

Meditation Mechanism in Oriental Medicine

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In Oriental medicine, there is a qigong (Qi training) that is relatively similar to meditation. Qigong and meditation are methods of mind or health training that have been traditionally developed in Asia. Although they were originated from India or China, they have been practiced throughout Asia for a long time. There are many similarities in methods and purposes, so they are sometimes combined and used together.

For example, Dantian breathing is a representative training method of qigong. It takes an upright posture during training, focuses on breathing, and maintains calmness. It is very similar to the basic practice of meditation, the breathing method, posture, movement, and mindset.





There are differences between two methods:

Meditation, originated from Buddhism, sets the goal of enlightenment and focuses on training mind. Whereas Qigong, originated from Taoism, sets health as a goal and focuses on breathing.

However, as a way to practice mindfulness, it is necessary to take care of mind to stabilize breathing. Besides enlightenment and maintaining health are the ultimate goals in both methods. Therefore, there are more commonalities than differences.

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Meditation Mechanism in Oriental Medicine

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1

Experience
and
training



Experience and training

Oriental Medicine Doctor



[Medical Qigong]

Medical Qigong is the study of theories, methods and practical skills to cultivate self regulation ability. It is also a way to practice life-nurturing(養生) to live a long life without getting sick. Therefore it is a study to prevent diseases, extend lifespan, and improve physical and mental efficiency.



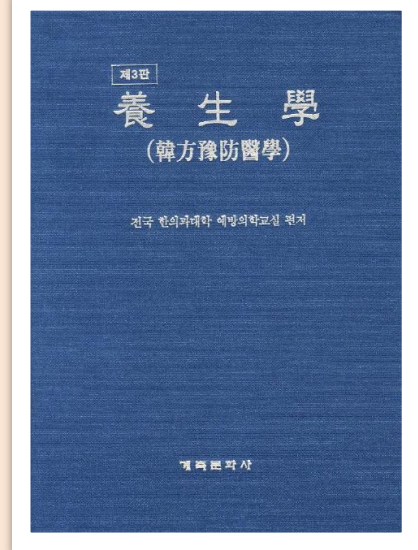
경희대학교 한의과대학
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KYUNG HEE UNIVERSITY

[Shaolin'neijinyizhichan]

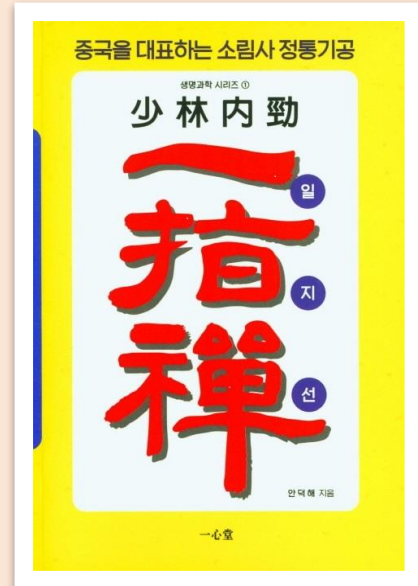
Shaolin'neijinyizhichan(少林內勁一指禪) is a unique training method that originated from the Buddhist teachings of Shaolin Temple in Fujian Province. It is a technique revered in the martial arts that has been handed down for hundreds of years.

It does not require calm down(入靜) or concentration, but emphasizes the precision of movements and postures. Therefore, ordinary people can gain Qi quickly and have high therapeutic effects immediately. In addition, it is a traditional technique of martial arts and a medical training method at the same time, which can make healthy physical condition and cure diseases.

Kim, J. W., Oh, J. K., & Whang, W. W. (1996). The Effects of Qigong training on the cardiopulmonary functions and catecholamine levels after physical training stress in untrained college students. *Journal of Oriental Neuropsychiatry*, 7(1), 39-48.



Life-nurturing, 2007



Shaolin'neijinyizhichan
, 1994



Experience and training

Certified Professional in Meditational Teaching



[Korean Society for Meditation]

Korean Society for Meditation is composed of experts in mental and physical healing fields and social welfare studies, such as psychology, medical science, Korean medicine, nursing, education, mental and physical therapy, and yoga.

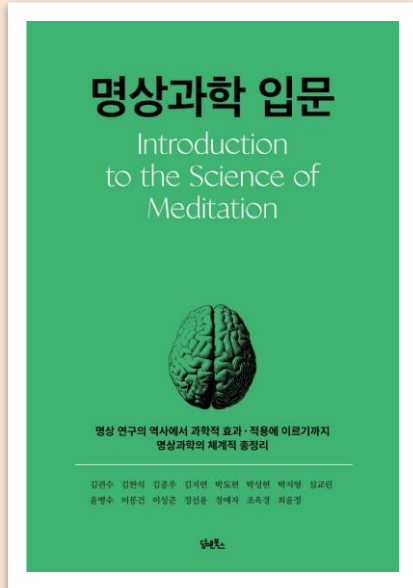
Based on empirical research on the effect mechanism and training of meditation, they try to develop and distribute various programs to enhance members' expertise. In addition, they educate meditation instructors to cultivate personality and improve mental or physical health.

[Certified Professional in Meditational Teaching]

Those who have fulfilled basic education and training hours after joining association will obtain a T-grade meditation guidance expert through written tests and screening. They can acquire higher qualifications or strengthen meditational teaching abilities through additional training and education. Therefore they will be grown into experts with a deep understanding of meditation and leadership capabilities. (T Grade → R Grade → P Grade)



사단
법인 **한국명상학회**
Korean Society for Meditation



Introduction to the
Science of Meditation,
2021



Experience and training

Oriental Medicine neuropsychiatrist / Korean Medicine Mental Health center



[15-minute meditation with Qi]

- Breathing
- Relaxation
- Feeling Qi

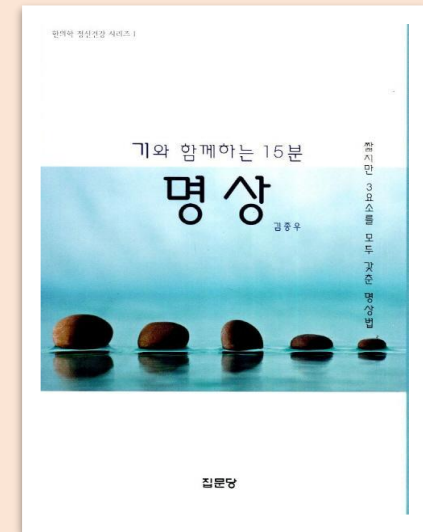
Eun-Young Hwang, Sun-Yong Chung, Jae-Heung Cho, Mi-Yeon Song, Sehyun Kim and Jong-Woo Kim : Effects of a Brief Qigong-based Stress Reduction Program (BQSRP) in a distressed Korean population: a randomized trial, BMC Complement Altern Med, 25;13:113. 2013

[Korean medicine counseling]

- 1st session : Holistic meeting experience
- 2nd session: Listen and interpret major problems
- 3rd session: Broaden understanding
- 4th session: Find strengths and psychological resources
- 5th session: Find one's own rhythm – **Breathing**
- 6th session: Recover energy through relaxation – **Relaxation**
- 7th session: Being in the present moment– **Mindfulness**
- 8th session: Interact for promoting spiritual health – **Feeling Qi**
- 9th session: What kind of mindset will you have in your daily life?
- 10th session: What will you do in your daily life?



Optimal Mental Health Through Balance & Harmony



15-minute meditation with Qi, 2011



Korean medicine Counseling, 2016



2

Meditation and Oriental Medicine



Until the 1980s, Qigong was more socially well known than meditation in Korea. Qigong has been applied in clinical settings as a field of oriental medicine, but meditation has been mostly practiced in temples.

Qigong became distant from the clinical settings of Chinese medicine after Falun-Gong(法輪功) in 2000. Since Falun-Gong mainly focused on controlling mind, Qigong has been developed limited to breathing or movement. Therefore, the typical movements such as Liuzijue(六字訣), Baduanjin(八段錦), Taichi, and Dantian breathing were mainly carried out.

Meditation has been used in medical fields since MBSR introduced in the United States. After that time, mindfulness has been explained as an important mechanism for psychological phenomena, and expanded its scope to clinical scenes. Nowadays it is conducted by merging with cognitive behavioral treatment or counseling in psychology, i.e. MBCT and ACT, and the research is actively underway.

