


Knowledge and use of complementary therapies in a tertiary care hospital in France

A preliminary study

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Abstract

Few studies have clarified the use of complementary therapies (CTs) in France. The main objective of this preliminary study was to evaluate knowledge of CTs in 4 representative groups of patients: patients suffering from cancer, patients presenting with a chronic noncancerous disease, chronic dialysis patients and nonchronic or cancerous patients needing surgery.

A formalized questionnaire was designed by 2 psychologists, an oncologist and an anesthesiologist in charge of the Pain Clinic and Support Care Unit. One-hundred eleven patients were enrolled, and all agreed to complete the questionnaire.

Eighty (72%) patients did not know the term “complementary therapies” (patients who were “not aware of CTs”), and 24 (21.6%) patients knew the term “complementary therapies” (patients who were “aware of CTs”), while 7 patients were not sure of the meaning. There were no differences between aware and unaware patients in gender ($P = .27$), age ($P = .24$), level of education ($p = 0.24$) or professional occupation ($P = .06$). Knowledge about CTs was significantly different among the different categories of patients ($P = .03$), with the only statistically significant difference between groups being between oncologic patients receiving ambulatory chemotherapy and patients presenting with a chronic noncancerous disease ($P = .004$).

This preliminary study clearly highlights that patients and health caregivers are not aware of CTs and that there is a need for better communication about CTs.

Abbreviation: CT = complementary therapy.

Keywords: cancer, chronic disease, complementary therapies, pain, renal dialysis

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1. Introduction

Complementary therapies (CTs) encompass many techniques and treatments, with the MeSH list comprising 22 categories. CTs are used in different ways depending on the country and the disease. Thus, a European study conducted by Rossi et al focusing on cancer patients showed that the most frequently proposed practices were acupuncture (55.3%), homeopathy (40.4%), herbal medicine (38.3%) and traditional Chinese medicine (36.2%).^[1] These Italian authors showed significant disparities in the care offered between their country and other European countries, with twice as many offerings of acupuncture, herbal medicine and traditional Chinese medicine and a similar offering of homeopathy. Other studies have also compared practices by country and pathology.^[2–4] However, the lack of communication between physicians and patients about the use of these therapies has already been noted, and two-thirds of CT users do not disclose their use to their physician.^[5]

While CT practices in France are known from at least 2 studies involving patients with cancer^[6] or palliative care,^[7] knowledge of and belief in CTs has not been studied in other populations.

The objective of this preliminary study was to evaluate the knowledge of CTs, the extent of their use and communication with care providers in patients treated in an academic tertiary care center in France. To determine whether cancer or another chronic condition could impact the patient's attitude towards CTs, we also decided to compare the evaluations of 4 representative groups: patients suffering from cancer, patients

presenting with a chronic noncancerous disease, chronic dialysis patients and nonchronic or cancerous patients needing surgery.

2. Materials and methods

2.1. Eligible participants

The study was conducted from January 2015 to September 2015 in 4 different departments of the hospital, and the following patients were enrolled: oncologic patients followed for more than 3 months who were coming to the hospital for chemotherapy (outpatient oncology), patients hospitalized for more than 48 hours in internal medicine and presenting with a chronic noncancerous disease, patients hospitalized for hemodialysis and nonchronic or cancerous patients hospitalized for minor surgery.

Patients who were suffering from psychiatric conditions, were insufficiently relieved of pain or were too tired to be interviewed were dismissed.

The study was approved by the French Ethics Committee of Research in Anesthesia (IRB00010254–2019-089). As the responses to these questionnaires were collected during standard care, the patient's written informed consent was considered unnecessary, and oral informed consent was obtained from each patient.

2.2. Data collection

Before the study, a formalized questionnaire was designed by 2 psychologists, an oncologist and an anesthesiologist in charge of the Pain Clinic and Supportive Care Unit based on 15 open interviews that had been previously conducted with patients in the 4 different departments (Supplementary File 1, <http://links.lww.com/MD/F146>).

