



Acupuncture Expands the Boundary of Mind-Body Medicine

Jae-Hyo Kim^{1,2}

¹Department of Meridian & Acupoint, College of Korean Medicine, ²Institute of Mind Humanities, Wonkwang University

침술이 심신의학의 지평을 확장하다

김재효^{1,2}

¹원광대학교 한의과대학 경혈학교실, ²마음인문학연구소

Purpose : The acupuncture existed more than 2000 years and has flourished not only in Asia but also in medical field of modern world. In addition, empirical evidences from biomedicine have been expended in many ways in order to objectify the field of acupuncture. Thus, the effect and mechanism of the acupuncture has been revealed in human and other animals. In this article, I attempt to explain what doctors and patients subjectively experience through acupuncture treatment and its clinical significance based on mind-body medicine. **Methods :** The experience and clinical significance of the acupuncture was examined in the view of mind-body medicine, also reviewed research trends related to meditation understanding the clinical effectiveness of acupuncture. **Results and Conclusions :** Traditional Korean medical doctor perceive generally “*jogi*” and “*chishin*” meaning the regulation of the balance of the various functions in the human body and patient’s consciousness and psychology state as mightily important concept concerning the therapeutic effect of acupuncture. Despite scientific approach to objective understanding of the acupuncture was performed in the meantime, practitioners put emphasis on experience based on sensate and interaction between doctor-patient. As it reflects the recent understanding of the psychological effects associated with the clinical efficacy of acupuncture, it has been presented one by one through neuroscience and cognitive science. Therefore it is important that interpreting the clinical effectiveness of acupuncture into Mind-body medicine can form a new awareness and attitudes toward traditional medicine.

Key words : acupuncture, meditation, deqi, mind-body medicine

Introduction

Acupuncture originated from northeast Asia and flourished across the world by means of clinical medicine. Biomedical science tried to verify the role of acupuncture in different ways to measure its objectivity. These efforts gradually revealed the various effects and mechanisms of acupuncture in animals

and human bodies. However, the clinical effects and meaning of acupuncture in regard to psychological diseases is still far from understood. Studies on Korean medicine including acupuncture may be based on science to produce objectified results, however in some cases, the outcomes are used instead to criticize Korean medicine.

Regulating *qi(jogi)* and managing the mind(*chishin*) is an

Received August 16, 2016, Revised September 9, 2016, Accepted September 12, 2016

Corresponding author: **Jae-Hyo Kim**

Department of Meridian & Acupoint, College of Korean Medicine, Wonkwang University, 460, Iksan-daero, Iksan 54538, Korea

Tel: +82-63-850-6446, Fax: +82-63-857-6458, E-mail: medicdog@wku.ac.kr

This article is based on a study first reported in the [Kim JH. Acupuncture and Meditation Expand the Boundary of Mind-Body Medicine. In Renqing Dongzhu et al. Meditation & Healing. Collection of Books in Mind Humanities(Vol. 13). Koyang : Knowledge Community. 2016.]

© This is an open access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

important concept that expresses the effect of acupuncture in Korean medicine: balancing the various physical functions and consciousness of a patient. Cheng Dan-An(1899~1957), a renowned acupuncturist in early twentieth century China, argued that the most important factor in acupuncture treatment is resonance between doctor and patient¹⁾.

Huang Long-Xiang(1959~) explains that hypodermic needles and acupuncture needles are the same in shape but differ as follows : When the acupuncturist uses acupuncture needles, his hand become his eyes and ears and the needle must move like his own hands and feet. In biomedicine, however, hypodermic needles are not used or described in this way. If the correct insertion of the needles is necessary, they use modern imaging equipment. Consequently, such skills in acupuncture are not expected during uses of the needle in western medical fields²⁾. It means the same physical instrument can differ according to the conception and experience of the doctor. I also think the sensate experiences of the doctor and use of instruments on certain diseases are not much different between traditional medicine and biomedicine.

The notable difference between the two is that biomedicine objectifies the patient and the disease, while in traditional medicine the patient and the doctor are not separated. Instead, traditional medicine applies subjective experiences in clinical medicine. Therefore, when explaining and understanding the role of traditional medicine, objective effect and quantitative results as well as subjective experiences and narratives between the patient and doctor should be considered consequential.

