



Review Article

Holistic View of TCM on Cancer Integrative Therapy



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Abstract

Cancer remains a significant threat to public health globally. Within the Traditional Chinese Medicine (TCM) framework, cancer is perceived not merely as an isolated disease but as a manifestation of a broader imbalance within the human body. Recent advancements in modern medicine have garnered increased attention toward the integrative approach to cancer therapy, combining conventional treatments with TCM practices focusing on achieving a holistic balance. This article aims to delineate the comprehensive perspective of TCM in integrative cancer therapy, emphasizing its foundational principles of personalized treatment grounded in syndrome differentiation and treatment.

Introduction

According to data from the World Health Organization, in 2019, cancer was either the primary or secondary cause of death in 112 countries globally and the tertiary or quaternary cause in an additional 23 countries.¹ The global burden of cancer is substantial and escalating, with marked disparities in mortality and incidence rates observed across different regions, age groups, genders, and cancer types. Tailored and region-specific prevention and control initiatives are therefore vital in reducing this burden in the coming years.²

Despite remarkable strides in science and technology, a paradigm-shifting breakthrough in enhancing the efficacy of cancer treatments remains distant. The multifaceted and evolving landscape of cancer prevention and management, compounded by soaring treatment costs, emphasizes the enduring global challenge presented by malignant neoplasms.^{3–5}

While modern medicine has advanced considerably in treating cancer, the sheer complexity and diversity of the disease mean that traditional treatment avenues—including surgery, radiotherapy, and chemotherapy—continue to face significant hurdles. The consensus remains that early detection facilitates a higher likelihood of successful treatment, potentially curing all cancers.⁶ Consequently, pursuing innovative and more effective treatment strategies is paramount.

Guided by the holistic concept of traditional Chinese medicine (TCM), integrative therapy emerges as a promising approach to combat cancer. By embracing a comprehensive approach, integrative cancer therapy has assumed a pivotal role in interven-

ing in precancerous lesions, curbing tumor growth, thwarting recurrence and metastasis, elevating patients' quality of life, and fostering coexistence with malignancies. This holistic approach aptly mirrors the overarching regulatory principles of TCM. The anticancer effect of integrative therapy is getting more and more attention and recognition from experts in related fields at home and abroad.^{7–10}

This article aims to explore the application of a holistic view of TCM in treating cancer with integrative therapy. The evolution of medical practices has heralded integrative cancer therapy as an emergent treatment paradigm. This distinctive approach seamlessly melds the precision of Western medicine with the holistic tenets of TCM, engendering a novel treatment paradigm. TCM's holistic outlook furnishes a pivotal theoretical underpinning for the philosophy of integrative therapy.

The relationship between integrative therapy and cancer

Definition of cancer

Cancer emerges from aberrant cellular regulation within the body, culminating in tumor formation. A subset of tumors may exhibit malignancy, thus characterizing them as cancerous.¹¹ In TCM, cancer primarily falls under the categories of “ji ju” and “zheng jia”. Often, cancer manifests as a tenacious mass, typically reflecting an interplay between deficiency and excess within the TCM framework. “Ai du” as a pathogenic factor is the key to cancer in TCM, which differs from modern cancer theory's scientific connotation. TCM posits that cancer's genesis and progression correlate with emotional factors, dietary habits, lifestyle choices, and various other elements, thus manifesting as a multifactorial outcome. A salient distinction between TCM and conventional medicine is TCM's premise that cancer arises from the imbalance of the body's “Yin and Yang”. “Yin and Yang”, a pair of categories in ancient Chinese philosophy, are the generalization of the opposite attrib-

Keywords: Cancer; Integrative therapy; TCM; Holistic perspective; Personalized treatment; Syndrome differentiation and treatment.

Abbreviations: TCM, traditional Chinese medicine.

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utes of some things or phenomena related to each other in nature. “Yin and Yang” can indicate both opposite things or phenomena and two opposite aspects of the same thing or phenomenon. TCM believes that cancer formation is not only a regional abnormal proliferation of tissues but also a manifestation of the imbalance of “Yin and Yang” in the whole body, which is different from the concept of regional examination and treatment in modern medicine. TCM’s cancer treatment accentuates comprehensive body regulation, harmonizing “Yin and Yang”, enhancing the internal milieu, bolstering immune function, and empowering the body’s capacity to counteract cancer. This endeavor is grounded in the pursuit of holistic equilibrium.

