoms. However, prior to launching the full, longitudinal study, we mounted a pilot study to assess accrual and our interview schedule. The pilot study is reported in this article and focuses on the initial interview at the time of diagnosis and the second, two months later. Learning from this work would contribute to planning the longitudinal study with a larger sample.

Background literature

Research regarding the experience of living with the symptoms of lung cancer from the patient's perspective is very limited. Information regarding the incidence and prevalence of lung cancer symptoms during the course of the disease has been reported, but varies amongst investigators (Brown, Carrieri, Janson-Bjerklie, & Dodd, 1986; Burt, O'Driscoll, Notley, Barber, & Stout, 1990; Hollen, Gralla, Kris, Eberly, & Cox, 1999). Patients with lung cancer experience a number of symptoms directly attributable to their disease such as dyspnea, cough, chest pain, wheeze (DeMaria & Cohen, 1987; Edmonds, Karlsen, Khan, & Addington-Hall, 2001) and hemoptysis (Coy & Kennelly, 1980; Hollen et al., 1999). More general symptoms include fatigue, loss of appetite, weight loss, and sleeping difficulties (Blesch et al., 1991; Lutz, Huang, Ferguson, Kavanagh, Tercilla, & Lu, 1997). Unfortunately, comparisons among these studies in terms of incidence and prevalence are difficult because of different measurement approaches investigators used in their work and variation in sample characteristics (Marino, Zoppi, Morelli, Buoncristiano, & Pagni, 1986; Degner & Sloan, 1995; Bailey, Parma, & Stephens, 1998).

Few investigators have studied the distress lung cancer patients feel in relation to their symptoms. McCorkle and Quint-Benoliel (1983) studied symptom distress reported by lung cancer patients (n=56) following initial diagnosis. Fatigue was reported as the most distressing symptom, followed by appetite changes and pain. Sarna (1993) reported fatigue, pain and insomnia were perceived as most distressing to patients while Tishelman, Degner, and Mueller (2000) reported fatigue, outlook (uncertainty), and insomnia were most distressing. Lobchuk, Krisjanson, Degner, Blood, and Sloan (1997) reported the highest symptoms distress scores for fatigue, cough, and pain.

For nurses to design interventions that are relevant to lung cancer patients' experiences with symptoms, a better understanding is needed regarding patients' perceptions about symptoms. This study was undertaken to answer the following questions among ambulatory lung cancer patients newly registered at a regional cancer clinic: 1) what symptoms are experienced? 2) what are the commonly experienced patterns and the impact of the symptoms? 3) what makes the symptoms better or worse? and 4) what symptoms are perceived as most troublesome?

Methods

This descriptive pilot study used a semi-structured interview that allowed participants the freedom to describe their personal experiences with any symptoms before being presented with a predefined list of symptoms. The predefined list ensured that all participants had the opportunity to respond to the same stimulus.

Following ethical approval from the Office of Research Services at the University of Toronto and the Research Ethics Committee of the Sunnybrook and Women's Health Sciences Centre, participants

were accrued from the lung cancer clinic at a regional cancer clinic. Eligibility for the study included 1) newly registered patient, 2) confirmed diagnosis of lung cancer, 3) no cognitive impairment or history of major psychiatric illness, 4) ability to speak and understand English, 5) awareness of the diagnosis, and 6) living in the Greater Toronto Area. Individuals who consented to participation were interviewed on two occasions, within two weeks of their first clinic visit (Time 1) and two months later (Time 2). All interviews were conducted and audiotaped by the same investigator (CK) and occurred in a location selected by the participant.

Interview schedule

The interview schedule consisted of two sections. The first section consisted of one open-ended question with four clarification questions. The interview started with an unstructured question (i.e., "How have you been feeling during the past few days?") to provide the opportunity for participants to talk about what was most relevant to them. For each symptom they mentioned spontaneously, the participant was prompted to describe the symptom, what precipitated it, how s/he managed it, and what strategies were effective. The second part of the interview schedule was close-ended. It was based on literature regarding lung cancer symptoms and included hemoptysis, shortness of breath, loss of appetite, fatigue, wheeze, weight loss, pain, cough, insomnia, and mucus. The list provided standard cues for participants and offered the opportunity to add symptoms they had not already described. For any additional symptom, the four clarification questions were posed.