So far scientific studies provide various suggestions about the effect of acupuncture. In clinics, however, sensate experiences and the spiritual aspects of a doctor and patient relationship are significant. As a result, studies on the psychological role of acupuncture are growing in neuroscience and cognitive science.

As the matter of perspective shifts from producer to consumer, mind-body medicine or psychosomatic medicine is attracting attention in the medical science field. Complementary and alternative medicine, which existed in the form of traditional medicine, is developing into integrative

medicine interacting with biomedicine, whereupon mind-body correlation is coming into the spotlight. Proving the clinical effects of acupuncture should not only focus on physical entities, but also needs to reach out to the mind-body aspect of medicine.

In this article, I attempt to explain what doctors and patients subjectively experience through acupuncture treatment and its clinical significance based on mind-body medicine. In addition, I compare the results of scientific experiments on acupuncture and meditation to figure out the mind-body correlation. This article also introduces M&L psychotherapy³⁾, a new therapy that combines Korean medicine and psychology, to show evidence that acupuncture may support awakening dull senses and help find selfhood in patients.

Korean Medicine Pursuing Mind-Body Medicine

In the twenty-first century, various perspectives on life and consciousness that biomedicine has neglected are emerging, and biomedicine is conflicting with new values on life and consciousness, which already existed in traditional medicine all over the world.

While biomedicine attempts to abandon traditional medicine stigmatizing it as unscientific or outdated, why is it that contemporary society is paying close attention to traditional medicine? Collins and Pinch describe that medicine as a perfectible science and medicine as a source of succor conflict under the modern medical service system. Although biomedicine has proven medicine as a perfectible science, it has yet to prove medicine as a source of succor, which is customary in traditional societies. Therefore, even though medicine may serve as a source of succor to an individual, traditional medicine cannot generally be accepted in a scientifically oriented system because of the paucity of scientific proof. Medicine as a perfectible science pursues the public good, and is continuously proven by evidence to successfully maintain its position as the major medicine developed by biomedicine's evidence based medicine(EBM)

with randomized control trials(RCT) and large scale clinical trials. On the contrary, medicine as a source of succor tends to pursue the customized profit of individuals, and its remedial value is hard to be proven objectively. Collins and Pinch assert that even though biomedicine has priority, traditional medicine cannot be denied in a society where lives are complicated⁴⁾. Under such circumstances, the conflict between biomedicine and traditional medicine and also between body and mind ensues.

The conflict between traditional medicine and biomedicine in modern society originates from the mind-body dualism by Ren Descartes. Science and technology based on physicalism has dominated, while veiled technologies remain a means of assistance, named as complementary and alternative. Consequently, biomedicine based on the mechanistic view of humans occupies the center of development in modern society, and the concept of health and disease developed following this viewpoint. Nowadays, doctors only focus on the physical dysfunction in a patient caused by the disease. As a result, they overlook the fact that patients themselves may perpetuate their own diseases, and neglect the comprehensive pain that patients suffer.

Traditional medicine generally refuses the concept that body and mind are separate; instead, their close interaction is emphasized. This characteristic influences current integrative medicine⁵⁾. Generally, integrative medicine aims to integrate every means of treatment based on scientific evidence including traditional medicine; more fundamentally, it focuses on a holistic approach to the patient and the doctor-patient relationship. As a result, it emphasizes self-healing beyond the treatment based on a mechanistic view. In a word, it pursues mind-body medicine.

The following is an example that happened in the mid-20th century to explain mind-body medicine⁶⁾. With the development of material wealth during the years 1955 to 1961, the death rate from coronary heart disease grew across the U.S. However, the death rate from coronary heart disease was comparatively low in a small county called Roseto. The reason for the low rate could not be determined based on known factors of diseases, so medical experts described it as

a paradox unexplainable based on medicine of that period. The one noticeable characteristic of Roseto was how people who lived in this region enjoyed life. The community was simple, free of hierarchy, and cordial to visitors. Their communal atmosphere meant that no one suffered from poverty and only a few experienced heart disease.

