SURVEY

Perception of pattern identification in traditional medicine: a survey of Korean medical practitioners

Mimi Ko, Juah Lee, Kyungjin Yun, Sooseong You, Myeongsoo Lee

Mimi Ko, Juah Lee, Kyungjin Yun, Sooseong You, Myeongsoo Lee, Medical Research Division, Korea Institute of Oriental Medicine, Daejeon 305-811, South Korea
Supported by the Korea Institute of Oriental Medicine (K12130)
Correspondence to: Dr. Myeongsoo Lee, Medical Research Division, Korea Institute of Oriental Medicine, Daejeon 305-811, South Korea. drmslee@gmail.com; mslee@kiom.re.kr
Telephone: +82-42-868-9266
Accepted: December 10, 2013

Abstract

OBJECTIVE: To survey assesses the perception of pattern identification (PI) diagnosis of Traditional Medicine (TM) by Korean medical doctors (KMDs).

METHODS: A total of 14 485 KMDs affiliated with the Association of Korean Medicine were sent surveys *via* email, and 1646 (11.1%) responded to the questionnaire on their perception of PI diagnosis.

RESULTS: Of the 1646 respondents, more than ninety percent (1562, 94.9%) reported that they treated patients using PI. The most critical problem with PI diagnosis was the lack of objective diagnostic indicators (561, 34.1%). Ninety percent had issues diagnosing patients because of different diagnoses between KMDs (1491, 90.5%). The majority of respondents thought herbal medicine was most related to PI (1528, 92.8%). Half of the respondents answered that PI of Ba Gang was the most commonly used PI system. Participants reported that it was most important to study standardisation of PI diagnosis and to develop standardised PI diagnoses using the classification system of the Korean Standard Classification of Diseases. The foremost PI type that physicians thought should be included in standardisation and objectification of PI of TKM was the PI of Ba Gang.

CONCLUSION: Our data suggest that we should focus on the standardisation of PI diagnosis and PI of Ba Gang in future research on PI diagnosis in TM. However, we cannot completely discount the possibility that a biased selection of subjects and a low response rate limit the generalisability of the findings.

Key words: Pattern identification; Medicine, traditional Korean; Data collection

INTRODUCTION

Pattern identification (PI) is a diagnostic system in traditional Asian medicine characterised by its own theoretical basis and practical experience. It is a unique diagnostic system that uses a comprehensive analysis of symptoms and signs to assess the cause, nature, and location of the illness; the patient's physical condition; and the patient's treatment.[1-3] PI uses the four methods of examination: inspection, auscultation and olfaction, inquiry, and palpation. Following the Traditional Chinese Medicine (TCM) / Traditional Korean Medicine (TKM) methods of diagnosis, PI guides the choice of treatment which includes acupuncture, herbal medicine or tuina, etc.[4] Although PI is widely accepted for individual diagnosis and treatment worldwide, there remains insufficient clinical and

biological evidence regarding the therapeutic effect of PI.

In the full process of diagnostics in TM, the first step is ascertaining the symptoms, the second step is symptom analysis and the final step is differential diagnosis on the pattern of symptoms (syndromes). Only if the diagnosis is accurate can treatment be rational, appropriate and effective. TM uses several approaches to differentiate diagnoses.[5,6] The most useful techniques for symptom analysis and differential diagnosis are the following: diagnosis by the Eight Fundamentals, analysis by *Qi* and blood, analysis according to the visceral organs, analysis by the Six Meridians, and analysis by the Four Levels. Each of these approaches has its own characteristics and scope of application.[5,6]

The primary concern regarding PI diagnosis is that it mainly depends on subjective judgments about the patient's overall symptoms based on individual clinical assessment or the knowledge of the clinicians. Furthermore, diagnosis based on patient symptoms is not quantifiable, so it is difficult to conduct an objective comparative analysis.

Currently, there is not much information about the perception about PI in Korean medical doctors (KMDs). The purpose of this survey was to assess the perception of PI diagnosis of TM by KMDs who have a licence for treating patients using TKM.