Meditation and Oriental Medicine

The Goal of meditation



The Goal of meditation

- **What is Meditation?**

- ✓ Meditation is a method of self-regulation training that emphasizes attention or awareness in order to control mental state. It aims to improve overall mental well-being and develop skills such as calmness, increased clarity and concentration. (Walsh & Shapiro, 2006)
- ✓ The essence of meditation is consistently trying to achieve the specific attentional set(calmness). (Goleman, 1976)

- **The Goal of Oriental Medicine**

- ✓ Oriental medicine aims to overcome, prevent and manage diseases, and also to maintain a healthy state and pursue a state of happiness.
- ✓ In oriental medicine, human being achieves healthy life by realizing optimal human state and having self-reliance / The goal of treatment is to change imbalance into balance, relieve stagnation and improve circulation.

Walsh R, Shapiro SL. The meeting of meditative disciplines and western psychology: A mutually enriching dialogue. American Psychologist. 2006;61(3):227–239.

Goleman D. Meditation and consciousness: An Asian approach to mental health. American Journal of psychotherapy. 1976;30(1):41-54.



Meditation and Oriental Medicine

Mechanism of Meditation



Mechanism of Meditation(1)

- **Decentering(Shapiro et al., 2006; Teasdale et al., 2000)**

- ✓ Observe thoughts, feelings and sensations from a distance without identifying with oneself.
- ✓ It is a unique state of attention which is also called pure attention or non-judgmental awareness.

- **Relationship with Oriental Medicine Theory**

- ✓ In oriental medicine, for harmony and balance(ex: yin and yang), awareness must be preceded and decentering is a meditation mechanism which promotes awareness.
- ✓ Human cognitive process seen in oriental medicine : Sim-ui-ji-sa-ryeo-ji (心意志思慮智). Sim(心-paying attention) is a very important first step because it determines the subsequent cognitive processes. Therefore, 'how to pay attention?' is an important question, and a meditative state such as decentering can be the answer.

Shapiro SL, Carlson LE, Astin JA, et al. Mechanisms of mindfulness. Journal of clinical psychology. 2006;62(3):373-386.

Teasdale JD, Segal ZV, Williams JMG. Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. Journal of consulting and clinical psychology. 2000;68(4):615-623.



Meditation and Oriental Medicine

Mechanism of Meditation



Mechanism of Meditation(2)

- **Self-regulation (Hölzel et al., 2011; Shapiro et al., 2006)**

- ✓ Increase intentional responsiveness as opposed to behaving automatically.
- ✓ Meditation is an attention regulation training that pays attention to inner experience, and is also an emotion regulation training that maintains calmness.

- **Relationship with Oriental Medicine Theory**

- ✓ As a mechanism of meditation, self-regulation and optimal state can be a way to achieve harmony and balance (ex: yin-yang) emphasized in oriental medicine.
- Realizing the Optimal State of Metal, "If Mind is Unintentional, people could follow the principle(道)" / Optimal State of Physical, "The upper side of the body is cool and lower side of the body is warm" by self-regulation.



Hölzel BK, Lazar SW, Gard T (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. Perspectives on psychological science. 2011;6(6):537-559.

Shapiro SL., Carlson LE, Astin JA, et al. Mechanisms of mindfulness. Journal of clinical psychology. 2006;62(3):373-386



Meditation and Oriental Medicine

Mechanism of Meditation



Mechanism of Meditation(3)

- **Mind-body Integration (Brown et al., 2007; Hölzel et al., 2011)**

- ✓ Meditation emphasizes being aware of the present moment as it is, and connects to the whole life that you were not aware of before.
- ✓ Being aware of the various sensations, accompanying emotions and thoughts, leads to understand the connection between body and mind.

- **Relationship with Oriental Medicine Theory**

- ✓ The relationship between Jeong(精)-Qi(氣)-Shin(神): There are several approaches to explain Qi. One of them is to take Qi as a way of connecting a body to mind. The mind-body integration in meditation happens in a similar way as Qi connects body and mind.
- ✓ Mind-body integration is related to the understanding of the five elements/organs in oriental medicine.

Hölzel BK, Lazar SW, Gard T (2011). How does mindfulness meditation work? Proposing mechanisms of action from a conceptual and neural perspective. Perspectives on psychological science. 2011;6(6):537-559.

Brown KW, Ryan RM, Creswell JD. Mindfulness: Theoretical foundations and evidence for its salutary effects. Psychological inquiry. 2007;18(4):211-237.



Meditation and Oriental Medicine

Mechanism of Meditation

Mechanism of Meditation(4)

- **Cognitive change and insights (Baer, 2003; Brown et al., 2007)**

- ✓ Meditation is an introspective method that continuously observes and reflects on one's inner mind.
- ✓ As meditation is based on non-judgmental awareness of the present moment, it induces cognitive change and facilitates insights consistent with reality principles.

- **Relationship with Oriental Medicine Theory**

- ✓ The ideal image of human(Gunja, saint, Arahán, Jinin, etc.), suggested by Eastern philosophy and oriental medicine, is being practiced in the process of observing, reflecting, and cultivating inner self. It is similar to the process of changing self-conception and attaining enlightenment through meditation.
- ✓ Four Constitution(仁義禮智: Benevolence, justice, courtesy, wisdom) can also be understood in a similar context.

Baer RA. Mindfulness training as a clinical intervention: a conceptual and empirical review. Clinical psychology: Science and practice. 2003;10(2):125-143.

Brown KW, Ryan RM, Creswell JD. Mindfulness: Theoretical foundations and evidence for its salutary effects. Psychological inquiry. 2007;18(4):211-237.



Meditation and Oriental Medicine

Oriental Medicine Keywords Related to Meditation



Oriental Medicine Keywords Related to Meditation(1)

1. Harmony between Human & Nature(天人合一) – applying the law of nature to human : accepting and adapting to the will of nature: ex. daily life that changes with the seasons
2. Yin and Yang(陰陽) – maintaining harmony and balance : Considering the imbalance of yin and yang as unhealthy conditions, and trying to find a balance.
3. Jeong-Qi-Shin(精氣神) – Qi(氣) works as a mediator that connects the mind and body : Mind and body influence each other and Qi controls it / Circulation and regulation of Qi.
4. Four constitution(四象) – typology according to human nature : Four constitutions(仁義禮智: Benevolence, justice, courtesy, wisdom) are human nature. Pursuing life that suits oneself is the way to realize it.
5. Five elements(五行) – It is necessary to accept the change of natural circulation principles(生長化收藏)



Meditation and Oriental Medicine

Oriental Medicine Keywords Related to Meditation



Oriental Medicine Keywords Related to Meditation(2)

6. Five organs(五臟) – There is a heart(心) in the middle of the five organs. The heart is recognized to manage all organs of human body. – The heart of controlling blood circulation & the heart of managing mind
7. Process of cognition – In the cognitive process of Sim-ui-ji-sa-ryeo-ji (心意志思慮智), Sim(心) is regarded as the beginning of cognition(paying attention), and Ji(智) is regarded as the final step(becoming wise).
8. Seven Emotions(七情) - Divide human emotions into seven emotional patterns and connect with body and qi(氣).
9. Four examination(四診) - Seeing, hearing, asking, and palpating for diagnosis. Regard the precise observation is most important in examination.
10. Four-qi five-flavors(四氣五味) – In oriental medicine, medical herbs are selected by their properties or flavor and qi(氣)



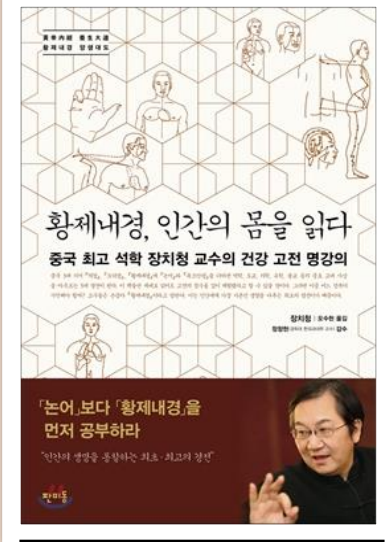
Meditation mechanisms in Oriental Medicine

