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Original Paper

The Use of Complementary Therapies by Breast Cancer Patients Attending Conventional Treatment

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The aim of this study was to measure the proportion and characteristics of complementary therapy (CT) users among female breast cancer patients receiving conventional treatment. 473 women who had received surgical intervention for breast cancer in the year of diagnosis were sent a questionnaire for completion, and 242 responded. CT had been used by 16.5% after cancer diagnosis, only 8.7% before. The most commonly used CTs were homeopathy, manual healing method, herbalism and acupuncture. The main reason for using CTs was physical distress. Only a minority was searching for psychological support. 24 users were satisfied with these treatments, and two-thirds would suggest them. Users were significantly younger, more educated, and previous users of CTs than non-users. Adjusting each variable for the effect of the others, only previous use had an independent effect on increasing the probability of being users after cancer diagnosis. © **1998 Elsevier Science Ltd. All rights reserved.**

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INTRODUCTION

THE TERM 'complementary therapy' (CT) encompasses a wide range of medical treatments which are not considered traditional in Western countries, where the use of CTs is becoming increasingly common [1–6]. In countries for which statistics are available, these therapies are used by 20–50% of the general population [1]. In Italy, it has been estimated that approximately one million (2%) people are current users of CTs and approximately eleven million (19%) have used such treatments at least once [7-9]. Only a few studies have explored the frequency of use of CTs by cancer patients, with proportions of users ranging from 10 to 60% [10–17]. Such differences may in part be due to study design (socio-demographic and clinical characteristics of the patients and different definition for CTs, but principally to cultural differences among countries [11]. The majority of the studies on the use of CTs) by cancer patients have been carried out in North America and in northern European countries. Studies on cancer patients sampled from the general population [2, 3, 6] indicate that users are younger [10], of higher social class [10], more likely to be female [10] and looking for a miraculous 'cure' [11].

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The purpose of this study was to evaluate—to our knowledge for the first time in Italy—the proportion of users of CTs in a population-based sample of breast cancer patients receiving conventional medical treatment. The knowledge of the magnitude of the use of CTs by cancer patients may be useful for general practitioners and oncologists to evaluate possible interferences with conventional therapies, to identify a clue for dissatisfaction with conventional therapies and to provide scientific knowledge to their patients on these therapies.

PATIENTS AND METHODS

The study design was a survey based on female breast cancer patients, diagnosed in 1991, who attended conventional treatment (surgery). The study subjects were identified through the archive of the Tuscany Cancer Registry, a population-based cancer registry, which has been active since 1984 in the Province of Florence, Central Italy (about 1 200 000 inhabitants). The description of the criteria for collection, registration and analysis followed by the Registry has been presented elsewhere [18].

Among the 821 female breast cancer incident cases diagnosed in 1991, 473 women who underwent a surgical intervention for breast cancer in the same year in a major public

hospital of the city of Florence were considered. The same level and quality of conventional treatment may be assumed for this sub-sample of patients. The survey took place from April to August 1996.

A postal questionnaire was used to collect information on the use of CTs. Before the questionnaire was delivered, the vital status of each patient was verified at the municipality of residence. 390 patients were alive and 83 deceased (17.5%). Two different letters, one for patients still alive and one for relatives of deceased patients were matched with the questionnaire, explaining the aims of the study and assuring patients and relatives the confidential use of the data. Given the lack of agreement about the definition of CTs, a list of 14 alternative therapeutic practices and techniques identified through a review of the literature was enclosed with the questionnaire (acupuncture, homeopathy, manual healing methods, therapeutic touch, herbalism, diet (all types), naturopathy, energy healing, psychotherapy, iridology, mind-bodies therapies, relaxation techniques, folk remedies, spiritual healing). Patients also had the opportunity to indicate other therapies.

The fields covered by the questionnaire included sociodemographic information, such as patient's age, marital status, religion, educational level and occupation. The patients were asked to indicate whether or not they had used, before and after breast cancer diagnosis, any CTs. The way they were informed about CTs, the frequency of use, the motivation for use and the satisfaction achieved were also investigated. Moreover, other questions concerned who performed the therapies and the patient's attitude to suggesting such therapies to friends and relatives. Approximately 30 min was required to complete the questionnaire.

Differences in proportions among groups of patients (responders versus non-responders, users of CTs versus non-users) were evaluated with the χ^2-test. Student's *t*-test was used for mean comparisons. Information on non-responders was derived from the archive of the Tuscany Cancer Registry.

