

Traditional Chinese Medicine and Constitutional Medicine in China, Japan and Korea: A Comparative Study

Wenjun Yu,^a Mingyue Ma,^a Xuemei Chen, Jiayu Min, Lingru Li, Yanfei Zheng,
Yingshuai Li, Ji Wang and Qi Wang

*Center for Studies in Constitution Research of Traditional Chinese Medicine
School of Basic Medicine, Beijing University of Chinese Medicine
Beijing 100029, P.R. China*

Published 6 January 2017

Abstract: Traditional Chinese medicine (TCM), Japanese–Chinese medicine, and Korean Sasang constitutional medicine have common origins. However, the constitutional medicines of China, Japan, and Korea differ because of the influence of geographical culture, social environment, national practices, and other factors. This paper aimed to compare the constitutional medicines of China, Japan, and Korea in terms of theoretical origin, constitutional classification, constitution and pathogenesis, clinical applications and basic studies that were conducted. The constitutional theories of the three countries are all derived from the *Canon of Internal Medicine or Treatise on Febrile and Miscellaneous Diseases* of Ancient China. However, the three countries have different constitutional classifications and criteria. Medical sciences in the three countries focus on the clinical applications of constitutional theory. They all agree that different pathogenic laws that guide the treatment of diseases govern different constitutions; thus, patients with different constitutions are treated differently. The three countries also differ in terms of drug formulations and medication. Japanese medicine is prescribed only based on constitution. Korean medicine is based on treatment, in which drugs cannot be mixed. TCM synthesizes the treatment model of constitution differentiation, disease differentiation and syndrome differentiation with the treatment thought of treating disease according to three categories of etiologic factors, which reflect the constitution as the characteristic of individual precision treatment. In conclusion, constitutional medicines of China, Japan, and Korea have the same theoretical origin, but differ in constitutional classification, clinical application of constitutional theory on the treatment of diseases, drug formulations and medication.

Correspondence to: Dr. Ji Wang and Dr. Qi Wang, Center for Studies in Constitution Research of Traditional Chinese Medicine, School of Basic Medicine, Beijing University of Chinese Medicine, No. 11 East Road North 3rd Ring Road, ChaoYang District, Beijing 100029, P.R. China. Tel./Fax: (+86) 010-6428-6312, E-mail: doctorwang2009@126.com (J. Wang); wangqi710@126.com (Q. Wang)

^aThese authors contributed equally to this work.

Keywords: Constitutional Theory of Traditional Chinese Medicine; Japanese–Chinese Medicine; Korean Sasang Constitutional Medicine; Constitution; Comparative Study; Review.

Introduction

Humans differ individually. Constitutional medicine has been administered on the basis of individual differences. Different constitutions are closely related in terms of occurrence, development, diagnosis, treatment, and prognosis with certain inherent regularities. For instance, traditional Chinese medicine, Japanese–Chinese medicine, and Korean Sasang constitutional medicines share similar traits. However, constitutional medicines in China, Japan, and Korea differ because of the influence of geographical culture, social environment, national practices, and other factors.

The differences between China, Japan, and Korea include: the theoretical origins of constitutional classification, constitutional criteria, constitutional theories in clinical applications, the understanding of the relationship between constitution and disease, the understanding of the relationship between constitution and treatment and in basic studies.

Comparative Analysis of the Theoretical Origins of Constitutional Classification

Constitutional Theory of Traditional Chinese Medicine (TCM)