The final questions of the interview asked the participants to identify the symptom that was the most troublesome for them, demographic and illness information or other comments. Demographic information included age, gender, marital status, work status, living arrangements, household income, and education. Illness and treatment data included co-morbid conditions, use of oxygen, smoking history, and length of time since diagnosis. Additional medical data were gathered from the patient health record about stage of disease, treatment received, current medications, and date of last treatment. Prior to the second interview, data about treatment since the last interview were gathered (i.e., type of treatment, hospitalizations, doctor visits, nurse visits and current medications).

Analysis

The analysis consisted of descriptive statistics and content analysis (Polit & Hungler, 2003; Weber, 1990). Interviews were transcribed verbatim and read several times for familiarization with the participant's responses. To answer research questions 1, 3 and 4, each transcript was reviewed line by line to identify appropriate information and create a list of the symptoms that were mentioned, what made the symptom worse, what the patient did to manage the symptom, if an action was effective, and what symptom was most troublesome. Frequency counts were then made for each symptom across the participant group. Content analysis was completed to identify the symptom patterns and their impact (research question 2). Each transcript was reviewed to identify meaningful statements in words, sentences, and phrases. Similar content items were grouped together and assigned appropriate category labels.

Transcripts from both interviews with four participants were given to the second investigator who worked through the same analysis procedure regarding questions 1, 3 and 4. For question 2, she was given the category labels with the items grouped under each. The second investigator generated the same lists regarding symptoms for the four participants as had the first investigator

and agreed that all the data in each interview had been used. She agreed on the categorization of 90% of the items in the content analysis. For those items where there was disagreement, discussion occurred between the two investigators until agreement was reached on the appropriate categorization. The first investigator then assumed responsibility for analysis of the interviews for the remaining 12 participants.

Results

Seventy-five patients were reviewed for eligibility in the study. Thirty-five did not meet the eligibility criteria because of place of residence (n=18), language (n=9), confusion (n=4), psychiatric history (n=2), and unconfirmed diagnosis (n=2). Of the 42 individuals who were eligible, 22 declined because they had no interest in participating (n=12), felt too upset about the diagnosis (n=6), had symptom distress (n=3) and the family refused (n=1). Of the 20 participants who were interviewed initially, 16 completed the interview two months later. Four did not complete the second interview because of death (n=2) and feeling "too ill" (n=2). This article reports on the 16 individuals who completed both interviews. The interviews ranged in length from 30 to 90 minutes with the majority lasting 60 minutes.

Selected demographic characteristics

Nine men and seven women participated in this study. Thirteen were married and the majority (n=15) lived with a spouse or other family member. The mean age of the participants was 66.5 years (range 50 to 89, SD=10.06). Eleven reported an annual gross family income of less than \$40,000. All participants reported a recent history of smoking while seven reported they were currently smoking. One participant was on oxygen during the first interview. In addition to lung cancer, eight of the participants reported other medical conditions (e.g., heart conditions, gastro-intestinal conditions, history of diabetes, blindness, sciatica).

Participants reported taking an average of 4.3 medications daily (range 1-16, SD=3.6) at the first interview and five (range 1-16, SD=3.4) at the second. Pain medications were reported most frequently. Four participants received chemotherapy prior to the first interview while the majority (n=14) received treatment between the first and the second interview, (nine had radiation to the chest, two had both radiation and chemotherapy, one had thoracic surgery and radiation, one had thoracic surgery, and one had chemotherapy alone).

Symptoms experienced

During both the first and second interviews, participants identified symptoms spontaneously during the initial part of the interview and added other symptoms when prompted by the interviewer during the

Table One. Symptoms identified by more than 25% of participants (N=16)

Symptom	Identified in First Interview			Identified in Second Interview		
	Spontaneous	Prompted	Total	Spontaneous	Prompted	Total
Fatigue	8	6	14	9	6	15
Pain	5	5	10	8	1	9
Shortness of Breath	4	5	9	3	4	7
Loss of Appetite	2	6	8	6	5	11
Cough	1	7	8	2	6	8
Insomnia	6	2	8	1	8	9
Mucous	1	7	8	1	8	9
Weight Loss	0	8	8	3	5	8
Wheeze	1	6	7	0	4	4

