

## Perspective

# Medicine in Future and Advantages of Integrated Chinese and Western Medicine

ZHANG Jiang-hua<sup>1</sup>, WU Mi-shan<sup>2</sup>, WANG Yue-fen<sup>3</sup>, JIA Ying-min<sup>4</sup>, and LI En<sup>1</sup>

**ABSTRACT** The history of medical development shows that oriental medicine, or traditional medicine, was born through medical practice during the times when science and technology were immature and underdeveloped, whereas with the development of science and technology, Western medicine, or modern medicine, was born through experimental analysis and research. With the development of medicine, the pros and cons of both medical systems become increasingly evident. How to integrate them and learn from each other will be the direction of future development of medicine. The formation and development of integrated medicine will, inevitably, usher in a new era for medicine.

**KEYWORDS** Chinese medicine, Western medicine, integrated Chinese and Western medicine, advantage, thinking of model

### Birth of a New Medical System: Integrated Oriental and Western Medicine

In today's world, oriental medicine and Western medicine (WM) are co-existed and frequently learn from each other. The frequent "communication" leads to "integration", giving rise to integrated Oriental and Western medicine, which is called integrated traditional Chinese and Western medicine (ITCWM) in China. Through theoretical study and clinical practice of ITCWM for half a century, the authors provide its definition as follows:<sup>(1)</sup> ITCWM, a holistic medicine dedicated to promote health as well as prevent and treat diseases, is a new medical system formed by studying the thinking modes, research objects and observation methods of Chinese medicine (CM) and WM as well as by comparing their advantages and bringing them into full palsy. The objects, contents, methods and objectives of ITCWM can be abbreviated to 5 words: study, comparison, absorption, creation and service, which are the orientation of development for future medicine.

### Thinking Model of ITCWM

American Prof. G. L. Engel, a specialist in internal medicine and psychiatrist, challenged the biomedical model in 1977.<sup>(2)</sup> He put forth the "biology-psychology-society" medical model, and changed the biological human into socialized human, which gives an impetus to the formation and development of holistic medicine (systems medicine) and emphasizes the role of social and psychological factors in pathopoiesis and prevention and treatment of diseases.

With the development of industry, the lifestyles become increasingly diversified, and there are great changes to the ecosystem, posing a threat to the living and health of the human beings. The environment is an important factor influencing the human genetic variation, and the human genome has transited from "mutation" period to "drastic change" period.

The human genes are mostly homologous (99%), and only a few are different (1%), and the small fraction of difference leads to the variation among individuals, manifesting as differences in constitution, personality, behavior and susceptibility to diseases, etc.<sup>(3)</sup> Thus, the research into personalized medicine has become an important subject in medicine.

In view of environmental variation and individual difference, we put forward a new medical model: "biology-nature-society-psychology-individual", which is a revision and supplement to Engel's "biology-

©The Chinese Journal of Integrated Traditional and Western Medicine Press and Springer-Verlag GmbH Germany, part of Springer Nature 2018

1. School of Integrated Traditional Chinese and Western Medicine, Hebei Medical University, Shijiazhuang (050017), China; 2. Department of Calorimetry, Hebei College of Traditional Chinese Medicine, Shijiazhuang (050200), China; 3. Department of Nephropathy, Beijing Hospital of Traditional Chinese Medicine Affiliated to Capital Medical University, Beijing (100010), China; 4. Department of Nephrology, Shunyi Branch, Beijing Hospital of Traditional Chinese Medicine, Beijing (101300), China  
 Correspondence to: Prof. LI En, Tel: 86-311-86266554, E-mail: [879956784@qq.com](mailto:879956784@qq.com)

DOI: <https://doi.org/10.1007/s11655-018-3029-8>

psychology-society" medical model. It embodies the concept of nature (marked by integration of man and nature), concept of holism (marked by integration of body and spirit) and concept of treatment (marked by syndrome differentiation).<sup>(4)</sup>

The evolution of biospecies is first under the influence of natural environment, and only the fittest can survive. Metabolic type determines the survival and evolution of biospecies. Study on health and disease should embody the concept of nature marked by integration of man and nature.<sup>(5)</sup>

The human beings are biological by nature. However, they have psychological activities in social activities, thus they are also social by nature. The concept of holism, marked by integration of body and spirit, plays a very important role in the study of health and disease.

The same disease can occur in different people, with different manifestations, and the same drug may have different effects on different people, so there are individual differences. Therefore, CM put forward the principles of "treating the same disease with different therapies" and "treating different diseases with the same therapy", which highlight the individualization of treatment and thereby improve the curative effect.

The medical model changes from "biomedicine" to "biology-psychology-society", and then to "biology-nature-society-psychology-individual", and it will be a great revolution for future medicine.

### Cut-in Points of ITCWM

"Somatic science is a major branch of modern scientific system..., the human body is a macrosystem and it is more complicated than the large scale system".<sup>(6)</sup> CM and WM study the human body from different perspectives. Methodically speaking, WM, characterized by experimental analysis, belongs to microcosmic medicine. By contrast, oriental medicine, marked by clinical practice, belongs to macroscopic medicine. The combination of both gives birth to holistic medicine, which has become a challenge to the development of future medicine.

