

Original Article

Use and Perceived Benefits of Complementary Therapies by Cancer Patients Receiving Conventional Treatment in Italy

Andrea Bonacchi, MD, PhD, Lorenzo Fazzi, PsyD, Alessandro Toccafondi, PsyD, Maurizio Cantore, MD, Andrea Mambrini, MD, Maria Grazia Muraca, MD, Grazia Banchelli, MD, Mauro Panella, Francesca Focardi, PsyD, Roberto Calosi, PsyD, Francesco Di Costanzo, MD, Massimo Rosselli, MD, and Guido Miccinesi, MD
Clinical and Descriptive Epidemiology Unit (A.B., G.M.); and Centro Riabilitazione Oncologica (CERION) (M.G.M., G.B.), Institute for Cancer Research and Prevention (ISPO), Florence; Centro Studi e Ricerca Synthesis (A.B., L.F., A.T.), Florence; Oncologia Medica AUSL 1 Massa Carrara (M.C., A.M.), Carrara; Oncologia Medica AUSL 4 di Prato (M.P.), Prato; Oncologia Medica Aziendale AUSL 10 (F.F., R.C.), Florence; Oncologia Medica, Azienda Ospedaliero Universitaria Careggi-Firenze (F.D.C.), Florence; and Service of Psychosomatic Medicine (M.R.), U.O. Internal Medicine and Hepatology, Department of Internal Medicine, University of Florence, Florence, Italy

Abstract

Context. In Italy, data regarding the use of complementary therapies (CTs) among patients with cancer are sparse and discordant.

Objectives. The present study aimed to investigate the demographic and psychological characteristics of Italian cancer patients who use CTs and the perceived benefit of users.

Methods. Eight hundred three patients from six Italian oncology departments were interviewed about CT use and completed two questionnaires to explore psychological distress and the resilience trait called sense of coherence (SOC). Patients included in the study had different primary tumor sites and were in different phases of the disease and care process.

Results. At the time of measurement, 37.9% of patients were using one or more types of CTs. The most commonly used CTs were diets and dietary supplements (27.5%), herbs (10.8%), homeopathy (6.4%), and mind-body therapies (5.5%). The Italian context is characterized by a high percentage of patients who informed their physicians about CT use (66.3%) and who experienced benefits (89.6%); 75.2% of the patients had used CTs in the past. Multivariate analysis revealed that young, female patients, who previously used complementary and alternative medicine in the past, appear more likely to use at least one type of CT in the present. Predictors of the use of CTs varied according to the type of CT. Among psychological factors, SOC was positively associated with both past and present CT use.

Address correspondence to: Andrea Bonacchi, MD, PhD, Centro Studi e Ricerca Synthesis, Via delle Forbici 4, 50133, Florence, Italy. E-mail: andreabonacchi@centrosynthesis.it

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Conclusion. Overall prevalence of CTs among Italian cancer patients is high and is in accordance with the European average. In addition to clinical and sociodemographic factors, the resilience trait SOC also was associated with CT use. *J Pain Symptom Manage* 2013;■:■—■. © 2013 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.

Key Words

Cancer, oncology, complementary therapy, psychological distress, sense of coherence

Introduction

The term complementary and alternative medicine (CAM) refers to any medical system, practice, or product that is not thought of as standard care. The most commonly noted CAM therapies include mind-body approaches (e.g., meditation, relaxation, hypnotherapy, visualization), botanical preparations, homeopathy, acupuncture, dietary approaches and food supplements, Chinese and other traditional medications, and spiritual healing.^{1,2} The use of CAM therapies by cancer patients is common and widespread.^{3,4} CAM can be separated into alternative medicine and complementary therapies (CTs), where alternative medicine includes CAM therapies used in place of standard treatments that are unproved or were studied and found ineffective,^{5,6} and CTs refer to those used along with mainstream treatment. The present study was carried out in Italian hospitals of the Public Health Care System of Tuscany. Thus, the unconventional therapies investigated were used alongside conventional medicine and categorized as CTs.