Integrative therapy of cancer

Western medicine employs surgery, radiotherapy, chemotherapy, and targeted therapy in cancer treatment. While surgery yields positive outcomes for select cancers, it can impinge on the functionality of patients’ original organs, with some operations yielding less-than-optimal results.^{12–14} The risk of myelodysplastic syndrome or acute myeloid leukemia in patients after radiotherapy and chemotherapy increases.^{15,16} Targeted cancer therapy may inhibit the DNA damage response of cancer cells by tailoring treatment to cancer patients lacking specific DNA damage response functions.¹⁷ Drug resistance is inevitably present in the drug treatment of cancer.^{18,19} Besides, operation, radiotherapy, and chemotherapy can easily cause an imbalance of “Yin and Yang”. Patients with an imbalance of “Yin and Yang” will be attacked by pathogenic factors, which will damage the vital Qi, cause the residual cancer cells to germinate, and shorten survival. The vital Qi of a body in TCM is equivalent to the physical immunity of Western medicine. However, TCM can overcome these disadvantages.

The integrative therapy of cancer has garnered acclaim for enhancing remission rates, prolonging survival periods, mitigating complications, and curbing the toxic and adversarial effects of radiotherapy and chemotherapy.^{20–22} By harmonizing TCM principles with Western medical practices and harnessing the respective strengths of both modalities, the prospect of achieving complete cancer eradication could materialize on the horizon. Consequently, integrative therapy emerges as the impending trajectory for cancer treatment. Integrative therapy in the cancer context signifies the collaborative synergy of traditional Chinese and Western medicine to augment therapeutic efficacy, temper adverse effects, and enhance patients’ quality of life.

The holistic view of TCM

Origin and historical evolution of holistic view of TCM

The holistic view of TCM, a fundamental medical concept, has its roots in ancient China. It underscores the belief that the human body is an intricate, interconnected entity where every component influences and interacts with the others. The core tenets of the holistic view in TCM focus on fortifying the body, enhancing immunity, regulating the delicate balance of “Yin and Yang”, mitigating excessive immune responses, minimizing inflammation-induced tissue damage, and tailoring disease treatments to accommodate individual conditions, climatic influences, and unique constitutions.²³ Within modern TCM, the concept of micro-dialectics has also been introduced, employing contemporary scientific tools and technologies to analyze diseases dialectically, subsequently guiding TCM treatment plans.²⁴ This contemporary perspective seamlessly amalgamates both macro and micro considerations. It

underscores the importance of maintaining equilibrium throughout the entire human body and acknowledges localized pathological variations. This comprehensive evaluation informs the development of holistic and personalized treatment strategies.

Emphasis on human wholeness in the holistic view of TCM

The holistic perspective upheld in TCM is rooted in the concept of interconnectedness within the human body. According to TCM principles, a dynamic relationship exists among the various organs, tissues, and systems, where they interact harmoniously and are deeply interdependent. This intricate web of connections means that the state of any single component can have far-reaching implications on the overall health of the individual.

Within this framework, TCM asserts that the functionalities of different body components are intertwined, supporting, reinforcing, and constraining each other in a delicate balance. A poignant example of this interconnected dynamic is seen in the heart’s physiological relationships with other vital organs such as the liver, spleen, and stomach. As such, a disruption in one area can resonate through the system, potentially leading to dysfunction in other parts. This underscores the imperative of maintaining harmony and balance in pursuing holistic health.

The holistic view of TCM emphasizes the integrity of the disease

TCM believes that diseases are not confined to only a single organ or tissue; they are considered holistic. TCM asserts that the onset of diseases results from an imbalance in the “Yin and Yang” equilibrium across the entire human body. Therefore, TCM treatments necessitate a comprehensive analysis of the patient’s condition from a holistic standpoint, culminating in the formulation of personalized treatment plans.

