

# Use of Complementary and Alternative Therapies to Manage Cancer-Related Symptoms in Hospitalized Patients

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Patients with cancer frequently experience pain, fatigue, and sleep disturbances. This study investigates (a) the presence and severity of symptoms, (b) the various types of complementary and alternative therapies (CAM) patients currently use to manage cancer-related symptoms, and (c) participants' level of interest in CAM use. A sample of hospitalized cancer patients ( $n = 13$ ) completed an anonymous survey to assess self-reported pain, fatigue, sleep disruptions, and CAM-based symptom management therapies. Self-reported sleep disruptions was the most common symptom (79.6%). Prayer (53.8%) was the most frequently used CAM therapy. Patients reported the most interest in learning about massage (66.7%), biofeedback (41.7%), and meditation (41.7%). These findings highlight the prevalence of pain, fatigue, and sleep disruptions in this population and the fact that many patients currently use CAM therapies to manage their symptoms and are interested in learning about other strategies. Nurses have an important role in helping patients to manage their symptoms and in educating patients about safe use of CAM.

## INTRODUCTION

### ***Common Symptoms in Patients with Cancer***

Cancer is one of the most common medical diagnoses in the United States and is associated with many disease and treatment side effects (Hayat, Howlader, Reichman, & Edwards, 2007). Fatigue, nausea, and pain are among the most common cancer-related symptoms (Cella et al., 2007).

Pain is one of the most familiar and problematic symptoms among cancer patients and is a major source of concern for patients (Miaskowski, Kragness, Dibble, & Wallhagen, 1997). Studies have found that women with cancer (Cleeland et al., 1994) and elderly adults with cancer (Green et al., 2003) are at risk for under-treatment of pain. Studies also suggest that persistent unrelieved pain leads patients to seek alternative therapies (Vallerand, Fouladbakhsh, & Templin, 2005).

Fatigue is highly prevalent among cancer patients. It is a major symptom of cancer treatment and impacts patients' functional level and well-being (Wu & McSweeney, 2007). Cancer-related fatigue fluctuates over time, is severe, causes debilitating tiredness, and is more extreme than typical fatigue (Gibson et al., 2005). Fatigue interferes with patients' ability to function at work and home. Evidence suggests that patients suffering from fatigue are more likely to experience depression and anxiety (Hotopf, 2004).

Insomnia, similar to fatigue, is associated with reduced functioning. One quarter of all cancer survivors suffer from chronic insomnia that negatively affects daytime functioning and quality of life (Fleming, Gillespie, & Espie, 2009). In a study of 982 respondents, 75% of cancer survivors had chronic insomnia that lasted six months or more (Davidson, MacLean, Brundage, & Schulze, 2002).

Recent studies have found that sleep disturbances result in other significant consequences including reductions in treatment compliance, survival, pain control, immune and metabolic functions (Sateia & Lang, 2008).

Most patients with cancer-related pain, fatigue, and sleep disruptions use medications to treat their symptoms. Pharmacologic treatments, however, are not effective for everyone, and often cause adverse side effects such as constipation, sedation, or respiratory suppression (Evans & Rosner, 2005). As such, many cancer patients seek complementary and alternative therapies to manage their cancer-related symptoms (Richardson, Sanders, Palmer, Greisinger, & Singletary, 2000).

### ***Complementary and Alternative Medicine***

Complementary and alternative medicines (CAM) are defined as "medical interventions not taught widely at U.S. medical schools or generally available at U.S. hospitals" (Eisenberg et al., 1993). More specifically, complementary medicine is used in conjunction with conventional treatments (Fouladbakhsh, Stommel, Given & Given, 2005; Sollner et al., 2000), whereas alternative medicine is used in place of conventional medicine (Field et al., 2008). The National Center for Complementary and Alternative Medicines (NCCAM) categorizes the different types of CAM practices into four domains: mind-body practices, biologically-based practices, manipulative- and body-based practices, and energy medicine (Fouladbakhsh et al., 2005).

### ***Prevalence of CAM Use in Cancer Patients***

Complementary and alternative medicine is popular among cancer patients as they often seek remedies to supplement conventional medical treatment. It has been

estimated that between 44–83% of cancer patients used at least one CAM therapy to control their symptoms (Richardson, et al., 2000; Wells et al., 2007). The most commonly used therapies were spiritual practices, vitamins and herbs, and physical therapies, used in combination with conventional treatment (Richardson et al., 2000).

