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Use of alternative / complementary therapy in breast cancer patients – a psychological perspective

Published online: 29 November 2000
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Abstract The objectives of this study were to assess the additional use of alternative (complementary) therapies in patients with breast cancer who were receiving conventional treatment and to compare patients using alternative therapies with patients receiving only conventional treatment with special reference to psychological adaptation, causal attribution and quality of life. A sample of 117 female out-patients with a diagnosis of breast cancer filled in the following assessment instruments: FQCI (Freiburg Questionnaire for Coping with Illness), PUK (Causal Attribution Questionnaire), EORTC QLQ-C30 (European Organization for Research and Treatment of Cancer Quality of Life Questionnaire), POMS (Profile of Mood States), and a self-developed questionnaire on alternative therapies. Nearly half the patients (47%, $n=55$) reported that they had used alternative therapies in addition to conventional treatment. The methods applied most frequently were nutrition-related measures (special drinks,

vitamin preparations and whole-foods – each applied by about 50% of users), mistletoe preparations (49%), trace elements (47%), and homeopathy (31%). Compared with patients receiving only conventional treatment, the users of alternative therapy were younger and better educated. Users developed a more active style of illness coping than non-users and showed more religious involvement. Patients using a large number of alternative therapies (>3) tended to adopt a more depressive coping style than those using only a small number (≤ 3). For a substantial proportion of cancer patients alternative therapies apparently fulfil an important psychological need. However, a subgroup of patients using many alternative therapies seem to have considerable adjustment problems. In dealing with cancer patients the treatment team should be aware of both these groups.

Keywords Breast cancer · Alternative therapy · Coping · Causal attribution · Quality of life

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Introduction

Studies on the use of so-called alternative, or complementary, therapies by cancer patients have shown that a substantial proportion of patients take advantage of

various supplementary treatment offers in addition to 'conventional' therapies carried out in the context of the oncological hospital treatment. Thus, in a literature review regarding the use of alternative treatment methods in nine different countries, Hauser determined that at least 50% of cancer patients use alternative

methods in the course of their illness [15]. Ernst and Cassileth, in a recent review of 26 studies from 13 countries, found that the reported use of alternative medicine in cancer ranged from 7% to 64%, with an average of 31% [13].

The term "alternative therapies" is generally used as a collective name for a vast range of diagnosis and treatment methods, which, upon close examination, differ considerably from one another. For the purposes of this paper, Schwarz's definition of alternative therapies as "health-related behaviour patterns and medications, which are used with the intention of curing and improving the respective illness, without the existence of valid proof of efficacy according to scientific criteria" [27] is used. Sometimes, a distinction is made between alternative and complementary medicine, the first term being used only for therapies "promoted for cancer treatment and for use *instead* of mainstream therapy" while the second is used to mean methods used "in addition to mainstream care, for symptom management and to enhance quality of life" [6]. However, this distinction has been criticised as artificial by others [16].

Studies regarding the kind of alternative preparations and procedures applied by cancer patients have resulted in a colourful picture owing to the different regional spread of individual methods. In the United States, metabolic therapy, diets, mega-vitamins, mental imagery for anti-tumour effects, spiritual or faith healing and immune therapy are most commonly used [8]. In Germany [19, 27] and Switzerland [18] mistletoe preparations are most frequently applied. Nutrition-related measures, such as special drinks, teas or diets and vitamin preparations, are used nearly as often. In many cases combinations of two or more preparations are used simultaneously [12, 24, 27, 33].

The motives for the increasing use of alternative treatment methods have been dealt with repeatedly [7]. According to these studies, the popularity of paramedical methods reflects social trends and shows the patients' desire for a healthier way of life in harmony with nature. When asked about their motives for using paramedical methods, patients expressed the wish for an active role in their treatment, the strengthening of the body's own healing powers and the desire for a non-toxic, gentle treatment [8, 18, 27, 32].