METHODS

Study design
This study is a survey of KMDs concerning their perception of PI diagnosis in TKM. A total of 14 807 KMDs who were members of the Association of Korean Medicine (AKOM) were surveyed via email on April 1st and 9th of 2013.

Participants
There are a total of 17 000 KMDs in Korea. Among them, 14 485 were members of the AKOM. We surveyed licenced KMDs of the AKM irrespective of sex, age, and residence.

Variables
The survey questions used included the following key subjects: (a) Present status and problems with PI diagnosis for patient care; (b) general recognition about research for PI diagnosis; (c) priority of PI type for the research of standardisation and objectification of PI in TKM; (d) general characteristics (age, sex, region, education, etc.)

Data sources/measurement
We surveyed licenced KMDs of the AKOM *via* e-mail.

Bias
Most of the participants possessed sufficient knowledge

concerning PI. Therefore, selection bias may not have existed in this study.

Study size
We contacted an AKOM administrator to obtain permission to use their system for the survey. The total number of AKOM members is 14 485.

Statistical analysis
Frequency analysis was conducted for each of the survey questions. SAS (Ver.9.1.3, SAS Institute Inc., Cary, NC, USA) was used for the statistical analysis of frequency of each item in questionarie.

Ethical considerations
The ethical review committee of the Korea Institute of Oriental Medicine waived the need for formal ethical approval and for informed consent to be obtained from participants due to the nature of the study. The survey was conducted on a voluntary basis, and the participants agreed to the use of the collected data for scientific purposes.

RESULTS

General characteristics
Of the initial 14 485 individuals contacted, only 1646 responded (11.1%). There were 1360 (82.6%) males and 286 (17.4%) females. The highest number of physician's was in the 40-49 year age range (646, 39.2%), followed by 631 (38.3%) in the 30-39 year age range, 227 (13.8%) in the 50-59 year age range, 119 (7.2%) in the 20-29 year age range, and 23 (1.4%) over 60 years old.

There were 554 (33.7%) physicians with 10-20 years of experience, 469 (28.5%) with 5-10 years of experience, 365 (22.2%) with 0-5 years of experience, and 285 (15.7%) physicians with >20 years of experience. More than half (890, 54.1%) had a bachelor's degree, 410 (24.9%) had a doctorate degree of some kind, 248 (17.3%) had a master's degree, and 62 (3.8%) had a doctor of medicine degree. In terms of board specialties, 288 (17.5%) obtained board certification, and the remaining 1244 (74.4%) did not. Furthermore, 1244 (74.4%) worked in TKM clinics, 165 (10%) worked in TKM hospitals, and the others were in private practice at health centres, convalescent hospitals, TKM universities, etc.

Present use of PI diagnosis for patient care and problems incurred
Among all respondents, when asked if they used PI to diagnose their patients, 648 (39.4%) answered that they used it very much, 914 (55.5%) answered "yes" to this question, and 84 (5.1%) answered "no" to this question. The most important problem reported regarding PI diagnosis for patient care was "the lack of

objective diagnostic indicators for PI" (561, 34.1%), followed by "communication problems with patients due to ambiguity of the term of TKM" (385, 23.4%), "inconsistency of PI diagnosis between physicians" (333, 20.2%), "the lack of SOP training for PI" (193, 11.7%), and "the lack of diagnostic equipment for PI" (139, 11.7%) . Ninety percent of those surveyed responded that they had issues diagnosing patients because of different diagnoses between KMDs (1491, 90.5%). The majority of respondents thought herbal medicine (a pack of prepared herb medicine) treatment was most related to PI diagnosis (1528, 92.8%). Regarding the most commonly used PI system, half of the respondents answered that it was "PI of Ba Gang" followed by "Pattern Identification of *Qi*, Blood and Body Fluids" and then "Pattern Identification of the *Zang-Fu* Organs".