The constitutional theory of TCM is based on the *Canon of Internal Medicine*, which is also called the *Treatise on Febrile and Miscellaneous Diseases*, as the initial application of constitutional theory. Traditional Chinese doctors of the past dynasties acquired intensive experiences in order to expand on the application of TCM constitutional theory; however, a complete theoretical system was not established at that time. In 1970s, Wang and Sheng, 1982 conducted research on constitutional theory and published related papers. In 1978, (Wang, 1995) first defined the constitutional theory of TCM; Wang and Sheng (Wang, 1995) constructed basic concept, constitutional classification, constitution and pathogenesis, constitution and treatment, and other aspects of the constitutional theory system of TCM and published the results in the 1980s (Wang and Sheng, 1982). The publication of the constitutional theory of TCM marked the establishment of TCM constitution from theory to discipline. This constitutional theory has gained attention and affirmation from TCM academia. With such attention and affirmation, research papers and scientific studies have successively emerged that have focused on the TCM constitutional theory. In the early 21st century, TCM constitutional theory was compiled as TCM basic theory, which became a special branch of learning (Wang, 2005). Wang (Wang *et al.*, 2011) adopted literature research, epidemiological investigations, and analyses of clinical observations; Wang (Wang *et al.*, 2011) further constructed the nine TCM constitutional classifications, namely, normal constitution, Qi deficiency, Yang deficiency, Yin deficiency, phlegm-dampness constitution, dampness-heat constitution, blood stasis constitution, Qi stagnation constitution, and special intrinsic constitution. Studies on TCM constitutional classification

have shown that each classification includes body type, face, appearance, spirit, color, state, tongue, and pulse, as well as psychological character, eating habits, and urinary and fecal discharges of an individual. TCM examines, not only the constitutional characteristics under a normal state, but also the pathological characteristics of a constitution, including pathogenic law and therapeutic approaches.

Japanese–Chinese Medicine

The Japanese–Chinese medicine has two theoretical origins: (a) prescription–syndrome theory in the *Treatise on Febrile and Miscellaneous Diseases* and (b) Li-Zhu medicine in Jin and Yuan Dynasties of China. The constitutional classification of Ikkandou medicine in Japanese–Chinese medicine is the most common form. Ikkandou medicine is an independent constitutional medical system established by Mori Michitaka in the last years of Taisho. In Ikkandou medicine, the constitutions of modern people are classified into three types: blood stasis constitution, organic toxicity constitution, and detoxification constitution. Furthermore, treatment standards and five treatment formulations are established and administered (Yakazu, 1964). Blood stasis constitution is also named Tongdao powder syndrome because Tongdao powder is used for treatment. Organic toxicity constitution is also named Fangfeng Tongsheng powder syndrome and consists of a Fangji Huangqi subtype. Detoxification constitution is divided into three subtypes, namely, Chaihu Qingan powder syndrome, Jingjie Lianqiao syndrome, and Longdan Xiegan syndrome because patients under this syndrome are respectively treated with Chaihu liver powder, Jingjie Lianqiao water, and Longdan Xiegan water. Chaihu Qingan powder, Jingjie Lianqiao water, and Longdan Xiegan water are also used for detoxification during childhood, adolescence, and adulthood. In addition, Ikkandou medicine involves the combination of constitutional types. The three syndromes can occur either independently or jointly. Organic toxicity constitution co-exists with the blood stasis constitution. With the establishment of Ikkandou medicine, studies on Japanese constitutional medicine have been conducted. According to the correspondence between formulation and syndrome, Arichi (Ari and Shi, 1985) divides Japanese constitutional medicine into eight types, namely, Fangfeng Tongsheng powder syndrome, Dachaihu water syndrome, Hetao Chengqi water syndrome, Fangji Huangqi water syndrome, Chaihu Guizhi water syndrome, Jiawei Xiaoyao powder syndrome, Ba Wei Dihuang syndrome, and Danggui Shaoyao powder syndrome.

Korean Sasang Constitutional Medicine

Sasang constitutional medicine was developed by Lee Ji-Ma (1837–1900), a Korean medical specialist, on the basis of the Five Personality Modes of Ling-Shu Tong-Tian. Considering behavior, psychological character, and physiological function based on Yin and Yang proportions, we can further classify Korean Sasang constitutional medicine based on the Five Personality Modes into five modes: Taiyin mode with more Yin and no Yang, Shaoyin mode with more Yin and little Yang, Taiyang mode with more Yang and no