During the study period, patients were approached by a member of the research team and asked to give informed consent to participate in the study that consisted of an open interview with a psychologist. Answers to the formalized questionnaire were also recorded during this interview. During the first part of the interview, patients were asked about their knowledge and beliefs about the term “complementary therapies.” The patients were informed that other terms could also be used, such as “alternative,” “parallel” or “wellbeing” therapies. Furthermore, they were informed that these terms have different definitions and are not accurate. It was explained that term “complementary” means that which complements a conventional treatment, while the terms “alternative” and “parallel” refer to treatments that act in place of a conventional treatment. In France, the term “complementary and alternative medicine” is not used. After the completion of the first part of the interview, the patients were then informed about what the term “complementary therapy” truly means, and examples were given to ensure that they clearly understood. The second part of the interview included questions pertaining to the participants' perceptions of and attitudes towards CTs and their utilization by the study subjects. The satisfaction of the patients with the CTs they used was evaluated using a *5-point Likert scale* from very satisfied to very unsatisfied. Two psychologists interviewed all the patients and harmonized their interview procedures to maintain the uniformity of data collection.

In addition, medical doctors and nurses were also approached in the same wards and were asked questions about their knowledge of CTs. In the same manner as the patient interviews, the professional interviews were conducted in 2 parts. During the first part, the professionals were asked about their knowledge of and beliefs about CTs, and then the terminology was explained,

and examples were provided to ensure that the participants clearly understood what CTs are. The second part of the interview was then conducted.

2.3. Objectives and outcomes

The main objective of this preliminary study was to evaluate knowledge about CTs in a population of patients suffering from 1 of a variety of diseases and attending the hospital. The main outcome was consequently to evaluate the response to the following question in this population: “Have you heard of complementary therapies?”

The secondary objectives of the study were to determine the knowledge and beliefs of the patients and health caregivers about possible interactions and side effects of CTs, to evaluate which CTs were used and to explore the communication between patients and health caregivers. We also aimed to determine whether gender, age, professional occupation, educational level, chronicity of the disease and cancer condition influenced their knowledge and beliefs.

2.4. Statistics

Descriptive summaries are provided globally and for each group. Continuous variables are presented as the medians [interquartile ranges] and compared using the Mann-Whitney test. Categorical variables are presented as numbers (percentages) and compared using Fisher exact *t*-test with Bonferroni correction for multiple comparisons.

A *P* value < .05 was considered statistically significant. All analyses were performed with R software (R Foundation for Statistical Computing, Vienna, Austria) version 3.5.1.

The data that support the findings of this study are openly available in the Dryad repository at <https://doi.org/10.5061/dryad.pg4f4qrmz>.

3. Results

From January 2015 to September 2015, 111 patients were approached, and all agreed to participate. Among these patients, there were 38 (34.2%) patients presenting with a chronic noncancerous disease, 34 (30.6%) oncologic patients receiving ambulatory chemotherapy, 32 (28.8%) nonchronic or cancerous patients hospitalized for minor surgery, and 7 (6.3%) hemodialysis patients.

3.1. Patients

The demographic and professional data are presented in Table 1.

3.2. Knowledge of CTs

Eighty (72%) patients did not know the term “complementary therapy” (patients who were “not aware of CTs”), and 24 (21.6%) patients knew the term “complementary therapy” (patients who were “aware of CTs”), while 7 patients were not sure of the meaning. There were no differences between aware and unaware patients in gender (*P* = .27), age (*P* = .24), level of education (*p* = 0.24) or professional occupation (*P* = .06). Knowledge about CTs was significantly different among the different categories of patients (*P* = .03, Table 2), with the only difference between groups being between oncologic patients

Table 1
Demographic and professional data.

	N = 111
Age	62 [53 - 70]
Sex (male)	66 (59)
Professional occupation	
Student	1 (0.9)
Technical occupation	7 (6.3)
Intermediate occupation	19 (17.1)
Lower managerial professional occupation	24 (21.6)
Higher managerial professional occupation	5 (4.5)
Unemployed	9 (8.1)
Retired	46 (41.4)
Education level	
No diploma	10 (9)
Less than a high school diploma	33 (31.7)
High school diploma	20 (18)
University	48 (43)

Data are presented as medians [interquartile ranges] and numbers (percentages).

receiving ambulatory chemotherapies and patients presenting with a chronic noncancerous disease ($P = .004$).

Among the 24 patients who were “aware of CTs”, only 21.4% could accurately discriminate between a list of CTs presented to them (hypnosis, acupuncture, herbal therapy, relaxation, etc) and a list of conventional treatments (chemotherapy, paracetamol, steroids, antibiotics, etc). Regarding the terms “complementary” and “alternative,” only 35.7% of patients could accurately indicate that the term “alternative” means instead of conventional treatment, whereas 89.3% of them could accurately state that a “complementary” treatment is a complement to conventional treatment.

