



INTEGRATIVE MEDICINE IN THE CANCER SETTING: A NEW CHALLENGE FOR PHYSICIANS AND PATIENTS

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In 2019, World Cancer Research Journal launched a new topic, dedicated to Complementary and Alternative Medicine (CAM), enjoying good scientific interest. The articles, published on this topic, highlight the concept and the importance of a new integrative medicine approach. According to the National Center Institute of USA for Complementary and Integrative Health (NCCIH)¹, integrative medicine is an approach to medical care that combines traditional medicine (TM) with CAM practices, which have demonstrated safety and benefits as adjuncts to mainstream cancer care²⁻⁸. This approach often stresses the patient's preferences, and it attempts to address the mental, physical, and spiritual aspects of health. CAM remedies comprise a wide spectrum of practices and products, either biological (e.g., herbs or botanicals, vitamins, minerals, probiotics, homeopathic products, and Chinese herbal remedies) or non-biological (e.g., prayer, meditation, music therapy, yoga), subdivided into five categories¹ as described in Table 1. It is known that about half of cancer patients already combine CAM remedies with oncological treatments without informing their physician² and this aspect represents a critical issue for the clinical management of patients. Moreover, many studies have demonstrated that cancer patients who use CAM remedies are female, younger, better educated and more affluent than others, representing a health-conscious setting of the population that is proactive in its health care, searches for health information, and has the means to pay for services

that are typically not covered by National health service or insurance. All these considerations arouse a lot of curiosity and questions about the relationship between CAM and patients. The first and most important question is: **why do cancer patients use CAM?** CAM is frequently searched where conventional treatments provide unsatisfactory responses and/or presumed heavy side effects. CAM typically evokes the totality of "natural or biological" products comprehensively considered without toxicity, although there is scientific evidence that some CAMs may have serious drug interactions⁹. In fact, the concomitant use of CAM and anti-cancer drugs (ACDs) may determine serious adverse events (AEs)^{1,10}. However, sometimes this type of association involves risks that exceed the actual benefits, mainly because there are phenomena of drug-natural product interaction that alter the therapeutic window of the drug used in treatment, facilitating the onset of toxicity¹¹. This interaction is mainly related to altered pharmacokinetics of one or both compounds, and consecutively a modification in pharmacodynamic terms, compromising the efficacy of the single agents and the positive outcome of ACDs, which remains the primary goal to achieve¹². Moreover, also the poor prognosis, metastatic disease, and few chances of cure, bring the cancer patients closer to CAM remedies⁷. **Which is the main source of information about CAM?** To date, patients acquire information about CAM remedies primarily from media (48%), friends (20%), family (16%) and finally from phy-



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TABLE 1. CAM categories according to NCCIH.

CAM categories	Mind-body therapies	Biologically based practices	Manipulative and body-based practices	Biofield therapy	Whole medical systems
Meditation	✓	✗	✗	✗	✗
Biofeedback	✓	✗	✗	✗	✗
Hypnosis	✓	✗	✗	✗	✗
Yoga	✓	✗	✗	✗	✗
Tai Chi	✓	✗	✗	✗	✗
Vitamins	✗	✓	✗	✗	✗
Dietary Supplements	✗	✓	✗	✗	✗
Botanicals	✗	✓	✗	✗	✗
Herbs	✗	✓	✗	✗	✗
Special foods or diets	✗	✓	✗	✗	✗
Massage	✗	✗	✓	✗	✗
Chiropractic therapy	✗	✗	✓	✗	✗
Reflexology	✗	✗	✓	✗	✗
Reiki	✗	✗	✗	✓	✗
Therapeutic touch	✗	✗	✗	✓	✗
Ayurvedic medicine	✗	✗	✗	✗	✓
TCM*	✗	✗	✗	✗	✓
Homeopathy	✗	✗	✗	✗	✓
Neuropathic medicine	✗	✗	✗	✗	✓

*TCM: Traditional Chinese Medicine.

sicians (6%)² with information as well as misinformation facilitated by the Internet and social networks¹³. The last position of physicians, as a source of information about CAM (6%), demonstrates the lack of communication between patients and physicians about this topic, with negative consequences for clinical management and outcomes. On the other hand, we wonder about both the prevention attitude and the real knowledge of CAM by physicians. A recent Norwegian study of cancer patients who use CAM remedies suggests that poor communication experiences with physicians may result in the autonomous adoption of CAM interventions, and in some cases in postponement or reduction of the conventional cancer treatment. In contrast, positive communication experiences led to CAM use as a supplement rather than an alternative to TM¹⁴. This kind of approach perfectly reflects the concept of integrative medicine. Moreover, considering the high prevalence of CAM use, raising a discussion is an excellent opportunity for the physicians to demonstrate compassion, understanding, and humanity, and to provide high-quality care based on scientific data aimed not only to target the disease, but also to enforce the immune defences and preserve normal tissues. **Which are the most “famous” CAM remedies?** It depends on geographic area and culture and according to a recent Italian

