



Complementary and alternative medicine use in lung cancer patients in eight European countries

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Summary This paper presents findings from a cross-sectional survey about the use of complementary and alternative medicine (CAM) in patients with lung cancer, forming part of a larger study. Data from 111 lung cancer patients in 8 countries in Europe were collected through a descriptive 27-item questionnaire. The data suggest that 23.6% of the lung cancer patients used CAM after the diagnosis with cancer. The most popular CAM modalities were herbal medicine (48.1%), medicinal teas (11.5%), homeopathy (11.5%), use of animal extracts (11.5%) and spiritual therapies (11.5%). Herbal use increased by three times after the diagnosis of cancer. Patients seemed quite satisfied with the CAM used. They were also spending on average about 142 Euros monthly on CAM therapies or remedies. The most common motivation to use CAM was to increase the body's ability to fight the cancer. Main sources of information about CAM were friends and family. As CAM is increasingly used by patients with lung cancer, it is important to be able to assist patients make an appropriate decision by discussing the issue of CAM openly, providing reassurance and communicating safe and appropriate information to patients.

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Introduction

There is an increasing attention in the cancer literature about the use of complementary and alternative medicine (CAM). It seems that a large proportion of cancer patients do use some form of CAM after the diagnosis of cancer.

Reported prevalence rates have been presented as high as 83.3%,¹ although such rates considerably differ from study to study depending on the particular sample and the definition of CAM used. A systematic review of 26 surveys in 13 countries showed that the mean prevalence rate of CAM use was 31.4%.²

There is no data examining CAM use specifically in lung cancer patients, although in at least three studies lung cancer patients were included as part of a mixed sample of cancer patients. In a study of 699 older breast, colorectal, prostate and lung cancer patients, it was shown that around 33% were using CAM with the most common therapies being exercise, herbal therapy and spiritual healing.³ In the same study, CAM users were more likely to be women, having breast cancer and with higher educational level.

In an Israeli study of 1027 patients with a mixed cancer diagnosis (no number of lung cancer patients reported), it was also shown that 51.2% had used CAM since their cancer diagnosis, with lung, breast, brain and haematological cancer patients using CAM more often than other cancer diagnostic groups.⁴

Psychosocial variables associated with recent CAM use included unmet needs by conventional medicine, helplessness, incomplete trust in the doctor, and changed outlook or beliefs since the diagnosis with cancer.⁴ Furthermore, patients using CAM have been shown to be more optimistic than CAM non-users.³

In the study by Richardson et al.¹ 52 thoracic/head and neck cancer patients were included in a larger sample of 453 outpatients. Results suggested that the most common reason for using CAM was related to increasing hope, and most patients (60.6%) typically did not disclose use of CAM to their physicians. Furthermore, internal locus of control and a strong sense of purpose in life were shown to be characteristics of CAM use in a sample of 40 lung cancer patients.⁵

The aim of the present study was to assess the patterns of CAM use specifically in lung cancer patients in Europe. The current report is a subgroup analysis of a larger ($n = 956$) European survey examining use of CAM by cancer patients in Europe.⁶ The need to undertake this subgroup analysis derived from initial differences observed

between the results of the larger heterogeneous study and some cancer diagnostic groups, including lung cancer.

Methods

The present study was a descriptive cross sectional survey conducted in 14 European countries, with 8 countries providing data in relation to lung cancer patients after completing a self-reported questionnaire. The eight participating countries included Greece, Turkey, the United Kingdom, Denmark, Sweden, Spain, Israel and Switzerland. The study was approved by the Research and Ethics Committees of all participating hospitals. Data was collected from outpatient clinics approaching all attending patients on randomly selected days. Patients completed a questionnaire and handed it back to the local researchers, who were all members of the Oncology Nursing Society of each country. The local Oncology Nursing Society facilitated the study in each country.