Meditation mechanism in oriental medicine - Qi

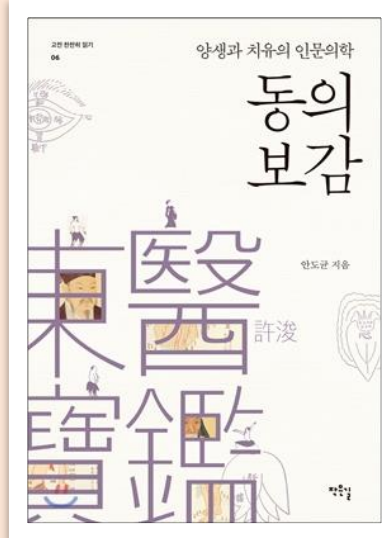
- Huang ti nei ching(黃帝內經) : define Qi as intangible energy information that sustains life / control Qi by breathing
- Dong-eui-bo-gam(東醫寶鑑) : apply Taoist life-nurturing method(養生法) to Oriental Medicine / control Qi by breathing, emphasize vitality as an origin
- Various studies on Qi : use Qi as a therapeutic method based on Chinese philosophy, apply quantum mechanics as a concept of energy, Qigong studies in China, developed into energy medicine

Definition of "Qi"

- Jeong(精), qi(氣), and shin(神) is essential composition factors in human being : Qi(氣) act as a bridge between jeong(精) and shin(神)
- Mind and emotion have a close relationship. Changes in emotions cause changes of qi and affect the five organs.
- Consider the phenomena of Qi in describing diseases.
 - : qi stagnation(氣滯), qi fall(氣陷), qi collapse(氣脫), qi movement stagnation(氣鬱), qi deficiency(氣虛), qi block(氣閉) etc.
- Feeling Qi (感氣) : It is difficult to measure Qi, but it is possible to feel it.
- Try to change Qi through treatment : to achieve harmony and balance.
- Qi can be described as energy, which is now expanding into energy medicine or energy psychology.



Hwang-je-nae-gyeong(黃帝內經)



Dong-eui-bo-gam(東醫寶鑑), 1610

Meditation mechanisms in Oriental Medicine

Meditation mechanism in oriental medicine - Qigong



Introduction of medical qigong, 2012

Three coordination of Qigong(氣功三調) : The keyword of Training Qi

- coordinate body(調身) : An elementary stage of Qigong, adjusting the body's posture consciously and performing certain movements.
- coordinate breath(調息) : Create important environment of training by consciously breathing, controlling yin and yang, harmonizing the organs and relieving meridian system.
- coordinate mind(調心) : Control psychological activities consciously, aiming at self-discipline and spiritual growth by relaxing(放鬆) and concentrating(意守).

Three coordination of Qigong (氣功三調)	coordinate body(調身)	coordinate breath(調息)	coordinate mind(調心)
MBSR	-Sitting meditation -Hatha Yoga -Walking meditation	Breathing meditation	- Eating meditation -Body scan -Staying present
Interpretation	Relaxation based on right posture	Breathing exercises based on right breathing	Mental training based on right mind

Application of Qi

- Feeling Qi(感氣) : Feel qi through relaxation / Feel qi through mindfulness
- Accumulating Qi(蓄氣) : Accumulate qi through Dantian breathing
- Circulating Qi(行氣) : Circulate Qi through movement form such as Baduanjin(八段錦), Taichi

Meditation mechanisms in Oriental Medicine

Meditation mechanism in oriental medicine

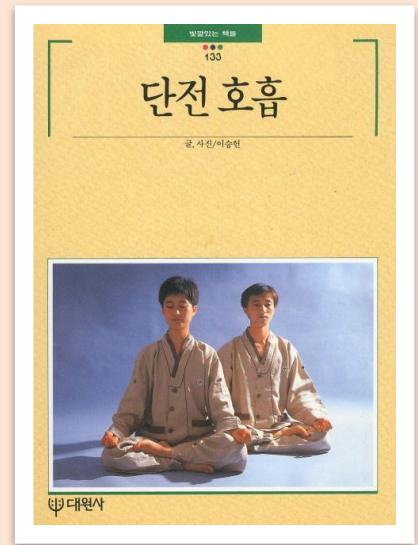
- Dantian Breathing and Taichi

Training Qi (1) – Dantian Breathing

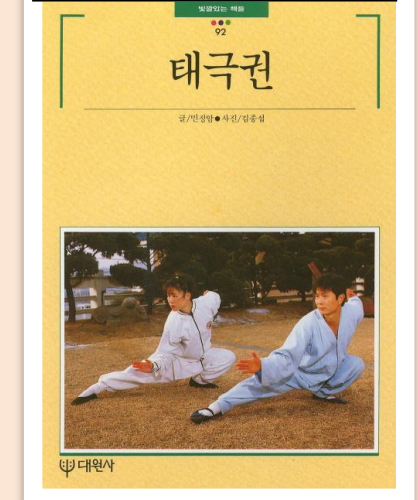
- Circulating Qi(蓄氣), Revolving Qi(運氣) - Xiaozhoutian(小周天), Dazhoutian(大周天)
- Characteristics
 - : Dan(丹) : The energy as the source of life, Dantian(丹田) - where unknown energy is synthesized in the human body / Based on the Qi(元氣) which is inherited from parents, oxygen and nutrients received through life activities are changed from dantian to intangible energy, the spirit.
 - : Acupuncture points – CV4(關元), CV5(石門), CV6(氣海), CV7(陰交)
 - / Three parts of Dantian – Inferior Dantian, Intermediate Dantian and Superior Dantian are related to jeong(精), qi(氣) and shin(神)
 - / External-Dantian(外丹田) – CV6(氣海穴), CV17(膻中穴), EX-HN3(印堂穴), PC8(勞宮穴), KI1(涌泉穴)

Training Qi (2) - Taichi

- Practice the movement by relaxing(放鬆) and breathing
- Characteristics of Posture
 - : Relaxation(鬆) - A relaxed and comfortable posture that is natural and calm, without straining or uncomfortable postures / Calmness(靜) - Unity of mind and movement
 - : Flexible movement, continuity of movement, circular movement, unity of mind, harmonious movement, artistic movement
 - : Characteristics of posture for each part - head (face and head), upper extremities (relaxation, hand shape), torso (spine, short leg), lower extremities (foot posture, movement posture, principle of landing)



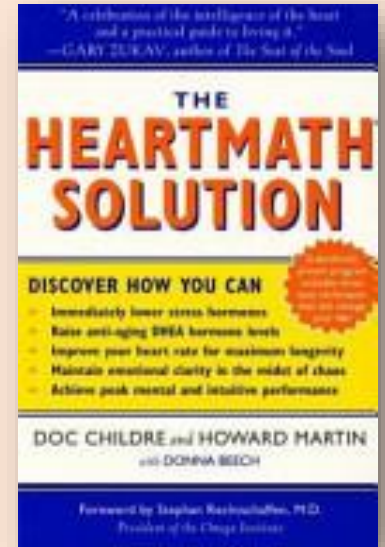
Dantian Breathing,
2010



Taichi, 2005

Meditation mechanisms in Oriental Medicine

Meditation mechanism in oriental medicine - Heart(心)



