



## Current Perspective

The current position of complementary/alternative medicine  
in cancer

E. Ernst\*

*Complementary Medicine, Peninsula Medical School, Universities of Exeter & Plymouth, 25 Victoria Park Road, Exeter EX2 4NT, UK*

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**Abstract**

Complementary/alternative medicine is a tempting option for many cancer patients. Unfortunately, reliable information is not always easy to obtain and some cancer patients may be misled by interested parties. Research in this area is scarce and with numerous therapies we cannot be sure about efficacy or safety. It follows that our current knowledge gaps urgently needs to be filled.

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**1. Introduction**

Complementary/alternative medicine (CAM) is a big subject, particularly in oncology. CAM comprises an uncounted number of therapies, from acupuncture to yoga (Table 1). The main reason for the importance of CAM is its popularity. Recent survey data on the prevalence of use yielded huge variations (Table 2) [1–5]. This is not least because prevalence may depend on cancer type, cancer severity, national characteristics and, most importantly of all, how CAM is defined.

Because ‘CAM for cancer’ has become a recognised subject, we are currently being swamped with a plethora of surveys on this subject, many of which do not generate results that are truly relevant for oncology. But some do, and Table 2 shows a selection of recent surveys which provide themes that are worthy of consideration.

**2. Reliable information on CAM**

Only approximately a quarter of cancer patients using CAM receive information on this subject from their conventional health care providers [6]. The communication between patients and doctors regarding CAM is

often poor or non-existent [4]. Most patients seem to receive information from newspapers, books and, increasingly, via the Internet. These sources of information are often not reliable [6], and a recent analysis concluded that “there is a staggering amount of medical misinformation on the Internet” [7]. Our own study of web-sites on CAM for cancer indicated that the information provided there is often unreliable and sometimes dangerous [8].

There is no easy solution to this profoundly serious problem. Neither the Internet nor the print media can be controlled. Conventional health care practitioners are also often not well-informed and avoid discussing CAM with their patients. It follows that this knowledge gap urgently requires filling. This, in turn, means that good evidence-based texts are needed. While the vast majority of books on CAM (for cancer) cannot be recommended [6], some evidence-based exceptions are now available, e.g. see Ref. [9]. One of the best texts I am aware of is the American Cancer Society’s Guide [10]. It is also noteworthy that a European Union (EU) project has recently started with the aim of collating relevant research data in this area [11].

**3. Research is scarce**

The plethora of surveys is in sharp contrast to the paucity of hard medical evidence about the therapeutic value of CAM. Table 3 provides a summary of the

\* Tel.: +44-1392-424989; fax: +44-1392-427562.

E-mail address: edzard.ernst@pms.ac.uk (E. Ernst).