The questionnaire had 27 descriptive items and it was based on the one developed by Swisher et al.⁷ The questionnaire was translated in each language of all the participating countries before use, following standard back translation procedures. It included questions relating to sociodemographic and treatment variables as well as CAM specific questions. All patients were asked whether they had used CAM before or after the diagnosis of cancer. If patients commented that they had not used any form of CAM, they were asked to identify the main reason for that and stopped completing the questionnaire at that point. If patients reported CAM use, they were taken through a number of questions asking to describe the type(s) of CAM used before or after the diagnosis of cancer, the reasons for and benefits from using CAM, expenditure on CAM therapies or remedies and sources of information about CAM. Two 7-point scales further assessed satisfaction with CAM and perceived effectiveness of the CAM used, with higher scores indicating more satisfaction and a higher level of perceived effectiveness, respectively. A detailed description of the methods used is presented elsewhere.⁶

Data from the standardised questionnaire was coded and analysed using SPSS v.11. Descriptive statistics summarised all the study's variables. Non-parametric statistics were used to assess any differences between sociodemographic characteristics and use of CAM.

Results

The sample of lung cancer patients consisted of 111 patients. Each participating country contributed with 10–20% of the lung cancer data. The sample consisted of 71 men (64.5%) and 40 women (35.5%). The mean age of the sample was 57.7 years ($SD = 11.09$, range = 30–86). Most were either manual workers (36.7%) or retired (31.2%) and married (83.7%). They were all white Europeans/Caucasians. Their education level was relatively low and the majority were earning less than €10,000 annually (58.4%) (Table 1). The majority (69.7%) were currently receiving treatment for their cancer with chemotherapy being the most common one (81.6%).

Almost one quarter of the patients ($n = 26$, 23.6%) used some form of CAM therapy before or after the diagnosis of cancer. There was a great variability in the CAM use among countries, with Greece showing the lowest CAM use (4.3%) and Israel the highest (42.9%) (Table 2). Patients spent an average of €142.87 monthly on CAM therapies or remedies ($SD = 142.9$), although there were great

variations from patient to patient with expenditure ranging from 0 to 658 Euros per month. Only in half the participating countries, however, patients paid out of pocket expenses for CAM. Contrary to expectation, paying privately for CAM did not correspond well with higher purchasing power relative to each country's population (Table 2).

Before the cancer diagnosis, 19 different CAM treatments had been used, decreasing after the diagnosis of cancer to 15, while currently only 9 different CAM treatments were used. Most common CAM modalities used since the diagnosis of cancer were biological-based methods including herbal medicine/remedies (48.1%), medicinal teas (11.5%) and animal extracts (11.5%) such as shark cartilage and others (Table 3). After the diagnosis of cancer, the use of herbs increased three-fold, although use of most other CAM therapies decreased (Table 3). Spiritual healing and homeopathy were also commonly used. It was interesting to note that the patients did not use support groups.

Patients seemed to be quite satisfied with the CAM therapy used (mean = 5.13, $SD = 1.63$), although perceived CAM effectiveness was somewhat lower (mean = 4.86, $SD = 1.8$). CAM users were more likely to be younger patients ($P = 0.01$) and with higher education level ($P = 0.012$) than the non-users.

Lung cancer patients were using CAM more commonly to increase the body's ability to fight cancer or to do everything to fight the cancer (Table 4). However, benefits reported did not necessarily match the initial reason/motivation for using CAM. Only 3 patients (11.1%) reported no benefit from using CAM. The main sources of information about CAM were friends (65.4%) followed by family (30.8%), CAM practitioners (26.9%) and the media, such as newspapers, magazines, books or TV (23.1%). Other less frequently reported sources of information included the physician (11.5%), the nurse (3.8%), the internet (3.8%) and other patients (3.8%).

Non-users were asked to report what was the main reason for not using CAM. Most responded that they were happy with the (conventional) treatment they received/were receiving (32.8%). Never thought about CAM was the response of 43.2% and not believing in the effectiveness of CAM the response of 17.6% of patients. A small number of patients (1.4%) were discouraged by family/friends or health professionals.

Table 1 Sociodemographic data of the sample.

		<i>N</i> * (%)
Gender	Male	71 (64.5)
	Female	40 (35.5)
Marital status	Single	5 (4.5)
	Married	92 (83.7)
	Divorced/separated	8 (5.3)
	Widowed	5 (4.5)
Educational level	No formal education	1 (0.9)
	Primary school	40 (36)
	Secondary (high) school	48 (43.2)
	College/University degree	11 (10)
	Postgraduate education	6 (5.4)
	Professional schools	5 (4.5)
Occupation	Retired	34 (31.2)
	Education/health/business	14 (12.9)
	Housewives	10 (9.2)
	Manual work	40 (36.7)
	Clerical staff	11 (10)
Annual Income (in €)	<10,000	52 (58.4)
	10,001–20,000	13 (14.7)
	20,001–30,000	12 (13.5)
	30,001–40,000	6 (6.7)
	>40,000	6 (6.7)

*Numbers do not add up all to total sample size, as there was some missing data.