The 24 patients who were “aware of CTs” had heard about CTs from family or friends (57.1%), the press (39.3%), the internet (14.3%) and a physician (only 10.7%).

3.3. Interaction of an active ingredient of a CT (eg, plant oils) with conventional treatment

Thirty-eight (34%) of the patients enrolled in the study thought that an active ingredient of a CT could interact with the conventional medicines they were taking.

Regarding knowledge about the interaction between CTs and conventional treatment, there was no difference among patients by gender ($P = .33$), age ($P = .07$), level of education ($P = .26$), professional occupation ($P = .20$) or type of pathology ($P = .34$).

3.4. Side effects of CTs

Fifty-three (47.7%) patients enrolled in the study thought that CTs could be responsible for side effects.

Regarding knowledge about adverse events associated with CTs, there was no difference among patients by gender ($P = .74$), age ($P = .28$), level of education ($P = .36$), or professional occupation ($P = .31$). However, a significant difference was observed between the 4 categories of patients ($P = .03$ with Fisher exact test), with oncologic patients being the most frequently aware of the side effects.

3.5. Type of CTs used and their indications

Fifty-four (48.6%) patients enrolled in the study used CTs, and most of them used more than 1 CT: 38 patients used 2 CTs, 27 used 3 CTs, 18 used 4 CTs and 9 used 5 CTs. These patients used 2.5 [1.0–4.0] different CTs. The frequency of use of these CTs is reported in Table 3.

Among the 54 patients using CTs, a total of 140 therapies were reported (Table 4). Of these therapies, 66% received good or excellent satisfaction ratings from patients. Regarding the use of CTs, there was no difference between patients based on gender ($P = .51$), age ($P = .008$), level of education ($P = .49$), professional occupation ($P = .49$) or type of pathology (0.23).

The indications for CT use are presented in Table 5.

Table 2
Knowledge about complementary therapies according to different categories of patients.

	Not aware of complementary therapies (N=80)	Aware of complementary therapies (N=24)	P value*
Hemodialysis patients	5 (4.8)	2 (1.9)	
Patients presenting with a chronic noncancerous disease	33 (31.7)	3 (2.9)	
Oncologic patients receiving ambulatory chemotherapy	20 (19.2)	12 (11.5)	.03
Nonchronic patients hospitalized for minor surgery	22 (21.2)	7 (6.7)	

Data are presented as numbers (percentages).

* P value obtained with Fisher exact test.

Table 3
Frequency of utilization of CTs among the 54 patients who used CTs.

	Every day	Every week	Every 2 weeks	Every Month	Every 3 months	Not regularly
First CT (n=54)	8	9	1	6	3	27
Second CT (n=38)	11	5		1	3	18
Third CT (n=27)	8	3	2	1	2	11
Fourth CT (n=18)	5	3	0	3	0	7
Fifth CT (n=9)	2	0	0	0	1	6
Total (n=146)	26	11	2	5	6	42

Data are presented as numbers.

Table 4
Use of complementary therapies.

Category			
Nonuser	55	(49.5)	
Unknown	2	(0.02)	
User	54	(48.6)	
Acupuncture	22	(40.7)	
Homeopathy	18	(33.3)	
Auriculotherapy	8	(14.8)	
Vitamins	20	(37.0)	
Relaxation	8	(14.8)	
Osteopathy	16	(29.6)	
Mindfulness	7	(13.0)	
Food supplements	12	(22.2)	
Hypnosis	2	(3.7)	
Aromatherapy oils	5	(9.3)	
Herbs/phytotherapy	18	(33.3)	
Others	4	(7.4)	

Among the 54 patients using CTs, a total of 146 therapies were reported. Data are presented as numbers (percentages).

3.6. Communication between patients and health caregivers

Thirty-five (64.8%) patients had not informed their health caregivers of their use of CTs. The 19 other patients had disclosed the information mainly to their main hospital physician (25%) or their general practitioner (23%) and sometimes to a nurse (14%) or a psychologist (7%). Patient-provider communication about CTs is presented with the answers to the standard statements in Table 6.