Yin, Shaoyang mode with more Yang and little Yin, and Yin–Yang balance mode. Lee Ji-ma believed that people either have a Yin or a Yang constitution. He believed that people with a Yin–Yang balance do not exist. Therefore, Yin–Yang balance mode can be disregarded because this mode does not exhibit any clinical importance; four modes, namely, Taiyan, Shaoyang, Taiyin, and Shaoyin, remain. Structural morphological characteristics, facial features, emotions, and characters, as well as eating habits of each constitution, are integrated with organ sizes and their relative physiological functions and pathological features within these modes. The classifications are consistent with the four Yin and Yang drug properties. Daily diet is combined with Yin and Yang constitution based on food properties. Thus, Sasang constitutional medicine with prevention, treatment, and health care was established (Li, 1964). In *Longevity and Life Preservation in Eastern Medicine*, Lee Ji-ma used the four modes to emphasize that people have different organ sizes. For example, people who have large lungs and small livers are Taiyang; people who have large livers and small lungs are Taiyin; people who have large spleens and small kidneys are Shaoyang; and people who have large kidneys and small spleens are Shaoyin. Large and small characterizations refer to two aspects: (a) size and shape and (b) Qi strength. Sasang constitution is based on innate factors. In Sasang medicine, the temper of all people types is classified on the basis of physiological and pathological characteristics of Yin and Yang in the human body. Diseases can be treated by the slow and rapid adjustment of the Yin and Yang.

Comparative Analysis of Constitutional Criteria

TCM Constitutional Theory

In TCM constitutional theory, nine scales of basic TCM constitution classification are developed to determine the constitutional types of scientific evaluations and to conduct performance evaluations with psychometric methods (Wang *et al.*, 2006; Zhu *et al.*, 2006). TCM constitution classification criteria have been established on the basis of expert evaluations, large-sample epidemiological surveys, and statistical analyses. These criteria have been considered standard by the Chinese Medical Association and have been widely used in health care, sub-health prevention, quality of life evaluation, and disease prevention. In addition, these criteria have been translated into English, Japanese, Korean and other languages. Also, versions for the elderly and for children have been developed based on the TCM constitution classification.

Japanese–Chinese Medicine

In Japanese Ikkandou medicine, Japanese constitution is divided into three types based on pathological characteristics and belly syndromes: blood stasis, organic toxicity, and detoxification. This constitution provides five corresponding recipes. Arichi compared and classified the incidence frequency of patients who have applied modern medicine to adapt to various agents, including abdominal B-ultrasound, blood viscosity, human leukocyte

antigens, and epigastric angular distribution. Arichi also classified Japanese patients as having Fangfeng Tongsheng powder syndrome, Dachaihu water syndrome, Hetao Chengqi water syndrome, Fangji Huangqi water syndrome, Chaihu Guizhi water syndrome, Jiawei Xiaoyao powder syndrome, Ba Wei Dihuang syndrome, and Danggui Shaoyao powder syndrome. He used their individual immunological differences in order to perform intuitive constitutional classifications with recipe–syndrome diagnosis (Ari and Shi, 1985). However, a unified standardized criterion has not been established yet.

Korean Sasang Constitutional Medicine

Ko *et al.* (Gao and Song, 1987) developed the *Sasang Constitution Dialectical Questionnaire* in 1987 as the constitutional criteria of Korean Sasang constitution medicine. Kim (Kim *et al.*, 1993) conducted validation studies on Sasang Constitution Questionnaire (QSCC). The Korea Medical College of Kuonghui University also developed and conducted standardization and validation studies on QSCC II (Kim *et al.*, 1995; Lee *et al.*, 1996) and also developed QSCC II⁺ and QSCC III (Kim *et al.*, 2000, 1999) to improve diagnostic accuracy. Sasang Constitution Medical Association developed and conducted standardization and validation studies on SSCQ for Doctors (SSCQ-D) and SSCQ for Patients (SSCQ-P) in cooperation with Korea Medical Institute from 2003 to 2005 (Seol *et al.*, 2006). Lee *et al.* (2007) developed SSCQ for school-aged children. Kim *et al.* (Kim *et al.*, 2006) developed two-stage SSCQ (TS-QSCD); Shin *et al.* (Shin and Song, 2009) further conducted standardization studies on SSCQ (TS-QSCD). These SSCQs have been widely used.