Research on the use of CTs among cancer patients is highly relevant for several reasons: the increasing use of CTs in Europe and the U.S.;^{7–9} the possible harmful interactions between mainstream and complementary cancer treatments, the importance of which is made more significant by the fact that oncologists often are not informed about the use of CTs by their patients;^{10–12} the tendency of some European countries or regions to introduce some CTs in addition to the resources available to patients in the public health system; and the psychological traits and the unmet needs that underlie the choice of CTs should be known and, when possible, taken into account in oncology clinical practice to improve the care process and the efficacy of the relationship between the patient and medical staff.

Some interesting findings have come to light through recent studies focused on psychological factors related to CAM use among patients with cancer. These include higher desire of control over disease,¹³ greater optimism,¹⁴ and a mental adjustment characterized by significantly higher levels of anxious preoccupation and fighting spirit.¹⁵ There are conflicting reports on the existence of a correlation between distress or psychopathology and the use of CAM in cancer patients. Some studies have shown a correlation between distress, anxiety, or depression and the use of CAM;^{16,17} others do not.^{15,18} Therefore, further research is needed to clarify this point.

Among salutogenic and psychological resilience factors, the Sense of Coherence (SOC) appears to play a primary role.¹⁹ SOC is a personality trait concerning the ability to understand, give meaning to, and face stressful events in life.^{20,21} SOC scales have been widely used in a considerable number of studies on health, health care, and psychological well-being. To date, the SOC questionnaires have been used in 32 countries and 33 languages.²² The relationship between SOC and CAM use has not yet been investigated.

Recent research also has clarified several sociodemographic characteristics related to the use of CAM; in particular, studies from industrialized countries have suggested that cancer patients using CTs are younger, have a higher socioeconomic status than non-users, and are more likely to be female and previous users of CTs.²³

To date, sparse and discordant epidemiological data are available on CAM use in Italy. Crocetti et al.²⁴ found that only 16.5% of female breast cancer patients receiving conventional treatment used CTs after cancer diagnosis and only 8.7% before. In 2008, Johannessen et al.²⁵ published preliminary research carried

out with 128 day hospital patients, which showed that 17% of them had used CTs after cancer diagnosis. A European study by Molasiotis et al.⁷ found a prevalence of 73.1% in the use of CAM among 52 cancer patients from a single palliative care unit in Italy compared with a European average of 35.9%.

The present study aimed to investigate, in Italy, the prevalence of CT use among cancer patients and establish the clinical and demographic characteristics of CT users. This is the first study on this topic in Italy involving a large number of cancer patients from different care settings. Another aim was to examine some of the personality and psychopathological traits associated with the decision to opt for CTs. In particular, we evaluated, for the first time to our knowledge, the relationship between personal SOC and CT use.

Methods

Study Sample

The present study involved patients from six different oncology medical units in Tuscany, Italy: 1) Centro Riabilitazione Oncologica (CERION) of the Istituto per lo Studio e la Prevenzione Oncologica (ISPO), Firenze; 2) Oncologia Medica Aziendale AUSL 10, Firenze; 3) Oncologia Medica AUSL 4, Prato; 4) Oncologia Medica AUSL 1, Massa Carrara; 5) Oncologia Medica, Azienda Ospedaliero Universitaria, Careggi-Firenze; and 6) SOD Oncologia Medica 2, DAI Oncologia, Azienda Ospedaliero Universitaria Careggi-Firenze.

During the study period, participation was proposed to all patients consecutively attending outpatient clinics or admitted to oncology wards, regardless of site or stage of the tumor. The study was proposed by the unit psycho-oncologist to inpatients two days after admission and to outpatients excluding their first day hospital treatment or their first ambulatory visit. Particular care was given to avoid any appearance of coercion to join the study, emphasizing to patients that participation was totally free and voluntary and that nonadherence did not alter care received from the ward staff.

Exclusion criteria were age under 18 or over 90, cognitive impairment, comorbid psychotic illness, learning disability, and severe symptoms caused by illness or side effects of

therapy that precluded because of physical limitation, the ability to fill in questionnaires autonomously.