Emphasis on the unity of man, nature, and society in the holistic view of TCM

The thought of the unity of nature and man is an essential part of the holistic view of TCM. This doctrine underscores the intimate connection between humans and their natural environment, contending that the human body operates as a microcosm intricately linked to the ebbs and flows of the natural world. With the beginning of the Industrial Revolution, human beings have ushered in transformative changes to the natural environment, simultaneously altering human lifestyles and societal structures. In response to these shifts, the holistic perspective of TCM serves as a guiding compass for human adaptation to evolving natural and social environments. It facilitates the harmonization of the body’s micro-environment with the external milieu, ultimately minimizing the impact of external factors on human health.

Philosophical foundations of the holistic view of TCM

The philosophical underpinnings of the holistic view of TCM draw extensively from ancient Chinese theories, primarily the concepts of “Yin and Yang” and the Five Elements. “Five elements” is a simple materialistic concept in ancient China, which believes that all things in the world are composed of five essential elements. The holistic view of TCM regards life as a whole, dynamic, spiritual, and functional unity. It asserts that the development of diseases primarily stems from imbalances in human functional equilibrium. It advocates proactive health maintenance before the onset of diseases and underscores the importance of preventive care. Since the inception of TCM, it has adhered to a comprehensive, macro medical model that health is a dynamic, balanced, stable, and harmoni-

ous state. Consequently, the fundamental treatment principle seeks equilibrium and harmony between “Yin and Yang”. TCM, as an autonomous system, is guided by the holistic system originating in ancient China. The theory of “Qi” in the pre-Qin period is the starting point of TCM, which believes that the original world is the overall unity of Qi. Qi is a concept in TCM, including normal and abnormal states. Normal Qi can protect the body, equivalent to the immunity in Western medicine. Abnormal Qi can harm the human body, equivalent to pathogens in Western medicine. In terms of methodology, a prominent feature of TCM is its system theory, which is also the difference between TCM and modern medicine. The main characteristics of system theory are its integrity, association, order, and organization, all of which have vivid and corresponding concepts in TCM. Since the birth of the early system of TCM, it is from the “Qi, blood, Yin and Yang, Zang-Fu” core concept. Qi is considered by Chinese medicine theory as the basic substance that constitutes the human body, and it is the foundation of all human life activities. Qi is divided into congenital and acquired Qi. Congenital Qi is the fundamental energy of the human body, while acquired Qi is derived from the intake and digestion of external substances. Qi has a significant impact on human health and disease. Blood is regarded by TCM theory as the substance that nourishes the various organs and tissues of the human body. Blood is closely related to Qi, with Qi’s fullness and free flow promoting blood circulation, and blood supply being an essential guarantee of Qi and blood abundance. TCM’s theory believes that Yin and Yang are two relative and unified aspects that constitute all things in the world. Yin and Yang are interdependent and have mutual restrictions, and an imbalance between them can lead to human diseases. The organs and tissues in the human body also have Yin and Yang aspects, such as the heart, liver, spleen, lung, and kidney. TCM’s theory holds that there are 11 organs and tissues in the human body, including the heart, liver, spleen, lung, kidney, stomach, small intestine, large intestine, gallbladder, urinary bladder, and sanjiao, which are the foundation of all kinds of life activities inside the human body, and the balance or imbalance of their states determines human health and disease. The human body should be viewed as a whole, regardless of its physiological or pathological state, rather than breaking down into individual cells or specific organs.²⁵ Since the birth of TCM, it has been the science of paying attention to and applying the holistic view.

Relationship between the holistic view of TCM and Western medicine

In recent years, with the development of Western medicine, there has been a growing recognition of the environmental impact on human health, a concept long embedded in the holistic view of TCM, particularly the notion of harmonious coexistence between humans and the environment. Western medicine has introduced a new medical model, “biopsychosocial-environmental-humanity”, which aligns with the TCM view of “harmony between man and nature”.²⁶ Conceptually, there are significant differences between the holistic view of TCM and the systematic medicine of Western medicine in concept. TCM underscores the holistic perspective, while Western systemic medicine scientifically investigates the structural and physiological aspects of the human body and its pathological systems. It places significant emphasis on studying and applying systematic disciplines such as anatomy, physiology, and pathology. Western medicine dissects the human body into numerous independent organs and systems, viewing diseases as localized anomalies or lesions rather than comprehensive disorders. However, these two paradigms can be mutually reinforcing and

drive the advancement of medicine. The holistic view of TCM can guide integrative therapy, facilitating the combination of TCM and Western medicine to work synergistically in providing therapeutic benefits. TCM and Western medicine treatments can be personalized in integrative therapy by guiding the holistic view of TCM.

