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Department of Medical and Oncology Nursing, Faculty of Nursing and Health Sciences
Medical University of Lublin
Chair of Oncology, Department of Surgical Oncology, Faculty of Medicine
Medical University of Lublin
Chair of Oncology, Faculty of Medicine, Medical University of Lublin

MAŁGORZATA E. KRASUSKA, ANDRZEJ STANISŁAWEK,
MARIA MAZURKIEWICZ

Complementary and alternative care within cancer care

It has been five years since the first groundbreaking Comprehensive Cancer Care Conference took place in the United States of America. To what extent have the expectations raised at that conference been fulfilled and what are the recent trends in USA? In the present paper the authors will make an attempt to describe "state of the art" of the most popular, offered and used complementary and alternative care within cancer care in the United States. Complementary and alternative medicine (CAM) is currently defined as methods used in the diagnosis, treatment, or prevention of disease that complement mainstream medicine, as opposed to alternative therapies, which are used as direct substitute for mainstream medicine (5). Currently in the United States, the incidence of new cancer is approximately 1.2 millions cases per year with about 600 000 deaths due to cancer each year. The incidence of a second primary malignancy among cancer survivors is about 10–12% annually (12). The National Cancer Institute (NIC) and the National Center for Complementary and Alternative Medicine (NCCAM) conducted a cancer patient/caregiver focus group to assess the CAM information and education needs of this population. The information was gathered on how patients and their families seek and evaluate CAM information, what types of CAM information they seek; the circumstances in which they seek CAM, and what concerns exist in finding and using CAM information. The goal of the research supported by NIC & NCCAM was based on the assumption that this information will be helpful in doctor/nurse/patient communications and in developing cancer patient education materials. With the increasing demand and usage of complementary /alternative medicine (CAM) by the general public, it is vital that health care professionals can make informed decisions when advising or referring their patients who wish to use CAM. Therefore, they might benefit from advice by CAM-providers as to which treatment can be recommended for which condition. Also, the recommendations by CAM organizations responding to this survey may provide guidance to health care professionals wishing to advise or refer patients interested in using CAM.

Many physicians as well as the CAM practitioners are able to provide credible information on natural methods to enhance the body's ability to heal from cancer. A brief description of the basic principles of holistic medicine, the scientific basis for the use of nutrition and supplements in the treatments and prevention of cancer should be specifically discussed. In addition, the benefits of physical activity, mind-body medicine, and spirituality as part of a comprehensive cancer treatment program should be included. This information should be presented in a way that is appropriate for both health professionals and the general public. Most CAM programs offered by

the Comprehensive Cancer Centers (e.g.: Memorial Sloan Kattering Center, MD Anderson, Cancer Treatment Centers of America, Private Integrative Oncology Clinics) add to the body of the scientifically documented nutritional, environmental and genetic factors responsible for metabolism and their research explains how to favorably modify those factors through the wise use of nutrition and supplements. The medical staff and other practitioners in cooperation, design a scientifically based holistic treatment plan using nutrition, supplements, physical exercise and Mind-Body medicine to enhance the ability to heal from cancer.

Nowadays there is a wide range of a professional education offer for professional cancer care providers, who wish to enlarge their knowledge or skills regarding the CAM. Cancer Guides ™, The Center for Mind-Body Medicine's (Washington DC) unique training program, which offers the concise educational program created for health professionals and teach how to search, understand and interpret the research literature on CAM and conventional therapies and to work with the psychological and spiritual issues that arise in cancer treatment. Cancer Guides ™ are specifically trained to help cancer patients and their families develop effective, humane, and genuinely interactive treatment programs. The professionals interested can learn areas of competence considered essential in integrative cancer care counseling. There are a variety of forms and venues in which CancerGuide work can effectively occur and where the issues and problems commonly encountered by cancer patients can be usefully addressed by the CancerGuide role.

Oncology nursing is a long-established specialty, in the practice of professional nursing. The paradigm underlying the professional nursing shifted to a more holistic perspective in health care that is not only affecting the delivery of care, but also the beliefs and values of nurses who work with those living with cancer. The holistic theory and complementary therapies are included in many of school and university curricula's as innovations in nursing education. Models of curriculum content, strategies, and practices in the clinical experience of nursing students caring for patients are perceived as a crucial one for contemporary oncology nursing. Authors often describe the components of nursing's role in comprehensive cancer care (14,15).