Table 1  
A selection of CAM therapies<sup>a</sup>

Therapy name	Definition
Acupuncture	Insertion of a needle into the skin and underlying tissues in special sites, known as points, for therapeutic or preventive purposes.
Alexander technique	Process of psychophysical re-education to improve postural balance and co-ordination in order to move with minimal strain and maximum ease.
Aromatherapy	The controlled use of plant essences for therapeutic purposes.
Autogenic training	Autogenic training refers to a particular technique of mental exercises involving relaxation and autosuggestion practised regularly, which aims to teach individuals to recognise the origin of certain mental and physical disorders within themselves and to use that awareness for the self-treatment of those disturbances. In the US, the term 'autogenic' often refers to any method that involves patients using their own resources to help themselves, usually involving relaxation, visualisation or autosuggestion.
Bach flower remedies	A therapeutic system that uses specially prepared plant infusions to balance physical and emotional disturbances.
Biofeedback	The use of apparatus to monitor, amplify and feed back information on physiological responses so that a patient can learn to regulate those responses. It is a form of psychophysiological self-regulation.
Chelation therapy	A method for removing toxins, minerals and metabolic wastes from the bloodstream and vessel walls using intravenous ethylene diamine tetraacetic acid (EDTA) infusions.
Chiropractic	A system of health care which is based on the belief that the nervous system is the most important determinant of health and that most diseases are caused by spinal subluxations which respond to spinal manipulation.
Craniosacral therapy	A proprietary form of therapeutic manipulation which is 'tissue-, fluid-, membrane- and energy-oriented and more subtle than any other type of cranial work'.
Herbalism	The medical use of preparations that contain exclusively plant material.
Homoeopathy	A therapeutic method using preparations of substances whose effects when administered to healthy subjects correspond to the manifestations of the disorder (symptoms, clinical signs and pathological states) in the unwell patient.
Hypnotherapy	The induction of a trance-like state to facilitate the relaxation of the conscious mind and make use of enhanced suggestibility to treat psychological and medical conditions and affect behavioural changes.
Massage	A method of manipulating the soft tissue of the whole body areas using pressure and traction.
Naturopathy	An eclectic system of health care, which integrates elements of complementary and conventional medicine to support and enhance self-healing processes.
Osteopathy	Form of manual therapy involving massage, mobilisation and spinal manipulation.
Reflexology	A therapeutic method that uses manual pressure applied to specific areas, or zones, of the feet (and sometimes the hands or ears) that are believed to correspond to areas of the body, in order to relieve stress and prevent and treat physical disorders.
Relaxation therapy	Techniques for eliciting the 'relaxation response' of the autonomic nervous system.
Spiritual healing	The direct interaction between one individual (the healer) and a second (sick) individual with the intention of bringing about an improvement or cure of the illness.
Tai chi	A system of movements and postures rooted in ancient Chinese philosophy and martial arts used to enhance mental and physical health.
Yoga	A practice of gentle stretching, exercises for breath control and meditation as a mind–body intervention.

CAM, complementary/alternative medicine.

<sup>a</sup> Definitions are taken from The Desktop Guide to Complementary and Alternative Medicine [9].

Table 2  
A selection of recent surveys of CAM use for cancer

First author (year) [Ref.] Country	Cancer type	Sample size	Prevalence of CAM use (%)	Most popular treatments	Other important findings
Swisher (2002) [1] United States	Gynaecological	113	50	<ul style="list-style-type: none"> <li>• Herbal medicines</li> <li>• Vitamins/minerals</li> <li>• Diets</li> </ul>	Less than 25% of users received information on CAM from a conventional health care provider.
Shen (2002) [2] United States	Advanced breast cancer	115	73	<ul style="list-style-type: none"> <li>• Relaxation/meditation</li> <li>• Herbal medicines</li> </ul>	Reasons for CAM use were (i) to boost the immune system, (ii) to treat cancer
Wilkinson (2002) [3] United States	Prostate cancer	1099	24	<ul style="list-style-type: none"> <li>• Diet</li> <li>• Vitamins</li> <li>• Green tea</li> </ul>	90% of users believed that CAM would help them live longer.
Chrystal (2003) [4] New Zealand	Any type	350	49	<ul style="list-style-type: none"> <li>• Vitamins</li> <li>• Antioxidants</li> <li>• Diets</li> </ul>	89% felt CAM was safe, 41% of users informed their doctor.
Risberg (2003) [5] Norway	Any type	2515	22	<ul style="list-style-type: none"> <li>• Healing</li> <li>• Herbal medicines</li> <li>• Diet</li> </ul>	CAM use was associated with shorter survival.

evidence based on a series of systematic reviews [9]. The American National Institute of Health (NIH) has a full research programme for CAM and cancer and recently identified four main challenges to such research [12]:

- conducting studies of complex therapeutic systems (e.g. Ayurveda) can be more difficult than conventional trials;
- the area is wrought with emotions which renders patient recruitment to clinical trials even more difficult than usual;
- herbal and other supplements often lack the characterisation and standardisation desirable for clinical trials;
- for some CAM interventions (e.g. acupuncture), it is difficult to find adequate placebos which may render patient blinding an impossibility.

