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The attitudes of physicians and oncologists towards unconventional cancer therapies (UCT)

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Abstract

Physicians represent the main providers of unconventional cancer therapies (UCT) in Germany. However, little is known about providers' characteristics, as well as their attitudes towards UCT. 833 questionnaires on this topic answered by general practitioners and hospital physicians were analysed. Providers differed significantly from non-providers with respect to gender (male > female, i.e. more male providers), age (older > younger), amount of subjective knowledge about UCT, place of work (office > hospital > university clinic), greater wish for coverage of UCT costs, the belief in future positive trends concerning UCT, the recognition of patients' demand for UCT, the number of patients seen per month and medical specialty (GPs > oncologists and radiation oncologists). UCT were not considered to be highly effective, but estimations varied considerably. Further investigations in this area, better education about UCT, training in coping strategies with the fate of cancer patients, and reasonable complementary treatments appear to be of the utmost importance.

Keywords: Unconventional cancer therapy; Physicians' attitudes

1. Introduction

Cancer remains one of the major causes of death in western countries in spite of continuing advances in modern conventional cancer medicine. Although the benefits of such advances are undisputed, between 10 and 70% of all cancer patients decide to use unconventional cancer therapies (UCT). These have been defined as drugs or methods that have not been proven on a scientific basis. Patients' hope for a better quality of life and survival or the desire to lead a more active part after the diagnosis of 'cancer' has caused an increase in the use of UCT in the past few decades [1–5], which has resulted in an enormous economic impact. Recent estimates for the USA are in excess of 25 billion US dollars and approximately €1 billion for Germany [3,6]. Patients' motivation for using UCT and the prevalence of UCT in various countries have been intensively studied [4,5]. Data concerning the medical value of UCT are conflicting.

In an earlier study, we identified physicians as the main source of information and as the initiators of UCT [4]. Systematic research on physicians' views has concentrated not solely on UCT, but rather on the broader use of alternative medicine. A review of the literature on UCT and physicians' attitudes identifies only six original articles on the subject: as shown by the first study on the topic, physicians appear to offer only a limited portion of the entire spectrum of UCT; in the USA these UCT include metabolic therapy, megavitamins and immunotherapy [7]. Later, Lerner and Kennedy [8] interviewed 91 physicians concerning their advice to patients about UCT. Three more recent studies by Bourgeault [9] and Gray and colleagues [10,11], covering only small numbers of physicians ($n \leqslant 30$), provided some general information on the range and variety of physicians' views on UCT. However, it remains unclear how many physicians share such ideas since no statistics are available. Finally, a larger Italian study ($n = 190$) by Crocetti and colleagues [12], which also represents the

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only European study on this subject, focused on physicians' knowledge of UCT, considerations of its usefulness, the percentage of physicians practising UCT, and the referral rates to UCT in different cities in Italy. This brief overview demonstrates the limitations of our current knowledge of physicians' attitudes towards and motivations for using UCT, especially in Europe. In contrast to other countries in Europe, Germany allows healers to treat patients. Costs of some UCT are currently covered by some health insurance companies.

Thus, in this study, we investigated the factors that may influence a physician's decision as to whether to offer UCT or not in a large group of doctors from various fields of medicine, ranging from general practitioners (GPs) to specialised oncologists and radiation oncologists.

2. Patients and methods

Lack of earlier studies on this topic necessitated the development of a new questionnaire which was pretested by 10 independent physicians working in the field of oncology at the Justus-Liebig-University of Giessen, Germany. Based on their comments and suggestions the questionnaire was modified. The final version consisted of 49 questions, the first eight questions assessing demographic data including sex, age, professional status and place of work. Questions on the number of cancer patients seen per month, the average amount of time spent per patient, the composition of tumour entities among their patients and the number of days spent on postgraduate medical education were also posed. Physicians' subjective knowledge of various, relevant UCT and the importance of various sources of information were assessed by lists which were compiled on the basis of earlier publications about UCT from Germany and Switzerland [4,13,14].

