

Integrative Oncology in Indian Subcontinent: An Overview

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ABSTRACT

Integrative oncology is a combination of one where complementary and alternative medicine (CAM) with conventional cancer treatment modalities is used to manage symptoms, control side-effects and improve the state of mental wellbeing. The ancient Indian medicinal approach in cancer treatment and management has a wide array of herbs and practices. There is an increasing demand for traditional and natural medicine by the cancer patients. The conventional oncologic surgeons and physicians should be aware of the role of cCAM that are available in Indian subcontinent and provide a treatment that focuses on the physical and mental state of wellness in combating cancer.

Keywords: Acupuncture, Ayurveda, Homeopathy, Integrated oncology, Siddha, Unani, Yoga

INTRODUCTION

Cancer is the second largest non-communicable disease after ischemic heart disease with only 20% is getting cured and 20% get a prolonged life after treatment [1]. In India, during the year 2011, it was estimated that 0.44 million died owing to cancer and this shall increase to 0.51 million and 0.60 million persons in 2016 and 2021 respectively. This estimated cancer mortality can increase to 0.70 million by the year 2026 as a result of change in size and composition of population [2]. Lung, oesophagus, prostate, stomach, oral and pharyngeal cancers predominant in men while in women, cancers of cervix and breast are common followed by those of oral cavity, stomach and oesophagus [3]. This is considered as a warning alarm for the need to tackle cancer by reducing risk factors and strengthening the existing screening and treatment facilities. The conventional cancer treatment modalities - surgery, chemotherapy and radiotherapy are believed to be costly, mutilating with serious ill-effects and leading to residual morbidity and relapses [4]. The word cancer is panicky for people irrespective of education and socio-economic status and is in the horizon zone in medical research.

Integrative oncology is defined as both a science and philosophy that focuses on the complexity of the health of cancer patients and proposes a multitude of approach to accompany the conventional therapies of surgery, chemotherapy, molecular therapeutics and radiotherapy to facilitate health (Stephen Sagar) [5]. The conventional medicine is otherwise called as allopathy, western, mainstream, orthodox, regular and biomedicine [6]. In combating cancer, the patients suffer from the side-effects of the mainstream medicine. The conventional cancer treatment like chemo/radio therapy is cytotoxic to normal cells which results in adverse effects on health and quality of life [1]. So they not only undergo physical botheration but also the mental depression. The cancer incidence results, show an urgent need for strengthening and augmenting the existing diagnostic/treatment facilities, which are inadequate even to tackle the present load [2,3]. The integrated multitude approach for cancer should be aimed at adding days to the life of the patient and also life to the days they survive. This can be achieved by the traditional CAM that are defined as group of different medical and health care systems, practices and products that are not considered to be part of conventional medicine [7].

Half of the world cancer patients use CAM for treatment. The systematic review and met analysis done worldwide to estimate

the prevalence of use of CAM in treatment of cancer was 40% that has increased from 25% in 1970 to 49% after 2000 [8]. Though many research works are under progress, no literature highlights that traditional medicine can be used as an alternative to the mainstream therapies in curing cancer [9]. But, they can be considered complimentary to the regular therapies in reducing the side effects and improving their mental well-being. The common adverse effects of cancer therapy are nausea, vomiting, diarrhoea, mucositis, alopecia, constipation etc. Locally administered radiation also has ill-effects like fatigue, anorexia, nausea, vomiting, and alteration in taste, sleep disturbance, headache, anaemia, dry skin, constipation and so on [10]. Above all, the mental agony cannot be measured which makes the patient drop the treatment voluntarily.

The common traditional medicines that are practiced in India are ayurveda, siddha, unani, yoga, naturopathy, acupuncture and homeopathy. The conventional oncological clinicians should have a brief knowledge on natural medicine in treating cancer along with chemo and radiotherapy. The aim of this evidence based scientific review is to explore the role of various Indian CAM in cancer prevention, treatment, metastasis, adjuvant in chemo-radio therapy to treat adverse effects of therapy, future and research of integrative oncology.