Nine hundred eighty patients were invited to participate in the study; 803 patients agreed and were interviewed. Basic demographic and clinical characteristics of the participating patients are summarized in Table 1. The percentage of patients who agreed to participate ranged from 71.0% of CERION-ISPO (rehabilitation unit) and 95.4% of Oncologia Medica AUSL 4 Prato (oncology ward, day hospital, and ambulatory).

Data Collection

A semi-structured interview was developed for Italian participants by translating and adapting items from similar questionnaires used in recent studies.^{7,25} Each patient was initially interviewed by the psycho-oncologist. The interviewer asked about the use of CTs (reasons for present use, perceived benefits, sources of information, and physician/relative knowledge about the use of CTs, annual cost). Clinical data were provided by oncologists. Additional questionnaires were administered to evaluate psychological factors potentially related to CT use:

Psychological Distress Inventory: a multiple choice test comprising 13 items, giving a general score of psychological distress in cancer patients, developed and validated in Italy;²⁶

Sense of Coherence-3: a brief, three-item scale evaluating SOC.²⁷

Statistical Analysis

Analyses using the Pearson χ^2 -test were performed to evaluate bivariate associations between CT past (or CT actual, i.e., at the moment of the study) use and sociodemographic, clinical, and psychological variables.

We report aspects of the present use of CTs (reasons for present use, perceived benefits, sources of information, physician/relative knowledge about the use of CTs, annual cost) for 196 patients out of 304 current users because of organizational limitations. Time constraints in particular care settings prevented interviewing all participants about actual CT use, particularly in the day hospital and ambulatory care.

Separate multivariate logistic regression analyses have been done to identify independent predictors of the following outcomes:

Table 1
Basic Demographic and Clinical Characteristics of Participants (N = 803)

Characteristics of Participants	Participants		Actual CT Users		P	Past CT Use		P
	n	%	n	% (Within Category)		n	% (Within Category)	
CT users			304	37.9		604	75.2	
Age (mean)								
18–49	123	15.4	59	48.0	<0.001	104	84.5	<0.001
50–59	185	23.2	94	50.8		153	82.7	
60–69	252	31.5	78	30.9		182	72.2	
≥70	239	29.9	72	30.1		162	67.8	
Gender								
Female	522	65.1	233	44.8	<0.001	418	80.4	<0.001
Male	281	34.9	70	25.1		183	65.6	
Marital status								
Single	75	9.5	37	49.3	0.033	65	86.7	0.045
Married	562	71.4	213	37.9		413	73.5	
Divorced	48	6.1	21	43.7		40	83.3	
Widowed	102	13.0	29	28.4		75	73.5	
Educational level								
Primary school	250	32.9	64	25.6	<0.001	155	62.0	<0.001
Secondary school	177	23.3	70	39.6		140	79.1	
High school	222	29.2	100	45.1		178	80.2	
University	112	14.7	61	54.5		102	91.1	
Occupation								
Office worker	66	8.6	37	56.1	0.025	57	86.4	0.109
Dealer	20	2.6	9	45.0		15	75.0	
Freelancer	33	4.3	16	48.5		28	84.8	
Manual worker	16	2.1	7	43.7		12	75.0	
Retired	355	46.4	124	34.9		254	71.6	
Housewife	78	10.2	24	30.8		56	71.8	
Other	197	25.7	74	37.6		155	78.7	
Oncology care settings								
Ward	201	25	56	27.9	<0.001	143	71.1	<0.001
Day hospital	198	24.7	65	32.8		135	68.2	
Ambulatory	182	22.7	69	37.9		138	75.8	
Rehabilitation unit	222	27.6	114	51.4		188	84.7	
Primary tumor site								
Breast	324	42.6	153	47.2	0.002	267	82.4	0.001
Lung	105	13.8	33	31.4		74	70.5	
Colon-rectum	86	11.3	28	32.6		64	74.4	
Pancreas	29	3.8	10	34.5		25	86.2	
Stomach	26	3.4	10	38.5		20	76.9	
Lymphoma	13	1.7	4	30.8		6	46.1	
Other	177	23.3	51	28.8		120	67.8	
Phase of the disease and care process								
Diagnosis and treatments	300	42.3	96	32.0	0.017	214	71.3	0.060
Follow-up and/or rehabilitation	304	42.9	135	44.4		245	80.6	
Relapse/recurrence	43	43.1	18	41.9		32	74.4	
Progression of disease and palliative care	61	8.6	22	36.1		48	78.7	
Treatment received								
Chemotherapy	523	69.9	206	39.4	0.038	393	75.1	0.521
Radiotherapy	278	37.3	129	46.4	<0.001	218	78.4	0.210
Months from diagnosis								
0–6	190	28.3	56	29.5	0.028	135	71.0	0.275
7–24	179	26.6	76	42.5		140	78.2	
45–60	145	21.6	62	42.8		114	78.6	
>60	158	23.5	64	40.5		123	77.8	
PDI score								
≤29	448	60.0	167	37.3	0.584	337	75.2	0.297
>30	298	40.0	117	39.3		234	78.5	
SOC score								
≤4	544	71.2	196	36.0	0.050	406	74.6	0.023
>4	220	28.8	96	43.6		181	82.3	

