



Original Article

Attitudes of Korean and Chinese traditional medical doctors on education of East Asian traditional medicine

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ABSTRACT

Background: The traditional medicine (TRM) of Korea and China share the same cultural tradition for thousands of years, and has experienced modernization process with respect to their distinctive social, cultural, and political influences. The purpose of this study was to analyze the attitude of Korean and Chinese TRM doctors on the current situation and future perspectives of the TRM education.

Methods: We analyzed the recognition on the current educational system, and needed curriculums from Korean ($n=188$) and Chinese ($n=118$) TRM doctors. The validity of the structured questionnaire was examined with exploratory factor analysis with varimax rotation and reliability with Cronbach α . The differences between Korean and Chinese TRM doctors were examined with t test.

Results: Chinese TRM doctors consider their educational system more positively as for the standardization and professional ethics than the Korean. The Korean and Chinese wanted more emphasis on the education of medical humanities, clinical skills, medical classics, and alternative medicine, although it was more prominent with the Chinese.

Conclusion: This study revealed the attitude of Korean and Chinese TRM doctors on their educational system, and discussed the implication of similarities and differences between them. It would provide foundations for the improvement of the TRM educational curriculums.

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1. Introduction

The traditional medicine (TRM) of Korea and China share the same cultural heritage, and the two countries are taking central role within the World Health Organization Western Pacific

Regional Office in terms of East Asian TRM. East Asian TRM employs acupuncture and herbal medicine as its major forms of treatment, and currently enjoys an important status within the global sphere of TRM along with their own domestic medical market.

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The Korean and Chinese TRM have experienced influences from each other during their respective development processes in the late 19th century. They share general similarities as for the cooperative relations between the East Asian TRM and Western biomedicine;¹ however, they have exhibited significant differences from the social and political influences during the 19th century modernization. Although their educational systems have large variations on school years, curriculum, and accreditation system in both the national and private levels, and have been satisfactory for their nations,^{2–4} there still lies a need for standardization in respect to the professionalization of the TRM in the world.

The Korean and Chinese TRM, which constitute the most developed forms of East Asian TRM, currently boast independent educational systems and programs ranging from 4 years to 8 years. The Korean and Chinese TRM have continuously pursued the modernization and standardization of educational programs since the onset of the modern era. Although the Korean and Chinese TRM have chased similar objectives, major discrepancies have emerged in terms of the major factors involved in the process of the modernization and standardization of educational programs.⁵

As for the Korean TRM, the modernized system of education and clinical practices has been implemented based on the market logic, and all the schools of the Korean TRM were established with a 6-year curriculum in private universities until the School of Korean Medicine opened at Pusan National University in 2008. During this process, the Korean TRM was exposed to a constant conflict with Western biomedicine, and established its own standardized educational programs comparable to those of Western medicine.^{6,7}

Meanwhile, the modernization and standardization of educational programs in Chinese TRM were led by the Chinese government with the intention of popularization and globalization of their cultural heritage.⁸ As a result, the Chinese TRM did not experience conflicts with other medical professionals of China. The Chinese medicine has schooling systems varying from 4 years to 7 years depending on specific situations and the popularization strategy of the Chinese government.⁹

As such, the educational programs associated with the Korean and Chinese TRM have been influenced by not only internal efforts to achieve development, but also by surrounding factors of cultural, social, and political circumstances. Recently, both Korean and Chinese TRM are actively seeking further improvement through standardization and professional specialization of their educational programs.^{10–13}

The medical education is currently focusing on the standardization as to provide essential competencies of medical professions,¹⁴ and has been a basis for their professional and social status.¹⁵ As for these, the opinions of the TRM professionals, who have trained for their clinical skills and knowledge with university educational systems, would be needed, since they have examined its practicality in everyday clinical situation and would steer the future improvement of East Asian TRM.^{16,17}

We examined the attitude of Korean and Chinese TRM doctors on their own medical education at the university level and the educational curriculums that should be emphasized for clinical competitiveness.^{16,17} For this reason, we reviewed previous studies and improvised questionnaires for measuring

those, including standardization of educational programs,^{18–22} professional ethics and medical humanities,^{21,23,24} philosophical theories of TRM, and its scientific approaches.^{25–27}

This study would contribute to the understanding of the current status of the TRM education at the university level, and would provide foundations for standardizing and expanding the established TRM educational system in the world.