3.7. Health caregivers

During the same study period, 16 healthcare professionals, 4 physicians and 12 nurses working in the same 4 units agreed to be interviewed.

Among them, 5 (31%) professionals, 1 physician and 4 nurses, were not aware of the meaning of CT. The healthcare professionals who were familiar with the term had learned about CTs through friends, colleagues, the press and, interestingly, for the 2 youngest nurses, their nursing school.

Although the term “complementary” was clear to everyone, the term “alternative” remained unclear for 7 of the 11 healthcare

Table 5
Indications for CTs reported by the 54 patients.

Indication	
Fatigue	35
Pain	33
Anxiety	21
Side effects of the conventional treatment	35
Muscle tension	18
Nausea and vomiting	14
Decreased immune defenses	13
Depression	12
Sleep disorders	10
Feeling of loneliness	2
Weight loss	1
Others	35

Data are presented as numbers.

professionals, even those who affirmed that they knew about CTs. Nine of these 11 healthcare professionals thought that a medical prescription was necessary to benefit from CTs.

Further results were obtained after the explanation of what CTs are.

Among the 16 healthcare professionals, 10 (62%) professionals, including 3 physicians, thought that there could not be any interaction between conventional therapies and CTs, and 5 (31%) thought that CTs could not be responsible for any side effects.

4. Discussion

This study, wherein only 111 patients were enrolled, is the first (in France) to explore knowledge, beliefs and use concerning CTs among patients categorized according to the chronicity of their pathology or to their cancer condition. The design of this study, that is, semidirective interviews of patients and healthcare professionals conducted by a psychologist, enabled us to gain deeper insight into patients’ and healthcare professionals’ understandings of CTs.

4.1. Knowledge about CTs

Our results clearly show that a low percentage of patients (21.6%) and healthcare professionals know the term and the concept of CTs. Most of those who know the term do not have a clear idea of what it represents. They also have a poor ability to discern between the terms “complementary” and “alternative.” This is an issue in France, where medical academies and societies have recommended the avoidance of the term “alternative,” which evokes a parallel and dangerous way of practicing medicine, and instead have recommended only the use of the term “complementary therapies.”

4.2. Frequency of use and therapeutic modality used

Regarding the use of CTs, half of the enrolled patients used them, despite their low awareness. This percentage is slightly higher than the 40% reported in the United States of America^[8] and the 36% reported in European studies^[6,9] It is of course impossible to make satisfactory comparisons, as many factors come into play: the country where the study was conducted, the type of patients involved, the therapeutic modality involved, and the study period. Thus, as our study was performed more recently than previous studies, 1 can hypothesize that there has been a change over time and that patients are becoming better informed. An important and expected finding is the large difference in interest in CTs between cancer patients and patients in other categories, especially those with chronic conditions.

While some studies have shown that knowledge of CTs varies with level of education, age or sex, we did not find any differences based on these characteristics. In our study, the only observed difference among patients was that cancer patients were more aware of CTs than patients in other categories. One can hypothesize that cancer patients, who frequently suffer from cancer treatment-related adverse events that are poorly alleviated by conventional treatment, more frequently look for other treatments. Family networks, friends and the press, which are sources of information on CTs, can play an important role. More recently, social networks and a very active cancer blog network

Table 6
Patient-provider communication in patients using CTs.

Statement		
I have never asked my doctor at the hospital about any treatment other than conventional medicine.	Yes	37 (68.6)
	No	17 (31.4)
	Maybe	0 (0)
I'm afraid I won't be understood regarding my use of CTs by my hospital doctor.	Yes	8 (14.8)
	No	40 (74)
	Maybe	6 (11.1)
By using CTs, I fear that I will be disapproved of by my hospital doctor.	Yes	6 (11.1)
	No	37 (68.5)
	Maybe	11 (20.4)
I think it is not important to tell my hospital doctor about my use of CTs.	Yes	20 (37)
	No	31 (57.4)
	Maybe	3 (5.6)
I fear that I will be judged negatively by the doctors who attend me at the hospital.	Yes	7 (13)
	No	45 (83.3)
	Maybe	2 (3.7)
I'm afraid my doctor at the hospital will stop attending me.	Yes	0 (0)
	No	52 (96.3)
	Maybe	2 (3.7)
I never thought about talking about CTs with my caregivers.	Yes	35 (64.8)
	No	17 (31.5)
	Maybe	2 (3.7)
Total		54

Data are presented as numbers (percentages).

have played a major role in spreading information and disseminating guidelines.