HEARTMATH
SOLUTION, 2000

Understanding Body and Mind in Oriental Medicine : Mind-centered perspective

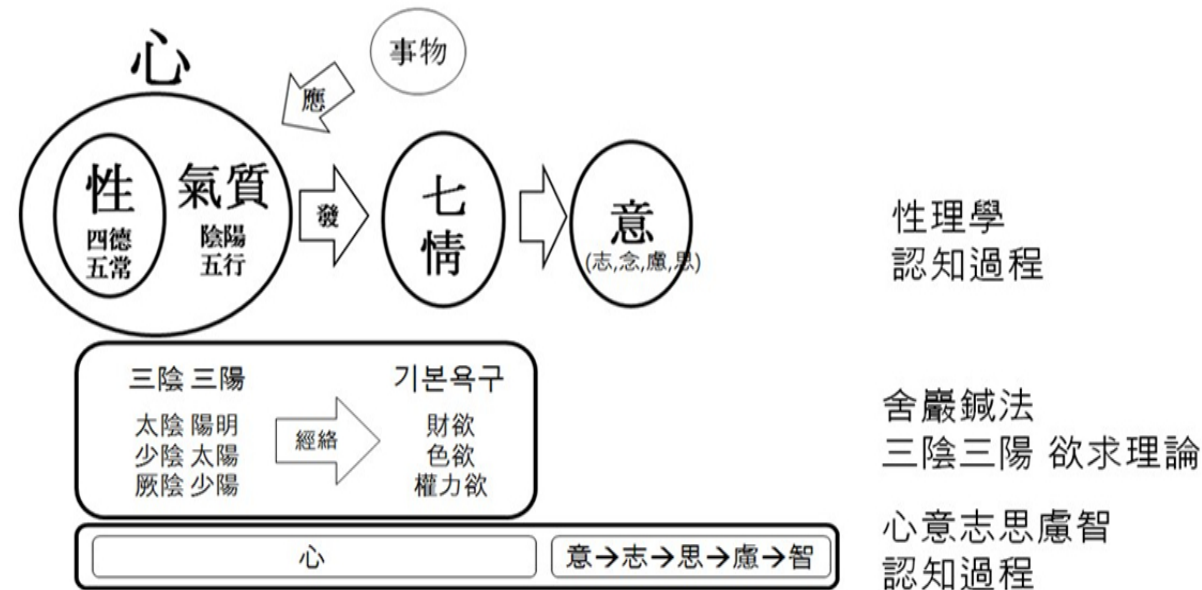
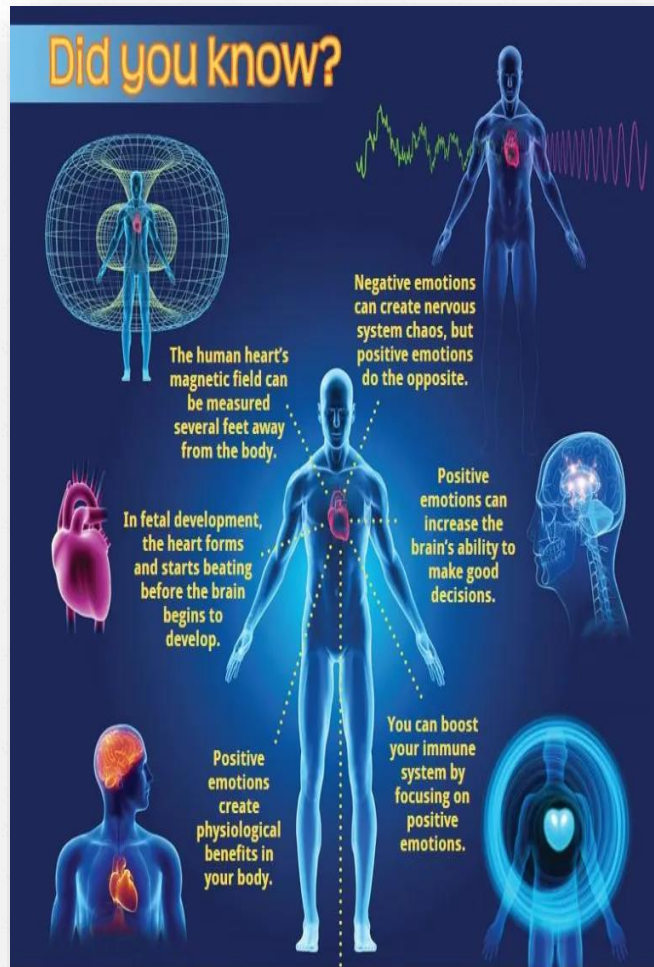


Fig. 1. The model of the Korean Medicine Cognitive Process Based on Neo-Confucianism

이정환, 이규원, 이나영. The Development of the Korean Medicine Cognitive Process Based on Neo-Confucianism. The Journal of Saam Acupuncture 2019;1(1):1-14

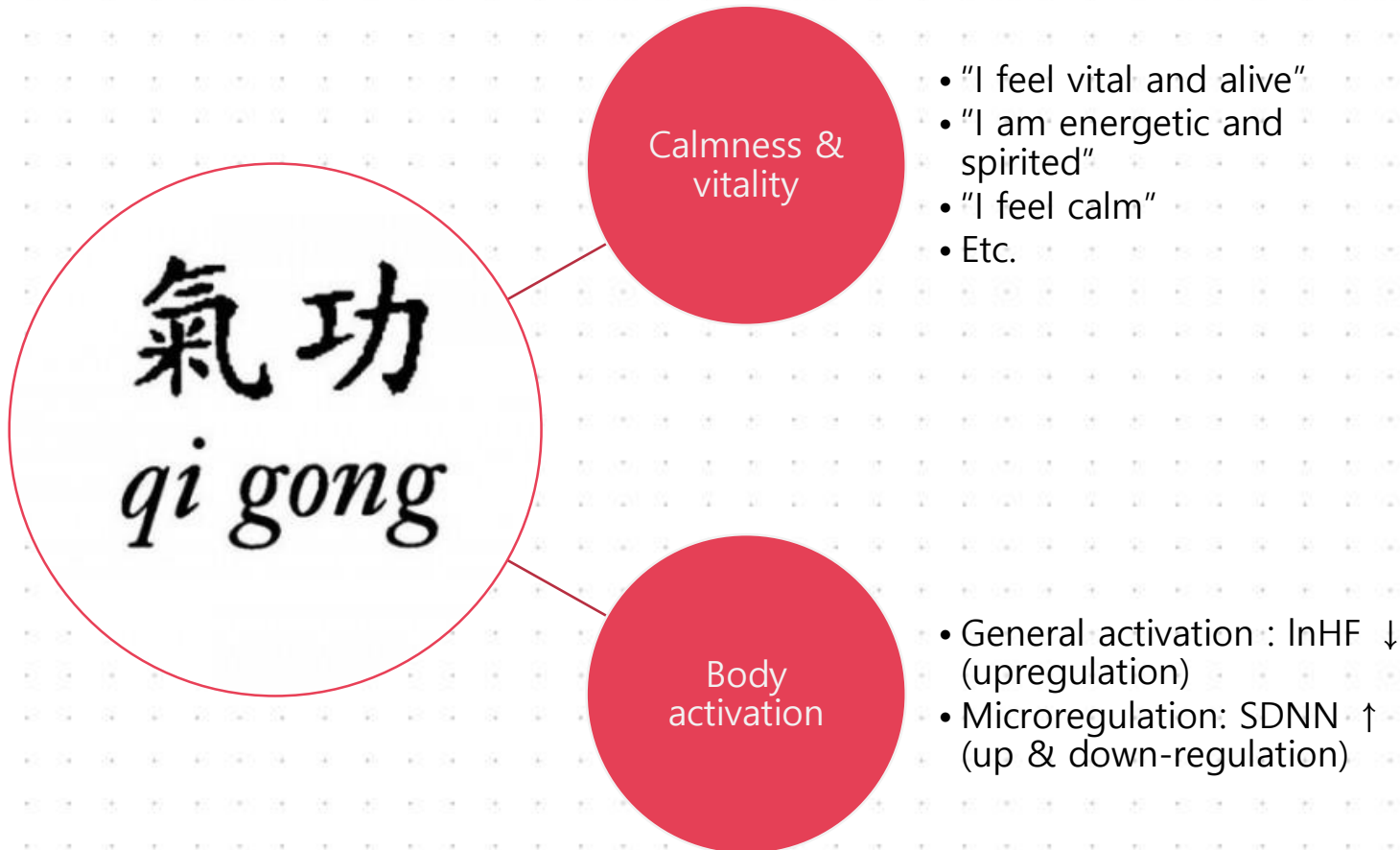
Jung-hwan Lee, Gyu-won Lee, Na-young Lee. The Development of the Korean Medicine Cognitive Process Based on Neo-Confucianism. J Saam Acupuncture. 2019;1(1):1-14.