2. Methods

2.1. Questionnaire for the recognition of the current situation of TRM education

As for the current situation of TRM education in the university, we used five items acquired from previous studies. The five items are related to the standardization of the educational program, uniqueness of the university, philosophy of TRM, sense of duty as a doctor, and professional ethics.

The detailed questionnaire items are as follows: the educational contents taught by universities of TRM are standardized, each university of TRM has its own uniqueness, students are instilled with the sense of mission that comes from being a TRM doctor, students have been taught the professional ethics that come with being medical specialists, and sufficient energy is being spent on the teaching of the philosophy of TRM. Each item is scored using a 5-point Likert scale from “not at all” (1) to “very much” (5).

2.2. Questionnaire for the recognition of needed curriculums in TRM education

We selected nine questionnaire items after the preliminary study using 11 items. Each item is scored using a 5-point Likert scale from “not needed at all” (1) to “very much needed” (5). The factors underneath the questionnaire were extracted using a factor analysis, and used for the comparison between the Korean and Chinese TRM doctor groups.

2.3. Data collection

The questionnaires were distributed using the conference meeting and personal contact. The e-mail distribution was also used for the Chinese TRM doctors. The survey was conducted from October 10, 2010 to November 15, 2010 for the Korean TRM doctors, and from December 2010 to January 2011 for the Chinese TRM doctors. The attitude on education of TRM, along with sex, age, and clinical experience, was collected.

2.4. Statistical analysis

After coding the required data, a descriptive statistics was used to describe the demographic features of the participants. Chi-square was used to examine the sex, age, and clinical-experience groups between the Korean and Chinese TRM doctor groups. An exploratory factor analysis with varimax rotation was used to find the latent factors inside the questionnaire, and the Cronbach α was used for the test of internal consistency of the factors and items.²⁸

The number of factors was determined with consideration of the eigenvalue,²⁹ and a principal component factor analysis was used for the factor extraction. The varimax rotation was employed for the reason that it maintains the mutual independence between the factors.

The t test with Levene’s test for the homogeneity of variance was used to examine the differences between the Korean and Chinese TRM doctor groups on the recognition of the current situation and the needed curriculums as for the TRM education at the university.

The statistical results were presented as frequency (%) or mean and standard deviation (SD), and the levels of statistical significance were set at $p < 0.05$, $p < 0.01$, and $p < 0.001$. SPSS 12.0 for Windows (SPSS Inc., Chicago, IL, USA) was used for all statistical analyses.

3. Results

3.1. Demographic characteristics of the participants

The main characteristics of the participants in the study are summarized in Table 1. There were significant differences between the Korean and Chinese TRM doctors in sex ($\chi^2 = 24.336$, $p < 0.001$) and age ($\chi^2 = 17.355$, $p < 0.001$) groups; however, not significant in clinical experience ($\chi^2 = 3.896$, $p = 0.273$).

A total of 312 responses were collected; however, six responses are excluded for the incomplete response, and 306 were used for the analysis. One hundred eighty-eight Korean and 118 Chinese TRM doctors participated in the study. One hundred forty-four (76.6%) of the Korean and 58 (49.2%) of the Chinese TRM doctors were males.

As for their ages, 74 (39.3%) of the Korean TRM doctors were in their 40s, and 54 (45.8%) Chinese TRM doctors were in their 30s. As for the years of clinical experiences, there were no significant differences between the Korean and Chinese TRM

doctors. Sixty-four (34.1%) Korean TRM doctors had 6–10 years, while 34 (28.9%) of the Chinese TRM doctors had 11–20 years.

3.2. Validity and reliability of the measurement tool

The preliminary questionnaire included item related to natural sciences, such as molecular biology and convergence and interdisciplinary research; however, it was deleted after testing its validity. The factor analysis was repetitively implemented for this, and these two items showed low Cronbach α and factor loading. The factor loading for the included nine questionnaire items was bigger than 0.6.

An exploratory factor analysis with varimax rotation was performed to find three factors that explain 72.0% of the total variance. The detailed results of the factor analysis are summarized in Table 2.

Factor 1 has 0.822 as for the Cronbach α , and was labeled as medical humanities. Factor 2 has 0.746 as for the Cronbach α , and was labeled as professionalism and scientific mind, and factor 3 has 0.528 as for the Cronbach α , and labeled as needed program. The Cronbach α for the nine questions was estimated at 0.809.