**Reasons for CAM Use among Cancer Patients**

According to a study of 453 outpatient cancer patients, the most common reason for using CAM was a desire to feel hopeful (73.0%) (Richardson et al., 2000). Patients in this study represented a variety of cancers, including breast, prostate, gastrointestinal, head/neck, sarcoma/melanoma, and lymphoma. Patients reported using CAM because they felt these methods were nontoxic (48.9%) and wanted to maintain control in the decisions about their medical care (43.8%). The survey concluded that their expectations of CAM were to improve their quality of life, boost their immune system, prolong life, or relieve symptoms (Richardson et al., 2000).

In sum, there is ample evidence to support the fact that persons with cancer experience pain, fatigue, and sleep disruptions associated with their disease and/or their treatment. Several recent studies have examined the use of complementary and alternative medicine among cancer patients, but only a few have investigated what patients currently know versus what patients have interest in learning. Thus, the purpose of this study was to investigate the various types of complementary and alternative therapies that patients with cancer currently use to manage their cancer related symptoms and which types of CAM they are most interested in learning about. In addition, we sought to confirm the presence of pain, fatigue, and sleep disruptions in this population as a basis for using CAM therapies. Specifically, we asked the following research questions:

- What percentage of hospitalized patients with cancer report experiencing pain, fatigue, and sleep disruptions?
- What are the most commonly used types of CAM reported by hospitalized patients with cancer?
- What types of CAM are patients most interested in learning about?

**METHOD**

**Participants**

A convenience sample of hospitalized patients with cancer on the Shands @ UF (SUF) oncology unit was recruited to complete this anonymous survey. Inclusion criteria for enrollment were a diagnosis of cancer (any

type) and at least 18 years old. The study sample consisted of 13 participants, 7 (53.8%) male and 6 (46.2%) female. All of the participants were non-Hispanic Caucasians with an average age of 60 years (Range = 49–82 years). Education was distributed as follows: 5 (38.5%) were high school graduates or GED recipients, 4 (30.8%) had some college or vocational experience, and 4 (30.8%) were college graduates. The most frequent types of cancer represented in the sample were lymphoma (30.8%), sarcoma (23.1%), and breast (7.7%) (see Table 1 for sample description).

**Table 1:** Sample Characteristics (n = 13)

Characteristic	Total Sample n (%)
Sex	
Male	7 (53.8)
Female	6 (43.2)
Race	
White	13 (100)
Hispanic	0 (0)
Marital Status	
Married	5 (29.4)
Unmarried*	8 (70.6)
Education level	
H.S. grad or GED	5 (38.5)
Some college/vocational	4 (30.8)
College graduate	4 (30.8)
Household Income**	
< 20,000	6 (50)
20,000–49,000	2 (16.7)
50,000–74,000	2 (16.7)
>75,000	2 (16.7)

\* Never married, widowed, separated, and divorced participants

\*\* One participant did not answer

**Procedure**

Approval to conduct this study was obtained from the University of Florida Health Science Center IRB 01. Staff nurses on the oncology unit at SUF distributed the anonymous questionnaire to all cancer patients admitted to the hospital in the patient admission packets. Respondents returned the completed survey in an envelope provided to the nurses’ station for collection. Sealed surveys were placed in an opaque and marked box for pick up. Data were entered into SPSS for analysis.

## Measures

The questionnaire included six tools assessing demographics, health conditions, self-reported pain, fatigue, sleep disruptions, and CAM use and/or interest. Measures are described in the following sections.

**Demographic Characteristics.** Respondents were asked to provide demographic characteristics, such as their age, sex, race, marital status, education, insurance status, household income (categorized), and with whom they live.

**Health, Health Conditions, and Medications.** Respondents were asked to rate their overall subjective health based on the question, "Overall, how would you rate your health?" Responses ranged from 1 (excellent) to 5 (poor). Participants were presented with a list of 13 medical conditions, including cancer, and asked to indicate which medical diagnoses they have been told by a health care professional that they have and which medications they take for any of the medical conditions that they endorsed.