Through theoretical research and clinical practice of CM and WM for half a century, we concluded that there are 5 cut-in points for a complete and in-depth study of the somatic science: the entirety

of body structure, the dynamic state of physiological equilibrium, the harmony between man and nature, the difference among individuals, and the potential of extraordinary functions of the human body.

### Entirety of the Human Structure

The human body is an organic entirety, with orderly arranged cells, tissues, organs and systems which are interdependent and mutually restrained. It is an open, complicated macrosystem, and each constituent relies on the entirety to perform its functions.

The understandings of CM about the human body can be explained by the theories of yin-yang and five elements. For instance, the interdependence and mutual restriction among the different Zang is a perfect demonstration for the integrity and correlation of the human body. The correlation between the five elements and five Zang is directed by imaginary thinking and analogy, forming the function-oriented CM theoretical system. It is very rare in other subjects that the theory of five elements, correlated with the five Zang, is used to guide the clinical treatment. It is a functional system that integrates "philosophic thinking, theoretical system and clinical treatment" into an entirety.

The theory of five elements indicates that there are no isolated organs, and any disease is a special manifestation of systemic diseases with visceral disorders manifesting in a particular organ or certain tissues. According to the inter-generation and inter-restriction of five elements, if an organ is in disorder, we should not only treat the affected organ, but also take other organs into consideration. As a result, a satisfactory effect is achieved by syndrome differentiation, maintenance of yin-yang equilibrium and holistic regulation.

According to the CM theory of visceral manifestations, the Shen (Kidney) governs the bone and produces marrow, marrow produces blood and is connected to the brain, the brain is the sea of marrow, meanwhile the Shen governs reproduction, with manifestations in the hair. Through research into the manifestations, the author put forward the theory of integration of "kidney-bone-marrow-blood-brain."<sup>(7,8)</sup> With the disease as cut-in point, different Shen-nourishing prescriptions are used according to certain principles (Appendix 1).

Through laboratory researches, we found that

the Chinese compound prescriptions composed of different Shen-nourishing herbs can treat infantile rickets, senile osteoporosis, renal hypertension and renal anemia, schizophrenia, senile dementia, infertility, hormonal control disorder, baldness and metabolism of pigment, with marked effects.<sup>(9)</sup> It provides a perfect example for the study of CM theory of visceral manifestation.

### Dynamic State of Physiologic Equilibrium of the Human Body

The human body is constantly experiencing metabolism and self-renewal, and thus it is always in a state of homeostasis. The holistic regulation of the human body is conducted through the signal transmission of nerves, endocrine and various mediators.

When the body is exposed to stimuli, either internal or external, beyond its self-adjustment and compensation, there will be disturbance in homeostasis which, in turn, may further aggravate the disease as a new cause and lead to a vicious cycle. That is why the senile and metabolic diseases are marked by progressive and degenerative development. Establishing the dynamic concept of the human body is of great significance to understanding life phenomena and clinical disease, which is manifested as the following aspects. Firstly, maintaining the balance of homeostasis of the human body is fundamental to health and disease prevention. It is advisable to protect the living environment and keep a good living style and diet. Secondly, the doctor-patient relationship should be understood correctly. The doctor works to help patients improve their ability of compensation and self-adjustment. In *Huangdi's Internal Classic* (Huang Di Nei Jing), it is recorded that the patient is fundamental while the doctor is auxiliary.<sup>(10)</sup> Thirdly, the results of clinical examinations should be correctly interpreted. The functions of the human tissues and organs are various, a negative result of a particular examination does not necessarily mean that there is no pathological change.

### Harmony between Human and Nature

The human beings, as an integral part of nature, are influenced by the environment. The life activities are inevitably in step with the changes of nature, manifesting as harmony between man and nature. Only we know the relation between environmental changes and the human body can we appropriately adjust ourselves to such changes. This is the foundation for

"cultivating health in step with the four seasons" in CM theory. Currently it is believed that cancer is related to genetic mutation. Environmental pollution, change of lifestyle or diet, and mental disorder have contributed to the occurrence of many diseases, especially cancer which has a rather high morbidity rate.

### Individual Variation among People

CM indicates that the same disease may have different symptoms in different people, and the same herb can have different effects on different people. CM therapeutics is patient- and syndrome-centered. The treatment varies from individual to individual, with principles of "treating the same disease with different therapies" and "treating different diseases with the same therapy". For example, coronary heart disease may be manifested in one person as deficiency of Xin (Heart) qi and the other as blood stasis due to stagnation of qi, which can be treated by nourishing qi and promoting blood circulation, respectively. Such an individualized therapy can achieve good therapeutic effects.

ITCWM is a very important approach to the study of how to bring the advantages of the two medical systems into full play. It integrates syndrome differentiation with disease differentiation, macroscopic syndrome differentiation (patient's symptoms) with microcosmic syndrome differentiation (laboratory examinations), and WM drugs with traditional Chinese herbs. Hence, the two medical systems are mutually complemented, promoting the growth and development of holistic medicine.