Based on my own experience, I would add further challenges from a European perspective:

- funding of CAM research is difficult, much more so than research into conventional cancer treatments;
- the few resources that exist are often diverted to research questions of low medical priority (the questions why patients try CAM or what their

attitude towards CAM is may be fascinating to some researchers, but they do not meaningfully help patients who use CAM to treat their cancer or 'to live longer' [2,3]);

- CAM providers often have little interest or incentive in submitting CAM to scientific testing, many still have a profoundly anti-scientific attitude;
- some CAM researchers are 'CAM promoters in disguise'; they want to *prove* effectiveness yet clinical trials are for testing it.

#### 4. More good than harm?

Ultimately, we want to know whether a given cancer therapy (alternative or not) does more good than harm. The motivation of many patients to try CAM is based on the assumption that 'natural' always means 'safe'. The truth is that (i) many CAM interventions are not natural and that (ii) natural can also mean deadly (think about hemlock). Thus, we are not truly surprised to learn that some surveys suggest that cancer patients using CAM live for a shorter time than those who do not [5]. Of course, this finding should make us wonder whether some CAM modalities are detrimental to survival, quality of life or other clinically relevant outcomes.

A subject that is fast becoming of considerable importance is herb–drug interactions. Virtually all cancer patients take prescribed drugs and many take herbal medicines in parallel [1,2,5]. The potential for herbs to

interact with (cancer) drugs is as huge [13] as our understanding of this area is incomplete.

Many CAM interventions (e.g. acupuncture, massage, reflexology) are relatively harmless, i.e. they are not associated with *direct* risks. Unfortunately, this does not mean that they are entirely harmless. The most worrying *indirect* risk of such therapies is that they are used as true ‘alternatives’, i.e. instead of conventional treatments. The literature is full of examples of patients doing just that. For me, the most dramatic and tragic example was that of a homoeopath who worked with us on a clinical trial. When she developed a brown skin lesion on her arm she treated it homoeopathically without showing it to us. Months later, she was diagnosed with malignant melanoma and, soon after, she died.

Table 3  
Summary of evidence on CAM for cancer<sup>a</sup>

Intervention	NOI	Weight of evidence <sup>b</sup>	Direction of evidence <sup>c</sup>
Diet			
<i>Allium</i> vegetables	P	OO	↑
Green tea	P	OO	↗
Phyto-oestrogens	P	O	↗
Vegetarianism	P	OO	⇒
Herbal medicine			
<i>Panax ginseng</i>	P	O	↑
Di Bella therapy	T	OO	↓
Diets			
Gerson	T	O	↗
Macrobiotic	T	O	↘
Herbal medicine			
Aloe vera	T	O	↗
Destagnation	T	O	↑
Essiac	T	O	⇒
Mistletoe	T	OO	⇒
PC-SPES	T	O	↗
Sho-saiko-to	T	O	↑
St John's wort	T	O	↑
Supplements	T		
Hydrazine sulphate	T	O	⇒
Laetrile	T	OO	↓
Melatonin	T	O	↗
'714-X'	T	O	↘
Shark cartilage	T	O	↓
Thymus extracts	T	OO	⇒
Support group therapy	T	O	↗
Acupuncture (nausea)	PS	OO	↑
Hypnotherapy	PS	O	↗
Relaxation	PS	O	↑
Spiritual healing			
Therapeutic touch	PS	O	↗
Supplements			
Alzoon	PS	O	⇒
Enzymes	PS	O	↗

NOI, nature of intervention; P, prevention; T, treatment; PS, palliation and support; PC-SPES, herbal proprietary mixture.

<sup>a</sup> Data are taken from The Desktop Guide to Complementary and Alternative Medicine [9].

<sup>b</sup> Weight of the evidence is a composite measure of quality, level and volume of the published trial evidence.

<sup>c</sup> ↑ clearly positive, ↗ positive trend, ⇒ equivocal, ↘ negative trend, ↓ clearly negative.

## 5. Conclusions

CAM is used by many cancer patients. The information on CAM is often poor and sometimes dangerous. Our knowledge about the benefits and risks of CAM is incomplete. Future research must urgently fill the large gaps so that all interested parties are in a position to reliably differentiate between the overtly dangerous, the foolishly harmless and the potentially helpful.

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