Apart from the numerous, highly controversial discussions about their objective efficacy, there are few reports of studies on the *psychological* motives for the use of alternative treatments [12, 28]. Downer et al. examined a possible association between the use of alternative methods and lay expectations about the cause of illness and found a significantly higher internal attribution (i.e. attribution to causes lying in the patient him- or herself) in users [12]. In an investigation on relations between coping styles and use of alternative

treatment, Söllner et al. found that cancer patients using alternative medicine in addition to conventional therapy showed a more pronounced active fighting way of dealing with their illness than patients receiving only conventional treatment [28].

Those offering alternative therapies often state that use of these methods improves the users' quality of life. However, there is a lack of controlled studies on this matter [9]. Moreover, little is known about the use of alternative treatment methods in specific groups of cancer patients [7]. Similarly, hardly any studies exist in which aspects of illness-related coping or the quality of life of users and non-users were compared using standardised measurement instruments.

In this paper we report on a study conducted to shed some light on the above, hitherto neglected, aspects. In particular we pursue the following three aims:

1. To assess the additional use of alternative therapies in patients with breast cancer receiving conventional treatment (proportion of patients, types of treatment used, motivation for use, etc.)
2. To compare patients using alternative therapies with those receiving conventional treatment alone with reference to psychological adaptation, causal attribution of the disease, and quality of life
3. To explore possible heterogeneities within the group of users of alternative therapies with respect to the above psychological concepts

Patients and methods

Study sample

The study is based on a consecutive sample of out-patients of the Breast Cancer Out-Patient Clinic within the Department of Surgery at Innsbruck University Clinics. Study inclusion criteria were a diagnosis of breast cancer, duration of illness of at least 6 months, patients' awareness of diagnosis and their informed consent. Patients were asked to fill in the questionnaires described below during a regularly scheduled visit to the Breast Cancer Out-Patient Clinic. A quiet room was provided for completion of the questionnaire. The patients were guaranteed anonymity and the possibility of terminating their participation at any given time.

Assessment instruments

Apart from socio-demographic data, a number of clinical variables were recorded, including stage of illness (at the time of diagnosis and at the time of investigation), duration of illness, type of surgery, application of chemotherapy, radiation and/or hormone therapy, use of antiemetic and psychotropic drugs and use of reconstructive surgical measures (breast reconstruction) or cosmetic aids (breast prosthesis, wig), etc.

To assess the patients' coping with the disease, we used the Freiburg Questionnaire of Coping with Illness [20]. This is a 35-item self-assessment questionnaire and has been validated in large samples of patients suffering from chronic diseases (cancer,

coronary heart disease and multiple sclerosis). Factor analysis yielded five factors, namely “depressive coping style”, “active problem-oriented coping style”, “diversion and self-encouragement”, “religiousness and search for meaning”, and “minimising problems”. In addition, three items assessing compliance with the physicians’ recommendations and prescriptions and confidence in the medical procedure were combined to a subscale. Internal consistency of the subscales is satisfactory (Cronbach alpha >0.70). Reliability has been psychometrically tested and shown to be satisfactory [20].

In order to assess causal attributions the “Personal Causes of Illness” questionnaire (PUK) was used [21]. It consists of 20 items to be rated on a 5-point scale according to their subjective significance for the aetiology of the disease (1 = not at all and 5 = strongly applicable/extremely).

Quality of life was recorded by means of the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) [1] and the Profile of Mood States (POMS) [17]. The EORTC Quality of Life Questionnaire consists of a generic ‘core questionnaire’ (QLQ-C30) and disease-specific modules. The core questionnaire includes 33 items measuring five key dimensions of quality of life (physical, social, emotional, cognitive and role functioning) as well as a number of general symptoms. The module for breast cancer (EORTC BR23) consists of 23 items and assesses symptoms or consequences specific to breast cancer and its therapy [30]. Items are rated on a four-point scale (1 = not at all, 2 = a little, 3 = moderate, 4 = strong), except for the items in the ‘global quality of life’ subscale, which are to be answered on a 7-point scale.