Discussion

The present study showed that less than a quarter of lung cancer patients use CAM. This is a

Table 2 Descriptive statistics of CAM use in lung cancer patients, out of pocket expenditure, and Purchasing Power Standards* for each participating country.

Country	CAM use (%)	Expenditure (monthly, in €)	% of users paying for CAM	PPS*
Greece	4.3	—	—	82.5
UK	12.5	5	33	119.1
Turkey	33.3	244.7	50	29
Israel	42.9	237.5	67	86
Sweden	25	—	—	116
Denmark	40	123	75	122
Spain	37.5	182	100	97.6
Switzerland	16.7	—	—	129

*PPS; Purchasing Power Standards. This is an indicator of purchasing power based on the country's Gross Domestic Product (GDP) per capita, expressed in relation to the EU-25 set to equal 100; USA = 159.2. Data available from Eurostat (forecast, 2004) at http://epp.eurostat.cec.eu.int/portal/page?_pageid=1090,30070682,1090_30298591&_dad=portal&_schema=PORTAL

Table 3 Types and frequency of complementary and alternative medicine used by lung cancer patients [N (%)].

Type	Before cancer	Since diagnosis with cancer	Currently
Herbal medicine	4 (15.3)	13 (48.1)	11 (40.7)
Homeopathy	2 (7.4)	5 (18.5)	2 (2.4)
Spiritual therapies	3 (11.5)	4 (15.3)	3 (11.5)
Medicinal teas	1 (3.8)	3 (11.5)	—
Animal extracts	1 (3.8)	3 (11.5)	—
Acupuncture	3 (11.5)	2 (7.4)	2 (7.4)
Naturopathy	2 (7.4)	2 (7.4)	1 (3.8)
Massage	2 (7.4)	2 (7.4)	—
Visualisation	1 (3.8)	2 (7.4)	1 (3.8)
Chiropractic	2 (7.4)	1 (3.8)	—
Relaxation	1 (3.8)	1 (3.8)	—
Vitamins/minerals	3 (11.5)	1 (3.8)	1 (3.8)
Hypnotherapy	1 (3.8)	1 (3.8)	—
Coenzyme Q10	1 (3.8)	1 (3.8)	—
Reiki	1 (3.8)	1 (3.8)	—
Psychic therapies	1 (3.8)	—	1 (3.8)
Bach flowers	1 (3.8)	—	—
Aromatherapy	1 (3.8)	—	—

Table 4 Reasons for using complementary and alternative therapies and perceived benefits [N(%)].

Reasons for use		Benefits experienced
To directly fight the disease	6 (22.2)	0 (0)*
To increase body's ability to fight the cancer	9 (33.3)	7 (25.9)*
To improve physical well-being	8 (29.6)	9 (33.3)
To improve emotional well-being, hope and optimism	8 (29.6)	9 (33.3)
To counteract ill effects	8 (29.6)	5 (18.5)*
"Help, no hurt"	7 (25.9)	
To do everything to fight the disease	9 (33.3)	

* $P < 0.05$.

considerably lower prevalence rate compared to that reported in the international literature in breast cancer patients^{8,9} or samples with mixed cancer diagnoses.^{1,10} It is also in contrast with

findings from the study by Paltiel et al.⁴ in Israel whereby lung cancer patients were one of the groups more likely to use CAM. However, in the latter study the number of lung cancer patients

included was not reported and its sample size may have affected the results.

Compared with the results from the larger study,⁶ lung cancer is one of the cancer diagnostic groups with the lowest CAM use (with the exception of Head & Neck cancer patients only). Greece, UK and Switzerland showed significantly lower CAM use than any other country in the study. Nevertheless, high use rates were reported in several other countries, probably as a result of availability of CAM in these countries or trying to use everything possible to combat their illness. Many of these patients paid a considerable amount of money every month on CAM therapies or remedies, even in countries with low GDP and purchasing power. It was also noticed that 'current use' declined considerably among CAM users and satisfaction with CAM was also somewhat lower from that reported in the larger mixed-diagnosis sample,⁶ which probably had to do with poor outcomes and increasing morbidity among this particular cancer population, especially as the initial reason/motivation for CAM use was to fight the disease.