Comparison of Constitutional Theories in Clinical Applications

Studies on Chinese, Japanese, and Korean constitution medicines have mainly focused on clinical applications. Different constitutions are governed by different pathogenic laws. These laws are implemented to provide guidance for disease treatment. Different constitutions use different formulations and drugs. These laws are also implemented to promote health care based on differences in constitution. In terms of the relationship between constitution and treatment, Japanese medicine uses prescriptions based on constitution: that is, treatments are administered on the basis of constitution. In Korean medicine, medication is administered on the basis of modes that cannot be mixed. In TCM, the guiding role of constitutional theory is emphasized, but is not limited to prescription and constitution correspondence; TCM also exhibits broader and more flexible clinical applications because medication is administered on the basis of patient's conditions and constitution.

Understanding the Relationship between Constitution and Disease

TCM Constitutional Theory

In TCM, deficiency on healthy Qi causes disease, and pathogenic Qi is an important condition of disease. In terms of characteristic performance, constitution indicates

improvement and the decline of healthy Qi in certain degrees, which are the major causes of differences in disease incidence and progress. Constitutional differences determine whether diseases occur and whether a person becomes ill at the onset of pathogenic Qi invasion. Thus, constitutional differences play important roles in disease occurrence, development, and metastasis; they also affect syndrome formation, nature, and transition. A similar pathogenic factor or a similar disease can exhibit different clinical manifestations or syndromes because of patients' constitutional differences. By contrast, different diseases can exhibit similar clinical manifestations or syndromes because of similarities in patients' constitutions.

Japanese–Chinese Medicine

Japanese Ikkandou medicine believes that different constitutions are governed by different pathogenic laws and that constitution can determine incidence, type, and disease syndrome. People with blood stasis constitution easily suffer from strokes, gastric ulcers, and gynecological diseases; people with organic toxicity constitutions easily suffer from atherosclerosis and stroke; and people with detoxification constitutions easily suffer from tuberculosis and gonorrhea, among other diseases. Arichi believed that constitutional factors are based on genetic factors, which influence the fates of individuals. Genetic factors remain unchanged in one's entire lifetime. A disease incidence also depends on genetic factors, but the time of disease onset is affected by environmental factors. However, environmental factors are transient and usually disappear after treatment. For instance, patients with the Taohe Chengqi water syndrome constitution manifest large epigastric angles with belly syndrome of hypogastric pain. The size of epigastric angle is influenced by genetic factors, and belly syndrome of hypogastric pain is influenced by environmental factors.

Korean Sasang Constitutional Medicine

In Korean Sasang constitutional medicine, easily occurring diseases are classified into four modes based on physiological activities of organs. In Korean Sasang constitutional medicine, people with similar modes also exhibit similar pathogenic mechanisms of different diseases; people with different modes show completely different pathogenic mechanisms of similar diseases. People classified under the four modes have different constitutions and intrinsic physiological organ characteristics; pathophysiological principles on four emotions (happiness, anger, sorrow, and joy) either satisfy or dissatisfy these criteria. Thus, the four kinds of people are formed on the basis of disease limitations, disease susceptibility, and common diseases. Corresponding methods are used to treat diseases based on the physiological features of the organs of the four kinds of people. Shaoyin people easily suffer from exterior febrile and interior cold diseases because heat affects their kidneys and cold affects their stomachs. Shaoyang people easily suffer from exterior cold and interior febrile diseases because cold affects their spleens and heat affects their stomachs. Taiyin people

easily suffer from exterior and interior cold diseases because cold affects their stomachs and heat affects their livers. Taiyang people easily suffer from lumbar and small intestine diseases caused by both external and internal factors. Disease limitation and disease susceptibility of Taiyang people cause them to suffer from lumbar and small intestine diseases resulting from external (over fatigue) and internal (dysphagia and regurgitation) factors. Their common symptoms include aversion to cold, fever, physical pain syndrome, intestinal pain, bowel sound, diarrhea, dysentery, and constipation.

Understanding the Relationship between Constitution and Treatment

TCM Constitutional Theory

The clinical characteristics of TCM constitutional theory are (a) diagnosis and treatment mode differentiation of individual disease syndromes, (b) diagnosis and treatment based on three factors, and (c) treatment based on pathogenesis.