" Healing is the process of expanding awareness – opening one's eyes to the unknown, deepening one's relationships, rededicating one's life to what one loves and cares about, participating fully on one's behalf, connecting with others on the journey, finding meaning, purpose, joy and adventure along the way" – says Mary B. Johnson and urges oncology nurses identify characteristics of the holistic paradigm of health the relate to professional nursing, and explore the integration of holistic nursing and complementary therapies into nursing curriculum (3,4,5,14).

Cassileth noted these classes have been very popular with the center's patients, who have reported enhanced well-being. She also has observed physical and psychological benefits in patients taking yoga classes. Yoga helps its participants practice slow, regular breathing while stretching their muscles, lengthening their spines, and enhancing flexibility (5). Tests conducted on those practicing yoga have demonstrated lower blood pressure and slowed heart rates and respiration (3). Patients with cancer who practice yoga may also feel as though they are participating in their treatment recovery, noted Jeffrey Migdow, MD of the Kripalyu Center for Yoga and Health in Lenox, MA. Patients are more energized and report fewer chemotherapy side effects, he observed (3). There are several teaching tools, which may be of use for the oncology staff, for example Glaxo-SmithKline offers a 43-minute, low impact yoga-video to oncologists and oncology nurses.

The CAM also includes end-of-life care issues. Many of the health practitioners caring for patients with cancer and their families face suffering and are actively present at the moment of death and dying. The contemporary research focus on the profoundly challenging questions about efficacy of our healthcare system and, most particularly, the care of the dying. Death in western culture still exemplifies a firm denial of the transient nature of life, and aversion to and often morbid fear of pain and decay, and the conviction that death always involves suffering.

Several authors discuss the psychological, social and spiritual aspects of dying, describe the caregiver role in self-care and the recent community development toward the end-of-life care. The western society is supported by reaching the roots of personal faith and strengthening the individual links with the inner world of human being. Many good examples of calm care and active and loving presence with the dying person come from practitioners of Buddhism.

Joan Halifax Roshi is a Buddhist teacher and the creator the Upaya Zen Center in Sante Fe. She has been working in the area of death and dying for over 30 years. She is also the founder of the Project on Being with Dying. Her life is dedicated to explore how we can help make the experience of dying become gentler, peaceful, and conscious which can have far-reaching consequences on how we live and on our fundamental values and worldview. In her professional activity as well as a professional she, among other illuminated personalities, teaches and inspires a gentle revolution in our relationship to dying and living. It is also a means for people to explore the meaning of death in their own and others' lives, and to develop an approach to death that is kind, compassionate, open and dignified.

Another important issue in CAM is use of the healing power of music. Oncologist Mitchell Gaynor, the founder of Gaynor Integrative Oncology Clinic, has written extensively on how the system of mind-body harmony and the brain, with all its complexities, can have tremendous impact over all the physiological process and functional systems of the body. In his book *The Healing Power of Sound: Recovery from Life-Threatening Illness Using Sound, Voice and Music Dr.* Gaynor wrote of the role of music and breathing to harness out innate healing power (6). Also, music is a category widely used by oncology nurses to enhance quality of care given to cancer patients: "Music is a useful therapeutic intervention that can improve quality of life for dying patients. Physiologic mechanisms in response to carefully chosen musical selection help to alleviate pain, anxiety, and nausea and induce sleep. Expression of feelings enhances mood. Palliative care nurses increase the effectiveness of this intervention through careful assessment pf patient needs, preferences, goals of intervention, and available resources. Music, a universal language, is an important clinical adjunct that addresses individual and family needs, thereby assisting patients to achieve a peaceful death. This article explores musical categories of preferences to assist nurses, patients, and families in choosing music that meets specific therapeutic objectives" (14).

When talking about the current status of CAM and its relation with the official health care many questions arise. Patients, families as well as the health care providers wanted to know: What kind of complementary or alternative care works against cancer? Does it influence the quality of life? How has the position of the government and "cancer establishment" changed vis-à-vis alternative treatments? Should you talk about possible CAM use with your own oncologist? Does he know or is willing to discuss those issues with patients and the families? Do antioxidants retard or promote the growth of cancer? Do they interfere with radiation and chemotherapy? These and other questions are mostly covered and discussed in recent scientific literature on CAM.