**Pain.** Pain was measured using the Brief Pain Inventory (Short Form) (Cleeland & Ryan, 1994). This survey contains 15 items about the presence and locations of pain, pain intensity, and the impact of pain on sleep, functioning, mood, and general well-being. Pain intensity was rated on a 0–10 scale (0 = no pain, 10 = pain as bad as can be imagined). Participants were asked to indicate how much relief they received from pain medications or treatments in the last 24 hours (0% = no relief, 100% = complete relief). In addition, participants were asked the extent to which pain interfered with their general activity, mood, walking ability, work, social relationships, sleep, and enjoyment of life.

**Fatigue.** Fatigue was measured using the Brief Fatigue Inventory (Mendoza et al., 1999). This survey consists of

10 questions about the presence and severity of fatigue and the impact of fatigue on daily functioning and quality of life. Participants were asked to rate their current level of fatigue and in the last 24 hours. Responses were on a 0–10 scale (0 = no fatigue, 10 = as bad as can be imagined). Participants were also asked to indicate how fatigue interfered with general activity, mood, walking ability, work, social relationships, sleep, and enjoyment of life in the last 24 hours.

**Sleep Disruptions.** The Insomnia Severity Index (Morin, Belleville, & Bélanger, 2006) was used to assess perceptions of insomnia and sleep disruption. This instrument consists of seven items that assess the severity of self-reported sleep disruptions. Participants were asked to rate difficulty staying asleep, falling asleep, or problems with waking up too early on a 0–4 scale (0 = none, 4 = very severe). Participants also indicated the degree to which sleep interfered with daily functioning, was noticeable to others, and caused worry or distress. Total Insomnia Severity Index scores were categorized as follows: 0–7 = no clinically significant insomnia, 8–14 = subthreshold insomnia, 15–21 = clinical insomnia (moderate severity), and 22–28 = clinical insomnia (severe).

**Complementary and Alternative Medicine.** A Complementary and Alternative Medicine (CAM) Questionnaire (Yoon, 2008) was used to assess therapies respondents have used to manage their pain, fatigue, or sleep disruptions. The survey consists of 17 commonly used CAM therapies, ranging from massage therapy and chiropractic to biofeedback and hypnosis. See Table 2 for a complete list of CAM therapies measured. Patients were asked to identify which CAM therapy they currently use, which symptom(s) they are using it for, and which CAM therapies they are interested in learning to use.

**Table 2:** Patient Use and Interest in CAM

Type of CAM	Used CAM n (% <sup>*</sup> )	Reasons for CAM use n (% <sup>*</sup> )				Interest in CAM n (% <sup>*</sup> )
		Pain	Fatigue	Sleep disruptions	Multiple symptoms	
Massage	3 (23.1)	3 (100)	-	-	-	8 (66.7)
Chiropractic	1 (7.7)	1 (100)	-	-	-	3 (25)
Acupuncture	0	-	-	-	-	2 (16.7)
Acupressure	1 (7.7)	-	-	-	1 (100)	2 (16.7)
Energy healing	0	-	-	-	-	3 (27.3)
Guided imagery	1 (7.7)	1 (100)	-	-	-	1 (8.3)
Meditation	4 (30.8)	1 (25)	1 (25)	1 (25)	1 (25)	5 (41.7)
Reflexology	1 (7.7)	-	-	-	1 (100)	2 (16.7)
Hypnosis	0	-	-	-	-	2 (16.7)
Biofeedback	0	-	-	-	-	5 (41.7)
Prayer	7 (53.8)	1 (14.3)	-	-	6 (85.8)	4 (33.3)
Spiritual healing	3 (23.1)	-	-	-	3 (100)	2 (16.7)
Music therapy	3 (23.1)	-	1 (33.3)	-	2 (66.6)	2 (16.7)
Herbal/folk remedies	1 (7.7)	-	-	-	1 (100)	3 (25)
Megavitamins	2 (15.4)	-	1 (50)	-	1 (50)	3 (25)
Yoga/tai chi	0	-	-	-	-	4 (33.3)
TENS	0	-	-	-	-	3 (25)

\* Valid percent reported

## RESULTS

### *Prevalence of Sleep Disruptions*

The most commonly reported symptom was sleep disruptions, with 76.9% (n = 10) experiencing sleep disruptions over the last week (Figure 1). Thirty-eight percent reported difficulty falling asleep at night, while

84.6% reported having moderate to very severe difficulty staying asleep. The majority of participants (53.8%) stated that they are dissatisfied with their sleeping patterns, and 76.9% reported that they worry and/or are distressed about their sleep. According to the Insomnia Severity Index, 75% (n = 9) of the participants had some degree of clinically significant insomnia.