CT = complementary therapy; PDI = Psychological Distress Inventory; SOC = Sense of Coherence Scale.

using at least one CT, using diets and dietary supplements, mind-body techniques, and other main types of CTs. A backward stepwise procedure was followed using the significance level for removal from the model of 0.1. All sociodemographic and clinical variables listed in Table 1 were tested. Odds ratios, 95% CIs, and *P*-values for statistically significant covariates are reported. Analyses were performed using Stata/SE 12.1 (StataCorp LP, College Station, TX).

Ethical Approval

The study received the approval of the local ethics committees of Careggi Hospital, of AUSL 10 in Florence, of AUSL 4 in Prato and of AUSL 1 in Massa Carrara. Patients gave written informed consent and received an information sheet on the study.

Results

Use of CTs

The use of at least one type of CT at the time of the interview was reported by 37.9% of patients. In the past, 75.2% of the patients had used CTs. Several demographic and clinical factors were shown to be associated with the current and previous use of CT. Younger, female and well-educated patients were more

Table 2
Present and Past Use of CTs

Types of CTs	Present Use of CTs		Past Use of CTs	
	<i>n</i>	%	<i>n</i>	%
Diets and dietary supplements	221	27.5	504	62.8
Diets	46	5.7	252	31.4
Dietary supplements	193	24.0	372	46.3
Mind-body therapies	44	5.5	169	21.0
Yoga	19	2.4	106	13.2
Meditation	16	2.0	43	5.4
Autogenic training	16	2.0	76	9.5
Others types of mind-body therapies less commonly used	11	1.4	27	3.4
Unconventional cancer treatment	10	1.2	—	—
Other types of CTs	161	20.0	406	50.6
Herbs	87	10.8	172	21.4
Homeopathy	51	6.4	183	22.8
Acupuncture	8	1.0	127	15.8
Bach flowers	12	1.5	97	12.1
Massage	24	3.0	152	18.9
Other types of CTs less commonly used	27	3.4	123	15.3
Total users of at least one CT	304	37.9	604	75.2

CT = complementary therapy.

likely to report the use of CTs in the past or at the time of the study ($P < 0.001$); patients in a rehabilitation setting had more likelihood to use CTs, perhaps because the main goal of rehabilitation is focused on general health status ($P < 0.001$) (Table 1). The most commonly used CTs in the present study were diets and dietary supplements (27.5%), mind-body therapies (5.5%), herbs (10.8%), and homeopathy (6.4%) (Table 2).

Characteristics of the present use of CTs are summarized in Table 3. A reason for actual use of CTs is rarely “to treat cancer” (11.2%); a high percentage of patients informed their physicians about CT use (66.3%), and almost all relatives (95.3%) were aware of CT use.

