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Focus

Food-medicine can promote cross-culture communication between East and West

Since the 18th National Congress of the Communist Party of China (CPC), the CPC Central Committee with Comrade Xi Jinping at its core has set an action plan for the Construction of a Healthy China Program, insisting on putting people's health in the strategic position of prioritizing development. As an important part of traditional Chinese medicine (TCM) culture in China, food-medicines, the stuff consumed both as food and medicine, are one of the material foundations to prevent and treat chronic diseases and manage health ahead of sick, and an important carrier for China to promote the Belt and Road Initiative (BRI) and participate in global health governance. To enrich the knowledge system of food-medicine through cross-cultural exchanges between the East and the West, and to promote the research progress of food-medicine are of critical importance in the context of the current global pandemic of COVID-19, since it is a profound understanding of the spirit of General Secretary Xi Jinping's important speech and a practice of giving priority to people's health in the strategic position of development, which helps to provide strong support for the comprehensive promotion of the Healthy China strategy and human well-being (Huang et al., 2022).

1. Recognition of “medicine and food homology” in traditional Chinese medicine

The medicine and food are of the same origin and have existed since ancient times. According to data records, the concept of “medicine and food homology” has a history of more than 3000 years. In the long primitive society, Chinese ancestors gradually divided some natural products into food, medicine and poison. In the slave society, with the development of productive forces, cooking techniques gradually took shape. Soup and liquid soup appeared, soup medicine and wine were invented, and then distilled wine was made. Vinegar, soy sauce, lobster sauce, etc. produced on the basis of fermentation enrich the medical content (Shan et al., 2015).

The understanding of “medicine and food homology” should be viewed from two aspects. First, TCM and food are produced in the same way, and second, their sources are the same. The so-called production method of TCM and food is the same, which means that the production of TCM, like food, originates from our ancestors' life practice for thousands of years, and is the achievement of experience in the long-term struggle with nature and disease. After innumerable attempts and experiments, ancestors had a second understanding of animals and plants, that is, the original concept

of TCM. Therefore, “tasting” is a traditional way to accumulate knowledge and experience of TCM (Liu et al., 2015).

In TCM medicine and food are of the same origin. If they are complementary and mutually used, there is no strict boundary between medicine and food. It is a remarkable feature of TCM to combine the two to maintain health (Liu, 2018).

2. Important value of food-medicine

In recent years, the CPC Central Committee and the State Council have attached great importance to the development of food-medicine, nutrition and health industry. In 2016, the State Council issued the *Outline of the Strategic Plan on the Development of Traditional Chinese Medicine (2016–2030)*, making the development of TCM a national strategy. In March 2022, the General Office of the State Council issued the *14th Five-Year Plan for the Development of Traditional Chinese Medicine*, which proposed to build a high-quality and efficient TCM service system, and enrich the supply of TCM health products, and expand the TCM health tourism market. As an inseparable part of the development of TCM, food-medicine industry has become a powerful starting point for the development of TCM.

With the major changes in the geographical and social environment, the basic health needs of human beings have changed from disease treatment to disease prevention, health care and other life-cycle health services. The current trend of high incidence of chronic diseases and the aging of the population have become the challenges of building a healthy China and a common challenge to maintain human health. The rehabilitation of chronic diseases and delaying aging usually require long-term conditioning (Huang et al., 2022).

Studies have shown that aging-related diseases can be prevented through diets. Flavonoids and other natural compounds in some food-medicines usually have the functions of enhancing immunity, relieving fatigue, improving sleep, preventing and treating various chronic diseases and anti-aging (Tian et al., 2021; Lu et al., 2022). Moreover, through guiding scientific diets, food-medicines will play an active role in delaying and reducing onsets, thus to save limited health resources and medical insurance resources, as well as to cope with the accelerated process of social aging (Downer et al., 2020).

According to incomplete statistics, there are more than 3,000 medicinal and edible plants in major countries in the world (Lim, 2012). More than 1,200 of them have been found in China

(Zhang, 2021), which are used as medicines, health products, food for special medical purposes, new food raw materials, medicinal diets, cosmetic products, etc. As an important part of TCM and Chinese food culture, food-medicines are unique health resources and huge economic resources. They are also indispensable “components” for the construction of a healthy China and the development of the big health industry (Huang et al., 2022).

3. Challenges in the exchange and trade of food-medicine between East and West

High-quality food-medicine products are insufficiently supplied in China, e.g., the legal list of food-medicines is narrow, and imported registered or filed products are seldom available. Meanwhile, food-medicines often lack scientific evidence, and the research input is low, and they are not competitive in international trade. Facing the country's medium and long-term development, China's current list of food-medicines, laws and regulations, and scientific research capacity have been unable to adapt to the needs of the new international and domestic economic dual-cycle situation, leading to increasing barriers in cross-cultural exchanges between China and the West on food-medicines (Huang et al., 2022).