General recognition about research for PI diagnosis
Responding to a question about the most important aspect of PI diagnosis to study, 745 (45.3%) answered "standardisation of PI diagnosis", 581 (35.3%) answered "a study for the objective indicators of PI", and 280 (17.0%) answered "Development of diagnostic technology/program in TKM". Responding to a question on the most important aspect of commercialisation of diagnostic technology/program in TKM for PI diagnosis, 972 (59.1%) answered "Improvement of reliability and accuracy in TKM medical device or diagnostic program", 327 (19.9%) answered "Registration of TKM medical device or diagnostic program in health insurance", 276 (16.8%) answered "Activation of clinical trials about TKM medical device or diagnostic program", and 46 (2.8%) answered "improving the promotion of TKM medical device or diagnostic program to the public". Responding to a question on the most important aspect to study on standardisation of PI diagnosis, 645 (39.2%) answered "development of standardised PI diagnosis using the classification system of the Korean Standard Classification of Diseases", 530 (32.2%) answered "clinical research evaluating the effectiveness of PI for treatment", 255 (15.5%) answered "regular education on standardisation of PI diagnosis", and 196 (11.9%) answered "expert consensus on standard PI."
Responding to a question on the most important aspect to study regarding the objective indicators of PI, 1111 (67.5%) answered "development of diagnostic criteria and quantification of PI indicators", 257 (15.6%) answered "development of effective clinical indicators by prescription", 150 (9.1%) answered "characterisation of scientific mechanism of PI indicators", and 112 (6.8%) answered "development of biological indicator (marker) related PI". Regarding the most important PI type that should be included in standardisation and objectification of PI of TKM, half of the respondents answered "PI of Ba Gang (Eight Principle)" (860, 52.2%) followed by "Pattern

Identification of the *Zang-Fu* Organs" (359, 21.8%), and then "Pattern Identification of *Qi*, Blood and Body Fluids" (310, 18.8%).

DISCUSSION

TM uses four methods of diagnosis: observation, hearing and smelling, interrogation, and palpation.[2,7,8] The definition of "pattern" in TKM refers to the overview of each step in the course of a disease and consists of a combination of correlations between several symptoms and signs.[8] However, the meaning of a pattern is often ambiguous in clinical practice, and it is difficult to objectively arrange or accumulate the clinical data regarding these patterns or perform a systematic analysis of the results. TKM emphasises that PI is expedient for treatment because it specifies the nature of a disease and provides quantitative data on the human body.[2,8] The process of PI integrates many symptoms, including tongue diagnosis and pulse dia. The assessments are difficult because they rely on the patient's subjective descriptions and the doctor's subjective judgments. Therefore, it is necessary to improve these processes and achieve the standardization of PI. Korean Institute of Oriental Medicine have been attempted to standard PI for stroke patients and made a reliable diagnostic tool (Korean Standard Pattern Identification for Stroke, K-SPI-Stroke) for it.[9,10]
This survey was conducted to report on the perception of the development of PI diagnosis by KMDs in South Korea. More than ninety percent of those surveyed said that they treated patients using PI and had issues diagnosing patients because of different diagnoses between KMDs. The most frequently reported problem with PI diagnosis was the lack of objective diagnostic indicators and communication problems with patients due to ambiguity of the terms of TKM. Both of lack of objective diagnostic indicators and ambiguity of the terms of TKM are related to standardisation and objectification of PI diagnosis.
The majority of respondents thought herbal medicine (a herbal decoction) treatment was most related to PI. Herbal extracts and herbal granules were followed and it is thought that herbal medicine was related PI regardless of the type formulation.
Regarding the most commonly used PI system, half of the respondents answered that it was PI of Ba Gang. Similarly, they answered that the most important PI type that should be included in standardisation and objectification of PI of TKM is PI of Ba Gang. The PI of Ba Gang comprises four pairs of opposites: *Yin* and *Yang*, exterior and interior, Cold and Heat, and deficiency and strength. Although the symptoms of an illness may be numerous and bewildering, they can all be categorised along these four dimensions by means of the Eight Fundamentals.[5]

PI of *Qi*, Blood and Body Fluids was as the second frequent used PI system. On the other hand, PIof the *Zang-Fu* Organs was answered as the second important research item in standardisation and objectification of PI of TKM.