The old saying goes seeing is believing. According to the reductionistic view, all we experience and perceive is grounded on physical entities. Most people find it difficult to conceive that the mind is somehow related to the body, since the mind has no physical form. As such, is it possible to interpret the mind from a physical perspective? In a recent study, researchers showed subjects overlapping images and asked them what they were looking at. Results suggested that interpretations of the images depended on the subject's personal intimacy and trust. This means people do not have the same experience regarding certain physical substances, but each has a different experience according to his thoughts developed from past experiences, which influences the substance⁷⁾.

In neuroscience, moral judgements can be explained by the activation of certain parts of the brain. For example, in the trolley problem, there are five people tied up and unable to move on a railway track, and on another track there is one person. You are a third party witnessing this situation and have the power to pull the lever to switch the track. For most people, it would seem rational to choose to save the five people over the one. This type of rational judgment uses the dorsolateral prefrontal cortex of the brain. On the other hand, in another situation where one has to choose to sacrifice a person to save other people, it is hard to pursue the public good because of the moral mind that one has to actively engage in sacrificing the person. In the latter case, our brain activates the limbic system, which is related to feeling and emotion. In the continuous process of choice in daily lives, different areas of the brain cooperate or compete with each other. This process is the incessant learning and production of mind.

In modern Western society, mind has been excluded among physical objects for its intangibility, and its presence

and value has been diminished. In Korean medicine, however, mind is believed to have a great effect on treating diseases. In the mid fifteenth century, King Sejo wrote *the Treatise on Medicine* to organize his experiences and feelings after consulting with doctors⁸⁾. In *the Treatise on Medicine*, he categorized doctors of the time into eight types: Mind Doctor, Food Doctor, Drug Doctor, Panicked Doctor, Mad Doctor, Cheating Doctor, and Killing Doctor. Among these categories the most valuable is the Mind Doctor. The Mind Doctor satisfies the patient's need and once their mind calms down, the disease is alleviated accordingly. On the other hand, the most undesirable doctor is the Killing Doctor. This doctor is sly and adheres to defeating the disease and not sympathizing with the patient. He feels no shame, and boastful and arrogant. Was it proper for the person in authority to assert mind as the important factor in treating disease? From the viewpoint of modern biomedicine, there was a limitation of medical technology and development at that time. However, traditional East Asian medicine including Korean Medicine developed the philosophy that mind is the essential value of medicine, which led to the development of mind and psychological factors.

Body-Mind Medical Interpretation of Acupuncture and Meditation

Acupuncture originated from Northeast Asia and with its long history, it is applied in clinical contexts all over the world. Cheng Dan-An argues that the important factor in acupuncture is the relationship between doctor and patient. Cheng defines *deqi* as soma to sensation such as soreness, numbness, heaviness, and spreading out. Nevertheless, he says the important function of acupuncture based on resonance is to make patients feel hope to overcome their disease and reinforce the mindset to prevent one from becoming depressed. Also, the second effect of acupuncture is the attention (devotion) of the doctor, and the third factor is the mechanical stimuli of acupuncture. Cheng found the fundamental meaning of acupuncture in mind, which was already present

in Korean medicine. Korean medical doctors emphasized “*jogi*” & “*chishin*” regarding the remedial value of acupuncture. This means regulating the balance between various functions in the human body, and the patient's consciousness and psychological state. An acupuncture technique called *Saam* acupuncture maximizes the concept of “*jogi*” and “*chishin*”. *Saam* acupuncture was created by a monk called *Saam* in the sixteenth century, and spread throughout Korea by the master “*Kim Hong Kyoung*” after the 1990s⁹⁾. He has developed *Saam* acupuncture technique and interpreted the principle that is to take care of the patient's mind and its changes to make use of it in treatment. Thus each meridian is assigned its own mind and feeling, and this is applied in treating physical or psychological symptoms and diseases.