An abridged German version of the “Profile of Mood States” (POMS) was developed by Bullinger et al. [3]. It consists of 35 items describing mood states assessed on a five-point scale ranging from “not at all” to “very strong”. The four subscales of this version of the POMS are depression, fatigue, dysphoria and vigour/activity.

A self-developed questionnaire was employed to record the use of alternative treatment methods. Patients were asked to state whether they took advantage of alternative methods in addition to conventional oncological therapy as a means of treatment for their cancer and, if so, to provide information about the kind of method(s) and procedure(s) applied, the source of information and the supplier, the time of first use, the duration and intensity of use, and the motives for using each. Alternative methods considered included scientifically unproven medication (such as homeopathy), special diets, acupuncture, ozone treatment, and spiritual healing. Psychotherapy was not considered an alternative method. Patients were assigned to the group of users of alternative methods if they had at any time in the course of their illness used supplementary preparations or procedures to treat the illness or to improve their general health state.

Statistical methods

The Chi-square test with continuity correction was employed for nominal variables, and the Mann-Whitney U-test for ordinal- or interval-scaled variables to compare users and non-users of alternative methods for sociodemographic and clinical characteristics. Analysis of covariance was used to test for group differences relating to the psychological test instruments (subscales of FKV, PUK, POMS, EORTC QLQ-C30), the covariates considered being age, education, duration of illness, kind of operation (mastectomy versus breast conservation) and stage of illness at the time of operation. Multiple linear regression with backward stepwise variable selection was applied to study heterogeneities within the user group (independent variables considered were several characteristics concerning the use of alternative treatment, age and educational level; subscores of psychological test

instruments served as dependent variables). As ‘number of alternative methods applied’ turned out to be the most significant independent variable, subsequent analyses were performed by subdividing the user group with respect to this variable. Selection of a cut-off point at three alternative methods (≤ 3 , vs >3), made partition into subgroups of almost equal size ($n=27$ vs $n=28$) possible. Comparisons between these two subgroups were performed with the Mann-Whitney U-test.

Results

Patient characteristics

Of 126 patients eligible for study participation, 5 refused to take part and 4 returned incomplete questionnaires for organisational reasons (medical follow-up visit started before patients had completed the questionnaires). Consequently, the data of 117 patients (92.9%) were available for analysis, 55 (47%) of whom reported that they had taken or still were taking some sort of alternative medication in addition to conventional medical treatment (“users”) while the remaining 62 patients (53%) indicated having used conventional treatment only (“non-users”).

An overview of sociodemographic and clinical characteristics of the two groups is given in Table 1. Patients employing alternative treatment methods were

Table 1 Patient characteristics

Variable	Non-users (n=62)	Users (n=55)
Age (mean \pm SD) ^a	55.2 \pm 7.6	50.7 \pm 8.0
Education ^b		
Compulsory school	53%	33%
Technical college	39%	47%
A levels, university	8%	20%
Illness duration (years) ^c	6.2 \pm 5.6	3.8 \pm 3.5
Stage of disease (before surgery)		
0–1	46%	40%
2	48%	51%
3–4	6%	9%
Type of surgery ^d		
Mastectomy	71%	53%
Breast conservation	29%	47%
Karnofsky Index		
≤ 70	3%	6%
80–90	13%	12%
100	84%	82%

^a Significantly lower in user group ($P=0.008$)

^b Significantly higher level of education in user group ($P=0.027$ after adjustment for age, analysis of covariance)

^c Significantly lower in user group ($P=0.018$ after adjustment for age)

^d Significantly higher proportion of breast-conserving surgery in user group ($P=0.038$ after adjustment for age at operation and duration of illness)

significantly younger than those receiving conventional treatment alone and they had a significantly higher level of education (after adjustment for age differences). Illness duration was significantly shorter in patients using alternative treatments (again, after adjustment for age); moreover, a larger percentage of these patients had undergone breast-conserving surgery.