Integrative therapy and cancer

Fundamental concepts of integrative therapy

Integrative therapy refers to the combination of TCM and modern Western medicine. This approach seeks to leverage the strengths of both TCM and Western medicine to offer patients more comprehensive and effective medical care. Integrative therapy combines TCM and Western medicine theory, diagnosis, treatment, and technology to form a comprehensive treatment plan and fully consider the patient’s physical condition. This therapeutic approach emphasizes disease prevention, focusing on treating ailments while enhancing the patient’s overall health and minimizing the risk of future maladies.

The characteristics and advantages of integrative therapy of cancer

The characteristics and advantages of integrative therapy for cancer lie in its ability to utilize both TCM and modern Western medicine to formulate a more holistic and personalized treatment regimen:

1. Comprehensive treatment: In treating cancer, Western medicine’s operation, radiation therapy, chemotherapy, TCM’s herbs, acupuncture, moxibustion, massage, and Qigong are fully utilized by integrative therapy;
2. Individualized treatment: Recognizing that each cancer patient possesses a unique physical constitution and tolerance level, integrative therapy places significant emphasis on individual differences. It customizes the treatment plan based on the specific situation of the patient to avoid overtreatment and potential side effects;
3. Relieving cancer symptoms and side effects: TCM has proven advantageous in alleviating cancer-related symptoms and mitigating the side effects associated with treatments like radiotherapy and chemotherapy. TCM interventions can ameliorate symptoms such as nausea, vomiting, and fatigue, ultimately enhancing the patient’s quality of life²⁶;
4. Prevention of Recurrence: TCM of integrative therapy can help reduce the burden of cancer and the risk of recurrence.²⁷ Integrative therapy has a positive effect on postoperative rehabilitation, cancer metastasis, and recovery after radiotherapy and chemotherapy²⁸;
5. Customized Herbal Formulations: TCM offers a diverse array of herbs for cancer management, with thousands of years of clinical practice to inform compound compatibility. Within the framework of integrative therapy, selecting an appropriate herbal formula can be tailored to each patient’s specific condition, thereby enhancing treatment efficacy and relevance.

The application of the holistic view of TCM in integrative therapy of cancer

The diagnosis of the holistic view of TCM in integrative therapy of cancer

Syndrome differentiation-oriented treatment

The Holistic view of TCM strongly emphasizes syndrome differ-

entiation and corresponding treatment. In alignment with this philosophy, integrative therapy tailors personalized treatment plans based on a comprehensive analysis of the patient's unique condition, physical attributes, etiology, pathogenesis, and syndrome. During treatment, healthcare professionals consider factors such as the patient's constitution, age, gender, and dietary habits. Patients may present with various symptoms and signs due to the multifaceted nature of cancer development. The holistic view of TCM can help identify the different stages and pathological types of cancer, to provide a reference for formulating personalized treatment plans. The holistic view of TCM comprehensively analyzes the pulse, tongue coating, complexion, and mental state of cancer patients through the four diagnostic methods of observing, smelling, asking, and feeling the pulse to help doctors understand the patient's constitution, viscera function state, Qi and blood status to grasp the essence and characteristics of the disease more comprehensively.