second part of the interview. Participants reported a total of 21 different symptoms during the first interview (mean=6.3, SD =2.6, range 2–11) and 29 during the second (mean=7.3, SD=3.11, range 3–13). The symptoms reported by more than 25% of the participants included shortness of breath, loss of appetite, fatigue, wheeze, weight loss, pain, cough, insomnia, and mucus (see Table One). A wide range of symptoms was reported by one or two participants (e.g., indigestion, change in taste, feeling light-headed, feeling anxious, leg weakness, decreased saliva, nocturia, fever, swollen feet, sore throat, radiation burn, decreased sexual feelings, unsteady on feet, loss of hair, numb fingers, feeling depressed, etc.). Fatigue was the most frequently reported symptom during both interviews. The majority of participants reported a different number of symptoms during the second interview from those they reported in the first interview. Eight reported more symptoms in the second interview and five reported fewer symptoms during the second interview. All but two described at least one symptom that was different from the symptoms they reported during the first interview. Overall, approximately two-thirds of the symptoms were identified spontaneously while the remainder were identified when prompted by the interviewer.

Precipitating factors

Many participants provided only brief answers during both interviews about precipitating factors. Most identified only one precipitating factor for each symptom or stated that nothing made the symptom worse. “*Doing something*” was the most common factor participants cited as making the symptom worse. Participants described how indoor and outdoor activities (i.e., gardening, shovelling snow, household chores, climbing stairs, or walking) precipitated pain, fatigue, and shortness of breath. They often cited the presence of one symptom as the reason another symptom worsened. For example, the presence of mucus made a cough worse for four participants while anxiety made sleeping more difficult for others. Participants were generally not able to identify what made loss of appetite, wheeze, mucus, and weight loss worse.

Commonly experienced patterns and impact of symptoms

Participants offered a variety of descriptions regarding the patterns and impact of the symptoms. These descriptions can be summarized within four categories assigned during analysis: symptom combinations, symptom characteristics, symptom impact on day-to-day living, and symptoms evoke a cognitive/emotional response.

Symptom combinations. When participants talked about their symptoms, some were described as occurring alone while others were described as occurring together. All participants described at least one symptom occurring alone (fatigue, shortness of breath, loss of appetite,

loss of weight, pain, insomnia, wheeze, and mucus), but the majority in the first (n=10) and second (n=9) interviews talked about symptoms that occurred in combination with others. The combinations mentioned most often during the first interview included the respiratory symptoms (i.e., wheeze, cough, mucus, and shortness of breath, n=6), and fatigue coupled with shortness of breath (n=4). During the second interview, combinations of the respiratory symptoms (n=5) and decreased weight together with decreased appetite (n=5) were mentioned most frequently.

Symptoms were often described as influencing one another and the discussion of one symptom frequently evoked discussion of another symptom. For many participants there was no clear distinction or separation between one symptom and another. In the words of one participant:

The wheeze... it brings the shortness of breath... It is all interrelated in some way or other... to bring the necessary mucus up when you need to, brings on the dry hacking cough and it also causes a wheeze to the shortness of breath. I see them all interrelated. (P6, T1)

Symptom characteristics. Without prompting, participants described their symptoms by using certain characteristics (i.e., when the symptom began, location, quality). The most commonly used characteristic was the quality of the symptom (see Table Two). Descriptions about pain, fatigue, shortness of breath and insomnia were quite detailed while descriptions about the remaining symptoms contained relatively little detail. For example, participants tended to describe both the location and quality of pain.

Well, I was all right until the pain started up, in the rib area and in the shoulder and in the middle of the back. It throbs, as if there is an area of wind blowing there and sometimes it moves up my back to my shoulder into my back. (P8, T1)

In most cases, participants talked about fatigue as a general feeling of slowing down. Frequently they spoke about not being able to do what they once were able to do.

For instance, if I try to take exercise, my breath is getting shorter, my parts are getting harder to move. You try to keep moving, but it is slower, and after a while you can't move as much. That is what I call fatigue. (P9, T1)

During the second interview, participants described a general sense of some symptoms becoming worse. For 12 participants, at least one symptom was worse. Their descriptions indicated their symptoms were intensifying and causing more difficulties. The following examples highlight this situation:

Fatigue at first interview: *Like I may be only out of bed a couple of hours and I feel my eyes start to droop. And usually I just sit in this chair and close my eyes for five or 10 minutes. (P1 T1)*

Fatigue at second interview: *Like everything from your fingers down to your toes, you know, nothing wants to do anything. Like even, ah, sometimes when my meals come I'll have been lying in bed or something, and sometimes I will wait two or three minutes before I make the effort to sit up and eat... it's always there. (P1 T2)*