### Potentiality of Extraordinary Functions of the Human Body

"To study the functions of the human body, to protect these functions, and to further develop the potential functions".<sup>(11)</sup> Indeed, under particular circumstances, the human body can manifest significant potential emergency functions.

During the long history of evolution, the human beings lost some functions for survival which, however, can be activated by some particular methods, such as acupuncture, moxibustion, qigong and tai chi in CM, or psychosomatic approaches such as meditation, relaxation, creative visualization and massage. Such methods can promote the brain to release neurotransmitter and neurohormone which can relax the body and mind as well as promote health.

The theory of visceral manifestation is derived from anatomy, yet its functions go far beyond that. It is an epistemology in noetic science, extended from speculations by imagery thinking, for supplementation of the unknown facts. With the development of bioinformation, many potential functions of the human body have been revealed. Clinically it has been proven that the abovementioned therapies can improve the body's immunity, cultivate life and treat diseases, which confirms some speculations and improves noetic science. It is a scientific innovation to study the potential functions of the human body so as to motivate the human body's resistance ability against diseases and improve our understandings on it.

### Summary and Prospect

The combination of oriental and Western medicine, with perspectives both macroscopic and microscopic as well as methods both analytical and comprehensive, is conducive to further study of science of human body. The aforementioned "five aspects" can serve as the cut-in points. New concepts and new fruits will be accomplished by ITCWM and, as a result, medicine will transform from disease-oriented to health-oriented. A superior doctor often prevents diseases before they occur, and the combination of prevention and treatment can promote health and ensure longevity.

Where will medicine go? The birth of integrated oriental and Western medicine will provide a blueprint for the future development of medical science. Against the background of co-existence of oriental medicine and WM, this article put forth the definition of integrated oriental and Western medicine from the perspective of ITCWM formation process, and why we integrate the two medical systems. It also put forward the "biology-nature-society-psychology-individual" medical model which was developed on the basis of "biomedicine" model and "biology-psychology-society" medical model. Hence, the "biological human" and the "sociological human" are combined to be a complete, unified human, which will provide an impetus to the formation and development of holistic medicine in future.

ITCWM could lead to future medicine.<sup>(12)</sup> The medicine in future will be holistic medicine. However, with the formation and development of human genomics, the "personalized medicine" will also develop under the direction of holistic medicine, and achieve individualized treatment, thus improving treatment effects. The

formation and development of integrated medicine will, inevitably, usher in a new era for medicine.

### Acknowledgement

Many thanks to Prof. ZHENG Xiao-hui from Northwestern University for his review, Prof. LI Zhao-guo from Shanghai Normal University for his guidance on translation from Chinese to English, Dr. KONG De-juan, WANG Yue-fen and LI Tao for participation in data searching.

**Electronic Supplementary Material:** Supplementary material (Appendix 1) is available in the online version of this article at <http://dx.doi.org/10.1007/s11655-018-3029-8>.

### REFERENCES

1. Li E, Kong DJ. The concept of integrated traditional Chinese and western medicine and its functions in the development of modern medicine. *China News of Traditional Chinese Medicine*, 1998-01-07(3).
2. Engel GL. The need for a new medical mode: a challenge for biomedicine. *Science* 1977;196:129-136.
3. Paoloni-Giacobino A. Post genomic decade—the epigenome and exposome challenges. *Swiss Med Wkly* 2011;141:w13321.
4. Kong DJ, Yang XH, An SJ. Selection of LI En's academic papers: the approaches and methods of ITCWM. Beijing: China Medico-Pharmaceutical Science and Technology Publishing House; 2000:4.
5. Li B, Chu RL, Liu YW, Wang D, Liu K, Wang JX, et al. Study of correlation between ecological environment and healthy, long-lived elders. *J Difficult Comp Cases (Chin)* 2011;11:445-448.
6. Qian XS. Discussion on somatic science. Beijing: People's Military Medical Publishing House;1988:148-149.
7. Li E. The theoretical inheritance and modern research of TCM theory of visceral manifestation. Beijing: People's Medical Publishing House; 2007:119-244.
8. Cai H, Wang YJ. Discussion on possible models of the theoretical system of ITCWM on the basis of "Kidney-bone-marrow-blood-brain" integration theory. *Chin J Basic Med Tradit Chin Med (Chin)* 2001;4:14-17.
9. Li FS, Li E, Zhang XQ, Yang XH, Li XL. The experimental research of Shen (Kidney)-tonifying prescription on bone weight and bone biomechanics in ovariectomized rats. *Nei Mongol J Trad Chin Med (Chin)* 2017;16:129-130.
10. Xie H, ed. *Yellow Emperor's Canon of Medicine (Su Wen)*. Beijing: Publishing House of Ancient Chinese Medical Books; 2003:54-55.
11. Qian XS. Noetic science and somatic science. *Chin J Nature (Chin)* 1981;3:3-9.
12. Hang C, Zhang G, Chen KJ. Integration of Chinese medicine with western medicine could lead to future medicine: molecular module medicine. *Chin J Integr Med* 2016;22:243-250.

(Accepted December 2, 2018)  
Edited by TIAN Lin