Biological based therapies (especially herbs) were the most commonly used therapies together with the Alternative Medical System of Homeopathy and spiritual therapies. With the exception of homeopathy, the other commonly used CAM therapies in the current study are consistently reported in the literature.^{1,11,12} Homeopathy is not reported frequently in the international literature, but this may be the case because most published studies are American, where homeopathy may not be so popular. However, homeopathy has a long history in Europe and it is one of the few well-regulated CAM therapies to date.¹³

Use of herbs and animal extracts needs particular attention, as reports do exist of the interactions of herbs with conventional medicines¹⁴ and the potential toxicity of certain herbs. Hence, patients using herbal remedies need to be educated about their use and advised of potential risks when such information is available. However, CAM therapies and some herbal remedies when used in conjunction with conventional medicine may improve the therapeutic outcome of the patient, and the role of CAM especially in supportive and palliative care may be important.

It is known through systematic reviews that a number of herbs can control certain symptoms equally or better than medication.¹⁵ Further, an Israeli study has shown that cancer patients who used CAM had a significantly more improved psychosocial status than the non-users.¹⁶ Selective integration of CAM services into mainstream medicine may provide the highest increases in quality of life.¹⁷

The pattern of use was also of some interest. After the diagnosis of cancer, patients decreased the use of CAM from pre-diagnosis and current users (probably in later stages of the illness) were few. This is in contrast with the common belief that patients may use more CAM later on in the cancer trajectory, when conventional medicine offers little hope and is also in contrast with the data from our larger study whereby patients will increase the use and range of therapies after diagnosis of cancer (with decreases however along the cancer journey).⁶

The current sample also tended to use more biological-based methods, with minimal use of more complementary in nature therapies, such as relaxation techniques, which are often reported in the literature as commonly used.^{11,18,19} Furthermore, patients used an average of 1.53 CAM therapies since the diagnosis of cancer and 0.88 therapies currently, which is considerably lower than the patterns reported in the literature such as in the study by Richardson et al.¹ whereby patients used an average of 4.8 therapies. The absence of use of support groups was also a highlight of the data. The profile of users though (younger and better educated) partly matched findings from the literature.^{1,20,21}

A large percentage of patients used CAM to directly fight the disease or counteract side effects but a significantly lower number reported benefits that matched initial expectations. However, moderate benefits compared to expectations were reported with regards to improvements in physical and emotional well-being. Even though benefits reported did not match expectations very well, only a small number of patients (11.1%) reported no benefits, and the sample seemed quite satisfied with the particular therapies used.

Expenditure on CAM was an average of €142.87 per month, which is considerably higher than expenditure in CAM from American samples, as one study showed that mean annual spending was \$68.²² This may reflect, however, CAM coverage by many insurances in America, which is not the case in Europe, with patients having to pay themselves for CAM and with few therapies provided within the public health care sector, mostly in palliative care units. For example, a UK study showed that only 10% of the patient contacts with a CAM practitioner was provided by the National Health Service.²³

Main sources of information included friends/family or the media, confirming earlier reports.¹⁹ This suggests that patients do not receive accurate and appropriate information, and efforts should be directed to improve this situation. Physicians and nurses played a small role as providers of CAM

information, reflecting either their own limited knowledge on the subject or minimal communication with patients about CAM. Health care professionals, however, could play a major role in this area, as they are competent in evaluating the available (albeit limited) evidence about CAM and cancer. Clinicians are advised to consult published information sources about CAM²⁴ or selective web-based good quality information in order to increase their knowledge about CAM and respond to patients' inquiries. Also, by raising questions about CAM use with their patients, communication between health professionals and patients could further improve.

CAM use will only increase in the future and health professionals need to be aware of what patients are doing outside the conventional care environment both in order to minimise risks and also to provide patient education. The wide use of CAM, the amount of money patients pay privately for CAM therapies or remedies and potential risks but also benefits gained from such therapies make it necessary to pay more attention to this issue in clinical practice. There is an urgent need to look at the evidence behind use of CAM and perhaps start integrating CAM therapies for which evidence of effectiveness does exist.

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