Independent Predictors of CT Use at the Time of the Study

Using logistic regression analysis, we evaluated the independent association of each

Table 3
Characteristics of the Present Use of CTs
(*N* = 196)

	Users of CTs	
	<i>N</i>	%
Reasons for using CTs (more than one possible option)		
To improve general health conditions	118	60.5
To support medical treatments	69	35.4
To treat physical symptoms	46	23.6
To treat psychological distress	23	11.8
To treat cancer	23	11.8
Other reasons	10	5.1
Perceived benefits		
Excellent	36	18.9
Good	80	41.9
Fairly good	55	28.8
Poor	13	6.8
Absent	7	3.7
Sources of information (more than one possible option)		
Physician	82	42.0
Friends	61	31.3
Relatives	36	18.5
Mass media	26	13.3
Pharmacist	8	4.1
Other patients	5	2.6
Other	12	6.1
Physician informed about the use of CTs		
Yes	128	66.3
No	65	36.7
Relative knowledge about the use of CTs		
Yes	181	95.3
No	9	4.7
Annual cost for CTs		
<250 Euro	116	60.7
>250 and <500 Euro	51	26.7
>500 and <1000 Euro	20	10.5
>1000 Euro	4	2.1

CT = complementary therapy.

variable significantly associated during the bivariate analysis with CT use at the time of the study, adjusting for the influence of the other variables considered in the model. Results are shown in Table 4. Age, gender, and previous use of CTs were found to be independent predictors of the use of at least one type of CT at the time of the study. Assuming that different types of CTs could have different predictors, we carried out a separate logistic regression analysis for each different type of CT. Results (Table 4) confirmed that predictors of the use of different types of CTs may vary according to the type of CT taken into consideration.

Psychological Characteristics of Patients Using CTs at the Time of the Study

In the present study, both the current and past use of CTs were not related to the presence of psychological distress (Table 1). On the contrary, the actual use of CTs and the use of CTs in the past were both positively associated with the resilience trait SOC ($P = 0.050$ and $P = 0.023$, respectively).

In the multivariate logistic regression analysis, SOC was not an independent predictor of the current use of at least one CT, whereas it was significantly associated with the past use of CTs (data not shown; adjusted odds ratio 1.6; 95% CI 1.1–2.5).

Discussion

The present study is the first thorough survey of CT use among cancer patients in Italy. In our survey, we found a 37.9% prevalence of the present use of CTs. This is consistent with previous findings by Molassiotis et al. who developed a European survey (14 countries) and found that 35.9% of cancer patients were using some form of CAM.⁷ Laengler et al.²⁸ also recently found a similar prevalence (35%) in the use of CAM in Germany by children with cancer, usually administered by the parents. In our sample, 75.2% of patients had used CAM at least once in the past. In Italy, the most frequently used types of CTs are similar to those observed in other countries^{3,7} and include diets and dietary supplements, herbs, homeopathy, and mind-body therapies. This research provides Italian data

Table 4
Predictors of CT Use

	OR	95% CI
Use of at least one type of CT		
Previous use of CT		$P < 0.001$
Not previous user	1	
Previous user	6.1	3.8–9.8
Gender		$P = 0.001$
Male	1	
Female	1.8	1.3–2.6
Age		$P < 0.001$
≥ 60	1	
< 60	1.8	1.3–2.4
Diet and dietary supplement users		
Previous use of diet and dietary supplements		$P < 0.001$
Not previous user	1	
Previous user	3.5	2.3–5.3
Age		$P = 0.007$
≥ 60	1	
< 60	1.6	1.1–2.4
RT		$P = 0.019$
No	1	
Yes	1.5	1.1–2.1
Mind-body techniques users		
Previous use of mind-body techniques		$P < 0.001$
Not previous user	1	
Previous user	48.8	17.2–138.9
Other CT users		
Previous use of other CTs		$P < 0.001$
Not previous user	1	
Previous user	13.3	7.3–24.3
Age		$P = 0.003$
≥ 60	1	
< 60	1.9	1.2–2.8
Phase of the care process		$P = 0.012$
Diagnosis and treatments	1	
Follow-up and/or rehabilitation	2.1	1.3–3.3
Relapse/recurrence	1.0	0.4–2.4
Progression of disease and palliative care	1.6	0.7–3.5

OR = odds ratio; CT = complementary therapy; RT = radiotherapy.

on the use of CTs in oncology, which is helpful not only to make comparisons with other countries but also to track changes over time in the future.