Pain at first interview: *Under the arm and in the neck. I have the same thing on the other side, but doesn't hurt. I don't feel it like the other side. (P9 T1)*

Pain at second interview: *OK, I will describe the pain. The pain I have when I am in bed, I take three hours to take a rest. After that, everywhere I have pain. Not just in my chest, even the sides, here in my shoulders, even in my head, you know. (P9 T2)*

Symptom impact on day-to-day living. Over half of the participants (n=9) during the first interview and half (n=8) during the second interview described at least one symptom as

Symptom	Number of Participants Describing Characteristic					
	Described Onset		Described Location		Described Quality	
	First Interview	Second Interview	First Interview	Second Interview	First Interview	Second Interview
Shortness of Breath		5			7	5
Loss of Appetite					9	8
Fatigue					10	15
Wheeze						
Pain	6		9	10	9	8
Cough						
Insomnia					6	4

interfering with activities of daily living. Fatigue was most frequently identified as interfering. Participants described how symptoms led to “slowing down”, altering the way an activity was once done, or eliminating it altogether. For many, the presence of a symptom had an impact on what they could do, when they could do it, and the length of time the activity could be maintained. For example, one woman described how she had to alter the way she completed her household chores:

I've always been one to go all day. I used to work in a factory. I had to go and all at once, I do a little bit like the wash and I would have to take a rest during the day and this is very unusual for me... I don't have fun anymore. (P11, T1)

Some participants found it distressing when they could no longer do things the way they had in the past. One man recalled a sudden awareness of his altered ability to garden:

I enjoy gardening. Have always loved gardening and working out in the yard. On the weekend, I went out to the back of the house. We have a rose bush along the length of the house, and every spring I have to pull wild grass and weeds and everything out of there, but I like doing that. I spend, up until now, a couple of hours on a Sunday getting it all ready, then last Sunday I lasted 20 minutes and that was about it. I felt tired and totally out of breath, I had to sit. (P2 T1)

Symptoms evoke a cognitive/emotional response. Three distinct responses to living with the symptoms were described by the participants: 1) normalizing the presence of a symptom, 2) frustration, and 3) concern. Normalizing the presence of the symptoms was seen by the investigators in this study as acknowledging its presence, searching for an explanation for the symptom, and downplaying its severity. For example, one participant shared the following comment: “Generally speaking, my appetite is not what it used to be, but my activity is not what it used to be” (P4 T1). Of interest, participants in the first interview did not indicate lung cancer was the reason for any particular symptom. All participants (n=16) during the first interview and 12 during the second interview normalized the presence of at least one symptom (fatigue, loss of weight, loss of appetite, wheeze, shortness of breath, cough).

A sense of frustration was an emotional response to the symptoms identified during the first interview (n=6). Frustration was dominant when the symptom interfered with daily activities that were perceived as important to the person. During the second interview, actual concern became apparent in several participants' comments (n=6). Participants were concerned the symptoms were becoming worse and they linked that symptom with the lung cancer becoming worse:

I hope it clears up because it showed up in the x-rays, and it worries me a bit because the pleurisy in somebody with lung cancer can possibly be caused by the cancer cells settling in. I keep worrying, is this going to get worse and, naturally, when I had those pains starting with the pleurisy... oh what is happening because was it going to the other side? (P1 T2)

Most troublesome symptom

The majority of participants were able to identify a symptom as most troublesome during the first (n=12) and the second (n=13) interviews (see Table Three). Fatigue was cited most frequently on both occasions as most troublesome. Three participants stated they did not have a most troublesome symptom. All but one participant reported a different symptom as troublesome during the second interview in contrast to their first interview. However, the majority (n=12) identified their most troublesome symptom as the same one they had described in response to the initial open-ended interview question, “Tell me how you have been feeling over the last few days”. This pattern of response occurred during both the first and second interviews.

The reasons participants found the symptom most troublesome were categorized under three headings: physical impact of the symptom (physical dimensions including onset, location, symptom

duration, intensity and quality), interference with day-to-day activities (participant's inability to carry out day-to-day activities including leisure activities and household chores), and emotional/cognitive responses (frustration or concern; searching for an explanation for the presence of the symptom). Interference with daily activities was cited most commonly (n=4) as the reason a symptom was perceived as most troublesome, while emotional impact was cited most commonly (n=4) in the second interviews. In the words of one participant:

Oh, I think my legs are the biggest trouble right now. I am very much concerned that I will lose the function of my legs and when you do that you are pretty much helpless, you know, and you are at the mercy of other people all the time (P6 T2).