In my opinion, acupuncture needs to be recognized on the aspect of mind-body medicine based on mind, not only objectively through various scientific approaches and results. With regards to the attitude of the doctor in acupuncture treatment, *Huangdi Neijing* places emphasis on concentrating one's mind. In holding the needle, it is valuable to keep a resolute mind, aiming at the acupoint accurately and prick promptly, the needle should not be slanting to the right or to the left, the acupuncturist should concentrate his mind at the needle point, take good notice of the patient, inspect meridians and take care of keeping away from it, in this way, the inserting will be of no danger. Just before pricking, watch the location between the patient's nose, eyes and brows with a concentrated mind without any negligence, so that the prognosis of the disease can be estimated. In addition, several environmental factors should be prepared ahead of treatment. When pricking, the physician should like staying in a secluded place with windows closed. He must be clear in consciousness, pure in thought with a consistent mind and concentrated energy. He maintains a sound mind and only concentrates his attention on the pricking.

The reason I explain acupuncture with experiences written before modern times is to understand *deqi* precisely, which is an important index of identifying the effect of acupuncture in clinics. A subjective sensation called *deqi*, felt by both the patient and the doctor, is traditionally used to assess whether

the acupuncture stimulation has been delivered appropriately. Regarding *deqi*, *Huangdi Neijing* says, the most important thing in acupuncture is to get the acupuncture feeling (*deqi*); when it appears, the curative effect will appear in the wake of it¹⁰, implying its significance. After all, it means one can recover from disease by *deqi*.

The modern interpretation of *deqi* is a desirable physiological change perceived by the doctor or the patient when the needle stimulates the acupoint. So far, *deqi* has been interpreted as a local sense perceived by the patient and the doctor. Thus the local sensation is used to evaluate the accuracy of acupuncture treatment, and some studies identify *deqi* with questionnaires based on local sensation¹¹⁻¹³. However, there are limitations. Besides the local senses described in existing Acupuncture Sensation Questionnaires, many other types of senses are excluded, and it still lacks objectivity and universality regarding all the local senses patients experience¹⁴. For that reason, a lot of questionnaires on *deqi* are still being developed or complemented¹¹. Park et al. are devising a qualitative questionnaire on the perspective of the patient adjusting to Korean culture, and argues that *deqi* can only be understood by considering the interaction between the doctor and the patient during acupuncture treatment^{11,15,16}.

In the neuroscience study on *deqi* using fMRI, the response and activity of the brain from *deqi* are different from that of simple tactile stimulation. Hui et al.¹⁷ conducted an fMRI study with acupuncture at ST36. Eleven people who experienced traditional *deqi* sensations like heaviness showed signal decreases in the cerebro-cerebellar network and limbic system. On the other hand, four people who experienced painful sensations in acupuncture showed signal increase in the same sections of the brain. Consequently, local senses related to *deqi* have a great influence not only on consciousness but also on feeling. In a hemodynamic response, neural activities decrease in the limbic system and cerebro-cerebellar network, which is evidence of the psychophysical response of acupuncture according to researchers. Meanwhile, the activity of the brain related to *deqi* is diluted by pain when the patient feels discomfort like pain, which

is irrelevant with *deqi*.

Provided that acupuncture is the interaction between doctor and patient through *deqi*, meditation, which is the representative treatment of mind-body medicine, can also be explained in this way. Various meditation methods exist in Eastern and Western cultures, and they are known to have positive effects such as spiritual perception, physical development, and relaxation. For example, M&L(Mindfulness & Loving presence) psychological therapy suggests that the objective of meditation is to focus on present presence by putting aside thoughts to restore a calm and clear mind through mindfulness and return to one's self¹⁸. The meditator puts sense, thought, memory, and feeling in present presence, and observes oneself through mindfulness. As one realizes and embraces present presence, he can live on with a tranquil heart.

Yet, one thing that must be distinguished is that meditation is not unconsciousness or an altered state of consciousness or hypnosis, but is to realize one's inner condition, maintaining self-observation in consciousness¹⁹. Figuratively, it is contemplating the very base of consciousness just as if looking through the floor of water from the surface. *Dongui-Bogam* says, the heart is like water; if kept calm for a long time, precipitation sinks so one can look into its bottom clearly in the *Chapter on Spirit*²⁰, which is the best metaphor to understand meditation. M&L psychological therapy, which combined the traditional Eastern viewpoints on mind and psychology with Western neuroscience, is actively applied in psychiatric clinics in Korea and Japan^{19,21-23}.