Micro-dialectics of TCM

Microscopic indicators encompass objective and quantifiable diagnostic data collected through instrumental examinations. As one of the characterization parameters of health status, microscopic indicators are widely used in various fields of TCM syndrome research. On this basis, many scholars put forward the concept of "Micro-dialectics". Micro-dialectics uses microscopic indicators to understand and identify the "syndrome" of TCM. "Syndrome" is a pathological process in a particular stage of the occurrence and development of the disease. It consists of several related indicators. These objective indicators should include macro and micro, overall and regional aspects, reflecting the complex characteristics of TCM syndromes.²⁴ Under the guidance of the holistic view of TCM, Micro-dialectics uses modern scientific and technological tools to give scientific connotation to syndrome differentiation through objective quantitative analysis. Micro-dialectics clarifies the material basis, formation mechanism, and transmission law of the syndrome and enhances the credibility of the syndrome differentiation. Micro-dialectics adopts the method of integrative therapy to understand and treat diseases, which improves its applicability. The dialectical methods of integrative therapy are diverse. However, they are all based on the guidance of the holistic view of TCM. Through the combination of macro and micro, the physiological process and pathological evolution of patients are considered. Finally, the appropriate drug combination is formulated.

The holistic view of TCM in integrative therapy of cancer

Holistic view-guided combined treatments

Combination of TCM and chemotherapy

Clinical trials conducted across 13 Chinese hospitals have affirmed that TCM, combined with chemotherapy, can positively impact the gut flora of cancer patients, thereby enhancing treatment outcomes.²⁹ A meta-analysis has demonstrated that when used with chemotherapy, TCM can ameliorate chemotherapy-induced neutropenia/leukopenia and enhance clinical efficacy in adult colorectal cancer patients.³⁰ The combination of traditional insect Chinese herbs and chemotherapy in the treatment of non-surgical hepatocellular carcinoma can help enhance the objective remission rate of liver cancer, prolong the long-term survival time, improve the quality of life of patients, enhance immune function, and reduce some adverse reactions.³¹ A separate meta-analysis highlighted that TCM combined with chemotherapy can enhance effective rates and survival rates for gastric cancer and reduce

post-chemotherapy nausea and vomiting.³² TCM combined with chemotherapy can effectively improve leukopenia.³³

TCM combined with radiotherapy

A survey showed that about two-thirds of patients had a high acceptance of the use of acupuncture and other therapies in radiotherapy.³⁴ Acupuncture has been used in cancer patients undergoing radiotherapy, which has had a positive impact on cancer treatment, and there has been an improvement in the score.³⁵ Acupuncture combined with radiotherapy can significantly reduce the symptoms of xerostomia and improve the quality of life in patients with nasopharyngeal carcinoma.³⁶ Berberine, a common herb compound, interacts with DNA and exhibits anticancer activity. It can regulate X-ray cross-complementing 1 histone-mediated base excision repair to enhance the sensitivity of cancer cells to chemotherapeutic drugs (such as cisplatin, camptothecin, and methyl methanesulfonate).³⁷ The triterpenoids in the leaves of *Centella asiatica* inhibit the migration and invasion of human lung cancer cells induced by ionizing radiation, which may effectively improve the effect of radiotherapy.³⁸ External use of TCM combined with radiotherapy can significantly improve the 3-year and 5-year overall survival rate of patients with nasopharyngeal carcinoma.³⁹ The prescription of Chinese herbal medicine containing *Astragalus* combined with radiotherapy can improve the effect of radiotherapy, reduce the toxicity of radiotherapy, and benefit patients with non-small cell lung cancer.⁴⁰ *Danshensu* significantly reduced the activity of monoamine oxidase B and attenuated NF- κ B signal transduction, resulting in radiosensitization of non-small cell lung cancer.⁴¹

The combination of TCM and surgical treatment of cancer

An evidence-based study has shown that TCM therapy can play a role in the preoperative, perioperative, or postoperative recovery of breast cancer. Various treatments such as music, massage, and acupuncture can reduce pain perception in breast cancer patients and improve anxiety, depression, stress, and fatigue throughout the surgical experience. Whether in a single-use or integrative therapy, Chinese herbal therapy has shown benefits.⁴² *Sanli* (ST36) acupoint is related to gastrointestinal function. Neostigmine injection at this acupoint can treat paralytic intestinal obstruction after a gastric cancer operation, and the adverse reactions are lower than intramuscular injection.⁴³ Preoperative acupoint application can effectively promote the recovery of gastrointestinal function and improve autonomic nerve function in patients after laparoscopic resection of colorectal cancer.⁴⁴ Based on routine measures to prevent postoperative constipation of lung cancer, auricular point sticking therapy can effectively reduce the incidence of postoperative constipation.²²