Dan Labriola (9) and Kedar Prasad (12) have made a comprehensive review of the scientific bases for assessing the potential for desirable and undesirable interactions when combining oral and parenteral antioxidants with chemotherapy. When talking about gaining some new information, it is important to address an understanding of the mechanisms of interaction, the status of current scientific research in this area, and the tools necessary to make informed clinical decisions that assess both potential benefits and risks. The authors have discussed the scientific data behind the use of antioxidants to improve the efficacy of radiation therapy and chemotherapy and the reasons for conflicting beliefs held by many oncologists. In their paper they discuss genetic mechanisms of the selective effect of antioxidants on cancer cells *in vivo* and *in vitro*, review the mechanism by which selected chemotherapy and radiation treatments have their cytoxic effect, describe how dietary antioxidants interact with reactive oxygen species *in vivo*. In the literature most of the authors point to the clinical and investigational issues for evaluating the effects of dietary antioxidants on chemotherapy and radiation. The data show that high doses of

dietary antioxidants that inhibit the growth of cancer cells but not normal cells, when given before and after irradiation for the entire observation period may improve the efficacy of radiation therapy. However, the results also show that low doses of dietary or endogenously made antioxidants given in a single low dose that does not affect the growth of cancer cells shortly before irradiation may protect cancer cells against radiation damage. Some oncologists recommend a multiple vitamin preparation containing low doses of antioxidants after completion of therapy. In the opinion of scientists from the Center for Vitamin and Cancer Research, Department of Radiology, Health Sciences Center, University of Colorado, Denver Department of Pathology and University of California, San Francisco – this practice may be counter-productive, because like normal cells, tumors cells need certain amounts of antioxidants for growth and survival, and because low doses of antioxidants may stimulate the growth of residual tumor cells (12).

Thus, it is essential that these factors should be taken into account while designing a clinical trial to test the efficacy of antioxidants in combination with radiation therapy. In addition, data on antioxidants that are obtained from cancer prevention studies should not be used in designing cancer treatment investigation, because they could be harmful. For example, low doses of NAC of high level of antioxidant enzymes may be very useful in cancer prevention, but could be harmful when used in combination with radiation therapy, because they would protect cancer cells against the radiation damage (12).

Labriola, Director of Northwest Natural Health Specialty Care Clinic Seattle, Washington and Livingston, Professor of Medicine Div. of Oncology, University of Washington Medical Center, Seattle pointed that "many patients treat themselves with oral antioxidants and other alternative therapies during the chemotherapy, frequently without advising their conventional health care provider. No definitive studies have demonstrated the long-term effects of combining chemotherapeutic agents and oral antioxidants in humans. However, there is sufficient understanding of the mechanisms of action of both chemotherapeutic agents and antioxidants to predict the obvious interactions and to suggest where caution should be exercised with respect to both clinical decisions and study interpretation. This article will describe potential interactions and areas of concern, based on the available data. It will also suggest several potential courses of action that clinician may take when patients indicate that they are taking or plan to use alternative therapies" (9).

In the opinion of the authors most of the nonconventional treatments recommended for use with oncology patients have antioxidant activity. The most common of these include: vitamins A (including beta-carotene), B6, C and E, minerals, including zinc, and selenium, bioflavonoids: superoxide dismutase; glutatione and most botanical medicines. However, the antioxidant activity of the botanical medicines has not been yet rigorously calculated. "Unless there are specific data to the contrary, it is best to assume that plant and herbal preparations have antioxidant actions" (9). Clinical warning signs of antioxidant-reactive oxygen species interactions include tolerance to conventional drug administration that is much better or worse than expected, unusual toxic effects from treatment, or unanticipated refractoriness to conventional treatment. "Asking the patient about use of alternative therapies can provide clues to otherwise unexplained clinical responses and perhaps, avoid an unnecessary treatment failure secondary to this particular adverse interaction, as well as to increase oncologists' attention to potential interactions by articulating these mechanisms" (9).

As patients ask their physicians more questions about these therapies, it has become more important for practicing oncologists to become familiar with the risks and benefits of alternative modalities. "The use of alternative therapies among cancer patients has increased dramatically since 1970s. A recent review of published surveys found that anywhere from 7% to 64% of adult cancer patients were using such therapies " (5). "The initiation, promotion and progression of cancer, as well as the side effects of chemotherapy and radiation therapy, are related to imbalance between reactive oxygen species and the antioxidant defense system"(1). The cancer-protective effects of a healthy diet are most often associated with dietary intake of fruits and

vegetables (16). This is likely related to the role of fruits and vegetables as important sources of antioxidants micronutrients, such as vitamins C and E, carotenoids, coenzyme Q10, phyto-estrogens, glutathione, polyphenols, and other bioflavonoids. The World Cancer Research Fund and the American Institute of Cancer Research panel supported the role of increased fruit and vegetable consumption, but not antioxidants supplementation, in the prevention of cancer (17).