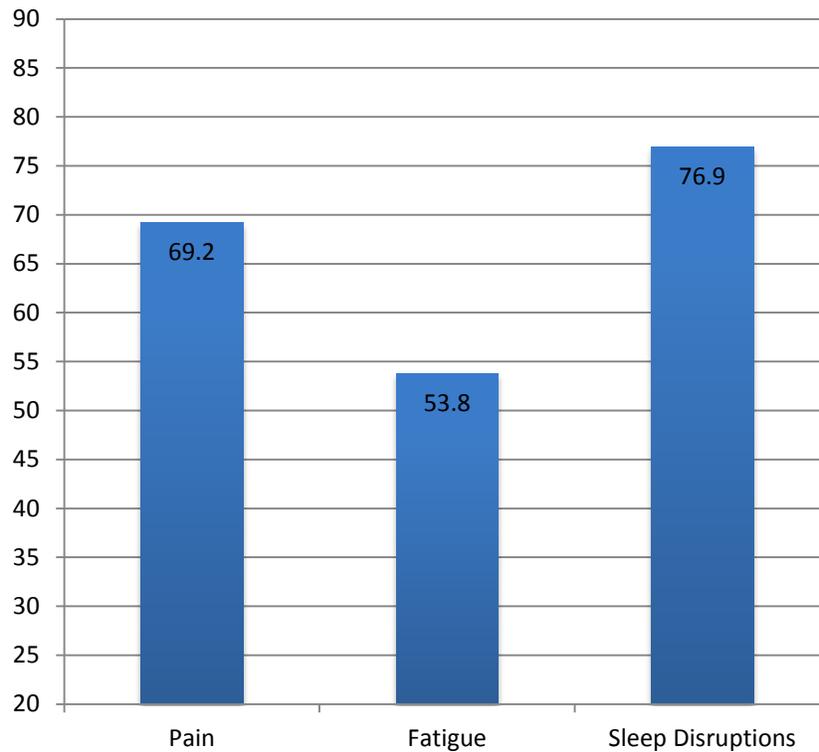


Figure 1: Percent of patients reporting pain, fatigue, and sleep disruptions.

**Prevalence of Pain**

More than half of the participants (53.8%) reported experiencing pain in the last 24 hours. The majority of pain experienced (76.9%) was reported in the upper body, including head, neck, shoulders, back, and abdomen. On average, participants reported their worst pain intensity as a 5 (mean = 4.9), and 46.2% reported pain scores of 6 or higher. With regard to pain relief from current medical treatments, 3 (23.1%) reported complete relief, 3 (23.1%) reported no relief, and the remainder reported little relief (15.4%) or some relief (26.1%). Pain interfered primarily with patients’ work (69.2%), mood (61.5%), and sleep (69.2%). Most participants reported no interference with social relationships (61.5%) or walking (69.2%).

**Prevalence of Fatigue**

The majority of study participants (69.2%) reported experiencing fatigue. On average, participants reported that their worst fatigue intensity was a 5 (mean = 4.9), and the usual level of fatigue was a 4 (mean = 3.9). Respondents reported that fatigue interfered primarily with their ability to work (mean intensity = 4.5), but there was also moderate interference with general activity (mean = 3.6), mood (mean = 3.31) and enjoyment with life (mean = 3.5).

**Most Commonly Used CAM**

Of the 17 types of CAM assessed, prayer was the most commonly reported CAM therapy used (53.8%) (see Table 2). Of those using prayer (n = 7), most respondents (85.8%) reported using prayer for multiple symptoms. Use of spiritual healing was also reported by 23.1% to heal multiple symptoms. Participants reported using meditation (30.8%) for pain, fatigue, and sleep disturbances. Massage was reported for pain by 23.1% reported. Participants in this study did not report the use of the following therapies: acupuncture, energy healing, hypnosis, biofeedback, yoga, or transcutaneous electrical nerve stimulation (TENS).