Logistic regression was used to identify the effect of some variables on the probability of utilising CTs after breast cancer diagnosis. The variables analysed were chosen according to the results of previous studies [2, 3, 6, 10, 11] and categorised as follows: employment (housewife, skilled (professional/employee/self-employed), not skilled (worker), not specified); age (< 50, 50–59, 60–69, 70 + years); marital status (single, married/cohabitant, separate/divorced, widow); educational level (low, up to 5 years of education; high, more than 5 years); use of CTs before breast cancer diagnosis (yes, no); spread of the disease at diagnosis, according to a 'summary staging' scheme, 'localised' when restricted to the breast, 'regional or distant' when spread beyond the breast or 'unknown'. Clinical and pathological data from the Tuscany Cancer Registry were used to define the spread of the disease.

RESULTS

Of the 473 mailed questionnaires, 242 (51.2%) were returned; 29 (6.1%) were undelivered because of an incorrect mailing address. The response rate was higher for surviving patients (226/390) than for relatives of deceased patients (16/83). Moreover, the proxy response may be less valid especially for qualitative answers (e.g. motivation for/satisfaction on CT use). In Table 1 demographic and clinical variables are compared for responders and non-responders. Responders were significantly younger at diagnosis (mean age 58.9 versus 64.2 years), and were more frequently married and less frequently single or widowed. Moreover, breast cancer was significantly less advanced in responders, with a greater percentage of localised cases (58.7 versus 40.3%).

Among responders, 40 (16.5%) indicated use of CTs after cancer diagnosis, while 21 (8.7%) had used these treatments only before diagnosis. There was 1 deceased patient among users (2.5%) and 15 among non-users (7.4%). The most commonly used CTs were homeopathy (14/58, 24.1%), manual healing method (e.g. massage) (9/58, 15.5%), herbalism (8/58, 13.8%) and acupuncture (4/58, 6.9%). 29 women used only one therapy (72.5%) and 11 used more than one. The type of CTs used differed slightly before and after cancer diagnosis. Before cancer diagnosis, the treatments most frequently used were acupuncture, herbalism and homeopathy.

The main sources of information on CTs were personal experience, information obtained from relatives or from friends or from the general practitioner (8/42, 19.0% each, respectively), from medical personnel other than the practitioner (5/42, 11.9%), from other sources (4/42, 9.5%). Only 2.4% (1/42) derived their knowledge from newspapers and magazines, none from television.

As regards the frequency of use, only 7.9% (3/38) said they had used CTs only once, 55.3% (21/38) used them several times and 36.8% (14/38) regularly. CTs were used independently

Table 1. *Distribution of responders and non-responders by mean age, marital status and extent of breast cancer at diagnosis*

	Responders		Non-responders		Total	
	n	(%)	*n*	(%)	*n*	*P* value
No. patients	242	(51.2)	231	(48.8)	473	
Mean age at diagnosis (years)	58.9		64.2		61.5	< 0.01
Marital status						
Single	14	(5.8)	23	(10.0)	37	
Married/cohabitant	177	(73.1)	123	(53.2)	300	
Separated/divorced	7	(2.9)	10	(4.3)	17	
Widow	44	(18.2)	70	(30.3)	114	
Unknown	0	(0.0)	5	(2.2)	5	< 0.01
Extent of the disease						
Localised	142	(58.7)	93	(40.3)	235	
Regional/distant	67	(27.7)	92	(39.8)	159	
Unknown	33	(13.6)	46	(19.9)	79	< 0.01

of conventional treatments in 30.2% (16/53), after conventional treatment in 30.2% (16/53), simultaneously with the conventional treatment in 17% (9/53) immediately after cancer diagnosis and before the start of conventional therapy in 13.2% (7/53).

The reasons for using CTs were physical distress (24/39, 61.5%), psychological distress (8/39, 20.5%), the pressure of relatives (2/39, 5.1%) and other motivations (5/39, 12.8%).

17 (42.5%) users of CTs informed their general practitioner on their use of these therapies.

CTs were performed by doctors in 51.4% (19/37), by other medical personnel in 35.1% (13/37), by persons without any medical training in 8.1% (3/37), 5.4% (2/37) of the patients were not able to define the professional training of the person who had performed the therapy.