TCM is characterized by syndrome differentiation and treatment; these parameters are important tools for clinical treatment. Furthermore, syndrome differentiation and treatment are commonly considered in clinical applications (including diseases described in TCM and in Western medicine). However, differentiation of individual diseases considers humans as subjects; differentiation aims to diagnose and observe the effects of diseases on body shape, instinct, psychology, region, and residence of subjects. Human responses to these factors are essential to analyze the effect of Qi-blood and organ Yin–Yang of certain modes of people for their susceptibility to a type of disease, and to analyze constitutional type, progress, and drug tolerance for a particular disease. A patient's constitution should be considered at each disease treatment stage. The combination of individual, disease, and syndrome differentiation is necessary to comprehensively understand the nature of diseases. Indeed, this combination reflects the diversity and the complexity of TCM in clinical applications (Jin and Wang, 2006).

Diagnosis and treatment are based on three factors, including combination time, conditions, and the people involved in disease diagnosis and treatment. Differences in seasonal climate, geographical environment, and habits and customs affect human's physical activities, resulting in different constitutions. People with different constitutions may suffer from a similar disease, but these patients can be treated in different ways and with different drugs. For instance, the amounts of cinnamon twig and aconite used in Northwest area are higher than those used in Southeast area. This difference is also determined by particular geographical conditions in China.

Treatment based on pathogenesis plays an important role in disease occurrence, development, and metastasis. Treatment based on pathogenesis aims to treat a disease by searching Yin–Yang, active-passive, and imbalance tendencies. The occurrence of diseases and syndromes is related to constitution. Constitution is regarded as an origin and syndrome is considered a sign. Constitution should be fully considered when treatments are administered (Wang, 2006).

Japanese–Chinese Medicine

The clinical characteristics of Japanese–Chinese medicine are (a) prescription–constitution correspondence and (b) belly syndrome emphasis.

In Ikkandou medicine, prescription–constitution correspondence is applied to improve treatment and constitution by therapy. Mori Michitaka believes that disease occurs because of accumulated toxins (stasis, food, and water poisoning) in the body. Based on this observation, three types of constitutions and five corresponding treatment drugs are established. The constitutional treatment presented by Arichi distinguishes some constitutions from some prescription syndromes, and the syndrome represented by this type of prescription syndrome (constitution) is indicated in the form of the syndrome. People with deficiency syndrome, abdominal muscle tension, chest–rib difficulty, and neurosis suffer from Chaihu Guizhi water syndrome; as such, Chaihu Guizhi water is used for treatment. People with deficiency syndrome easily perspire and become fat; these people suffer from Fangji Huangqi water syndrome, and Fangji Huangqi water is used for treatment. This medication is a type of true prescription–syndrome correspondence constitutional treatment.

Japanese–Chinese medicine emphasizes belly syndromes. Mori Michitaka created clinical treatments based on five formulations, which depended on belly syndromes. Chaihu Qingan powder is used for detoxification during childhood, in which belly syndromes include abnormally sensitive belly wall and strong belly muscle tension. Jingjie Lianqiao water is used during adolescence, in which belly syndromes involve evident belly muscle tension in the lower part of the heart. The Longdan Xiegan water is used during adulthood, in which belly syndromes include resistance in the lower sections of both ribs.

Korean Sasang Constitutional Medicine

The clinical characteristics of Korea Sasang constitutional medicine are described on the basis of the following: (a) a treatment method is established, in which people in different modes, but with similar diseases are treated differently, and people in similar modes, but with different diseases are treated with a similar method; and (b) a medicinal concept is proposed, in which drugs are limited only to specific people.

The core of the establishment treatment methods is the treatments that aim to differentiate the modes of people. Detailed treatment focuses on the treatment principle of viscera-state doctrine, particularly diarrhea for the greater and supplements for the smaller. Different diseases with similar modes have similar pathogenesis. In clinical treatments, four-mode formulation of Jingfang Dihuang water is used to treat the following syndromes in Shaoyang people: madness, heat strangury, flaccidity syndrome, premenstrual eye pain, headache, palpitations, heartache, belly ache, and dysmenorrhea; beneficial effects have been found. A disease with different modes has different pathogenesis, and four-mode prescription is used for edema of both Taiyin and Shaoyin people; likewise, beneficial effects have been observed.