Reasons for providing or rejecting UCT were assessed by means of general statements such as 'not at all true' to 'very true' on a 6-point scale. Finally, physicians using UCT were asked to judge the efficacy of UCT concerning the antitumoral effect of the treatment and the patient's effect on the quality of life.

After the completion of the questionnaire, congresses of the German Cancer Society (Berlin, June 1998), the German Society of Obstetrics and Gynaecology (Nuremberg, September 1998), the German Society of Haematology and Oncology (Frankfurt, October 1998), and the German Society of Radiation Oncology (Nuremberg, November 1998) were selected in order to reach high numbers of physicians working in the field of oncology at reasonable expenses. Prior to each congress, we submitted the questionnaire to the chairpersons of the various societies and obtained the consent of each society to carry out this project. Since earlier unpublished internal analyses have shown that the 'Giessener Gynäkologische Fortbildung' is visited by the 'average' gynaecologist, we also issued the questionnaire during this meeting. In total, 1810 physicians, attending the various congresses in 1998 and the beginning of 1999, were asked to complete a questionnaire anonymously about their attitudes towards and knowledge of UCT. They were given the questionnaire upon entrance to the scientific lectures and asked to return it when they left. Nineteen questionnaires were later returned by mail. There was no selection at all on the type of persons receiving and those not receiving the questionnaire. No questionnaires were issued at any satellite symposia or symposia that were associated or sponsored by any pharmaceutical company or in an exhibition of the pharmaceutical industry. In all, 34.3% (621/1810) of the questionnaires were available for statistical evaluation (range: 19.3–45.4%). 194 questionnaires were returned unanswered. Especially at the 'Giessener Gynäkologische Fortbildung' several physicians remarked that they were not involved in the treatment of cancer patients. Parallel to this, we personally visited 310 general practitioners, earlier identified from the Yellow Pages, in the areas around Giessen and Unna (Germany) and asked them to fill in the questionnaire. Two-hundred-and-fifty GPs (80.6%) accepted the questionnaire, 80.8% (202/250) were returned primarily by mail.

Data management and analyses were performed with the help of the 'SPSS for Windows 7.5®' computer program using cross-tabulation (Chi^2-test), the general linear model (GLM), and discriminant, as well as stepwise-discriminant analyses.

3. Results

In total, 53.0% (433/817) of the physicians offered UCT. However, physicians providing and promoting UCT differed from non-providers in a number of characteristics:

- Gender — male physicians offered UCT more frequently than their female colleagues (280/500 = 56.0% versus 153/317 = 48.3%; $Chi^2_{Pearson} = 4.66$; $P = 0.031$).
- Age — 42.5% of physicians less than 40 years of age promoted UCT (171/402), 64.8% of physicians aged between 40 and 50 years suggested UCT (147/227), and 61.3% of physicians aged more than 50 years offered UCT (114/186) ($Chi^2_{Pearson} = 35.40$; $P < 0.001$).
- Place of work — general practitioners applied UCT more frequently (73.4%; 232/316) than their colleagues in small hospitals (43.2%;142/329) and university clinics (34.7% = 60/173) ($Chi^2_{Pearson} = 88.99$; $P < 0.001$).

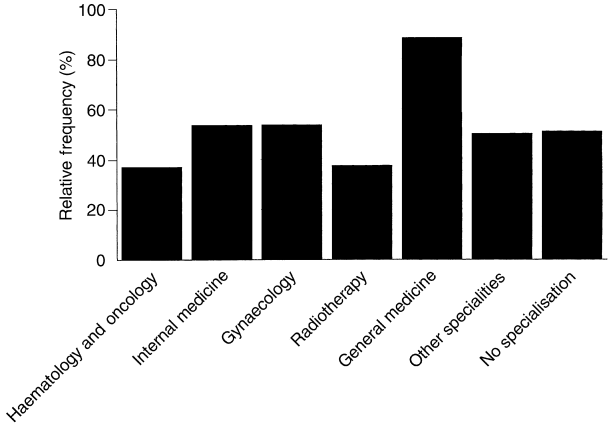

Fig. 1. Variation in rates of providing UCT within the various medical fields ($Chi^2_{Pearson} = 48.65$; $P < 0.001$).