In our study, acupuncture, the intake of vitamins and plants, homeopathy, and osteopathy were predominant practices. Acupuncture and homeopathy are the techniques preferred by our patients, as shown by Rossi et al. in their European study.^[1] On the other hand, while homeopathy is used by nearly half of French cancer patients, acupuncture is used by a quarter of them,^[6] which is the same percentage of patients who benefit from palliative care.^[7] Acupuncture has a singular position in France, with acupuncture teaching provided by numerous medical universities, approximately 4,000 qualified doctors to perform acupuncture and reimbursement by social security for the procedures. It is possible that our observation can be explained by a high density of acupuncturists in the Paris area.

4.3. Interaction between CTs and conventional treatment and patient-provider communication

The safety of CTs and their interaction with conventional treatment are very worrisome. Potentially severe interactions should be noted, especially pharmacokinetic or pharmacodynamic interactions from the use of anticancer drugs and CTs, particularly plants, vitamins, homeopathy, and food supplements.^[10] Multiple interactions of anticancer drugs and CTs led Yap et al to create a website that detects such interactions (<http://www.onco-informatics.com/oncorx/index.php>)^[11] and, more recently, an app called OncoRx-MI, which is able to detect over 2700 interactions between 256 chemotherapy prescriptions and 166 complementary and alternative medicines.^[12] However, in a recent survey of 1,016 hematology/oncology patients, Hierl et al. reported that a large majority of people were in favor of their oncologist being informed about their CTs.^[13] Numerous studies have been published on specific associations, such as the pharmacokinetic interactions between plants and over-the-

counter drugs with oral anticancer agents,^[14] interactions between mistletoe extracts and adjuvant chemotherapy prescribed for breast cancer patients^[15] and interactions between herbal medicine and chemotherapy in patients with ovarian cancer.^[16]

Only 34% of our patients thought that there could be interactions between conventional treatment and CTs, even after having received explanations on what CTs are. The healthcare professionals in our study could not correct patient misconceptions about a lack of interactions, as many of them did not know that there could be interactions of CTs with conventional treatment. In France, CTs are not yet a part of medical school courses and can be learned only in a postgraduate university course. Consequently, most physicians have poor knowledge of CTs, and even among those physicians who have positive attitudes towards CTs, many of them are not aware of their safety, dangers and effectiveness.

Most patients do not inform healthcare professionals of their use of CTs, and their use is certainly not the subject of a systematic interrogation. In our case, the communication between patients and professionals was similar to that already reported.^[5,17] This poor communication seems to be more due to the ignorance of the 2 parties and the doctor's lack of enquiry than to the patient's fear of being misjudged.

4.4. Limitations of the study

Except for cancer patients, who were more aware of CTs, we found very few correlations between knowledge and beliefs about CTs and the sociodemographic characteristics of the patients. The total number of respondents was not large enough to enable more detailed statistical analysis and could be responsible for this absence of conclusions.

The selection of the participants could also have influenced our results. As the interview took approximately 1 hour to complete and a calm, private environment was required, we invited

patients to participate in the study when we were sure we could spend 1 entire hour with the patient in good conditions. Interestingly, many patients benefit from mindfulness or hypnosis sessions during their stay in the oncology department for ambulatory chemotherapy. These patients were considered busy and could not be interviewed. These time requirements also explain the small sample of patients in our study.

As we only interviewed healthcare professionals who were in charge of our studied population, their sample was consequently small and probably not representative of their counterparts.

5. Conclusion

This preliminary study clearly indicates that patients and health caregivers are not aware of CTs and that there is a need for better communication about them. Integrative medicine, which supports patient-centered, pluralistic health care, has been well described in the United States. Approximately one-third of patients routinely use CT to treat their principal medical condition, and the cost effectiveness of this practice has been evaluated.^[18] The use of CTs has also developed in many European countries but is not well known in French hospitals. Shortly after the completion of this study, a cancer-patient-centered organization for supportive care was established in our hospital, and CT practitioners were involved in this global shared care. We think that this organization could allow better dissemination of information and better communication about CTs. It will be interesting to conduct another study and evaluate changes in beliefs and knowledge about CT among our patients and healthcare professionals.

Author contributions

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