Interventions used by patients

During both interviews, 15 participants identified interventions they used to manage their symptoms and found helpful. In general, participants reported using very few interventions to manage their symptoms (see Table Four for summary). Certain interventions were common to more than one symptom. For example, participants commonly described rest as an intervention to manage shortness of breath and fatigue. Taking medication was reported for several symptoms, as was keeping to a routine and shifting responsibility to others. For example, one participant spoke of shifting cooking responsibilities to her husband:

Like, I can't force myself to do anything. Like, normally I can get up and make a breakfast on a Sunday. Make bacon and eggs, but he is doing that now and it is making me feel guilty because he is doing a lot of the stuff I did. (P16 T2).

Discussion

The purpose of this pilot study was to begin to gather patient perspectives about the symptoms of lung cancer and the strategies they used at the time of diagnosis and two months later. Findings indicate that participants talked about their experiences with symptoms in unique and personal ways. Although they experienced multiple symptoms simultaneously that changed over time, patients used relatively few strategies to manage the symptoms. As a pilot, we determined how well the accrual procedures and data collection approaches worked.

In general, participants did not provide detailed descriptions about the symptoms they experienced. Often they linked the descriptions of their symptoms to changes in their day-to-day activities and to the way they felt and thought. The descriptions of their symptoms often served as a springboard for them to talk about their experiences of

Table Three. Symptoms identified as most troublesome

First Interview		Second Interview	
Symptom	Number of Participants	Symptom	Number of Participants
Fatigue	3	Fatigue	6
Pain	3	Pain	4
Shortness of breath	2	Loss of Appetite	1
Insomnia	2	Hair Loss	1
Loss of Appetite	1	Leg Weakness	1
Mucous	1	Constipation	1
		Vomiting	1
		Sore Throat	1

living with lung cancer. Nerenz and Leventhal (1983) have suggested that patients experience their illness through their symptoms, which makes it difficult to separate symptoms from the whole illness experience. Asking participants to talk about symptoms in isolation from the entire experience of living with lung cancer may be asking them to make a separation that, to them, could be rather artificial.

The way in which participants in this study described their symptoms lends support to the conceptualization of the symptom experience proposed by the Symptom Management Group at the University of California (1994). The group suggests that the symptom experience is a dynamic process that involves three major dimensions: perception of the symptom, evaluation of the symptom, and a response to the symptom. Perception of the symptom refers to whether an individual notices a change in the way he or she usually feels. During the first interview, some participants described changes in symptoms that they thought were a result of the lung cancer, while others did not. The latter group often had been experiencing symptoms, especially respiratory ones, for some time before the diagnosis. This may have made it difficult for them to isolate particular symptoms as being associated with the lung cancer. During the second interview, all participants were aware of changes in symptoms since the first interview. Evaluation of symptoms refers to the judgments people make about their symptoms such as the severity and effects of the symptoms. Participants often discussed how the symptoms interfered with the daily activities, were troublesome, and, at time two, which symptoms had become worse. Responses to a symptom include both thoughts and feelings about it (i.e., normalizing the presence of the symptom, feeling frustration and concern).

Many of the symptoms described in this study have been reported by other investigators (Coy & Kennelly, 1980; Brown et al., 1986; Foote, Sexton, & Pawlik, 1986; DeMaria & Cohen, 1987; Burt et al., 1990). Fatigue, the most frequently reported symptom has also been

reported in other studies (Blesch et al., 1991; Sarna 1993). Although the incidence of fatigue did not change appreciably between the first and second interview, this symptom was identified more frequently as the most troublesome symptom during the second interview. Several reasons may contribute to this result. Firstly, fatigue has been identified as a distressing symptom from radiation and chemotherapy (Greenberg, Sawicka, Eisenthal, & Ross, 1992; Irvine, Vincent, Graydon, Bubela, & Thompson, 1994). In the present study, four participants had received treatment prior to the first interview and almost all the rest did so between the first and second. Fatigue could also be a result of dealing with multiple symptoms. For example, the presence of pain and insomnia could contribute to fatigue. Miaskowski, Lee, and Dibble (1996) reported that a moderate to strong correlation existed between average daily amount of fatigue and pain intensity. Other investigators have also found pain to be associated with fatigue (Arathuzik, 1991). Finally, disease progression may also have contributed to the increased intensity with which fatigue was reported as the most troublesome symptom during the second interview. Lung cancer can be a rapidly debilitating illness with the development and progression of symptoms (Boring, Squires, Tong, & Montgomery, 1994; Richardson & Johnson, 1993). The frequency with which respiratory symptoms were reported in combination is of interest. It was difficult for patients to isolate and describe one without another. Individuals may have experienced difficulty separating respiratory symptoms because they are experienced as interrelated and influencing one another. This will need to be taken into consideration in the longitudinal study.