Alternative treatments: types, modalities, and reasons for use

Table 2 gives an overview of the alternative treatment methods used by the 55 patients. Certain nutrition-related measures (special drinks, vitamin preparations, trace elements and wholefoods) and mistletoe preparations were the ones applied most frequently (by about 50% of the users). In addition to the alternative methods shown in Table 2, there was occasional use of ozone or oxygen treatment, acupuncture/acupressure and spiritual healers. Patients using alternative methods reported having applied or tried between one and nine different methods. Just over half (51%, or 28 patients) stated they had used up to three different treatments, while the remaining 49% said they had used four or more treatments.

In 53.3% of cases, the users had already started alternative therapy before the end of conventional medical therapy, and in 42.9% they began it after finishing conventional therapy; only 2 patients started it after experiencing a relapse, which is low even for the fairly small number of 16 relapsing patients (5 of whom had started alternative treatment before the time of relapse). Most, 64.5%, of the users stated that they had used the aforementioned preparations or procedures regularly, and 35.5% that they had applied them occasionally.

More than half the users had received information about alternative preparations and procedures from their physicians. Almost a third of them were provided with information by friends and acquaintances, and 20% by other patients. Magazines and books were sources of information for 10.9% of the patients. Two-thirds of the users applied alternative preparations or procedures under the guidance of their general practitioners.

The most important reasons for using alternative therapies were the desire for an active role in treatment (47%), the wish to leave nothing untried (47%) or to complement conventional treatment (31%), and the desire to have a gentle treatment free of adverse effects (18%). Only 2 patients (3.6%) stated non-response/inadequate response to conventional treatment as a major reason. The expectations most frequently reported were strengthening of the immune system

Table 2 Overview of alternative treatment methods used

Preparation/procedure	Users	
	<i>n</i>	%
1. Special vegetable drinks	29	52.7
2. Megavitamins C, A, or E	28	50.9
3. Mistletoe	27	49.1
4. Minerals (selenium, zinc, copper, etc.)	26	47.3
5. Special diets	20	36.4
6. Homeopathy	17	30.9
7. Special teas	16	29.1
8. Relaxation training	14	25.5
9. Enzyme preparations	11	20.0
10. Thymus preparations	8	14.5
Other	16	29.1

(82%), improvement of the general state of health (53%) and prevention of relapse (27%).

One-quarter (25.5%) of the patients using alternative methods stated that they had undergone psychotherapy or psycho-oncological treatment at some stage in the course of their illness. Among the non-users, however, only a much smaller percentage (6.5%) took advantage of psychotherapy or psycho-oncological treatment ($P=0.005$, Chi-square test).

Comparison of users and non-users: coping, causal attribution, and quality of life

A comparison of users and non-users with respect to their coping styles is provided in Table 3. Users of alternative treatment methods more frequently indicated an 'active problem-oriented coping style' (searching for information and for solutions to illness-related problems, fighting the illness) and 'religiousness and searching for meaning' (accepting illness as fate or task, finding consolation in religious belief). They also showed a tendency to more frequent use of 'diversion and self-encouragement' (gaining distance from illness, giving oneself a treat, encouraging oneself). On the other hand, non-users showed almost significantly higher values ($P=0.056$) for compliance and confidence in the physician than users.

No statistically significant differences between users and non-users could be established for causal attribution (PUK) and quality of life (EORTC QLQ-C30, POMS).