Meditation and Qigong

Meditation mechanism in oriental medicine – research

Relaxation or Regulation: The Acute Effect of Mind-Body Exercise on Heart Rate Variability and Subjective State in Experienced Qi Gong Practitioners (2021)

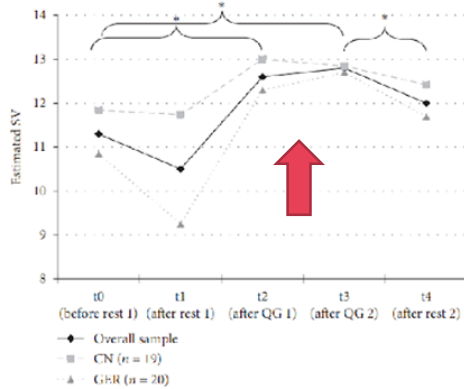


Goldbeck F, et al. Relaxation or Regulation: The Acute Effect of Mind-Body Exercise on Heart Rate Variability and Subjective State in Experienced Qi Gong Practitioners. Evidence-Based Complementary and Alternative Medicine, 2021;2021:6673190

Meditation and Qigong

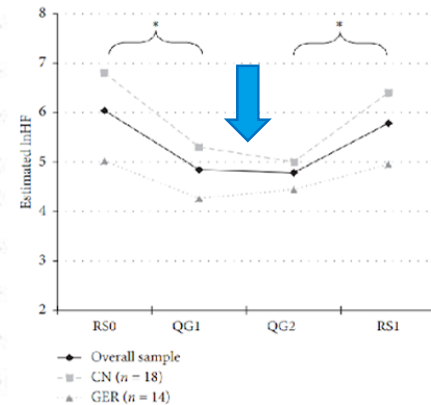
Meditation mechanism in oriental medicine – research

Calmness & vitality



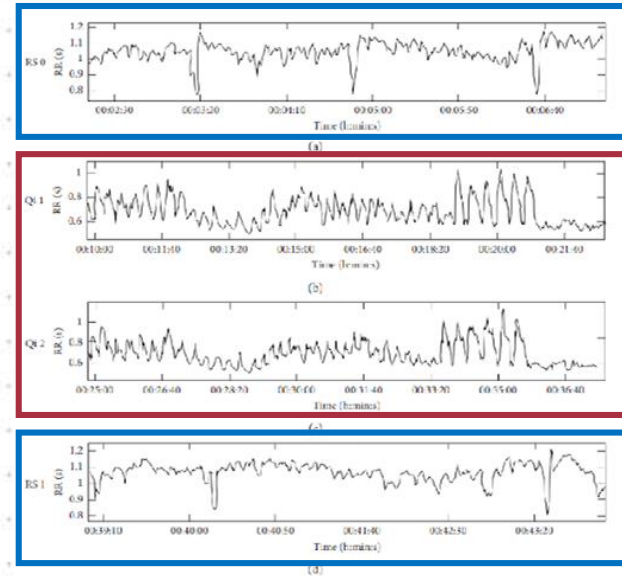
- Study design: Single-arm study
- Country: China and Germany
- Participants: Healthy volunteers (Chinese, n=21; German, n=21)
- Intervention: Ba Duan Jin
- **Results: Subjective vitality was increased during qigong practice**

Body activation



- **Results: Parameters of parasympathetic modulation significantly decreased during qigong practice**
 - More than just a state of relaxation

Body activation



- **Results: Rhythmic changes of RR intervals were observed according to activation and relaxation during qigong practice**

Meditation and Qigong

Meditation mechanism in oriental medicine – Meditation with Qi



Eun-Young Hwang, Sun-Yong Chung, Jae-Heung Cho, Mi-Yeon Song, Sehyun Kim and Jong-Woo Kim : Effects of a Brief Qigong-based Stress Reduction Program (BQSRP) in a distressed Korean population: a randomized trial, BMC Complement Altern Med, 25;13:113. 2013

Background: Distressed individuals in Korea may benefit from the practice of mind-body exercises such as Qigong. However, the effectiveness of such techniques needs to be investigated.

Methods: Fifty participants who were eligible to this study were randomized into a group receiving a 4-week intervention of a brief Qigong-based stress reduction program (BQSRP) or a wait-list control group. Before and after the intervention period, saliva samples were collected and questionnaires were completed on perceived stress, anxiety, "Hwa-Byung" (anger syndrome), and quality of life. Salivary cortisol has emerged in mind-body therapy research as an easy-to-collect, relatively inexpensive, biologic marker of stress. Salivary cortisol were collected to evaluate physiological effect of BQSRP. Between-group comparisons of change from baseline to study completion were analyzed by analysis of covariance for the Perceived Stress Scale and independent two sample t-tests for other measures.

Results: Compared with the control group, the BQSRP intervention group displayed significantly larger decreases in Perceived Stress Scale scores ($p = 0.0006$), State Anxiety scores ($p = 0.0028$), Trait Anxiety scores ($p < 0.0001$), personality subscale scores of the Hwa-Byung Scale ($p = 0.0321$), symptoms scores of the Hwa-Byung Scale ($p = 0.0196$), and a significantly larger increase in World Health Organization Quality of Life Abbreviated version scores ($ps < .05$). Salivary cortisol levels were not changed.

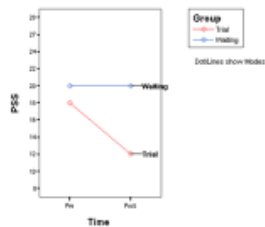
Conclusions: The BQSRP appears to be effective in reducing stress perception, anxiety, anger, and improving quality of life



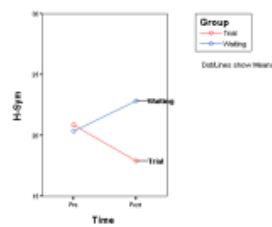
Brief Qigong- based Meditation Program	Breathing meditation	Abdominal breathing
	Autogenic Training	Training to feel heaviness and warmth in both hands
	Feeling Qi	Find your own qi between your hands.
		Healing Meditation Using Imagination Method

Brief Meditation : 15-minute brief meditation combining Breathing Meditation, Autogenic Training and Feeling Qi

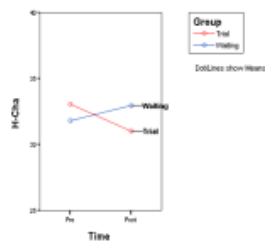
Stress perception



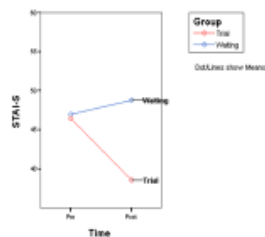
Symptoms of Hwa-Byung



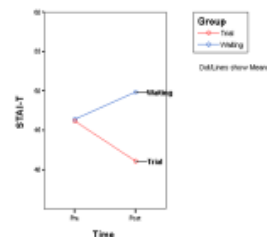
Characteristics of Hwa-Byung



State anxiety



Trait anxiety



② Has it reduced the level of stress, hwabyung, and anxiety?

- After 4 weeks, there was a difference in physical and psychological symptoms due to stress. Compared to the control group, the experimental group decreased the degree of stress perception, characteristics of Hwa-Byung, symptoms of Hwa-Byung, state anxiety, and trait anxiety

Changes In PSS, H_Ch, H_Sym, and STAI scores From Baseline

	QBMP(19)		Waiting(19)		t	Sig. (2-tailed)
	Mean	±Std.	Mean	±Std.		
PSS	-4.26	±4.724	0.84	±3.270	-3.873	0.000**
H-Cha	-2.37	±4.374	1.16	±5.326	-2.230	0.032*
H-Sym	-2.84	±7.073	2.37	±6.148	-2.446	0.020*
STAI-S	-7.63	±9.221	1.79	±8.619	-3.254	0.002**
STAI-T	-5.16	±8.255	3.47	±4.376	-4.027	0.000**

