

RESEARCH ARTICLE

Importance of an Integrative Medicine Model in the Treatment of the Cancer Patient

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Abstract

Cancer is the second leading cause of death in the United States and its management is multi-disciplinary within pathologists, surgeons, radio-oncologists, and medical oncologists. The oncologic patients need more therapeutic interventions such as nutrition, pain management, psychology, meditation within others to assist in their needs during their treatments. Integrative Oncology is the new field that provides holistic care of the cancer patients. There is a need and importance of models at outpatient clinics and hospitals nationwide. The creation of an integrative medicine service model could be promoted as exists in other national centers. The study of new models of care, by themselves and in combination, should be a focal point for the field of integrative oncology in its next stage of evolution. Evaluating patients in the right model of care is important to provide effective and quality integrative oncology care. This is the purpose of this review.

Keywords: integrative medicine, model, treatment, cancer, alternative and complementary medicine

Introduction:

The Beaumont Health System and Michigan Cancer Center (1) establishes that cancer is an invasive, threatening disease that generates high levels of distress in the patient, at different stages of the disease process. The MD Anderson Cancer Center group (2) say that, at present, and in parallel with conventional cancer treatments, other therapeutic options such as nutritional supplements, meditation, reflexology and exercises are recommended among others. Hence the concept of integrative medicine that combines conventional medicine, with complementary medicine practices that have proven to be effective, to provide the patient with more complete care and treatment.

Official data suggest that between 9% and 91% of people with cancer combine conventional cancer treatment with some form of complementary medicine. In the U.S., this integration is so important that for years there has been an officially recognized national reference center (the National Center for Complementary and Integrative Health), which is responsible for promoting scientific research on therapies and complementary medicine products, value their usefulness and guide in making decisions about which ones may be most beneficial (3).

Integrative oncology was defined by this U.S. institute in 1998 as one that combines the most effective complementary medicines and of greater scientific rigor with conventional oncology but placing the latter as an essential part of treatment. Therefore, place the two therapies at different levels of importance. The conventional would be the one that dominates over the other. It is an oncology open to new approaches but at the same time practices a very rigorous medicine based on science. It is therefore an ambiguous position, often difficult to implement.

One of the great challenges in oncology is to promote health by understanding that this fact is not only based on "eliminating the disease", but that the objectives should be several: Reducing side effects, improving symptoms caused by cancer, potentiating emotional health and Improving quality of life.

Complementary and alternative therapies used in the field of oncology better known as Integrative Oncology, according to a multi-agency and international group (4) are used associated with conventional medical treatment as a measure of support for symptomatic control, improvement of quality of life and contribution to the overall health of the patient, providing

comprehensive care in both the physical and emotional dimensions. The use of complementary therapies by patients diagnosed with cancer has been progressively increased by up to 87%, but 31.3% reported family endorsement of Complementary and Alternative Medicine (CAM) use according to the integrative medicine group of the Memorial Sloan Kettering Cancer Center in New York (5).

There is little published evidence to show that integrative oncology is cost effective. A thesis from a study conducted in Peru (6) showed that the frequency of use of complementary medicine by patients diagnosed and/or treated with cancer at the Honorio Delgado Espinoza Regional Hospital in the months of November and December of the 2013 was 62.8%. The types of complementary medicine in cancer treatment were predominantly the use of herbs and were by medical recommendation by 25.6%. Another study in the United States of America (7) established that the application of an integrative medicine program in pain patients reduced costs by 4%.

Due to little published evidence suggesting a Model of Integrative Oncology, the purpose of this work is to determine the importance of an Integrative Medicine Model in the

treatment of the cancer patient and the benefits of its application at the outpatient and hospital institutions.

Objectives:

1. Determine that integrative oncology helps manage symptoms, reduce side effects, have a sense of control over health, and encourage the patient to collaborate in their treatment.
2. Investigate how the use of alternative and complementary medicine therapies in addition to conventional cancer therapies such as surgery, chemotherapy, radiation therapy and immunotherapy improve the quality of care for cancer.
3. Develop an integrative medicine model for cancer patients at the outpatient level as hospitalized.