Heterogeneities within user group

Within the group of users of alternative treatment methods, considerable heterogeneities in coping style and causal attribution were observed, which were attri-

Table 3 Illness coping (Freiburg Questionnaire on Illness Coping, FKV-Lis), subscale means of “non-users” and “users” of alternative treatment methods. Scores on five-point response scales ranging from 1 (= not at all) to 5 (= strongly applicable/extremely)

Coping style	Non-users (n = 62)		Users (n = 55)		Group comparison P-value ^a
	Adjusted mean ^a	SD	Adjusted mean ^a	SD	
Depressive	1.69	0.70	1.73	0.73	n.s.
Active problem-oriented	2.27	0.84	3.02	1.04	<0.001
Diversion / self-encouragement	2.74	1.06	3.11	0.94	(0.070)
Religiousness and search for meaning	2.55	0.96	2.96	0.91	0.031
Minimising problems	1.82	0.82	1.73	0.82	n.s.
Compliance and confidence in physician	4.09	0.73	3.75	0.88	(0.056)

^a Determined by analysis of covariance with the covariates age, education, duration of illness, stage of illness and kind of operative treatment.

butable in part to certain characteristics in the use of alternative methods and to sociodemographic variables. This was studied with multiple linear regression.

Among the independent variables considered in the regression analysis, ‘number of alternative treatment methods’ was the most strongly associated with both coping style and causal attributions. Patients using a large number of alternative methods (≥ 4) showed a more depressive coping style and were more inclined to play down problems than patients using not more than three alternative treatments ($P < 0.05$, multiple regression). Regarding causal attribution, the first-mentioned group of patients more often related the origin of their cancer to external influences ($P < 0.05$), such as environmental pollution, terrestrial radiation, the ‘stars’ and fate. They were also more inclined to consider personal and interpersonal psychological problems ($P = 0.060$), and also stress and occupational burden ($P < 0.05$) as possible causes of their illness. Other variables (use of mistletoe, trace minerals, use of

dietary methods only, age, school education) showed comparatively little association with coping and causal attribution. Use of trace minerals was linked with more active coping and self-encouragement ($P < 0.05$). Higher education was associated with less problem minimisation and less subjection to feelings of depression ($P < 0.05$), while higher age was connected with more confidence in the physician ($P = 0.066$). It should be noted that these results do not imply causal relationships but merely show non-random associations between variables.

Table 4 details the most important of the above-mentioned results by contrasting ‘low’ users (≤ 3 treatments) with ‘high’ users (≥ 4 treatments) with respect to coping behaviour, causal attribution and mood states/quality of life. For comparison the values of the non-user group are presented as well. With regard to coping styles, it should be noted that ‘low’ users not only showed considerably less depressive coping and problem minimisation than ‘high’ users, but employed

Table 4 Differences in coping style, causal attribution and quality of life between non-users, users of one to three, and users of more than three alternative preparations/procedures [\uparrow (\downarrow) significantly higher (lower) mean value than in group with one to three preparations/procedures]

	None (n = 62)		1–3 preparations or procedures (n = 28)		>3 preparations or procedures (n = 27)		P-value*
	Mean	SD	Mean	SD	Mean	SD	
Coping style (range 1–5)							
Depressive	1.69	0.70	1.44	0.59	2.07 \uparrow	0.74	<0.001
Minimising problems	1.82	0.82	1.46	0.61	2.10 \uparrow	0.89	0.001
Causal attribution (range 1–5)							
Stress susceptibility, high demands of self	1.79	0.87	2.06	1.08	2.67 \uparrow	0.96	0.046
Interpersonal and/or psychological problems	1.92	0.90	1.90	0.89	2.39 \uparrow	0.99	0.014
External influences	1.99	0.79	2.02	0.59	2.62 \uparrow	0.92	0.002
Coincidence	1.90	1.17	2.11	1.37	1.48 \downarrow	1.12	0.046
Mood states, quality of life							
Depression (POMS, range 1–5)	1.44	0.61	1.15	0.29	1.66 \uparrow	0.66	0.001
Dysphoria (POMS, range 1–5)	1.40	0.49	1.31	0.35	1.52 \uparrow	0.39	0.050
Emotional functioning (QLQ-C30, range 0–100)	77.4	22.6	76.9	21.2	61.4 \downarrow	24.1	0.009

* P-values refer to the comparison of groups with 1–3 vs >3 alternative preparations/ procedures

these coping mechanisms even less than the patients in the non-user group (although the latter difference was not statistically significant).