study², about physician’s attitudes toward CAM, the “stars” are acupuncture (61%), *Aloe vera* (57%), high-dose vitamin C (41%) and yoga (36%). It is important to remember that, for all these remedies, except for *Aloe vera*, the recognized label is a supportive treatment in cancer patients¹⁵. Noteworthy, that CAM remedies, able to reduce AEs improve the compliance to anti-cancer treatments (radiotherapy, endocrino-therapy, ACD, etc...) and at the same time the health-related quality of life (HR-QoL) of cancer patients. This result should be considered as an undirect anticancer effect. **Are there CAM remedies able to improve the HR-QoL and survival of cancer patients?** The scientific evidences toward the role of the CAM, on HR-QoL and survival have recently grown³. For example, the improvement of cancer related fatigue^{16,17}, due to the use of CAM remedies, represents a goal in cancer patients. **Who does pay the cost of CAM remedies?** This is also important from an economic point of view, as its use is a multibillion Euro business. As shown in a recent Italian study, the most of patients (63%) pay large sums out of their pockets to receive such interventions. In the US, where such data are available, the use of CAM is conservatively estimated to cost patients US\$ 27 billion (for the year 1997)⁷. In the EU this is the second biggest growth industry⁷. In our opinion, the

TABLE 2. Reputable Resources for Information about Integrative Oncology and Complementary Therapies.

American Cancer Society: Guidelines for Using Complementary and Alternative Methods http://www.cancer.org/Treatment/TreatmentsandSideEffects/ComplementaryandAlternative
Medline Plus http://www.nlm.nih.gov/medlineplus/druginfo/herb_All.html
Memorial Sloan-Kettering Cancer Center (MSKCC) About Herbs, Botanicals & Other Products http://www.mskcc.org/aboutherbs and www.MSKCC.org/IntegrativeMedicine
National Cancer Institute: Topics in Complementary and Alternative Therapies (PDQ) http://www.cancer.gov/cancertopics/pdq/cam/topics-in-cam/healthprofessional
National Center for Complementary and Alternative Medicine (NCCAM) http://nccam.nih.gov/health/cancer/camcancer.htm
NCCAM Time to Talk Toolkit: Ask Your Patients About Their Use of Complementary Health Practices http://nccam.nih.gov/timetotalk/forphysicians.htm
NIH Office of Dietary Supplements http://ods.od.nih.gov/
Society for Integrative Oncology http://www.integrativeonc.org/
United States Pharmacopeia (USP) Dietary Supplement Standards http://www.usp.org/dietary-supplements/overview
Abrams and Weil, <i>Integrative Oncology</i> , (2009) ISBN-13: 978 – 0195309447
Cassileth B, <i>The Complete Guide to Complementary Therapies in Cancer Care: Essential Information for Patients, Survivors and Health Professionals</i> , (2011) ISBN-13: 978 –9814335164
Cassileth B, <i>Survivorship: Living Well During and After Cancer</i> . Spry Publishing, 2014.
Ernst et al, <i>The Desktop Guide to Complementary and Alternative Medicine: An Evidence-Based Approach</i> , 2e, (2006) ISBN-13: 978 – 0723433835 Sidebar

*TCM: Traditional Chinese Medicine.

CAM remedies which have been demonstrated to be safe and effective should be paid for by the National Healthcare service. In an age of increasing financial suffering, basic, translational, and clinical studies are mandatory to really assess activity and efficacy of CAMs. As for conventional treatments, well-designed studies will contribute to define the role of CAMs, thus conferring them the role not only of an alternative but of a real integrative therapy. Unfortunately, this research requires economic sources not provided by pharmaceutical industries. National Healthcare services and trade associations should support spontaneous research. Finally, a special attention is strongly suggested for the elderly and people living with HIV cancer patients¹⁸⁻²², and for whom polypharmacy use is frequent and the risk of drug-drug and CAMs interactions is higher than in other cancer patients. In the next future, our wish is to implement scientific research, produce position paper and clinical practice useful guidelines (Table 2), and operationally carry on a solid integrative oncology program as cancer care in hospitals, available for physicians and patients. In addition, the expertise of integrative oncology colleagues

can be helpful, especially for those dual-trained in mainstream oncology and integrative medicine. This kind of new integrative therapeutic approach can be tailored to each patient, and oncology will reach the noble goal of treating each patient as a person with cancer, rather than treating only the cancer in a patient.

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