Scientific studies on the impact of meditation on the brain reveal the activity and formation of networks in the brain of meditators and the meditation-naïve controls²⁴. As a result, it was observed that the activity of the posterior cingulate cortex, which is one of the two major memory processing centers with the hippocampus, was inhibited with the medial prefrontal cortex in the brain of the meditator. Meditation also reinforced self-monitoring and cognitive control in the posterior cingulate, dorsal anterior cingulate, and dorsolateral prefrontal cortices. Likewise, many studies reveal that cerebrum activity decreases and the overall brain strengthens network.

In this situation, α -wave prevails dominantly in EEG. However, meditation is different from the sleeping state or an altered state to hypnosis. Also, the state of decreased activity in the brain, in spite of differences in specific regions, is similar to the state of *deqi* in acupuncture.

If so, can there be synergy between acupuncture and meditation? Although studies are few, a clinical case reported that acupuncture treatment with meditation improved physical symptoms, such as indigestion and insomnia in patients suffering from depression²⁵. Also, Oh and Kim combined acupuncture, Korean herbal medicine, and MBSR together to treat a patient who suffered from insomnia, depression, and anxiety disorders²⁶. Evaluating the state before and after the treatment with questionnaires and observing the clinical course, there was distinct improvement in symptoms. In a study conducted by the University of Duisburg-Essen²⁷, electroacupuncture(EA) and meditation reduced the pain respectively, but EA could not add synergy to the analgesic effect from meditation. So far the effect of acupuncture and the effect of meditation cannot be interpreted as one added to another.

Meanwhile, Chae's collaboration observed functional changes in the brain in acupuncture treatment²⁸. At first, they alternately stimulated HT7 and PC6 on the forearm, and let the participants report the location they felt the stimulation and the strength of it. Next, the participants were told they would experience EA on the two acupoints in fact, it was not EA but pseudo-stimulation and asked to report the location and the strength of it, causing bodily attention. The participants focused on the region where they thought they had EA stimulus, the bodily attention activated the salience network in insula and anterior cingulate cortex, and deactivated the default mode network in the prefrontal cortex, posterior cingulate cortex, and inferior parietal lobule. This means the brain works lots of signal processing systems for descending sensory signaling without external stimulus. On the other hand, genuine acupuncture stimulus exhibited greater activation in posterior insula and the caudal part of the anterior cingulate cortex of the brain, which is related to ascending sensory signaling. In conclusion, *deqi* derived from acupun-

cture stimulus is concerned with the descending data processing of the brain to feel stimulus in certain locations. Acupuncture stimulus works as a means of prompting inner and outer changes in the senses of the body. Also, the signaling system of processing sensory data works not only passively by external stimulus, but also actively by the work of the brain²⁹.

Some treatments have similar effects as acupuncture, altering the patient's feeling and consciousness without using an acupuncture needle³⁰. In the 1980s, Dr. Callahan developed Thought Field Therapy (TFT) while performing psychotherapy for a hydrophobic neuropsychosis patient³¹. TFT is a way of tapping some acupoints based on meridians to treat symptoms, developed with the key principles of applied kinesiology(AK), acupuncture, neuro-linguistics program(NLP), etc. In the 1990s, Gary Craig supplemented the drawbacks of TFT and developed Emotional Freedom Technique(EFT), which is a meridian-based psychotherapy simplified for doctors³². The basic premise of EFT is that negative emotions are derived from the disorder of the body's energy system. Unsolved negative emotions are somatized at any cost. These negative events accumulate to form negative beliefs or attitude. Therefore, neutralizing negative experiences can change one's belief and attitude. These new psychotherapies from the West apply acupuncture-like stimulus, which corresponds with the mind-body aspect of acupuncture.