Korean Sasang constitutional medicine proposes a medicinal property concept, in which drugs are limited to people. Treatments should be administered according to modes. Korean Sasang constitutional medicine also presents a unique medication law, particularly drug use based on mode, medication based on mode, treatment based on mode differentiation, increased or decreased drug intake based on syndrome, and absence of drug combination to avoid different drug responses. In Korea Sasang constitutional medicine, a four-mode classification is established, resulting in unique four-mode prescription based on the main components of each drug mode.

Comparison of Basic Studies

TCM Constitutional Theory

Chinese scholars conducted a comprehensive study on TCM constitutional theory. The national epidemiological survey using more than 20,000 cases, analyzed the distribution of constitutional types in the Chinese population. Results showed that age, gender, job occupation, parental age at birth, region, sports, sleeping, and eating habits are related to constitutional types. Blood lipid, blood sugar, and related biological indexes of obese individuals with and without phlegm-dampness constitution reveal specific manifestations in disease physiology, pathology, and development; hence, phlegm-dampness constitution of affected individuals is shown (Wang and Ye, 1995; Su and Wang, 1995; Luo and Huang, 1993; Zheng, 2013). The team of Prof. Wang Qi adopted gene chip technology to conduct a full gene expression profiling of peripheral blood on Qi deficiency, Yang deficiency, Yin deficiency, phlegm-dampness, blood stasis, and special intrinsic constitutions by using normal constitution as a control group. Each constitution is characterized by a special gene expression profile (Wang *et al.*, 2006; Wang, 2005; Yao, 2007; Wang, 2009; Tian, 2009; Yu, 2013). This team also applied nuclear magnetic resonance to compare metabolite spectral features of Yang deficiency, Yin deficiency, and normal constitution in order to investigate the biological characteristics of Yang deficiency and Yin deficiency constitution by metabolomics (Li, 2009). Additionally, systemic expression differences were confirmed in the whole genome level of phlegm-dampness constitution by DNA methylation, miRNA and lncRNA technology (Yao, 2016).

Japanese–Chinese Constitution Medicine

Based on the results of constitutional Japanese Ikkandou medicine, Japanese constitutional scholars used modern research methods to classify and study constitutions. Miyao (1971) believed that constitutional studies can be conducted by body shape inspection and body measurement. Yatsuomo constitution presented by Shoji (1993) classifies people into eight categories by using uncommon criteria: children's face, old face, male face, female face, female tourist face, Yin's face, concubine face, and public-like face. Enjoxji and Kida (Kanokogi, 1983) used constitutional tendency survey to determine constitution and disease possibility. The Constitution Tendency Survey for Children presented by Enjoxji

(Jin, 1991) consists of two different tables for suckling period and school age. Children in the suckling period and of school age have different constitutional types and intensities. The constitutional survey designed by Kida (Kanokogi, 1983) can be used from suckling period to adult period. However, this survey consists of numerous items; thus, detailed records are required. Constitutional studies of clinical medicine have progressed considerably with the development of various hormone determination methods and the rapid development of immunology and molecular biology in the late 20th century.

Korean Sasang Constitutional Medicine

With modern science and technology, Korean medicine has exhibited great progress on the four-mode constitution. Some scholars used the anthropometric method of Physical Anthropology in diagnosis based on the modes of Sasang medicine. The characteristic head and body measurements of Taiyin, Shaoyin, and Shaoyang people are similar to those described in Sasang medicine. Systematic studies on the morphological characteristics of the four modes of people and on their correlations with other characteristic factors have also been conducted (Jin, 1991). Some scholars studied the catecholamine and cholinesterase levels in the blood of Taiyin people, and noted their differences in Taiyin male students (Kuang and Zhang, 1994). In Korea, a nine-year study will also be conducted regarding constitutional diagnostic set, constitutional health diagnostic index, diagnostic chip, and drug development of Sasang constitutional medicine with biological studies in order to gain further insights into scientific constitutional diagnoses. The study is subdivided into the following: (a) comprehensive analysis of constitution information and drug development, (b) investigation of the Sasang constitution and related genetic features by the analysis of Korean race, (c) investigation of genetic markers of the Sasang constitution from the single nucleotide polymorphism of a genome to develop constitutional diagnostic technologies, and (d) establishment of constitutional information in biological systems (Xu, 2006).