Concerning quality of life there was little difference between high and low users, the only exception being emotional functioning. Those applying more than three treatments reported higher emotional stress (poorer score in 'emotional functioning') than those using up to three treatments. This is in good agreement with the results on depressive and dysphoric mood.

Discussion

For most patients the diagnosis of cancer produces great fear: of dying, of pain, of dependency on medical services, and of social and economic consequences. Despite incisive medical interventions, both diagnostic and therapeutic, uncertainty about the course of illness remains one of the most poignant characteristics of cancer. The use of alternative methods provides many patients with a possibility of dealing with the fears and threats they feel. In agreement with other relevant studies [15, 27], the present report confirms widespread use (47%) of alternative treatment methods in patients with cancer.

The sample studied in this report was recruited at a breast cancer out-patient unit and can be regarded as representative for the population of this institution. In other studies on the use of alternative medicine, patients were enrolled in a similar way [24]. Owing to the recruitment procedure, patients who made no use of conventional cancer therapy at all, but relied solely on alternative methods are not represented. However, such patients are thought to be very few in number in Germany and Austria [23].

As far as the types of alternative therapy are concerned, mistletoe preparations (49%) and nutrition-related measures were the most frequently applied. This is consistent with results obtained in studies from other countries bordering on our own [18, 19, 27]. Reasons for the widespread use of mistletoe preparations might be that many general practitioners prescribe these preparations and that they can be injected by the patients themselves.

Users of alternative therapies were significantly younger than non-users, as found by many other research groups [12, 18, 19, 25, 32]. Furthermore, a higher level of education in users was confirmed [11]. A higher level of education may lead to a higher degree of scepticism about conventional medicine and enhance knowledge of potential alternatives.

The majority of patients in our study began using alternative therapies quite early on in the course of illness. This contradicts the common view that patients regard them as a last resort to be used only after all

other medical possibilities have been exhausted. Moreover, the regularity and duration of use also highlight the importance ascribed to alternative therapies as an essential part of the cancer treatment.

With regard to the reasons for using alternative therapies, two were expressed most frequently: the wish for an active role in treatment (to be discussed below) and the wish to supplement conventional treatment, which is often considered not to be exhaustive. The latter can be seen against the background of the common lay view of cancer as a process in which the body's own powers of resistance have failed [10]. Consequently, circumscribed measures, such as surgery or radiation therapy, may be seen as incomplete. Since conventional oncological therapy is generally experienced as invasive and associated with numerous adverse effects weakening the body's defence mechanisms further than they already are, patients with these illness concepts see even more reason to seek help in complementary medicine.

The use of alternative therapies has often been regarded as helpful as a coping strategy [12, 32]. In particular, it has been pointed out that alternative treatment methods may provide a way of fighting illness-induced feelings of anxiety and of being threatened feelings [32]. Our own analysis of coping styles shows that the strategy in which users and non-users of alternative methods differed most markedly was active, problem-oriented coping. This is in good agreement with the above findings, emphasising the users' wish to play an active role in the treatment process. However, active coping is not limited to active participation in medical treatment, but extends beyond the health domain. Thus, for instance, users scored significantly higher on the item 'living more intensely' than non-users.

The other coping style in which users differed significantly from non-users was religiousness and search for meaning. It seems conceivable that users, more than non-users, try to gain a deeper understanding of their disease by developing a holistic view embracing physical, psychological and spiritual aspects of illness and of coping with illness [7, 10, 22].