Combination of TCM and various treatment methods

A meta-study shows that integrative therapy is widespread in patients with head and neck cancer and plays an increasingly important role. Herbs, acupuncture, and other methods can inhibit the growth of head and neck cancer and reduce the side effects of operation, radiotherapy, and chemotherapy. Integrative therapy can be used for head and neck cancer prevention, treatment, and side effect management.⁴⁵ Moxibustion can effectively relieve cancer-related fatigue symptoms.⁴⁶ *Astragalus* polysaccharide injection combined with cytokine-induced killer cells in the treatment of advanced non-small cell lung cancer patients with Qi deficiency syndrome improves the patient's immune function, Qi deficiency syndrome symptoms, and body function, with good safety.⁴⁷ Acupuncture combined with radiotherapy and chemotherapy can

reduce the pain and skin and mucosal toxicity of head and neck cancer.⁴⁸

When integrated with radiotherapy or chemotherapy and various treatment modalities, TCM offers numerous advantages in cancer management. Integrative therapy enhances treatment efficacy, augments patients' physical resilience, reduces side effects of Western medicine cancer treatment, improves patients' quality of life, and enhances their tolerance to conventional Western medicine treatment, thereby better suppressing tumor growth and metastasis. Furthermore, integrative therapy aids in maintaining overall balance. TCM underscores the holistic concept, viewing the human body as interconnected. Guided by the Holistic View of TCM, integrative cancer therapy helps sustain the overall equilibrium of a patient's "Yin and Yang", thereby mitigating treatment-related adverse reactions and enhancing patients' quality of life.

Guiding individualized treatment with the holistic view of TCM

Integrative therapy strongly emphasizes individualized treatment, tailoring treatment plans to each patient's specific circumstances. Throughout the treatment process, healthcare providers consider factors such as the patient's constitution, age, gender, and overall health, applying corresponding treatment methods to address the disease comprehensively:

1. **Syndrome Differentiation-Oriented Treatment:** Treatment based on syndrome differentiation is at the core of individualized integrative therapy. Based on specific symptoms, signs, and physical characteristics of patients, diseases are categorized into different syndrome types, leading to the adoption of corresponding treatment approaches. Different diseases may require distinct TCM prescriptions, acupuncture points, or massage techniques;
2. **Regulation of Constitution:** Integrative therapy prioritizes the regulation of a patient's overall constitution rather than solely treating specific diseases. In personalized treatment, TCM practitioners thoroughly assess the patient's physical characteristics, including the balance of "Yin and Yang", Qi and blood status, and organ functionality. Targeted interventions are then employed to bolster the patient's self-healing capabilities and immunity;
3. **Customized Herbal Medicine Formulations:** Personalized treatment through integrative therapy emphasizes the selection of appropriate Chinese herbs based on the patient's condition and constitution. Subsequently, individualized drug combinations are crafted to enhance efficacy and minimize adverse reactions;
4. **Tailored Acupuncture and Moxibustion:** Acupuncture and moxibustion are integral to individualized integrative therapy. TCM acupuncturists select relevant acupoints and acupuncture techniques based on the patient's symptoms and constitution to achieve optimal therapeutic outcomes;
5. **Dietary and Lifestyle Recommendations:** Personalized integrative therapy extends to recommendations regarding the patient's dietary habits and lifestyle. TCM recognizes the profound impact of diet and lifestyle on health. Therefore, TCM practitioners offer dietary and lifestyle guidance tailored to the patient's constitution and condition to facilitate symptom improvement and disease prevention. TCM exercise therapies such as Taiji and Qigong may also be employed to enhance health and prevent illness.^{49,50}

Cancer is a multifaceted and diverse disease. Patients may present with different types and stages of cancer. Personalized integrative therapy enables more precise targeting of the patient's condition, ultimately providing more effective treatment. Com-

binning TCM with Western medicine treatment methods such as chemotherapy, radiotherapy, and surgery can yield comprehensive treatment advantages. Personalized integrative therapy enhances overall treatment efficacy by regulating the immune system, strengthening immune function, and promoting immune surveillance and cancer inhibition based on the patient's characteristics. This has significant implications for preventing cancer recurrence and metastasis and augmenting the effectiveness of chemotherapy and immunotherapy. All these approaches are guided by the Holistic View of TCM.