Conclusion

The constitutional theories of TCM, Japanese–Chinese medicine, and Korea Sasang constitutional medicine exhibit unique local characteristics and complete systems from basic theoretical application to clinical practice, which continue to evolve and develop as time progresses. These three medicines have something in common, which include the relationship between constitution and disease occurrence, disease susceptibility and the prognosis of disease. Also they have their own characteristics such as the standard of constitution classification and clinical application.

Cooperation and communication of international medical societies have become increasingly frequent in the 21st century. The continuous improvement and development of the three types of constitutional theories and their applications toward a combination of traditional and modern research methods, along with inherent characteristics, should be considered. In the future, Chinese, Japanese, and Korean medicine should

enhance academic exchange and knowledge that is gained from one another for common progress.

Acknowledgments

This work was supported by the National Natural Science Foundation of China (No. 81473554), the Beijing Natural Science Foundation (No. 7162118).

References

- Ari, C. and G.R. Shi. The value of Ikkandou medicine in modern medicine. The establishment of preventive medicine for refractory diseases. *Kampo Clinic* 32: 538, 600, 681, 745, 815, 1985.
- Gao, B.X. and Y.B. Song. Study on four-mode constitution methodology. *Korean Medical Association Blog, Korean* 1: 146–160, 1987.
- Jin, Q. and Q. Wang. *The Model of Differentiation of Physique, Disease and Syndrome—The Clinical Application of the Theory of Chinese Medicine Constitution*. Chinese Medicine Press, Beijing, 2006.
- Jin, D.Z. Study on relationship between four-mode medicine and constitutional characteristics of Yanbian Korean adult vivo measurements I: Head and face. *J. Yanbian Med. Coll.* 1: 16–24, 1991.
- Jin, D.Z. Study on Relationship between four-mode medicine and constitutional characteristics of Yanbian Korean adult vivo measurements II: Body. *J. Yanbian Med. Coll.* 2: 79–88, 1991.
- Kanokogi, T. Historic constitutional study. *Pediatr. Clin.* 5: 20–28, 1983.
- Kim, S.H., B.H. Koh and I.B. Song. A validation study of questionnaire of Sasang constitution classification (QSCC). *J. Const. Med.* 1: 61–80, 1993.
- Kim, S.H., I.B. Song and B.H. Koh. A study on the standardization of QSCC II (questionnaire for the Sasang constitution classification II). *J. Sasang Const. Med.* 1: 187–246, 1995.
- Kim, Y.W. and Z.Y. Kim. The Study in objectification of the diagnosis of Sasang constitution (according to analysis of the past questionnaires). *J. Const. Med. Korean* 2: 151–183, 1999.
- Kim, S.B., S.K. Lee and E.J. Lee *et al.* A study on the validity to make a diagnosis of Soeumin by QSCCII. *J. Sasang Const. Med.* 2: 94–103, 2000.
- Kim, Y.W., D.Y. Shin and Z.H. Kim. A Development of the two step questionnaire for the Sasang constitution diagnosis (TS-QSCD). *J. Sasang Const. Med.* 1: 75–90, 2006.
- Kuang, T.Y. and W.X. Zhang. Research of Sasang constitution of Korean medicine. *Chin. J. Integr. Tradit. West. Med.* 9: 557–558, 1994.
- Lee, J.C., I.B. Song and B.H. Koh. The Validation Study of the questionnaire for Sasang constitution classification. *J. Sasang Const. Med.* 1: 247–294, 1996.
- Lee, E.J., Y.J. Jeong and C.K. Kwak. Development of Sasangin diagnosis questionnaire for school aged children. *J. Sasang Const. Med.* 2: 53–72, 2007.
- Li, J.M. *Medical Book of Eastern Medicine*. Medical Science Press, Pyongyang, 1964.
- Li, Y.S. *Comparative Research of Yang-deficiency and Yin-deficiency Constitutions Theories and Metabonomics*. Beijing University of Chinese Medicine, 2009.
- Luo, B. and S. Huang. The association between HLA typing and phlegmy-wet constitution of adiposity. *J. Beijing Univ. Tradit. Chin. Med.* 5: 8–10, 1993.
- Miyao, S. *Clinical Constitutional Medicine*. Jinyuan Press, 1971.
- Seol, Y.K., S.H. Jeon and S.D. Kwon *et al.* Importance Analysis of Questionnaire for Doctors and Questionnaire for Patients. *J. Const. Med.* 3: 94–123, 2006.