Tapping applied in AK and TFT is mentioned in Cerney's *Acupuncture without Needles* in 1974³³. This book introduces eight ways of stimulating acupoints, including tapping the meridian with the fist, palm, and finger. This physical stimulation instead of using an acupuncture needle on the acupoint is related to the phenomenological perception based on the experience, because the phenomenological perception is necessary for the doctor in the traditional process of identifying acupoints and practicing acupuncture. The doctor must check the response from the patient when identifying acupoints by touching certain locations to apply acupuncture based on his embodied knowledge³⁴. It is expressed as *Jeol-Sun-Mun-An*, a way to find acupoints by touching and observing acupoints closely or looking for the

proper acupoint. In *the Chapter on Acupuncture & Moxibustion* from *Dongui-Bogam*, various methods of *Jeol-Sun-Mun-An* are applied to locate roughly half of all the acupoints. For example, the doctor has to locate LI4 in the concave between the first and the second metacarpal bones, feeling the stirring pulsation on palpation. Still, *Dongui-Bogam* does not focus on the objective presence of acupoints, but emphasizes the way of locating acupoints based on the phenomenon and experiences between the doctor and patient.

Under such backgrounds, I set up a hypothesis that acupuncture is the process of feeling and experiencing, and this is experienced from meditation as well.

The fact that acupuncture may give psychological expectancy to the patient while treating does not make acupuncture lack objectivity. Kong et al. showed that pseudo-acupuncture treatment had a placebo analgesic effect, but the physical stimulus from acupuncture itself and the expectancy from pseudo-acupuncture activated different parts of the brain³⁵⁾. Finally, it seems that the effect of acupuncture is to link and modulate somatosensation and mind simultaneously.

Conclusion

Biomedicine, a medicine as a perfectible science, and traditional medicine, a medicine as a source of succor, must coexist. This is reflected in recent consumer-centered medicine. The key words in integrative medicine, such as doctor-patient relationship, a holistic approach, evidence, and utilization of every means of appropriate treatment, indicate their significance. Therefore, traditional medicine may be an inconvenient truth to scientific skeptics, but awaken the sense of recovery and help regain independence for the patients as consumers. Many define suffering as objective pain in the belief that suffering can be objectified and quantified, and solutions based on this prevail in medical service. Nevertheless, human suffering cannot all be reduced to physical pain, and are difficult to measure or solve. This means the doctor has to care for every suffering the patient

undergoes, and help patients solve their own suffering.

Lastly, the function and the meaning of acupuncture should be understood considering everything that happens between a doctor and patient. From this perspective, I believe the purpose of acupuncture can meet that of meditation. As *deqi* can be explained based on the interaction between doctor and patient, acupuncture has the process of awakening the patient's dull senses in order to meet their internal world. It is another method to help the patient embrace present presence.

Acknowledgement

This article is based on a study first reported in the [Kim JH. Acupuncture and Meditation Expand the Boundary of Mind-Body Medicine. In Renqing Dongzhu et al. Meditation & Healing. Collection of Books in Mind Humanities(Vol. 13). Koyang : Knowledge Community. 2016.]

References

1. Cheng WF, Xie YG, Mei HC, Qi G. Anthology of Cheng Dan-An's Acupuncture treatment. Shanghai : Shanghai Science and Technology Press. 1986.
2. Huang L, Huang Y. Evidence-Based Surface Anatomy for Acupuncture. Beijing : Peoples Medical Publishing House. 2007.
3. Sue J, Kim J, Ko K, Oh J, Ko I, Kang H. The Effects of M&L Trauma Psychotherapy on Impact of Events, Affection, and Quality of Life among Female Victims of Family Violence. Journal of oriental neuropsychiatry. 2015 ; 26(2) : 79-88.
4. Collins H, Pinch T. Dr Golem : How to Think about Medicine. ReadHowYouWant.com, Limited. 2011.
5. Synovitz LB, Larson KL. Complementary and Alternative Medicine for Health Professionals. A Holistic Approach to Consumer Health. Jones & Bartlett Learning. 2013.
6. Wolf S, Bruhn JG. The Power of Clan : The Influence of Human Relationships on Heart Disease. Transaction Publication. 1979.
7. Cerf M, Thiruvengadam N, Mormann F, Kraskov A, Quiroga RQ,