The challenges and future development of integrative therapy of cancer under the guidance of the holistic view of TCM

Challenges and problems encountered in the treatment of cancer with integrative therapy

Integrative cancer therapy is a comprehensive treatment method. Although it has many advantages, it also faces some challenges and problems in practice:

1. **Lack of Standardization:** Integrative therapy merges two distinct medical systems, resulting in a lack of uniform treatment standards and norms. This subjectivity in treatment options and methods can impact treatment effectiveness and safety;
2. **Insufficient inheritance of knowledge and technology:** As a traditional medicine, TCM boasts a deep history and extensive experience. However, certain TCM knowledge and technology aspects have not been effectively inherited and developed. Consequently, their application within the modern medical environment remains limited;
3. **Limited Clinical Research Evidence:** The efficacy and safety of integrative therapy in treating cancer in some disease types and treatment stages lack large-scale and high-quality clinical research evidence, which makes many treatment options still in the stage of practical verification;
4. **Doctor-Patient Communication Challenges:** Integrative therapy relies on cooperation and mutual understanding between healthcare providers and patients. However, due to varying treatment concepts and methods, difficulties in communication and comprehension may arise, impacting treatment implementation and efficacy;
5. **Drug interactions and side effects:** There may be drug interactions between traditional Chinese herbs and Western medicine, resulting in enhanced or weakened drug efficacy and even adverse reactions. Reasonable selection of the combination and dosage of integrative therapy requires an in-depth understanding of drug interactions and side effects;
6. **Personnel Training and Team Development:** Integrative therapy demands healthcare professionals with knowledge and skills in both TCM and Western medicine, along with the ability to collaborate effectively in multidisciplinary medical teams. However, cultivating such professionals and building cohesive teams requires considerable time and resources.

To overcome the challenges and problems in integrative therapy, it is necessary to strengthen medical education and training, promote scientific research in the field of integrative therapy, establish unified treatment norms and standards, strengthen doctor-patient communication, improve patients' acceptance and understanding of integrative therapy, and strengthen the cooperation and cooperation ability of medical teams. By implementing these measures, integrative cancer therapy can overcome its challenges and deliver more comprehensive and personalized treatment plans to cancer patients. Applying the holistic view of TCM in integrative therapy

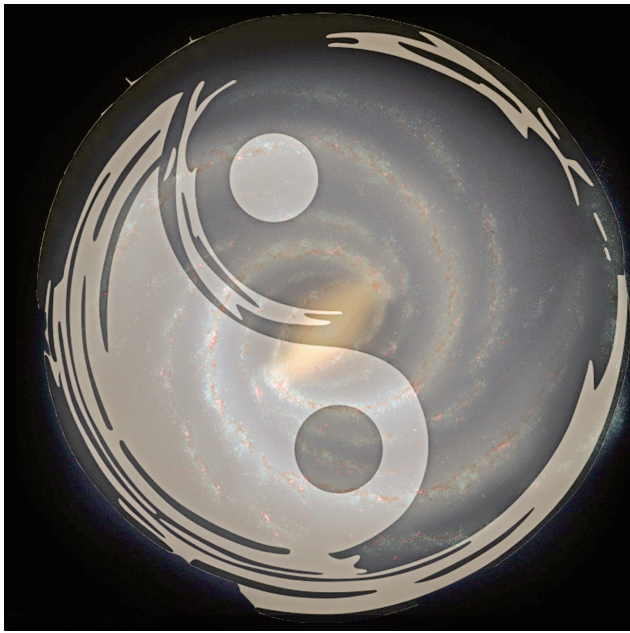


Fig. 1. Integration of Yin and Yang in the universe.

serves as a bridge between two medical systems, facilitating optimal clinical outcomes.

Future development trends and directions in integrative cancer therapy

The field of cancer treatment through integrative therapy is dynamic and ever-evolving. Guided by the holistic view of TCM and fueled by advancements in science, technology, and medical research, the following future development trends and directions are



Fig. 2. Integration of Yin and Yang in human beings.