DISCUSSION

Integrated oncology is a tailor made treatment model for each patient based on their clinical history, diagnosis, treatment regime, their physical and psychological adverse effects, spiritual belief and family socio-economic status. Developing country like India which has traditional medical heritage has multiple native traditional practices/ medicines that has its origin in India or, that has come to India from outside and got assimilated into Indian culture. Such traditional medicines recognized by the board of CAM, government of India are (AYUSH - ayurveda, yoga, unani, siddha and homeopathy) [11]. The four categories of CAM in health care are biochemical, lifestyle, biomechanical and bioenergetic [12]. According to CAM for cancer care (CAM-cancer) the complementary medicine in cancer care is classified as follows [13,14]:

1. Alternative medical systems (e.g.: ayurveda, siddha, unani, homeopathy)
2. Biologically based practices (e.g.: naturopathy that uses food, vitamins & herbs instead of drugs)
3. Energy medicine (e.g.: reiki)

4. Manipulative and body based practices (e.g.: ayurvedic massage)
5. Mind-body medicine (e.g.: yoga, meditation)

The health concepts of various Indian system of ethno medicine are unique in its diagnostic and therapeutic aspects. Ayurveda, the 5000-year-old ancient holistic medicine system considers health as the equilibrium of the three biological humours (doshas), the seven body tissues (dhatus), proper digestion and a state of pleasure or happiness of the soul, sense and mind [15]. The malignant tumours are described as ARBUDA and considered as incurable that are considered as TRIDOSHIKA and ASADHYA [1]. Among the 3000 plants with anti-cancer property, 30 Indian ayurvedic herbs show anti tumour activities [16,17]. Literature also shows that ayurvedic medicine with its anti-cancer property can be used as an adjuvant to chemo/radio therapy in controlling the adverse effects and improving the patient's quality of life [18-20]. Rasayana avaleha is an ayurvedic semi-solid pharmaceutical preparation is a mixture of few herbs with anti-aging, power restoring and vitality improving properties, sugar and ghee. A study showed that this rasayana therapy when taken as an adjuvant along with chemotherapy and radiotherapy can improve the quality of life of cancer patients [1].

Siddha the other form of natural and herbal medicine that is practiced in south part of Indian peninsula, Tamil Nadu is similar to ayurveda in its health concepts but has a unique identity. Malignant tumours are described as PUTRU in siddha [21]. The materia medica of ayurveda and siddha are almost similar that both depends on herbs but the ayurveda drugs are vegetable origin and siddha drugs are metals and mineral origin [22,23]. Massages in ayurveda and siddha are manipulative and body-based practices that focus on musculo-skeletal system to reduce anxiety and pain in cancer patients [24].

Unani the non-Indian form of traditional medicinal system originated in Greece by Hippocrates (460-377 BC) and got assimilated into Indian culture by the Arabs around 1350 AD. Unani considers body is made up of earth, air, water, fire – the four basic elements with the different temperaments like cold, hot, wet, and dry. Mixing, interaction and loss of balance of these entities results in disease [23].

Homeopathy has been in practice for over two centuries. Its therapeutic principles are different from other CAM in that it stimulates the individuals innate system to self heal and renew. It is not an alternative in the treatment of cancer but can alleviate the stress and trauma of cancer patients and decrease the side-effects of radio and chemo therapy [25]. Psorinum therapy, adopted from allopathy and homeopathy which uses psorinum (alcoholic extract of scabies, slough and pus cells) are studied in rat model to evaluate the clinical efficacy in cancer treatment [26].

Acupuncture, is a non-Indian traditional medicine that originated in China and assimilated into Indian civilization. The concept of this Indo-China medicine is to place needles at certain body (acu-points) points that regulate the flow of energy (chi/qi) along the meridian in the body [27]. This is considered safe and effective in symptom management of cancer patients [28]. Acupuncture can be used as an adjuvant in treating the adverse effects caused by chemo/radio therapy like nausea, vomiting, pain, xerostomia and effective in reducing lymphedema [29,30]. Acupuncture is contra-indicated in cancer patients with severe neutropenia or thrombocytopenia and at the site of primary/metastatic tumour [9].