There are obvious differences in the knowledge system and the habits of food-medicine between the East and the West (Yao et al., 2023). Due to the different historical and cultural backgrounds of the East and the West, as well as the huge biological and cultural differences in the geographical environment, human physique and resources in the environment, the habits of people on food-medicine also have obvious differences. They have established their own cognitive standards and knowledge systems, in which the same food-medicine species or closely related species are different in usage, purpose and consumption. Western food and drug experts have ever evaluated the 109 varieties (Containing nine varieties that are being piloted) of “both food and Chinese herbal medicines” in China. The results showed that only 53 varieties were also used as health food, spices or medicines in Western countries, in which *Astragalus membranaceus* (Fisch.) Bge., *Lonicera japonica* Thunb. etc. were excluded (Heinrich et al., 2022), and certain species that are shared were also different in usage and uses. For example, *Ginkgo biloba* L., the seed of which is commonly used in China, but the leaf and leaf extracts are commonly used in Europe; another example is *Crataegi Fructus* (*Shanzha* in Chinese), which is commonly used in China to promote digestion, while Europe is mainly used for cardiovascular system conditioning (Heinrich et al., 2022). In addition, the top 40 items in the 2020 best-selling list of plant-derived dietary supplements in the United States, only 14 of which are found commonly used in China (Smith et al., 2021).

Communication in food-medicine has been increasingly hindered by the different regulatory standards of Eastern and Western. Influenced by the concept of “medicine and food homology” that has been passed down for thousands of years, especially the concept of TCM health, the concept of food is often closely related to medicine according to the definition of food-medicine in China. In Western countries, the understanding of medicines and food, as well as food-medicine, is relatively unrelated. In other countries, food-medicines are mainly classified and managed as dietary supplements, functional foods, etc. Thus, the same items in different countries or regions are quite different in the regulations and management methods (Heinrich et al., 2022). For example, *Dioscoreae Rhizoma* (*Shanyao* in Chinese), *Lilii Bulbus* (*Baihe* in Chinese) and *Jujubae Fructus* (*Dazao* in Chinese) are commonly dual-used items in China, but not in most countries in the world; *Ginseng Radix et Rhizoma* (*Renshen* in Chinese) can be managed as a health food, food and drug substance, and Chinese medicinal material in China,

while it is managed as a dietary supplement in Europe and the United States; *Hypericum* leaves can be used as dietary supplements or registered herbal medicines in Europe and America, but only as medicinal materials in China. Ashwagandha, known as “Indian ginseng”, is very popular in the international market, but has not been approved for import in China (Wang et al., 2021). There are certain obstacles in the exchange between the East and the West. In addition, a large proportion of China's raw material extracts are used for export, but they can only occupy the low value-added market at the front of the industrial chain, and some laws and regulations are not perfect (Dietary and Nutritional Supplements Professional Committee of China Chamber of Commerce for Import and Export of Medicines and Health Products, 2021). In response to the above issues, we put forward a series of suggestions. First of all, to strengthen investment in research, to improve the level of scientific research and health service capacity, to strengthen domestic and international exchanges and trade, to strengthen the “economic double cycle” power, and to comprehensively promote the improvement of people's health.

4. Path to promote communication of food-medicine between East and West

Eastern and Western countries have a tradition of using herbs in their diets to maintain health. As Hippocrates, the ancient Greek medical scientist emphasized the important philosophical and medical basis of the diet in maintaining health and preventing disease (Witkamp & Van Norren, 2018), which provides a broad scope for the interconnection communication space of countries (Heinrich et al., 2022). In the cross-cultural exchange between China and the West, we can start from the following aspects to enrich the knowledge system of food-medicine.

We must deepen cooperation in food-medicine between the government and international organizations. Doubts in food-medicines between governments and international organizations need a gradual elimination by adopting more authoritative media channels, in order to obtain scientific recognition of food-medicine to the greatest extent possible. Food-medicine must be incorporated into the mainstream health systems of more countries by making full use of existing bilateral and multilateral trade cooperation agreements, on the basis of enhancing cultural self-confidence and inheriting China's excellent food-medicine culture and ideological connotations.

An international platform must be built for academic exchanges of medicine and food homology. We must improve food-medicine in the level of scientific research as a whole by strengthening capital investment, and carrying out investigation, analysis and evaluation of the literature, clinical and application of food-medicine, and accelerating the construction of the academic system and discipline system. We must make full use of the international cooperation institutions and joint laboratories established by China, such as the China-ASEAN Traditional Medicine International Cooperation Joint Laboratory, to enhance the dialogue and exchanges between China and BRI partner countries, international organizations and institutions, in order to promote cultural identity and scientific cooperation of food-medicine and shape more universally agreed discourse system.

Standardized management standards for food-medicine must be formulated. It is necessary to improve the system of laws and regulations related to food-medicines. In the process of revision of management measures and unification of nouns, attention should be paid to the connection with relevant foreign names, so as to make the terms related to food-medicines more standardized and facilitate international communication, trade and exchange, and import and export management. We must actively participate in the construction of international standardization of food-medi-

cine, establish a mutually recognized standard system for raw materials and products of food-medicine, and reduce communication barriers between different regions resulting from management differences.

The development of food-medicine industries must be promoted. It is necessary to encourage enterprises to develop various related products using food-medicine as raw materials, improve the ability of deep processing of products, establish more influential national brands of food-medicine products, and enhance the voice of Chinese enterprises in international trade and the market share of the corresponding products. We must promote and extend the application fields of food-medicine, improve the level of food and environmental safety, expand the biological resources of food-medicine, and discover more types of food-medicine.

High value-added food-medicine products must be effectively promoted to enter the global market. In the process of strengthening the interconnection and interoperability of various countries, we must expand the imported varieties of food-medicine leading to enhance the power of the “double economic cycle”. In addition, we must actively promote the BRI, and give full play to the important role of food-medicine products in the construction of the countries, regions and human health communities along the Belt and Road, and explore new opportunities in the cross-cultural exchange of food-medicine products.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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