Kara Kelly, from the Division of Pediatric Oncology, College of Physicians and Surgeons of Columbia University New York, New York reminds that "although many advocates of alternative therapies encourage the use of antioxidants supplements during the chemotherapy, in fact, little is known about their effects. Only a few trials of antioxidant supplementation have been completed in patients with breast, lung and sqamous cell cancer. Although increases in survival have been reported, all of these studies had a limited number of patients, and survival data were based on comparison with historical controls. Therefore, no conclusions about the benefits of supplementation ca be drown from these studies" (8). Until further research in the risks and benefits of antioxidant supplementation is undertaken, recommendation for supplementation must be made with caution. Patients need to clearly understand that by taking antioxidants they may be sacrificing long-term cure for short-term improvements in tolerance to treatment (1,5,8,16).

Maintaining an open dialogue with patients is paramount. Surveys have demonstrated that approximately 50% of patients do not inform their physicians that they are using alternative therapies, primarily because they were never asked specifically about such therapies or were afraid to discuss them for fear of incurring the physicians' disapproval (8). However, as alternative therapies have become more widely discussed in the media, patients have shown a greater willingness to discuss their use of such therapies. As there are limited data on the interactions of antioxidants and chemotherapy, patients should still be counseled to defer antioxidant supplementation until after the completion of chemotherapy, to minimize the risk of adversely affecting its efficacy. More information is needed on the level of antioxidants in the different types of cancers and in the setting of different chemotherapy regimens (8, 9,12).

Oncologist Mitchell Gaynor has written extensively on how the system of mind-body harmony and the brain, with all its complexities, can have tremendous impact over all the physiological process and functional systems of the body. Dr. Gaynor wrote of the role of music and breathing to harness out innate healing power. In his publications he also stresses how oncologists must become open to the proposition that foods are medicine, prevention is as important as cure, and empowering patients to be in charge of their own healing is the best medicine (6). Patients, those who care for them professionally, and those that love them personally are invited and encouraged to use widened offer of existing comprehensive cancer care centers. "If oncology nurses can determine what CAM therapies women are using, then they can further educate patients about which therapies may be useful in relieving patients' symptoms and psychological distress. Oncology nurses have a great opportunity to implement varied CAM therapies that may facilitate conventional treatments. For nurses, this means specialized training and education to provide these therapies; however, nurses are in an excellent position to provide education and knowledge related to CAM therapies so patients feel and believe they are receiving a holistic approach to their diagnosis of breast cancer" (10).

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SUMMARY

In this paper the authors will describe the mergence of CAM within cancer care by summarizing developments in research, practice and delivery, and outline the context within supportive and palliative care and highlight the parallels within the emergence of this specialty. It will be illustrated how the users, patients and their families are increasingly shaping service, provision and describe initiatives, both regional and national, which put the patients' perspective at the heart of decision making for the future CAM research and service delivery. The paper makes an attempt to identify and discuss briefly integrative medicine and describe the variety of forms and venues in which integrative medicine can be practiced by oncologists to treat cancer patients.

Opieka komplementarna i alternatywna w onkologii

Medycyna Komplementarna i Alternatywna – Complementary and Alternative Medicine (CAM) po latach wyłączenia poza oficjalne struktury staje się obecnie jedną z bardziej popularnych form opieki w USA. Wiele instytucji medycznych, w tym również uznane i prestiżowe ośrodki onkologiczne włączają w zakres swojej oferty Zintegrowaną Opiekę w Chorobie Nowotworowej. Również uczelnie kształcące lekarzy i pielęgniarki dostosowują swoje programy, tak aby ich absolwenci byli przygotowani do podejmowania ewentualnych

działań z zakresu opieki zintegrowanej. W większości renomowanych szpitali i klinik amerykańskich pacjent onkologiczny i jego rodzina mogą liczyć na szeroki zakres działań opiekuńczych, maksymalizujących ich jakość życia, redukujących stres, wspomagających uwolnienie mechanizmów radzenia sobie w chorobie oraz wspierających przemianę świadomości w sytuacji postępu choroby i godnego doświadczenia śmierci.