- Koch C, et al. On-line, voluntary control of human temporal lobe neurons. *Nature*. 2010 ; 467(7319) : 1104-8.
8. Sejo K. *Treatise on Medicine* Institute for Translation of Korean Classics. 1463. Available from: URL:http://db.itkc.or.kr/index.jsp?bizName=JO&url=/itkcdb/text/nodeViewIframe.jsp?bizName=JO&jwId=kga_109&mold=120&daId=270&gaLid=kga_10912027_002&gaId=&yoId=&iId=&lId=&NodeId=jo_k-kga&setid=609112&Pos=0&TotalCount=1&vipyunid=undefined]
 9. Jung Y, Lee D, Ahn S. A research for tradition and identity of Saam acupuncture method. *Korean Journal of Acupuncture*. 2012 ; 29(4) : 537-53.
 10. Wang B. *Yellow Emperor's Canon of Internal Medicine*. Beijing : China Science and Technology Press. 1997.
 11. Kim Y, Park J, Lee H, Bang H, Park HJ. Content validity of an acupuncture sensation questionnaire. *J Altern Complement Med*. 2008 ; 14(8) : 957-63.
 12. Kong J, Gollub R, Huang T, Polich G, Napadow V, Hui K, et al. Acupuncture de qi, from qualitative history to quantitative measurement. *J Altern Complement Med*. 2007 ; 13(10) : 1059-70.
 13. White P, Bishop F, Hardy H, Abdollahian S, White A, Park J, et al. Southampton needle sensation questionnaire: development and validation of a measure to gauge acupuncture needle sensation. *J Altern Complement Med*. 2008 ; 14(4) : 373-9.
 14. Park J, Park H, Lee H, Lim S, Ahn K, Lee H. Deqi sensation between the acupuncture-experienced and the naive : A Korean study II. *Am J Chin Med*. 2005 ; 33(2) : 329-37.
 15. Yin CS, Park HJ, Kim SY, Lee JM, Hong MS, Chung JH, et al. Electroencephalogram changes according to the subjective acupuncture sensation. *Neurological research*. 2010 ; 32(Suppl 1) : 31-6.
 16. Yin CS, Park J, Lee J, Chae Y, Jang W, Kim S, et al. Acupuncture perception (deqi) varies over different points and by gender with two distinct distribution patterns of dullness and pain. *Journal of Sensory Studies*. 2009 ; 24(5) : 635-47.
 17. Hui KK, Liu J, Marina O, Napadow V, Haselgrove C, Kwong KK, et al. The integrated response of the human cerebro-cerebellar and limbic systems to acupuncture stimulation at ST 36 as evidenced by fMRI. *Neuroimage*. 2005 ; 27(3) : 479-96.
 18. Lee Y, Kim J, Ko K, Sue J, Oh J, Kim M, et al. The Study on Effects of M&L Self-Growth Meditation Program. *Journal of oriental neuropsychiatry*. 2014 ; 25(3) : 225-34.
 19. Kurtz R. *Body-centered Psychotherapy: The Hakomi Method : the Integrated Use of Mindfulness, Nonviolence, and the Body*. Mendocino : LifeRhythm. 2007.
 20. Heo J. *DongUiBogam(Treasured Mirror of Eastern Medicine)*. Seoul : Ministry of Health & Welfare. 2013.
 21. Sue J, Kang H. An Introduction of Hakomi Therapy and Its Application to Korean Medicine. *Journal of oriental neuropsychiatry*. 2013 ; 24(suppl 1) : 101-18.
 22. MacLean PD. Brain evolution relating to family, play, and the separation call. *Archives of general psychiatry*. 1985 ; 42(4) : 405-17.
 23. Porges SW. *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-regulation(Norton Series on Interpersonal Neurobiology)*. W. W. Norton. 2011.
 24. Brewer JA, Worhunsky PD, Gray JR, Tang YY, Weber J, Kober H. Meditation experience is associated with differences in default mode network activity and connectivity. *Proceedings of the National Academy of Sciences of the United States of America*. 2011 ; 108(50) : 20254-9.
 25. Kang H, Kim J, Lee J, Sung W. Report of 2 Depression Patients Accompanying Somatic-symptom Treated with Meditation of the Retaining Needle *Journal of oriental neuropsychiatry*. 2008 ; 19(2) : 241-50.
 26. Oh K, Kim B. Clinical Report of One Case with Insomnia, Depression and Anxiety Disorder Improved by Traditional Korean Medical Treatment and Breathing Meditation. *Journal of oriental neuropsychiatry*. 2009 ; 20(3) : 297-307.
 27. Choi KE, Musial F, Amthor N, Rampp T, Saha FJ, Michalsen A, et al. Isolated and combined effects of electroacupuncture and meditation in reducing experimentally induced ischemic pain: a pilot study. *Evidence-based complementary and alternative medicine : eCAM*. 2011; 2011. pii: 950795. doi: 10.1155/2011/950795.
 28. Jung WM, Lee IS, Wallraven C, Ryu YH, Park HJ, Chae Y. Cortical Activation Patterns of Bodily Attention triggered by Acupuncture Stimulation. *Scientific reports*. 2015 ; 5 : 12455. doi: 10.1038/srep12455.