Problem Justification:

Anderson et al (8) conducted a study with 31 Chinese medicine practitioners of the program at Pacific College of Oriental Medicine where their research is the integration of traditional Chinese medicine into cancer patients and demonstrated that quality care was very good. Meanwhile, Czamanski-Cohen et al (9) and Osler (10) proved that art therapy was very beneficial for breast cancer patients. Daza Ortega et al

(11) conducted a review of 19 studies showing that herbal therapies are most commonly used in cancer patients with the positive connotation of their effects such as increased defenses, symptom control, , regeneration and decontamination, but found that nurses have difficulty and ignorance of alternative and complementary therapies. Few published studies have been published on the issue of cost effectiveness and only one study by Highfield et al (12) showed that acupuncture was able to reduce charges for cancer patients by about \$8,967.24. This study will provide that the use of complementary and alternative medicine is beneficial for cancer patients and practical models of both outpatient and hospitalized integrative oncology should be implemented. In my oncology practice that I administer, this study will help me a lot to identify alternative and complementary medicine therapies that we must integrate, implement and support in a way that improves the quality of life of our patients. The creation of an integrative medicine service model could be promoted as exists in other national centers such as MD Anderson Cancer Center to improve the quality and cost effectiveness of oncology at the outpatient and hospitalized level in Puerto Rico.

Conceptual Theoretical Framework:

I. Definitions and Terms:

a. Alternative and Complementary Medicine:

As defined by the National Center for Complementary and Alternative Medicine (NCCAM), Complementary and Alternative Medicine (MCA) is a set of various systems, practices, and products doctors and health care that are not considered part of conventional medicine at the moment. Complementary medicine is used in conjunction with conventional medicine. Alternative medicine is used in place of conventional medicine. Conventional medicine is medicine practiced by people with medical (medical) or osteopathic training (osteopaths) and related health professionals, such as physiotherapists, psychologists and registered nurses. Other terms used for conventional medicine are allopathy, Western medicine, central line medicine, orthodox and current, as well as biomedicine. Some conventional medical professionals are also complementary and alternative medicine professionals (13)

b. Integrative Medicine:

The concept of Integrative Medicine on which The Reich relied to find the Association is based on three pillars: Conventional Medicine, Complementary Medicine and Active and Responsible Patient Participation. The three pillars are necessary in a comprehensive and simultaneous way to achieve the objective of health and well-being of the person, hence its name of "integrative". Is fundamental that occurs between the three, continuous and interdependent interaction and dialogue. Integrative medicine, as defined by NCCAM, combines formal medical therapies and complementary and alternative medicine therapies for which there is high-quality scientific data on its safety and efficacy. From our practice and approach, Integrative Medicine it is one that uses conventional and unconventional tools that are backed by scientific rigor. I clarify this concept because unfortunately not being regulated, there are several that are not at last with our work and philosophy (Latin American Society of Integrative Medicine). The need by force majeure to integrate Clinical-Biological-Orthomolecular medicine, has been growing worldwide thanks to therapeutic achievements, and because the practice of one of these in an

independent way is unresolved in the management of diseases Chronic. On multiple occasions we find professionals in conventional medical practice as opposed to those of unconventional practice, however and from our own experience invites some to try to understand the analysis, activity of the other, and based on biological principles – biochemical-physiological, we will notice that we are closer than we imagine, in addition that we take a very interesting professional leap that benefits our patients and delights our professional activity (14).

c. Types of Complementary Therapy in Cancer:

The main types of complementary therapy are (6, 9, 12, 15, 16, 17, 18, 19, 20, 21, 22):

1. Aromatherapy
2. Music therapy, Art Therapy
3. Therapeutic massages
4. Reiki
5. Reflexology
6. Acupuncture
7. Cognitive Therapy
8. Hypnotherapy
9. Prayer, Meditation, Yoga, Thai Chi, Qi gong
10. Orthomolecular Medicine
11. Nutritional Medicine
12. Naturopathy

13. Herbology

d. Cancer:

Cancer is a major public health problem worldwide and is the second leading cause of death in the United States. In 2019, 1,762,450 new cancer cases and 606,880 cancer deaths are expected to occur in the United States. In the last decade of data, the incidence rate of cancer (2006-2015) was stable in women and decreased by approximately 2% per year in men, while the cancer mortality rate (2007-2016) decreased annually by 1.4% and 1.8% respectively. The overall cancer mortality rate steadily declined from 1991 to 2016 by a total of 27%, resulting in approximately 2,629,200 cancer deaths less than expected if mortality rates had peaked. Although the racial gap in cancer mortality is slowly narrowing, socioeconomic inequalities are widening, with the most notable gaps for more preventable cancers. For example, compared to richer counties, mortality rates in poorer counties were 2 times higher for cervical cancer and 40% higher for male lung and liver cancers during 2012-2016. Some states are home to the richest and poorest counties, suggesting the opportunity for a more equitable dissemination of

effective cancer prevention, early detection and treatment strategies (23).

e. Cancer Treatments:

After a cancer diagnosis, cancer patients and their families must make several decisions about treatment. These decisions are complicated by feelings of anxiety, unfamiliar words, statistics, and a sense of urgency.

Decisions about cancer treatment are personal and you need to be comfortable with your choices. But a lot of people don't know where to start. Individual treatment plans depend on the type of cancer and the stage. Treatment options for your stage and type of cancer may include: Surgery, Radiation Therapy, Chemotherapy, Hormone Therapy, Targeted Therapy, Immunotherapy, Active Surveillance (also known as Active Waiting), Palliative Care and Participation in a clinical trial (24).

f. Quality of Life:

According to World Health Organization (25, 26), it is an individual's perception of his place in existence, in the context of culture and the system of values in which those who live and in relation to his expectations, his norms and his concerns. It is a broad concept that is complexly

influenced by the physical health of the subject, his psychological state, his level of independence, his social relations, as well as his relationship with the essential elements of his environment.

Anderson et al (8) did a small study but showed that its participants had a concern for the quality of patient care. Issac-Otero et al (27) conducted a pediatric study in which 19 out of 51 patients reported having had improved fitness as a measure of improvement in quality of life. Thronicke et al (28) in Germany showed that 75% of their patients opted for integrative medicine as part of their daily health care. There are three important studies that measured the quality of life in cancer patients that I understand are pillars and these were conducted by Hack et al (29) and Shalom-Sharabi et al (30, 31).

g. Cost Effectiveness:

The inclusion of an economic perspective to assess health care has become a component of increasing acceptance in health policy and planning. Cost-effectiveness analysis (ACE) has been used as a tool to address issues related to efficiency in allocating scarce health sector resources, as it is a method for comparing relative costs, as well as health benefits of different (and often competitive)

health interventions (32). They concluded that the cost-effectiveness information available in the literature is almost entirely derived from high-income countries in North America, Western Europe and Australia. For certain groups of diseases (noncommunicable diseases) information from Latin America, Africa and Asia, where most of the poor populations live. There are several ways to address this deficiency. First, the results of cost-effectiveness studies in developed countries could simply be extrapolated to developing countries. This could be done easily and quickly, but it would produce misguided answers and encourage inefficient decisions. Second, cost-effectiveness studies could be replicated in each country that needs to make decisions for certain disease groups. This would be the safest way to proceed. However, it would be slow and expensive. It would also divert limited research resources from other important policy considerations, including the most appropriate mechanisms for the provision of health services. This approach has not yet been fully implemented even in the richest countries. The third option is to use techniques to create models of populations and diseases. These models can be adapted to the context of each country by providing national data, and in

this way, policymakers would have greater guidance in setting priorities across the sector.

II. Use of Alternative and Complementary Medicine for Cancer at the outpatient and hospitalized level:

According to Cano Mendoza (6), complementary and alternative medicine is a group of various medical and health systems, practices and products that are not currently considered part of conventional medicine, so it is recommended that to evaluate therapies of complementary and alternative medicine should be used the same scientific assessment used for conventional treatments. She also recommends her thesis to carry out experimental work on complementary medicine and especially medicinal plants to understand their active ingredients and their health benefits and promote the creation of a complementary medicine service in the Hospital.

There are few studies using integrative medicine in outpatient cancer centers as hospitalized published by Shalom-Sharabi et al (33) in Israel, Lim et al (34, 35) in Australia, Cassileth (36) at Memorial Sloan-Kettering Center Cancer New York, and G Lopez et al (2) at MD Anderson Cancer

Center, Texas. The Senate of Puerto Rico (37) passed the Law to Regulate the Exercise of Naturopathic Medicine on the Island which favors and allows the use of it even to cancer patients.