Strategies

It is somewhat concerning that participants reported using so few strategies to manage their symptoms. Medications were reported most frequently and, if these medications were effective, participants may not have felt the need to explore additional interventions (Wilkie & Keefe, 1991). Using rest to manage fatigue is consistent with other investigators. Graydon, Bubela, Irvine, and Vincent (1995) reported the self-initiated strategies that women with cancer used to manage fatigue included lying down, sitting or napping. As yet, little empirical data about strategies to manage fatigue in the lung cancer population are available (Richardson, 1995). That participants identified few interventions to manage dyspnea is inconsistent with at least one other study reporting that lung cancer patients utilized numerous strategies (Brown et al., 1986). However, the subjects in Brown's study had a history of shortness of breath before the diagnosis of lung cancer. This pilot study raises two questions: Did patients have enough time to learn interventions given the rapid progression of their disease? Had patients been taught any particular strategies?

In this present study, whether the limited number of interventions used to manage symptoms reflects optimal resolution of the symptoms, a limited repertoire of interventions from which to choose, or both, is unknown. Successful symptom management strategies may have reduced the individual's need to explore the effects of additional strategies. Alternatively, the limited number of interventions used by participants may have indicated that the symptoms they experienced were not at the intensity where additional interventions were required. Perhaps the use of a checklist of interventions could have been useful to prompt participants.

Implications for practice

Despite the small sample size, there are several practice implications that might be considered. When assessing the symptom experience for this population of patients, nurses need to consider that patients are often dealing with multiple symptoms that are apt to change over time. On-going symptom assessment is important. The common symptoms identified in this study may be useful to include in the assessment process: fatigue, pain, shortness of breath, loss of appetite, weight loss, insomnia, wheeze, cough, and mucus.

Table Four. Interventions used to manage symptoms

Symptom	Interventions	Number of Participants	
		First Interview	Second Interview
Shortness of Breath	I rest	5	4
	I use medicine	4	
Loss of Appetite	I keep to a routine	4	
	I take supplements	6	5
Fatigue	I rest	11	11
	I let others do things for me		4
	I exercise	4	
Wheeze	I cough it up		4
Weight Loss	I keep to a routine	5	
	I take supplements	5	
Pain	I change position	4	4
	I use medicine	9	9
Cough	I cough it up	4	6
Insomnia	I use medicine	4	
Mucous	I cough it up	8	5

Note: More than one intervention was described for some symptoms

Nurses also need to pay attention to the manner or approach patients use in reporting their symptoms. It is important for nurses to realize that patients may not be able to perceive a separation in their experiences of one symptom from another. Listening for the constellation of symptoms that patients describe may assist nurses to gain a complete picture of what symptoms are experienced and the impact they are having on the patient. Nursing assessment, including which symptoms occur in combinations, may be important because a single intervention aimed at alleviating one symptom could potentially impact positively or negatively on other symptoms.

When assessing symptoms experienced by patients with lung cancer, nurses should be encouraged to listen intently to the patients' stories of their experiences with symptoms. In telling their stories, patients will talk about the physical dimensions of the symptom, its impact on their daily activities, and their emotional and cognitive responses to it. By careful listening, nurses may gain a complete picture of the experience of living with the symptoms and may gain

insight regarding the meaning of the symptoms for the patient. Understanding this unique perspective will likely place nurses in a better position to assist patients.

The strategies these patients described could be used within patient education approaches. The strategies could be shared with other lung cancer patients in the context of indicating "some individuals with lung cancer have found these strategies useful." However, the strategies will also need to be tested in future research endeavours.

Implications for future research

This pilot work provided useful information about the challenges of accruing patients for this work. Future work will need to consider the eligibility criteria, especially related to place of residence. We tried to reduce the travel time for the research assistant as we wanted interviews conducted in person. In future work, we need to enlarge the distance criteria or allow for telephone interviewing. 🍀

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