3

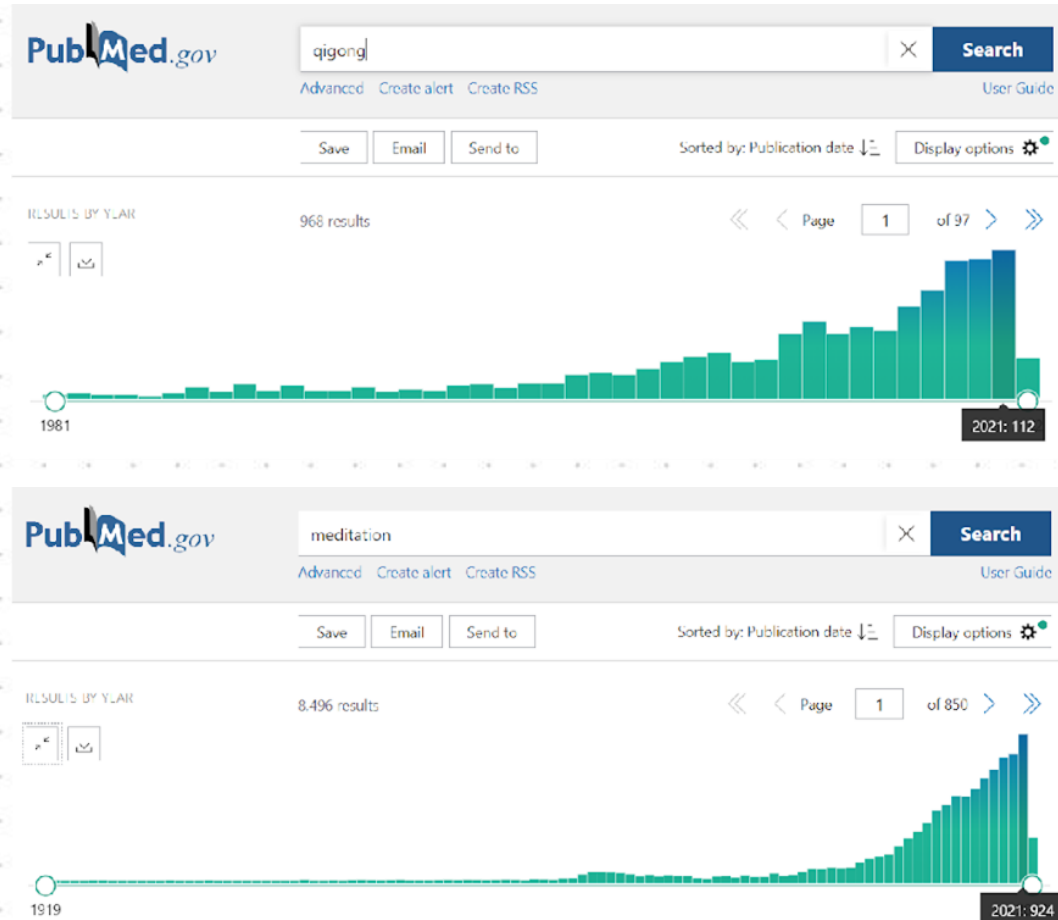
Qigong Research



Compared to the meditation, 'Qigong' has been practiced in similar way for same purpose in Oriental medicine. There have been many studies on the medical effect of Qigong. However, in order to be recognized as scientific research, it is necessary to clarify the concept of Qi and explain the mechanism of Qi. As the 'Qigong' is widely applicable for now, the program of qigong must be established priorly in research. Currently, the research of 'Qigong' is mainly focused on "Taichi" and "Dantian Breathing". It is possible because a clear movement or method can be presented.

When conducting research in Qigong, we should refer to the method used in meditation research. It is to follow the footsteps of psychology that has been developed into science. 'Operational definition' should be done in establishing the concept of Oriental medicine, and the program that fully contains the concept can be developed and applied.

A Comparison of Trends in the Research of “Qigong” and “Meditation”



- Comparing the quantitative aspects of papers by searching for “qigong” and “meditation” in Pubmed,
- The number of papers published in 2021 is about 8.25 times different
 - Qigong - published 112 papers
 - Meditation – published 924 papers
- The number of papers has been changed in different patterns.
 - Qigong- did not increase significantly
 - Meditaiton- increased exponentially

Trends in research

Meditation

Is Meditation Scientific?

Meditation has evolved from the traditional areas, and developed into the current study.

The research methodology of psychology was applied to the study of the mechanism of meditation. Then meditation could be clearly defined and explained. As a result, the operational definition and evaluation was proceeded.

Meditation has been explained by neuroscience. The mechanism of meditation has been explained through neuroscience by anatomical physiology and neurofunctional phenomena.

Since the MBSR program was developed, it was possible to demonstrate the medical effect of meditation. It also became available to predict the effect of meditation on people who actually needed it.

1. What is meditation
2. Neuroscience of meditation
3. Meditation and disease management
4. Meditation and Psychotherapy
5. Meditation, mind and body
6. Meditation and self-regulation
7. Meditation for relaxation and healing
8. Meditation for Growth
9. Meditation for Love
10. Meditation for Balanced Life

명상은 수천년째 이어져 온 전통을 지닌 심신수련법이다. 주로 종교적 목적으로 행해졌다. 2차 세계 대전 이후 동양적 수련법에 대한 관심이 높아졌고 1960년대부터는 과학적 접근이 시작됐다. 최근에는 뇌과학의 발달로 명상에 대한 과학적 분석이 더욱 활발해졌다. 오늘날 명상은 개인의 심신 건강과 웰빙 추구는 물론 우리 사회의 양면 문제 해결에도 그 적용성이 높은 것으로 평가되고 있다. 명상에 대한 최근의 과학적 연구 결과와 해설을 소개함으로써 명상이란 무엇이며 우리 삶에 어떤 긍정적 영향을 미치는지 이해하고는 어떤 과정으로 나타나는지를 이해할 수 있게 한다. 또한 쉬운 명상법을 소개해 명상을 직접 체험해 볼 수도 있게 했다.

과학명상
김한석



카툰니케이션연구소

Scientific meditation,
2016

Trends in research

Qigong

Types of Qigong in research

Movement form (Dong-gong)

- Taichi(太極拳)
- Badaunjin(八段錦)
- Liuzijue(六字訣)
- Wuqinxi(五禽戲)
- Daoyin(導引)
- Yijinjing(易筋經)
- Health Qigong(健康气功)
- Medical Qigong(醫療气功)

Static form (Jeong-gong)

- Meditation(冥想)

Standing form (Jang-gong)

- standing qigong(站桩功)

Zhang YP, et al. Evidence base of clinical studies on qi gong: a bibliometric analysis. *Complementary Therapies in Medicine*. 2020;50:102392.

Trends in research

Qigong

Qigong and Science 1. Operational definition and Measurement scale

- **The idealist and pragmatist view of qi in tai chi and qigong: A narrative commentary and review (2020)**

- 1) Is qi real?
- 2) Is qi useful conceptually

Table 1
Epistemological vs. ontological idealism.

Category	Description	Position on qi's existence
Epistemological	Objective reality may exist but is not completely accessible to us. Our notions of reality are subjective	We should remain agnostic about qi's existence
Ontological	All reality is subjective mental phenomena	Qi is real as a mental phenomenon

1) Qi from the epistemological perspective
: An agnostic view should be taken on the existence of qi.

1) Qi from ontological perspective
: Qi exists as a mental phenomenon.

Bao GC. The idealist and pragmatist view of qi in tai chi and qigong: A narrative commentary and review. J Integr Med. 2020 Sep;18(5):363-368. doi: 10.1016/j.joim.2020.06.004. Epub 2020



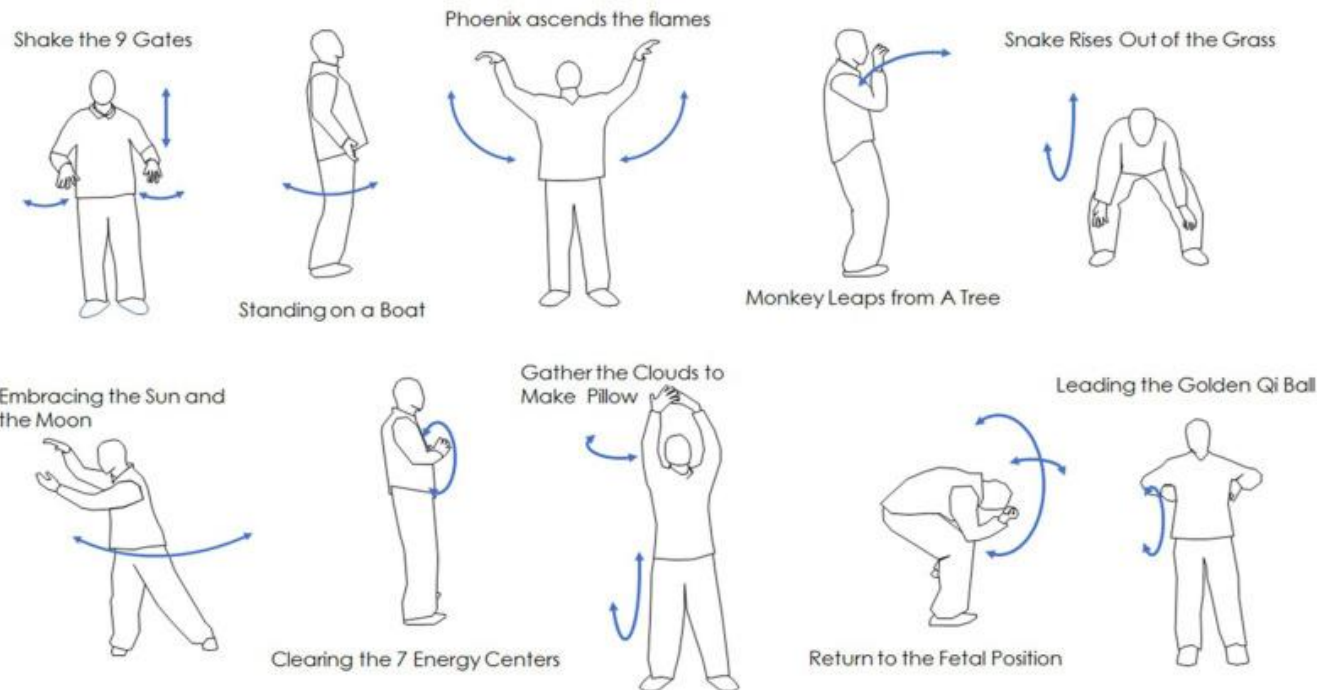
Trends in research

Qigong

Qigong and Science 2. Development of programs (1)

Medical Qigong for Mobility and Balance Self-Confidence in Older Adults

Stahl JE, Belisle SS, Zhao W.
[Medical Qigong for Mobility and Balance Self-Confidence in Older Adults](#). Front Med (Lausanne). 2020 Aug 14;7:422.