An interesting aspect of our data was that only a small proportion of patients used CAM with curative intent; this finding has been mirrored in a large number of studies.²⁹ It suggests that in Italy, as in other countries, many cancer patients turn to CTs to satisfy needs other than curative ones. In particular, patients seek CTs for purposes of support that include improving general health conditions, supporting medical treatments, or treating psychological distress. We can observe that the majority of patients with cancer experienced

benefits from the use of CTs and, therefore, that they found in this type of treatment satisfaction of their supportive needs and expectations.

An interesting finding of our study is that, in Italy, the use of CTs was higher in specific phases of the disease and care process, particularly in the follow-up/rehabilitation phase and the relapse/recurrence phase of the care process. Particularly during the phases of diagnosis and treatment, patients are probably more focused on conventional treatments for cancer and less aware of unmet needs. The supportive goals that motivate patients to use CTs help in explaining the increased use of these therapies, particularly in the rehabilitation phase.

We found that 66.3% of patients using CTs informed their physicians. This percentage is higher than that observed in other countries where less than 50% of cancer patients using CAM received information on this subject from their conventional health care providers;^{3,7,30} therefore, in Italy, the communication between patients and physicians regarding CTs seems to be better than in other European countries, with a possible positive impact on prevention of negative interactions between mainstream and complementary cancer treatments. Moreover, in Italy, physicians are the source of information on CTs for 42% of users.

In our sample, relatives were almost always informed about the choice of patients using CTs, and in most cases, they agreed with this choice. This fact suggests that families are privileged by the patients to participate in their treatment choices and that, facing a disease such as cancer, families deeply share beliefs and values. Accordingly, health care systems could better take into account, at least as regards treatment choices, the “family system.”

In Western countries, CAM represents a considerable industry; this was confirmed in Italy where 39.3% of cancer patients who are CT users have faced an annual expense higher than 250 Euros. This highlights the importance of including CTs in oncology research projects aimed at evaluating cost/benefit ratios and effectiveness.

As expected, there were sociodemographic and clinical differences between the groups of CT users and non-users. In accordance

with previous studies,^{15,24} we observed that young, female patients, with a higher educational level, and who have previously used CAM, appear more likely to use CTs. As Pedersen et al.³¹ suggested, patients with a higher education are more aware of the availability of CTs and more resourceful in terms of seeking out possible additional support in relation to their illness. Predictors of the use of different types of CTs varied according to the type of CT being considered, suggesting that the large and heterogeneous group of CTs actually includes various groupings of therapies whose features are, at least partly, different.

With regard to the mind-body CTs (e.g., yoga, meditation, autogenic training), it is interesting to note that their use at the time of the study had as a single predictor the use of the same therapies in the past. It is probable that the mind-body therapies are, more than other CT types, closely associated with a lifestyle that is rooted in some spiritual beliefs and personality characteristics such as self-transcendence.³²

Our survey aimed to contribute to the study of psychological factors related to CT use. In our study, CT use was not related to psychological distress. Conversely, we found that a higher SOC was related to the use of CTs during cancer illness and that it was an independent predictor of previous use of CTs. SOC is considered an individual's flexible and adaptive dispositional orientation, enabling successful coping with adverse experiences.^{33–35} Cancer patients with a higher SOC could have available a resource of resilience, which facilitates the choice of integrating conventional treatment with CTs, with the main purposes of improving quality of life and seeking answers to unmet needs.

A limitation of the present study is the fact that patients who were receiving cancer care in settings other than the national health system and who may have been receiving alternatives to mainstream care were not represented. Another limitation is that the data came from cancer centers all located in Tuscany. Different Italian regions might have different social and cultural contexts that could affect a different use of CTs; this aspect should be explored in future studies.

In conclusion, our study has shown that overall prevalence of CT use among Italian

cancer patients in Tuscany is high and is in accordance with the European average. The Italian context is characterized by a high percentage of patients who informed their physicians about CT use and who experienced benefits. Our study also demonstrated that, in addition to clinical and sociodemographic factors, the psychological factor, SOC, also was associated with CT use.

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