3.3. Recognition of the current situation of TRM education

Five items as for the recognition of the current situation in TRM education were suggested, and there were significant differences between the Korean and Chinese TRM doctors. The results are summarized in Table 3.

The Chinese TRM doctors showed a significantly higher score than the Koreans in the standardization of educational program (3.42 ± 0.99 and 3.09 ± 0.91), uniqueness of the university (3.73 ± 0.97 and 3.05 ± 0.96), sense of duty as a doctor (3.99 ± 0.88 and 2.88 ± 0.87), and professional ethics (4.08 ± 0.77 and 2.93 ± 0.91 , respectively). However, there were no significant differences in philosophy of TRM. These results show that the Chinese TRM doctors consider their university education for TRM more positively as for the standardization and professional ethics than the Koreans.

3.4. Recognition of the needed curriculums in TRM education

All three factors, including medical humanities, professionalism and scientific mind, and needed programs, showed significant differences between the Korean and Chinese TRM doctors. The results are summarized in Table 4.

The Chinese TRM doctors showed a significantly higher score than the Koreans in medical humanities (4.62 ± 0.49 and 4.31 ± 0.59), professionalism and scientific mind (4.07 ± 0.82 and 3.89 ± 0.67), and needed programs (4.14 ± 0.61 and 3.86 ± 0.73). These results show that the Chinese TRM doctors are aware of the need for curriculums for medical humanities, social medicine, clinical specialist program, scientific-research methodology, complementary and alternative medicine, and medical classics than the Koreans.

As shown in Table 4, the Korean and Chinese TRM doctors consider the medical humanities, such as character development and professional ethics of the medical

Table 1 – Demographic features of the Korean and Chinese traditional medical doctors that participated in this study

	TRM doctors		
	Korean	Chinese	
Sex *	188 (100)	118 (100)	$\chi^2 = 24.336$, $p < 0.001$
Male	144 (76.6)	58 (49.2)	
Female	44 (23.4)	60 (50.8)	
Age *			$\chi^2 = 17.355$, $p < 0.001$
20s	52 (27.7)	20 (16.9)	
30s	47 (25.0)	54 (45.8)	
40s	74 (39.3)	31 (26.3)	
>50s	15 (8.0)	13 (11.0)	
Clinical experience (y)			$\chi^2 = 3.896$, $p = 0.273$
<5	48 (25.5)	32 (27.1)	
6–10	64 (34.1)	32 (27.1)	
11–20	57 (30.3)	34 (28.9)	
>20	19 (10.1)	20 (16.9)	

* $p < 0.001$.
TRM, traditional medicine.

Table 2 – Exploratory factor analysis with varimax rotation and the internal consistency of each factor regarding the needed curriculums for traditional medicine at the university

Items	Factor 1	Factor 2	Factor 3	Communality
Medical humanities				
1. Character development of the students	0.891	0.157	0.025	0.82
2. Professional ethics of TRM doctors	0.87	0.182	0.063	0.793
3. Understanding on the traditional philosophy	0.807	0.015	0.247	0.713
4. Social awareness for TRM doctors	0.763	0.265	0.124	0.668
Professionalism and scientific mind				
5. Knowledge for medical specialist	0.065	0.85	0.07	0.731
6. Techniques for medical specialist	0.123	0.811	0.02	0.673
7. Scientific approach on TRM	0.225	0.692	0.208	0.572
Needed programs				
8. Complementary and alternative medicine	0.04	0.374	0.823	0.818
9. Medical classics	0.126	-0.137	0.627	0.69
Eigenvalue	3.133	2.144	1.2	7.477
Percent of variance (%)	34.81	23.821	13.336	71.967
Cronbach α	0.882	0.746	0.528	0.809

TRM, traditional medicine.

Table 3 – Differences between the Korean and Chinese traditional medical doctors in recognition of the current situation of education on traditional medicine at the university

Questionnaire items	TRM doctors		t	df	p
	Korean	Chinese			
Standardization of educational program *	3.09 ± 0.91	3.42 ± 0.99	2.84	227.55	0.005
Uniqueness of university †	3.05 ± 0.96	3.73 ± 0.97	6.02	304	< 0.001
Philosophy of traditional medicine	2.80 ± 0.93	2.68 ± 0.99	-0.924	202.45	0.357
Sense of duty as a doctor †	2.88 ± 0.87	3.99 ± 0.88	10.88	304	< 0.001
Professional ethics †	2.93 ± 0.91	4.08 ± 0.77	11.41	304	< 0.001

* $p < 0.05$.
† $p < 0.001$.
df, degree of freedom; TRM, traditional medicine.