The PI of *Qi*, Blood and Body Fluids comprises deficiency and diminished function *Qi*, blood and body fluids. *Qi*, blood and fluids are the basic substances that constitute the body and the basis of its vital functions. In other words, the physiological actions of *Qi*, blood and fluids are inseparably linked with the physiological functions of the *Zang-Fu* organs. For that reason, diagnosis by *Qi* and blood is often carried out together with diagnosis by the visceral organs.[5]

The most important aspect of PI diagnosis to investigate in future research is the standardisation of PI diagnosis. In addition, it is necessary to develop standardised PI diagnoses according to the classification system of the Korean Standard Classification of Diseases. Secondly, it is important to study the objective indicators of PI and to develop diagnostic criteria and quantify PI indicators. Thirdly, the development of diagnostic technology/program and improvement of the reliability and accuracy in TKM medical device or diagnostic programs is necessary.

The main limitations of this study were the low response rate and that e-mail was the sole method of contact. Attempting to contact the physicians only two times during a short period may not be the most effective method. This study is expected to lead to a high-quality follow-up TKM clinical study and to aid in the establishment of a foundation for a domestic TKM group to lead international research efforts towards the standardisation of TM.

In conclusion, the results of this survey demonstrated that we should focus on the standardisation of PI diagnosis and PI of Ba Gang for future research on PI diagnosis in TKM. However, we cannot completely discount the possibility that the biased selection of the subjects and the low response rate limit the generalizability of the findings.

REFERENCES

1 **Kim HJ**, Bae HS, Park SU, Moon SK, Park JM, Jung WS. Clinical approach to the standardization of oriental medical diagnostic pattern identification in stroke patients. Evid Based Complement Alternat Med 2011; 2011: 768492.

2 **Park TY**, Lee JA, Cha MH, et al. The fundamental study for the standardization and objectification of pattern identification in traditional korean medicine for stroke (SO-PI-Stroke): An overview of phase I. Eur J Integr Med 2012; 4(2): e125-e131.

3 World Health Organization. Who international standard terminologies on traditional medicine in the western pacific region. Geneva: WHO, 2007: 13, 80.

4 **Jiang M**, Yang J, Zhang C, et al. Clinical studies with traditional chinese medicine in the past decade and future research and development. Planta Med 2010; 76(17): 2048-2064.

5 **Liu L**, Liu ZW. Essentials of Chinese medicine: volume 1. New York: Springer, 2011: 279-319.

6 **Wu HZ**, Fang ZQ, Cheng PJ. Introduction to diagnosis in Traditional Chinese Medicine Hackensack. NJ: World Century Pub Co., 2013: 48-255.

7 **Ko MM**, Park TY, Lee JA, Kang BK, Lee J, Lee MS. A study of tongue and pulse diagnosis in traditional korean medicine for stroke patients based on quantification theory type ii. Evid Based Complement Alternat Med 2013; 2013: 508918.

8 **Lee JA**, Park TY, Lee J, et al. Developing indicators of pattern identification in patients with stroke using traditional korean medicine. BMC Res Notes 2012; 5: 136.

9 **Kang BK**, Moon TW, Lee JA, Park TY, Ko MM, Lee MS. The fundamental study for the standardisation and objectification of pattern identification in traditional korean medicine for stroke (sopi-stroke): Development and interobserver agreement of the korean standard pattern identification for stroke (K-SPI-Stroke) tool. Eur J Integr Med 2012; 4: E133-E139.

10 **Kang BK**, Park TY, Lee JA, et al. Reliability and validity of the korean standard pattern identification for stroke (K-SPI-Stroke) questionnaire. BMC Complement Altern Med 2012; 12: 55.