- Shin, D.Y. and J.M. Song. A study on the standardization of TS-QSCD. *J Sasang Const. Med.* 1: 99–126, 2009.
- Shoji, T. Discussion on 8-face constitution. *Jpn. Med.* 8: 46–52, 1993.
- Su, Q.M. and Q. Wang. The Detection and physical characteristics of blood fat, blood sugar, insulin, activity of RBC Na-K -Atpase in phlegmy-wet constitution of adiposity. *Chin. J. Basic Med. Tradit. Chin. Med.* 2: 39–41, 1995.
- Tian, S.L. *Theories of Stagnant Blood Constitution and Research of Gene Expression Profiles of Peripheral Blood.* Beijing University of Chinese Medicine, 2009.
- Wang, Q. *Constitution Theory of Chinese Medicine.* Chinese Medical Science and Technology Press, Beijing, 1995.
- Wang, R.L. *Preliminary Research on Gene Expression Profile of Peripheral Blood of the Constitution of Qi Ceficiency.* Beijing University of Chinese Medicine, 2005.
- Wang, R.L. *Theories of Allergic Constitution and Research of Gene Expression Profiles of Peripheral Blood.* Beijing University of Chinese Medicine, 2009.
- Wang, Q. *Constitution Theory of Chinese Medicine.* People's Medical Press, Beijing, 2005.
- Wang, Q. On scientific meaning and application of treating by differentiation of individual. *J. Zhejiang Univ. Trdit. Chin. Med.* 2: 130–133, 2006.
- Wang, Q. and Z.X. Sheng. *Constitution Theory of Chinese Medicine.* Jiangsu Science and Technology Press, Nanjing, 1982.
- Wang, Q. and J.N. Ye. The research of hemorheology and nail fold microcirculation of Phlegmy-wet constitution of adiposity. *Chin. J. Basic Med. Tradit. Chin. Med.* 1: 52–54, 1995.
- Wang, Q., H.Y. Gong and J.H. Gao. Study on characteristics of peripheral blood gene expression profile in the obesity with phlegm-dampness donstitution. *J. Tradit. Chin. Med.* 11: 851–853, 858, 2006.
- Wang, Q., Y.B. Zhu, H.S. Xue and S. Li. Initial preparation of TCM constitution questionnaire. *Chin. J. Clin. Rehabil.* 3: 12–14, 2006.
- Wang, J., Y.S. Li, C. Ni, H.M. Zhang, L.R. Li and Q. Wang. Cognition research and constitutional classification in Chinese medicine. *Am. J. Chin. Med.* 4: 651–660, 2011.
- Xu, J. Korea starts to study four-mode medicine. *Tradit. Chin. Med. Int. Ref.* 11: 33, 2006.
- Yakazu, KK. Ikkandou medicine. *J. Jpn. Med.* 1964.
- Yao, S.L. *Theories of Yang-qi Deficiency Constitution and Research of Gene Expression Profiles of Peripheral Blood.* Beijing University of Chinese Medicine, 2007.
- Yao, H.Q. *DNA Methylation, miRNA and lncRNA Expression Profile Studies of Phlegm-dampness Constitution.* Beijing University of Chinese Medicine, 2016.
- Yu, R.X. *Microscopic Identification Research on Health Conditions Based on Gene Expression of Yin-deficiency and Yang-deficiency.* Beijing University of Chinese Medicine, 2013.
- Zheng, L.Y. *The Research of Mechanisms Related to Inflammatory of Phlegmy-wet Constitution.* Beijing University of Chinese Medicine, 2013.
- Zhu, Y.B., Q. Wang, X.H. Sheng and X.S. Zheli. Preliminary evaluation of TCM constitution questionnaire. *Chin. J. Clin. Rehabil.* 3: 15–17, 2006.