Of the CT utilisers 72.7% (24/33) said they were satisfied with these treatments, 45.5% (15/33) were still current users and only 6.1% (2/33) were totally dissatisfied. Patients who did not use CTs reported the following motivations: mistrust (106/231, 45.9%), sufficient satisfaction in conventional therapies (76/231, 32.9%) and lack of knowledge (33/231, 14.3%).

Two-thirds of users would suggest the use of such therapies to relatives and friends, while 22.2% (8/36) would be uncertain of making such a suggestion. Interestingly, almost 20% (34/175) of non-users would recommend these therapies, mostly (21/36, 58.3%) because of a good opinion of CTs. Overall, only 4.6% (8/172) of responders would suggest CTs as a desperate attempt after the failure of conventional therapies.

In Table 2, socio-demographic and tumour characteristics of the responders are shown according to the use of CTs. Patients using CTs were significantly younger than non-users (mean age at diagnosis: 54.5 versus 59.8 years; $P = 0.009$) and better educated ($P = 0.014$). Patients who had already used CTs were more likely to use them after breast cancer diagnosis ($P = 0.001$). Age at breast cancer diagnosis, educational level and previous use of CTs were related characteristics, with the proportion of more educated women significantly higher amongst younger patients (versus those ≥ 60 years of age, 52.3 versus 28.2, $P < 0.05$), and previous use more frequent among younger women (23.6 versus 6.8%, $P < 0.05$). The two groups, users and non-users, did not differ significantly in marital status, employment distribution, religious belief and in extent of the disease at diagnosis.

In Table 3, the probability of being a user of CTs is presented according to several demographic and clinical variables as crude and adjusted odds ratios after allowance for the effect of the other variables. In the univariate analysis, three variables showed a significant effect on increasing the probability of using CTs: previous use, young age at breast cancer diagnosis and a high educational level. In fact, women who did not use these therapies before breast cancer diagnosis had an 80% reduced probability of utilising them after diagnosis. Women older than 70 years had an OR = 0.10 in comparison with those younger than 50 years [10]. Moreover, a high educational level was associated with a greater probability of being a utiliser of CTs (OR = 2.45, $P < 0.05$).

Table 2. Characteristics of responding female breast cancer patients

	Users of complementary therapies (CT)		Non-users of complementary therapies (CT)		
	n	(%)	*n*	(%)	*P*
No. patients	40	(16.5)	202	(83.5)	
Mean age at diagnosis (years)	54.5		59.8		0.009
Marital status at diagnosis (%)					
Single	1	(2.5)	13	(6.4)	
Married	32	(80.0)	145	(71.8)	
Separated/divorced	2	(5.0)	5	(2.5)	
Widow	5	(12.5)	39	(19.3)	0.43
Employment					
Housewife	16	(40.0)	98	(48.5)	
Skilled	12	(30.0)	72	(35.6)	
Not skilled	2	(5.0)	3	(1.5)	
Other—not specified	10	(25.0)	29	(14.4)	0.16
Educational level					
Low	16	(40.0)	126	(62.4)	
High	24	(60.0)	76	(37.6)	0.014
Religion					
Catholic	37	(92.5)	176	(87.1)	
Others	2	(5.0)	6	(3.0)	
Not specified	1	(2.5)	20	(9.9)	0.27
Previous use of CTs					
Yes	15	(37.5)	22	(10.9)	
No	25	(62.5)	180	(89.1)	0.001
Extent of the disease					
Localized	23	(57.5)	119	(58.9)	
Regional/distant	12	(30.0)	55	(27.2)	
Not available	5	(12.5)	28	(13.9)	0.93

Table 3. Odds ratio (OR) for the use of complementary therapies (CT) after breast cancer diagnosis—univariate and multivariate analysis

Variable	Crude OR	95% Confidence interval	Adjusted* OR	95% Confidence interval
Previous use of CTs				
Yes	1		1	
No	0.20	(0.09–0.44)	0.22	(0.09–0.56)
Age at diagnosis (years)				
< 50	1		1	
50–59	0.99	(0.43–2.28)	1.34	(0.50–3.62)
60–69	0.67	(0.27–1.62)	1.20	(0.41–3.46)
70 +	0.10	(0.01–0.80)	0.19	(0.02–1.81)
Extent of the disease				
Localised	1		1	
Regional/distant	1.13	(0.52–2.43)	1.30	(0.57–3.00)
Not available	0.92	(0.32–2.64)	1.63	(0.45–5.85)
Religion				
Catholic	1		1	
Other	2.57	(0.61–10.73)	1.12	(0.19–6.55)
Educational level				
Low	1		1	
High	2.45	(1.24–4.98)	1.28	(0.49–3.31)
Marital status				
Single	1		1	
Married/cohabitant	2.87	(0.36–22.73)	3.26	(0.37–28.86)
Divorced/separated	5.20	(0.38–70.91)	5.74	(0.31–105.3)
Widow	1.67	(0.18–15.61)	2.79	(0.24–32.16)
Occupation				
Housewife	1		1	
Skilled	1.86	(0.89–3.87)	1.35	(0.54–3.41)
Not skilled	1.09	(0.33–3.57)	0.60	(0.16–2.28)