29. Chae Y, Lee IS, Jung WM, Park K, Park HJ, Wallraven C. Psychophysical and neurophysiological responses to acupuncture stimulation to incorporated rubber hand. *Neurosci Lett.* 2015 ; 591 : 48-52.
30. Lee JW, Kim GC. The basic study on the origin of recently emerging Meridian-based Psychotherapy. *Korean journal of oriental medicine.* 2012 ; 18(2) : 123-30.
31. Callahan R, Trubo R. *Tapping the Healer Within : Using Thought-Field Therapy to Instantly Conquer Your Fears, Anxieties, and Emotional Distress.* McGraw-Hill Education. 2001.
32. Craig G. *The EFT Manual.* Energy Psychology Press. 2011.
33. Cerney JV. *Acupuncture Without Needles.* Prentice Hall. 1999.
34. Kim JH, Kang YS, editors. Phenomenological perception of meridians and acupoints emphasized the Chapter on Acupuncture & Moxibustion in DongUiBoGam. The 8th International Congress on Traditional Asian Medicine. South Korea : IASTAM. 2013.
35. Kong J, Gollub RL, Rosman IS, Webb JM, Vangel MG, Kirsch I, et al. Brain activity associated with expectancy-enhanced placebo analgesia as measured by functional magnetic resonance imaging. *The Journal of neuroscience.* 2006 ; 26(2) : 381-8.

국문초록

목적 : 침술은 동북아시아 지역의 중심에서 시작하여 2천년 이상의 역사와 함께 아시아뿐만 아니라 근-현대 전 세계의 임상의료 현장에서 크게 번창하고 있다. 이와 함께 침술의 객관화를 위하여 의생명과학 여러 분야에서 검증하는 노력이 진행되어 오고 있다. 그 과정을 통해 각종 동물을 비롯해 사람에서 침술의 다양한 효과와 기전이 점차 밝혀지고 있다. 필자는 침술 치료에서 의사와 환자가 주관적으로 경험하는 것을 설명하고, 그것의 임상적 유의성을 심신의학적 측면에서 이해하고자 하였다. **방법 :** 침술과 명상에서 각각 진행되었던 뇌신경과학 분야의 여러 실험 결과들을 비교함으로써 심신 상관성이란 의미를 찾고자 하였다. 그밖에 한의학 임상영역에 시도되는 한의학과 심리학이 접목된 새로운 치료법을 정리하였다. **결과 및 결론:** 침술의 치료효과와 관련해 “조기치신(調氣治神)”을 매우 중요한 개념으로 표현하고 있다. 이는 인체에 다양한 기능의 균형을 조절하고, 환자의 의식과 심리상태를 조절한다고 설명한다. 전통의학과 현대의학의 큰 차이는 현대의학은 환자와 질병을 대상화시켜 객관화 하는 노력을 추구하였고, 전통의학은 환자와 의사가 경험하는 대상을 자신과 분리하지 않는 주관적 체험을 추구하고 있다는 것이다. 그리고 전통의학은 주관적 체험을 배제하지 않고 진료에서 활용한다는 것이다. 그래서 전통의학의 역할과 의미를 이해하고자 한다면, 객관적 효과와 수량적 결과뿐만 아니라 환자와 의사의 주관적 체험과 이야기도 중요하게 다뤄져야 한다. 침술의 역할과 의미는 의사와 환자 사이에서 나타나는 행위의 모든 과정을 고려해 설명해야 할 것이다. 아마도 그 과정에서 침술이 찾는 해결의 길은 명상이 찾는 해결의 길과 만날 것이라 믿는다.