Table 4 – Differences between the Korean and Chinese traditional medical doctors in recognition of the needed curriculums for traditional medicine at the university

Factor	TRM doctors		t	df	p
	Korean	Chinese			
Medical humanities †	4.31 ± 0.59	4.62 ± 0.49	4.99	281.99	< 0.001
Professionalism and scientific mind †	3.89 ± 0.67	4.07 ± 0.82	1.99	213.88	0.046
Needed programs *	3.86 ± 0.73	4.14 ± 0.61	3.66	304	< 0.001

* $p < 0.001$.
† $p < 0.05$.
df, degree of freedom; TRM, traditional medicine.

students, understanding on the traditional philosophy, and social awareness, has top priority.

4. Discussion

The educational system for the Korean and Chinese TRM has continuously improved during and after the 19th century modernization,^{30,31} and it has also served as a pivotal element for promoting the social status of Korean and Chinese TRM doctors.³²

As is well known, the standardization of profession-related knowledge placed during the specialization process of professionals has been an important factor for their social

recognition. In other words, professionals can obtain and maintain a higher social status for their standardized and specialized professional knowledge,³³ and have made comprehensive efforts to achieve those.³⁴

The standardization of medical education has been a major concern of many medical professionals.¹⁴ The Association of American Medical Colleges placed the learner-oriented competency-based education at the learner level and the outcome-based curriculums at the educational organization level as their major goal. European nations have implemented the international standardization of medical education under the auspices of the World Federation for Medical Education and the Association for Medical Education in Europe. From an international perspective, the Institute for International

Medical Education has sought the international standardization as to achieve global minimum essential requirements for medical education.¹⁴ The seven domains of global minimum essential requirements are (1) professional values, attitudes, behavior, and ethics; (2) scientific foundation of medicine; (3) clinical skills; (4) communication skills; (5) population health and health systems; (6) management of information; and (7) critical thinking and research.^{15,35,36}

Medical education has chased the globalization of medicine by implementing the standardization of essential education, and paid attention to the essential competencies that a doctor should possess to support the concept of a “doctor as a global profession.” And, educational contents and curriculums of medicine have been inevitably influenced by these changes.

Amid the global trend of standardization of medical education, it would be interesting to see the current situation in Korean and Chinese TRM, which are major companions in East Asian traditional forms of medicine. We recruited TRM doctors in Korea and China with similar profiles of clinical experiences (Table 1).

As for the recognition of current education (Table 3), Chinese TRM doctors are more satisfied with the standardization and professional ethics when compared to Korean TRM doctors, except the knowledge in philosophy. The reason for this might come from the fact that the modernization and standardization of Chinese TRM education were led by their government,⁸ and had not experienced conflicts with other medical professions as shown in Korea.

And, as for the needed curriculums, we improvised a questionnaire with nine items in three factors explaining 72% of the total variances (Table 2). The three factors of medical humanities, professionalism and scientific mind, and needed programs were shown to have acceptable internal consistency in this study.

Both the Korean and Chinese TRM doctors recognized the need of medical humanities^{37,38} that contributes to the character development of students as medical professionals (Table 4), when compared to the complementary and alternative medicine²⁶ and medical classics.²³ And, when we compared the differences between the Korean and Chinese TRM doctors (Table 4), the Korean doctors were found to be more satisfied with their educational programs from the result of many studies^{18,19,26,27,39–43} on the educational curriculum development in Korea, which is required for their survival.

It is quite interesting that the Chinese TRM doctors are satisfied with the current educational system, yet it requires more curriculums for their university education. This discrepancy might come from the fact that the Chinese TRM has been structured and supported by the government, which does not have flexibility for incorporating the needs from clinical practitioners and up-to-date trends in medical education.⁴⁴

The globalization and standardization of TRM are on the rise in response to the changes in the global market.^{22,45} The educational system for TRM has achieved a substantial standardization by itself;^{46,47} however, there is also a need for mutual understanding and collaboration between the Korean and Chinese TRM professionals along with the Eastern TRM and Western biomedicine to achieve an established institutional framework of educational system.^{48–51}

This study would provide a foundation for understanding Korean and Chinese TRM educational system, and establishing more efficient and standardized educational curriculums as to institute globalized medical professions.⁵²

Conflicts of interest

The authors have no conflict of interest to disclose.

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