*The OR have been estimated adjusting each variable for the others.

When the multivariate analysis was performed, adjusting each variable for the effect of the others, only previous use maintained its independent effect. Women who had not used CTs before breast cancer diagnosis had a 78% reduced probability of becoming users after cancer diagnosis.

DISCUSSION

Although this study focused on a population-based sample of surgically treated female breast cancer patients, the results refer to a selected sub-sample. In fact, responders were significantly different from non-responders, being younger, with a different distribution of marital status and with more frequently localised cancer at diagnosis than non-responders. With these provisos, the present study suggests that a substantial percentage of Italian female breast cancer patients, 16.5%, at least in young age groups at diagnosis, use CTs during the course and as a consequence of their disease. A recent paper by Downer and colleagues [10] referred to a similar percentage among English female cancer patients (19.6%), but this was remarkably lower when only breast cancer patients were considered (9.8%). In this study, 9.1% of the patients indicated use of CTs before breast cancer diagnosis. This percentage may represent the spread of CTs in the general female population confirming a frequent use of these treatments.

In agreement with previously reported papers, our patients using CTs were significantly younger than non-users [2, 6, 10] and were more frequently better educated [2, 6, 10]. It is worthwhile mentioning that responders to the questionnaire were younger at diagnosis compared with the total sample population. Therefore, it is likely that the 'true' proportion of the use of CTs in the general breast cancer population would be lower than that observed.

Patients who had used CTs before cancer diagnosis were more prone to use them after diagnosis in comparison with patients who were not previous users. This variable was the only one that showed an independent significant predictive value. This result may be due to a selection of patients prone to use CTs who would have used these treatments independently of the disease. However, it may also represent a clue for patients' preference for more gentle, 'natural' and emotionally satisfying treatments.

The most commonly used therapies (homeopathy, manual healing method, herbalism and acupuncture) were different from those identified in the U.S.A. (metabolic therapies, diets and megavitamins) [16] and in the U.K. ('mind cures' [10] and psychosocial support [13]). Such differences, however, should be interpreted with caution, because of the lack of an internationally agreed definition for CTs.

CTs are sometimes described as an extreme, desperate attempt, sought after by incurable patients after the failure of conventional medicine [5, 15], but results from the present study indicate a very different interpretation. The majority of the women seemed to use CTs in a structured therapeutic project. The information was received from reliable sources. Approximately 40% of the patients informed their doctor of these treatments, the proportion reported in the U.S.A. was only 28% [2]. The extent of the disease at diagnosis was not significantly different among users and non-users. The

majority of the women used CTs in association with conventional treatments, mainly for physical distress.

The fact that a significant percentage of female breast cancer patients used CTs in central Italy should not be undervalued by general practitioners and oncologists. In fact, it is linked with several aspects of the doctor–patient relationships. Although studies which demonstrate the efficacy of CTs are lacking [15], psychological benefits have been reported from patients [10], and, in the present study, the majority of the patients were satisfied with these treatments. The possibility of interference with conventional therapies should be investigated, as side-effects of some treatments, such as diet therapy have been reported [10]. Moreover, the use of 'other' therapies points to the possibility of dissatisfaction with the technological and impersonal nature of conventional medicine [15].

With the increasing interest in CTs by patients, the boundaries between conventional and unconventional treatments are becoming less defined and conventional medicine centres and research on this issue are growing [15]. Therefore, it seems useful for doctors to include questions about these therapies in history taking [4]. Moreover, a recent survey [19] carried out on a sample of Italian oncologists showed a lack of knowledge on CTs [19]. Doctors should increase their knowledge on this issue with the aim of helping, with scientific information, their patients to deal with risks and benefits of these therapies [20–23].

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