**Interest in Types of CAM**

Patients expressed interest in learning about massage (66.7%), biofeedback (41.7%), and meditation (41.7%) (see Table 3). Mind-body practices generated the most interest, with study participants reporting biofeedback, meditation, prayer, and yoga/tai chi among the top ten CAM therapies that they are interested in learning about. Study participants reported that they were least interested in imagery (8.3%).

**Table 3:** Top Ten Interesting CAM Therapies to Patients

CAM Therapies	Patient Interest in CAM <i>n</i> (% <sup>a</sup> )
Massage	8 (66.6)
Biofeedback	5 (41.7)
Meditation	5 (41.6)
Prayer	4 (33.4)
Yoga/tai chi	4 (33.3)
Energy healing	3 (27.3)
Chiropractic	3 (25)
Herbal/folk remedies	3 (25.0)
Megavitamins	3 (25.0)
TENS	3 (25.0)

<sup>a</sup> Valid percent reported

## DISCUSSION

The results of this study confirm that pain, fatigue, and sleep disruptions are common symptoms among cancer patients undergoing treatment. The majority of hospitalized patients in this sample reported experiencing at least one of these symptoms. Not surprisingly, pain, fatigue, and sleep disruptions interfered with participants' daily lives. Notably, very few patients reported complete pain relief from conventional therapies. Thus, it is not surprising that many turn to complementary and alternative therapies to help manage their symptoms.

Prayer was the most commonly used CAM therapy. Prayer is often used to relieve stress and to cope with the issues of daily life (Dunn & Horgas, 2000). Pain, fatigue, and sleep disruptions can cause a considerable amount of distress in one's life, and the high prevalence of prayer is not surprising in this context. This finding is consistent with prior studies that have documented the high use of prayer to cope with pain among older adults (Dunn & Horgas, 2000).

These findings illustrate the fact that many cancer patients suffer from multiple symptoms during their treatment, most notably pain, fatigue, and sleep disruptions. These symptoms negatively influence their quality of life. Not surprisingly, patients report using CAM to help manage their pain, and expressed interest in learning about other therapies. These findings have important implications for nurses, since they are in a key position to assess and manage symptoms among hospitalized patients. Nurses should recognize that

symptoms are not always relieved by conventional medical therapy and should help patients consider CAM therapies. Nurses play an important role in educating patients and their families about symptom management and should be knowledgeable about the various forms of CAM therapies that are available. Nurses can use this knowledge to help patients use CAM safely. It is also important that nurses and other health care professionals be aware of what patients are currently using, so that they can assess for potential interactions or contraindications. Finally, with regard to prayer, nurses should be aware of its importance to many patients and be prepared to acknowledge it with their patients and/or make referrals as necessary.

While this study yields some interesting preliminary results, several limitations should be noted. First, the sample size was small. Only 13 patients from Shands @ UF completed and returned the questionnaire to date. Thus, the sample may be biased towards patients who are well enough to complete the survey or those who use CAM. Other potential participants may have declined participation based on the purpose of the study. The study assessed CAM use, and if patients didn't use it or weren't interested, they may not have responded. Unfortunately, because the study was an anonymous survey, it is impossible for us to know how many patients were eligible to participate or why some did not respond. Second, the sample consisted of only Caucasians. Thus, the extent to which the results would vary in different racial groups is not known. Further study is necessary to obtain a larger and more diverse sample size. Third, the study used an anonymous survey methodology. This approach, however, relied heavily on the nurses and unit clerks to distribute surveys to newly admitted patients. The hectic and busy environment of the hospital may have caused these surveys to be overlooked. In further studies, it may be beneficial to conduct interviews with patients instead of distributing surveys. This might yield a more representative sample that would enable more in-depth analyses of the symptom experience and CAM use in cancer patients.

Despite these limitations, this study highlights the continuing problem of pain, fatigue, and sleep disruptions among cancer patients. Patients' symptoms are not relieved during their hospitalization, and this is an important issue for nurses and other health care professionals to address. Further, patients use and seek information about CAM therapies to help them manage their symptoms and disease. Nurses should be aware of patients' interest and be knowledgeable about CAM so that they can be in the best position to appropriately assist and educate patients.

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