III. Benefits of Integrative Medicine in cancer patients:

According to Claudia M. Witt et al (4), integrative medicine is used associated with conventional medical treatment as a supportive measure for symptomatic control, quality of life improvement and contribution to the overall health of the patient, providing a comprehensive attention in both the physical and emotional dimensions. Daza Ortega et al (11), Issac-Ortega et al (27), Santamaria et al (38) also reported how these patients benefit both physically and emotionally from the integration of alternative and complementary medicine into cancer treatments. Zapata (22) demonstrated how the bio psychoeducational technique helped by promoting behaviors of greater care and protection, as well as Yeung et al (21) using herbal therapy to improve depression. Richardson et al (39) and Martí-Auge et al (19) with music therapy, Victorson et al (40) with acupuncture, Wang et al (20) with high doses of intravenous vitamin C also saw the

benefit of integrative medicine in the cancer patient.

It has been probing that research studies in integrative oncology are needed and reinforced as per a review paper published before (41).

IV. Integrative Oncology Models:

According to Dhruva (42), focused care for integrative oncology, safe and effective, in the patient should be part of comprehensive cancer care that meets the high-quality standards established by the Society of Integrative Oncology. Barriers to timely, efficient and equitable care need to be addressed for integrative oncology to realize its full potential. The study of new models of care, by themselves and in combination, should be a focal point for the field of integrative oncology in its next stage of evolution. Evaluating patients in the right model of care is important to provide effective and quality integrative oncology care. In some health systems, an integrative oncologist can be expected to serve as a gatekeeper for complementary or integrative modalities. Given the limited number of integrative oncologists, it is important to consider ways to more judiciously and selectively use (rather than routinely) the integrative oncologist in this role. Clinical

protocols and institutional guidelines can guide the use of complementary modalities for routine situations, such as uncomplicated after-treatment survival care. A trained and experienced acupuncturist, for example, could provide integrative oncology care for selected patients. While an integrative oncologist may be better used in medically complex situations, such as for a patient receiving a complex chemotherapy regimen. In addition to potentially enabling more efficient use of resources, another advantage is that this approach emphasizes interprofessional care. However, out-of-pocket costs for patients should be considered.

In a recently published regional survey among 339 health care providers from 16 Middle-Eastern countries, most respondents favored the integration of Complementary and Traditional Medicine within conventional supportive cancer care, while recognizing the need for education and training in this field (43).

A study on June 2002 (44) with a questionnaire on alternative and complementary medicine was distributed among 156 physicians, 414 nurses, 164 radiation therapists and 94 administrative staff members in the five Norwegian

university hospitals responsible for cancer treatmentt and 61% returned the questionnaire. More than half of the physicians (56%) and most of the other health care workers (85-93%) had a positive attitude to departments of integrative medicine comparing attitudes among oncology professionals to whether complementary therapies should be offered in integrated units affiliated with departments of oncology.

According to Elena J. Ladas et al (45), clinical outcomes in childhood cancer have improved considerably in the last few decades, with 80% of children in high-income countries (HICs) now surviving into adulthood due to an increase in educational opportunities and research initiatives in supportive care, which have included the role of traditional and complementary medicine (T&CM). In HICs, T&CM is often a component of comprehensive cancer centers and has established a prominent position in many divisions of pediatric oncology, national pediatric research agendas and international research consortia and societies. The widespread and ongoing use of T&CM in pediatric oncology prompts the need for global efforts aimed at establishing models of care that are

culturally appropriate and evidence-based. Sustainable and accepted models of integrative care with traditional healers are likely to vary widely depending on the context-specific needs, history, and health system.

One of the best models of Integrative Medicine Programs in USA is the one of MD Anderson Cancer Center which we visited and can be taken as example to start looking. They assisted a group from Chile (46) in developing their program. We are also mentioning that Mexico (47), Spain (48) and Sweden (49) are also working with integrative oncology programs for their patients getting it internationally.

Conclusions:

Integrative Oncology is a field that is rising in this 21st Century due to big necessity, although, many things are letting it behind as part of oncologic management in some countries. It has been shown of great benefit for our patients and inclusive it's cost-effective. We encouraged the creation of more models throughout the nations and countries following big models already available like in MD Anderson Cancer Center and Memorial-Sloan-Kettering Cancer Center within others.

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