While in certain respects the group of users of alternative therapies seems to differ consistently from the group of non-users, our statistical analyses show that the user group was in itself quite heterogeneous. Previous studies on the use of alternative treatment and its implications have not evaluated this aspect. Our regression analyses indicate that there are considerable differences in coping style and causal attributions within the group of users and that these differences can be ascribed at least in part to the total number of alternative methods used.

Patients who used many (four or more) alternative methods apparently experienced the emotional burden

as more severe and were seen to have a more depressive coping style than those applying fewer alternative therapies or none at all. This may have important implications, since a long-lasting depressive coping behaviour is often associated with an unfavourable adaptation, characterised by a brooding, self-incriminating attitude accompanied by social withdrawal [14]. The question arises as to whether, through a regular use of a considerable number of alternative therapies, the possible *favourable* effects described by many patients are more than outweighed by an excessive attention given to the illness (through such activities as preparation of diet foods and self-injection) and the anxiety resulting from it. Perhaps this also explains why these patients play down or avert fear to a greater extent than the other patients.

Our findings on depressive coping partly correspond to those reported by Burstein et al., who in a sample of breast cancer patients found increased depressive symptoms (SF-36 mental component) among new users of alternative medicine [4]. However, while Burstein et al. analysed the group of (new) users of alternative methods as a whole, we tried to take a more detailed view by taking into account heterogeneities within the user group, which led to the identification of a rather active and a more depressive subgroup. This approach, which should be refined in further studies, may also be helpful to reconcile Burstein et al.'s findings with some of the criticism levelled at them [5, 26].

The investigation of the subjective causal attribution of the disease generally showed a tendency towards multi-causal concepts. Apart from psychosocial explanations, external causes such as environmental pollution and heredity dominated. While no differences between non-users and 'low' users (up to three alternative methods) could be established, 'high' users (more than three methods) showed somewhat different aetiological concepts. They more often credited family- or partner-related burdens and also their own psychological problems with an influence on the origin of the disease. Although findings concerning the relationship between causal attributions and illness coping are still inconsistent, researchers have nevertheless repeatedly referred to the rather maladaptive function of a predominantly *internal* causal attribution. According to Faller et al., this is followed by increased emotional distress, depression and hopelessness [14]. At the same time, an emphasis on the patient's own responsibility

for recovery may trigger feelings of inadequacy and guilt in the case of progressive illness [8].

On the subscale 'compliance and confidence in physician', non-users showed a tendency to higher values than users. Obviously, confidence in the physician is of central importance for patients in the non-user group, in which a vast majority (75%) stated that this was among the main reasons for not using any additional treatments. With regard to the doctor-patient relationship, it is important to be aware that some of the patients keep their 'alternative' activities a secret, fearing confrontations with the oncologist. Knowing about the motives for the use of 'alternative medicine' allows open conversation among oncologists, nursing staff and patients [2]. This is essential to the establishment of an alliance between the treatment team and the patient [16, 31]. It may also protect patients against potentially harmful preparations and/or procedures.

Regarding quality of life, no major differences between users and non-users could be established. Within the user group, the only difference found between 'low' and 'high' users was the greater emotional distress experienced by the latter group. It may be that the rather broad concept of 'generic' quality-of-life questionnaires, such as the EORTC QLQ-C30, is not specific enough to bring out subtle differences in well-being, or that existing differences are neutralised because patients have gradually adjusted to their actual life situation [29].

In conclusion, the results of our study indicate that, for a substantial proportion of breast cancer patients, alternative treatment measures complementing conventional treatment appear to fulfil important psychological needs. The key aspect in this context seems to be the wish to be actively involved in the therapeutic process and to retain some personal control. On the other hand, in a considerable proportion of patients, a strong involvement with alternative treatment methods seems to be linked with an over-concerned, illness-centred behaviour. In dealing with oncological patients the treatment team should be aware of both these aspects, which often accompany the use of or search for 'alternative' treatment methods.

Acknowledgements The authors wish to thank Ivano Moschèn and Wolfgang Söllner for their thoughtful comments and suggestions.

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