- Medical speciality — medical oncologists and haematologists showed the lowest rates for the use of UCT compared with GPs (Fig. 1).

The findings on the medical specialities agree with the observation that physicians who reported seeing large numbers of oncological patients use UCT less frequently ($Chi^2_{Pearson} = 38.63$; $P < 0.001$). UCT were more frequently used by physicians who considered themselves better informed about these therapies, who experienced a higher demand for UCT, and believed that health insurance companies should cover the costs of UCT. They also believed in a positive future trend with respect to the use of UCT although a similar belief in this trend was also observed for the non-providers of UCT (Table 1). Discriminant analysis confirmed these variables. Stepwise-discriminant analysis identified the following variables in a descending order of importance: degree of knowledge of UCT, place of work (office versus hospital versus university clinic), desire for coverage of UCT costs, the belief in a continuing positive future trend towards UCT, physicians' gender, patients' demand for UCT and the number of cancer patients seen per month. Regardless of the provision of UCT, haematologists and oncologists were familiar with the greatest number of UCT ($Chi^2_{Pearson} = 35.67$; $P = 0.008$). Original and review articles were reported to be the most important sources of information on UCT, followed by congresses, media, communications from pharmaceutical companies, and exchange of information among colleagues.

Academic degrees, satisfaction with the job, the number of days spent on postgraduate medical education per year, the attitude towards patients' self-responsibility and towards establishing the teaching of UCT to students at universities, and the physicians' desire to establish a more personal relationship with their patients were found to have no influence on the frequency of providing UCT.

3.1. Providers of UCT

Among providers, 21.0% of the physicians used UCT for 2 years or less, 31.4% between 3 and 5 years, 22.5% between 6 and 10 years and 25.1% for more than 10 years. Different specialists appeared to prefer different types of treatment, GPs providing the greatest variety of UCT. The relative frequency of acquaintance with the various types of UCT is shown in Fig. 2. Knowledge and use of various UCT were strongly associated. Therapy with mistletoe extracts proved to be not only the best known, but also by far the most frequently provided type of UCT (54.2%), followed by therapy with the trace mineral selenium [^{79}Se] (25.7%), homeopathy (24.7%), megavitamins (23.8%), and others (Fig. 2). The patient's desire was one of the main reasons for providing UCT (67.0%; 290/433). The second most common reason was the desire to achieve greater patient motivation (53.6%; 232/433). The enlargement of the physician's therapeutic repertoire (49.7%; 215/433), the conviction that UCT could help patients (47.3%; 205/433), and finally, the belief that

Table 1
Relative frequencies of answers of providers and non-providers of UCT ($n = 833$) [%]

	$F\ value_{GLM}$		Not at all true	Not true	Little not true[a]	Little true[a]	True	Very true
I am very well informed about unconventional cancer therapies	100.5	Provider	0.9	11.5	17.4	35.6	28.9	5.7
		Non-provider	12.1	23.0	25.3	24.5	13.5	1.6
I have noticed the increased interest of patients in UCT during the last few years	38.9	Provider	0.9	8.0	8.3	19.3	43.7	19.8
		Non-provider	1.9	11.4	14.6	30.3	35.9	5.9
Costs of UCT should be covered by health insurance companies	52.2	Provider	10.7	12.5	14.4	24.6	24.4	13.5
		Non-provider	22.5	16.9	19.0	25.5	12.1	4.0
The positive trend towards UCT will end soon	35.9	Provider	39.2	34.9	18.9	5.0	1.9	0.2
		Non-provider	19.2	40.4	27.4	6.8	5.1	1.1

[a] Answers in both groups differ significantly statistically according to the General Linear Model (GLM) Statistics ($P < 0.001$).