Fig. 3. Integration of Yin and Yang between human and the environment. (Generated by an AI painting website, <https://tool5.cn/midjourney/>).

anticipated (Figs. 1–3):

1. Individualized treatment: In the future, the integrative therapy of cancer will pay more attention to individualized treatment. Utilizing genetic testing, molecular biology, and advanced technologies, healthcare providers can better understand a patient’s disease characteristics and constitution. This knowledge will enable the development of tailored and targeted treatment protocols, ultimately enhancing treatment efficacy;
2. Syndrome-based treatment: In the future, integrative therapy will emphasize selecting treatment methods based on the specific syndromes presented by patients. Through a comprehensive analysis of patients’ symptoms and signs, combined with modern medical technologies, precise syndrome differentiation and treatment will become standard practice, ensuring treatment is highly relevant and effective;
3. Research and development of Chinese herb compounds: Traditional Chinese herbs are integral to TCM treatment and possess significant anticancer potential. In the future, research on the active components within these herbs may intensify. This could lead to the extraction and development of novel anticancer drugs and adjuvant therapeutic agents from Chinese herbal compounds;
4. Combination therapy: The integration of TCM and Western medicine in cancer treatment may further emphasize the use of combination therapy. This approach comprehensively utilizes various treatment modalities, including surgery, radiotherapy, chemotherapy, targeted therapy, immunotherapy, and Chinese herbal medicine. Such multidimensional strategies will create more comprehensive and multi-tiered treatment plans;
5. Multidisciplinary cooperation: Effective integrative cancer therapy demands collaborative efforts from professionals across diverse disciplines. Future medical teams could be strengthened to include TCM practitioners, oncology experts, radiation oncologists, pharmacists, nurses, and others. This collaborative approach will lead to the joint formulation of treatment plans and the provision of comprehensive medical care;

6. Clinical research and evidence accumulation: Integrative cancer therapy will continue to prioritize clinical research and the accumulation of substantial treatment experience and scientific evidence. Rigorous clinical trials and large-scale studies will be conducted to verify the efficacy and safety of integrative therapy, further promoting its widespread adoption in cancer treatment;
7. A shift towards personalized treatment, syndrome-based approaches, herbal drug research and development, combination therapy, multidisciplinary cooperation, and the continuous accumulation of clinical research and evidence distinctly characterizes the future development trajectory of integrative cancer therapy. These advancements will provide cancer patients with more effective treatment options, ultimately improving treatment success rates and overall quality of life.

Conclusion

The TCM holistic view stands as a cornerstone in integrative cancer therapy. It offers a rejuvenated therapeutic lens for a multi-dimensional understanding of cancer and establishes fundamental theoretical frameworks to foster enhanced treatment strategies and outcomes. However, it is vital to acknowledge the existing practical constraints in applying TCM's holistic views, which necessitates further exploratory and empirical studies.

Looking forward, we envisage a future in which the TCM holistic perspective commands even greater prominence in integrative cancer therapy, facilitating momentous contributions to human health. To this end, sustained endeavors should be directed toward implementing a range of integrative therapy approaches to standardize and quantify cancer treatment processes.

A critical objective remains: to conduct comprehensive clinical and experimental studies to meticulously delineate the role of integrative therapy in various phases of cancer from genesis to progression and recovery. Such endeavors will help sharpen our understanding and optimize the place of integrative therapy in cancer management by addressing pivotal questions concerning its efficacy and safety in preventing post-treatment cancer recurrence and metastasis.

Furthermore, concerted efforts should be undertaken to scrutinize the anticancer potential of integrative therapy, exploring its synergistic interactions with, and potential to mitigate adverse effects of, existing treatments like radiotherapy and chemotherapy. This should also encompass research into its applications in immune regulation and the delineation of its role in palliative care, symptom management, and rehabilitation for individuals with advanced cancer stages.

In synthesis, merging the holistic TCM view with modern medical practices signifies a convergence of ancestral knowledge with contemporary scientific advancements, fostering a promising frontier in oncological evolution.

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Conflict of interest

The authors declare no conflict of interests.

Author contributions

ZCZ and MZ conceived, designed the study, and wrote the paper. MZ reviewed and edited the manuscript. All authors approved the final version of the article.

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