Yoga, the mind - body medicine is a nondrug therapy which focuses on the interaction among brain, mind, body and behaviour to improve function, health and quality of life [9]. The prime goal is to decrease anxiety, fear, depression, pain and to promote a sense of emotional, physical and spiritual well being [31]. When yoga is given as an intervention along with conventional treatment to cancer patient, it has proved to reduce anxiety, insomnia and stress [32].

Active and closed clinical trials in the treatment of various cancers and side-effects including anorexia, hot flashes, fatigue, nausea, oral complications and pain are being funded and granted by ICMR (Indian Council of Medical Research). Success of these clinical trials may incorporate the Indian CAM in integrated oncology programmes.

Lacunae of Integrative Oncology

The oncology program and the professional team for any cancer are based on the availability of CAM in that particular region/country. For example the integrated oncology program in Germany includes mind-body medicine, acupuncture, massage therapy, naturopathy, nutrition, exercise and physiotherapy. Similar program in USA comprises the same CAM in Germany along with music therapy, expressive arts, and support groups [33]. Such availability of CAM along with mainstream therapy under one roof should be made accessible to all cancer patients in India. Such speciality should be incorporated in the curriculum of academics of medical colleges.

Though a lot of academic and government aided/funded research work are involved in medicines and cancer management, they are all aimed at the target of course completion and attaining degree (post graduation/Ph.D). And also, the publication of the research work in an international data bases and websites is a questionable factor. The Indian traditional medicines all dates back to 5000 years while allopathy has a history of 100 years [34]. Many of them are inherited through generation by word of mouth and some in the regional language texts like Sanskrit, Hindi, Tamil etc [35]. Such texts should be properly translated into universal language and protected. Comparative effectiveness research (CER) should be emphasised on the comparison of effectiveness of various CAM in cancer cure that measures the patient centered outcome. "Effectiveness" is defined as measure of the extent to which an intervention, when deployed in the field in routine circumstances, does what it is intended to do for a specific population [36].

There is a lack of co-ordination between the research institute and drug industries and conventional and CAM practitioners. The government should formulate a wide approach that encompasses mechanistic studies, potential herb drug interaction, pharmacokinetics, bio-availability and clinical trials in traditional cancer drugs and practices that are formulated with dosage, safety, efficacy and adjuvant with chemo-radiotherapy. The majority of health insurance policy schemes are in favour of mainstream and cover only a very few Indian CAM. A change in this policy coverage may increase the use of traditional medicine [34,35].

The communication and knowledge gap about the role of CAM in cancer leads to make the patient and family members to enclose their use of CAM to their treating physician. This makes the patient to take un-authorized, fraudulent CAM medicines/practices that result in serious and detrimental clinical outcome. So a team of experts in the integrative oncology program should be made available under one roof in all cancer care centres. There should be trust and mutual respect among the interdisciplinary practitioners. CME programmes may be given to make physicians as dual experts in both the fields of conventional and traditional medicines to address the physical, psychological and emotional problems of cancer patients and treat not only the malignant tumour in the body but also the patients as an individual to provide a better quality of life in the day they survive. The integrated oncology speciality can be incorporated in the medical academics and should be made available in all cancer centres.

CONCLUSION

The current view on the integrated oncology of India in the field of various cancers gives a statement that the ethnic medicines may not parallel to the conventional treatment of cancer but have a substantial role in palliative management of cancer. The cancer

patients should be able to get their custom made integrated oncology treatment according to their family and spiritual belief. More light has to be shed on research works in the arena of combined modern and traditional medicines. Courses, hands on courses and workshops on CAM may be arranged to conventional physicians in their national conferences and speciality congress. The mission of integrated oncology should be to make the cancer patients live and not just to exist.

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