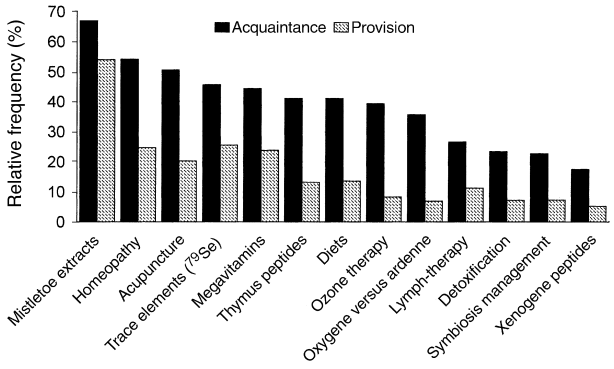

Fig. 2. Relative frequencies of physicians acquainted with the various UCT (entire group) and on the provision of UCT among providers.

conventional therapies were ineffective in some cases (44.1%; 191/433) were further reasons for providing UCT. When asked about their estimated rates of complete remissions (CR), partial remissions (PR), stable disease (SD) and progressive disease (PD) due to UCT, answers ranged from 0 to 100% for any course of the disease. On average, the estimated rate of CR in response to UCT was 7.0%, of PR was 13.4%, of SD was 34.9% and of PD was 41.7%. Since many UCT are thought to improve the patient's quality of life, the providers were also questioned on the estimated rates of substantial improvements in the patient's quality of life (reported as 26.5%). On average, mild improvements were reported in 31.5% (136/433), no change of symptoms in 30.8% (133/433) and, finally, a change for the worse, was thought to be observed in 13.7% (59/433) of patients receiving UCT. Questioned about their personal motivation for using UCT, the majority (68.0%; 294/433) considered the improvement in the patient's quality of life to be of the greatest importance. Strengthening the immune system, the complementary improvement of conventional treatments, a reduction in the patient's need for pain medication, the lack of side-effects, and the reduction of side-effects from conventional treatments were further arguments for providing UCT, ranked in the preceding order according to the degree of importance. Possible curative effects of UCT and a good relationship between the costs and benefits of UCT were ranked as the least important reasons for providing such treatments. These findings explain why most physicians favoured the use of UCT primarily in the adjuvant (66.5%; 288/433) and palliative treatment situations (54.7%; 237/433). UCT as a palliative treatment alone was ranked third, prophylaxis of recurrences ranked fourth, and, finally, curative treatment alone ranked fifth. The vast majority of the providers considered the offer of UCT to be important for cancer patients (95.1%; 412/433) and would consider UCT if they themselves developed a malignant disease (75.8%; 328/433).

3.2. Non-providers

Non-providers of UCT were asked to give their reasons for not providing. The lack of proven efficacy of UCT was named by 83.9% (322/384) and ranked first, followed by the arguments that UCT were a waste of time and useless (47.4%; 182/384), that UCT encourage false hopes (41.9%; 161/384), cause the patient's refusal of conventional therapies (40.9%; 157/384), were too expensive and finally noxious (32.2%; 124/384). However, 58.4% (224/384) of non-providers considered providers to be charlatans to a greater or lesser extent.

4. Discussion

This cross-sectional study represents an attempt to describe the kind and degree of UCT applied by physicians, their attitudes and the characteristics of providers and non-providers. Potential biases cannot be excluded since the results suggest that doctors with strong views for and against UCT were more inclined to participate. We believe that, in spite of the moderate overall response rate (38.5%) at the congresses visited, the lack of comparable data justifies this publication. The response rate also appears to be acceptable considering that there was no official stand or advertising at the congresses, the questionnaire was rather long, and the time intervals allowed to complete the questionnaire were rather short. The remarkable response rate among the GPs shows the great interest in this field. Since our findings are based on the answers of a large number of physicians, they could present a basis for the generation of hypotheses in this area.