Design	Randomized prospective cohort pre-post study with wait time control
Participants and method	95 adults age ≥ 50 were randomly assigned to an immediate start group or 4-week delayed start group
Intervention	A 10 form qigong protocol taught over 12 weekly classes.
Measurements	<ul style="list-style-type: none">- Community Balance and Mobility Scale(CBMS)- Activities-Specific Balance Confidence (ABC)- Data was collected at baseline, 1-month and 4-months.
Results	Both groups at both sites demonstrated improved balance and gait (CBMS + 11.9 points, $p < 0.001$). Balance self-confidence showed a tendency of improvement in several subscales.

Trends in research

Qigong

Qigong and Science 2. **Development of programs (2)**

The effect of Imaginary Working Qigong on the psychological well-being of college students: Study protocol for a randomized controlled trial

Imaginary Working Qigong(IWQ)

IWQ is an extension of Concrete Thinking theory and through active processing of the consciousness, the benign thought subject translation into the artistic conception, and then makes the body and mind fuse in benign state of psychological harmony, so as to adjust the bad psychological emotions.

Guo Y, Xu M, Ji M, Wei Z, Zhang J, Hu Q, Yan J, Chen Y, Lyu J, Shao X, Wang Y, Guo J, Wei Y. The effect of Imaginary Working Qigong on the psychological well-being of college students: Study protocol for a randomized controlled trial . Medicine (Baltimore). 2018 Nov;97(44):e13043

Design	Randomized Controlled Trials(RCT)
Participants and method	80 college students were randomly allocated into Imaginary Working Qigong(IWQ) group or unaltered lifestyle control group.
Intervention	IWQ participated a 4-week supervised training and 4-week independence training
Measurements	<ul style="list-style-type: none">- Measurement was taken place at baseline, 5 weeks(at the end of supervised training), 9 weeks (at the end of independence training), and 13 weeks (after the 4-week follow-up period)- Bioelectrical activity of cortical neurons, changes in the gene phenotype of plasma leukocytes, depression, anxiety, personality, sleep quality, and self-assessment of Qigong training

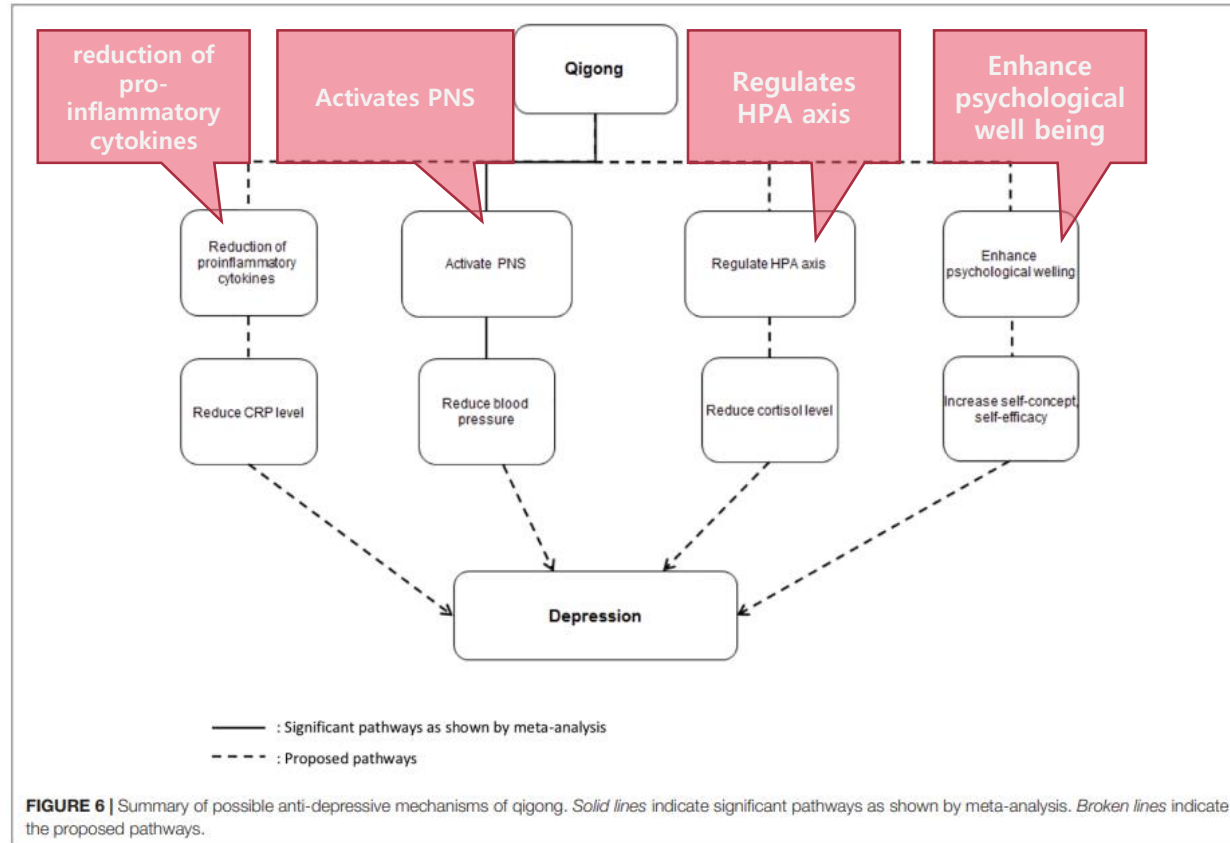


Trends in research

Qigong

Qigong and Science 3. Research in effectiveness and mechanism(1)

• The Neurophysiological and Psychological Mechanisms of Qigong as a Treatment for Depression: A Systematic Review and Meta-Analysis



- Included 9 RCT papers that studied the neurophysiological and psychological mechanisms of Qigong for depression.
- Qigong is effective in alleviating depression by activating the parasympathetic nervous system
- Depression can be improved through reduction pro-inflammatory cytokines, regulation of the HPA axis, and psychological positive reinforcement.

So WWY, Cai S, Yau SY, Tsang HWH. The Neurophysiological and Psychological Mechanisms of Qigong as a Treatment for Depression: A Systematic Review and Meta-Analysis. Front Psychiatry. 2019 Nov 18;10:820

Trends in research

Qigong



Qigong and Science 3. Research in effectiveness and mechanism(2)

Qigong and Tai-Chi for Mood Regulation (2018)

POSSIBLE MECHANISMS

The exact mechanisms of Tai-Chi and Qigong are unknown. Recent research studies have provided preliminary evidence on the physiological outcomes of meditation. On the basis of these findings, many researchers have proposed possible mechanisms on how meditation and meditative movements affect health outcomes. Admittedly speculative, we use these hypothesized mechanisms to formulate possible explanations on how Qigong and Tai-Chi produce their health effects.