Beginning in the 13th century, when Nicholas of Poland demanded the abolition of physicians, pharmacists and all school medicine, there has been a constant struggle between advocates of scientific medicine and those of paramedical treatments [15]. As this study shows, physicians of different medical fields, gender, place of work and knowledge of UCT may be more enthused by the underlying principles of conventional or unconventional cancer therapies; the pathogenic and the salutogenetic paradigm, propose healing by fighting the causes of the disease or by supporting the mechanisms which the body uses to heal itself [16]. Because of great variations between concepts of cancer aetiology and prevailing therapeutic methods [4], the factors influencing physicians' preferences for UCT and decisions whether to provide UCT or not may vary widely, especially within different countries. Regardless, considerable changes have taken place within the past few years, which may also have influenced physicians' opinions: in 1992, Lerner and Kennedy [8] reported a rate of 9% of patients using UCT, and McGinnis [17] estimated an

economic impact of 2–4 billion US dollars in the USA. More recent estimates show 50% of patients using UCT and an economic impact of 25 billion dollars [3]. Unfortunately, there are no reliable estimates for western European countries.

The percentage of patients stating that they were influenced by their physicians to use UCT has been reported as ranging from 0 to 41.3% [4,12,13]. Moreover, when confronted with a patient's decision to use UCT, 39% of the physicians were found to react with disapproval, 30% were supportive and 12% were neutral [7]. In accordance with Crocetti and colleagues [12], older and more experienced physicians provided UCT more frequently in this study. In contrast to findings of studies on physicians providing unconventional methods for non-cancer patients [18–21], we found that male physicians provided UCT more frequently. The average time spent on individual cancer patients and postgraduate medical education did not vary between providers and non-providers of UCT. Physicians' area of specialisation was another interesting variable. Different fields of medicine hold different attitudes towards UCT and certain preferences for UCT. The high rate of providers among the GPs was in accordance with Norheim and Fonnebo [22] who found that GPs were least likely to interfere with the patient's desire to use acupuncture in cancer therapy. This fact may be explained by the following hypotheses: provision of UCT also keeps GPs in touch with their cancer patients, who will otherwise be treated by specialists only and thus be withdrawn from their area of influence. Secondly, GPs, unlike the specialised oncologist or radiation oncologist actually live among and with the cancer patients for a long time and remain responsible, especially when conventional treatments have failed. Psychological aid is not well recognised and is time-consuming, as well as difficult to bear, provision of UCT may bring the GPs back into the picture. In patients that recur, in particular, feelings of helplessness are evoked and there is a need to do something. This atmosphere, in which it is difficult to refuse possible chances for a cure, may bring physicians into a conflict between patients' demands, orthodox colleagues, health insurance companies, and perhaps their own medical philosophies and convictions [15]. The more personal relationship could also encourage cancer patients to ask for UCT more readily. However, with the following quote in mind that "the truth of today will be the error of tomorrow and vice versa", physicians are well advised to remain open-minded, but critical to all new therapeutic interventions [23,24]. Patients must be counselled based on current medical knowledge. Even if there is still a dispute on how to validate UCT, there must be some evidence for their efficacy, even as a complementary treatment. If such methods are used as an alternative to conventional therapy, proven efficacy is mandatory.

As a result of the present study, some new questions arise. Helplessness, economic considerations, lack of time, as well as coping and communication skills, could influence the physician's decision as to whether to provide UCT. Further motivation could lie in the fact that there are fewer claims against providers of unconventional medicine [25]. Since UCT have proven side-effects, postgraduate education in the field of UCT seems advisable. These should inform about available fitness programmes, balanced diets, mild psychotherapy and immunostimulants which are regarded to be valuable strategies for supporting patients and real alternatives to UCT [15]. In relation to its prevalence, the topic of UCT is an ignored research area in Europe. Further studies are urgently needed on UCT and its providers including healers who play an important role in UCT-medicine not only in Germany, but throughout the world.

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