1. Psychological Model of the Mechanisms of Mindfulness
2. Attenuation of Stress Response
3. Meditative Effects on the Brain
4. Revitalizing Interoception
5. The Effects of Breathing Exercises
6. Effects on Epigenetics

Albert Yeung, Jessie S. M. Chan, Joey C. Cheung, Liye Zou : Qigong and Tai-Chi for Mood Regulation, Focus 2018; 16:40–47



Trends in research

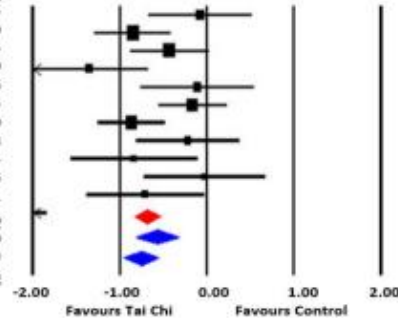
Qigong

Qigong and Science 4. Medical effects of Qigong(1)

• Tai Chi and Qigong for cancer-related symptoms and quality of life: a systematic review and meta-analysis (2018)

A. Fatigue

Study	Weight	Hedges's g	LL	UL	p
Loh2014	17.91	-0.07	-0.67	0.52	0.805
Larkey2015	25.29	-0.85	-1.30	-0.41	0.000
Zhang2016	24.54	-0.43	-0.89	0.03	0.065
Campo2014	16.54	-1.35	-1.38	-0.12	0.000
McQuade2016	15.73	-0.11	-0.77	0.54	0.736
Chen2013	15.35	-0.17	-0.56	0.23	0.415
Oh2010	15.37	-0.87	-1.26	-0.48	0.000
Loh2014	14.21	-0.22	-0.81	0.37	0.468
Thongteratham2015	13.28	-0.84	-1.57	-0.11	0.024
Oh2008	13.50	-0.02	-0.72	0.67	0.946
McQuade2016	13.62	-0.71	-1.39	-0.03	0.041
Chuang2017	14.67	-2.36	-2.87	-1.84	0.000
Overall effect		-0.53	-0.97	-0.28	0.000
Active control only		-0.48	-0.98	-0.14	0.009
No treatment control only		-0.75	-1.35	-0.14	0.016

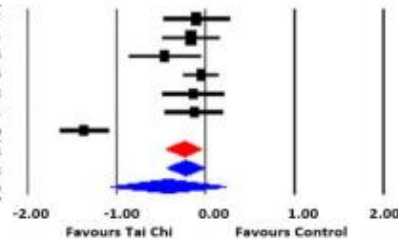


(1) fatigue

- Evaluated through various fatigue related questionnaires including FACT-F
- Given the overall effect size based on the random effect model, Taichi and Qigong improved fatigue of cancer patients(Hedges' $g = -0.53$, 95% CI -0.97 to -0.28 , $p < .001$)

B. Sleep difficulty

Study	Weight	Hedges's g	LL	UL	p
Larkey2015	31.45	-0.21	-0.96	0.55	0.592
McQuade2016	41.69	-0.33	-0.99	0.33	0.324
Vanderbyl2017	26.86	-0.92	-2.02	-0.33	0.006
Chen2013	25.73	-0.10	-0.50	0.30	0.616
Oh2008	24.47	-0.28	-0.98	0.42	0.438
McQuade2016	24.65	-0.25	-0.92	0.41	0.453
Chuang2017	25.15	-2.73	-3.29	-2.18	0.000
Overall effect		-0.49	-0.89	-0.09	0.018
Active control only		-0.45	-0.87	-0.03	0.038
No treatment control only		-0.84	-2.13	0.44	0.199



(2) sleep difficulty

- Evaluated through various sleep disorders related questionnaires including PSQI.
- Given the overall effect size based on the random effect model, Taichi and Qigong improved sleep disorders of cancer patients(Hedges' $g = -0.49$, 95% CI -0.89 to -0.09 , $p = .018$).

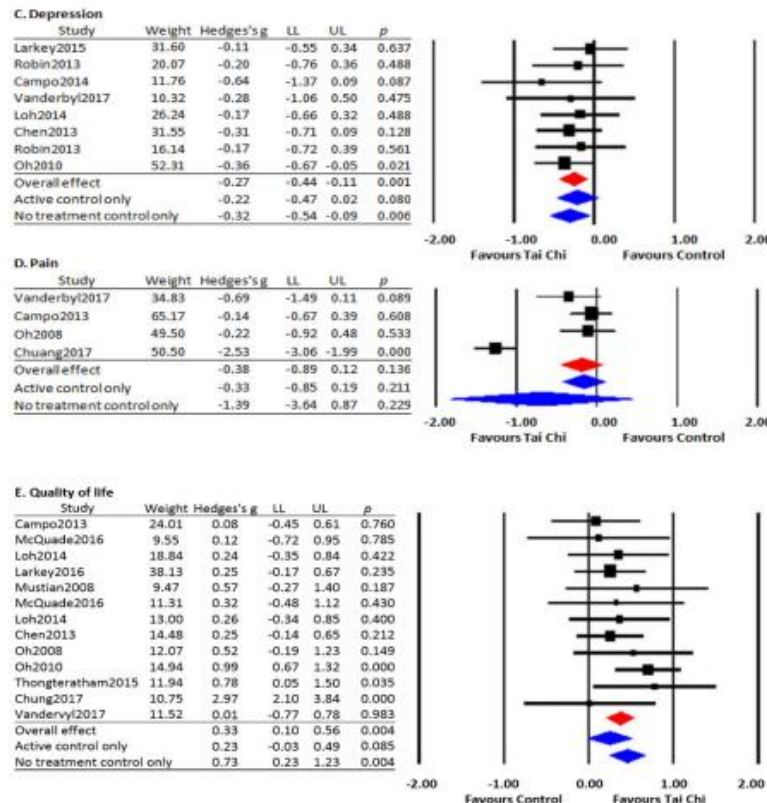
Wayne PM, Lee MS, Novakowski J, Osypiuk K, Ligibel J, Carlson LE, Song R. Tai Chi and Qigong for cancer-related symptoms and quality of life: a systematic review and meta-analysis. J Cancer Surviv. 2018 Apr;12(2):256-267. doi: 10.1007/s11764-017-0665-5. Epub 2017 Dec 8. PMID: 29222705; PMCID: PMC5958892.



Trends in research

Qigong

Qigong and Science 4. Medical effects of Qigong(1)



(3) Depression

- Evaluated through depression-related questionnaires including BDI
- Given the overall effect size based on the random effect model, Taichi and Qigong improved depression of cancer patients(Hedges' $g = -0.27$, 95% CI -0.44 to -0.11 , $p = .001$)

(4) Pain

- Evaluated through pain related questionnaires
- No significant results(Hedges' $g = -0.38$, 95% CI -0.89 to 0.12 , $p = .136$)

(5) Quality of Life

- Evaluated through Quality of Life related questionnaires
- Taichi and Qigong improved Quality of life of cancer patients(Hedges' $g = 0.33$, 95% CI 0.10 to 0.56 , $p = .004$).

Trends in research

Qigong

Qigong and Science 4. Medical effects of Qigong(2)

Intervention on Telomerase Activity and Mental Health in Women Survivors of Intimate Partner Violence(IPV) : A Randomized Clinical Trial(2019)

Design	Randomized Controlled Trials(RCT)
Participants and method	271 women who survived intimate partner violence(IPV) in the past 2 years were 1:1 randomly assigned to baduanjian qigong intervention group and wait-list control group
Intervention	Baduanjin qigong group training : 1-6 weeks: 2-hour sessions biweekly; 7-22 weeks: 1-hour follow-up sessions weekly and self-practice 30 minutes per day for 22 weeks
Measurements	- primary outcome: telomerase activity in peripheral blood mononuclear cells - secondary: levels of proinflammatory cytokines, BDI-II, PSS, PCS 점수
Results	- not significant in telomerase activity between two groups - telomerase activity from baseline was marginally significant in the intervention group(effect size [d], 0.13; 95% CI, 0.001-0.27) - Perceived stress and depressive symptoms were significantly lower in the intervention group than in the wait-list control group after 6 weeks(between-group differences: perceived stress: d, -1.81; 95% CI, -3.27 to -0.34; depressive symptoms: d, -3.57; 95% CI, -6.25 to -0.90)

Cheung DST, Deng W, Tsao SW, Ho RTH, Chan CLW, Fong DYT, Chau PH, Hong AWL, Fung HYKY, Ma JLC, Tiwari AFY. Effect of a Qigong Intervention on Telomerase Activity and Mental Health in Chinese Women Survivors of Intimate Partner Violence: A Randomized Clinical Trial, JAMA Netw Open. 2019 Jan 4;2(1):e186967.



Trends in research

Qigong

Qigong and Science 5. Diseases treated with Qigong(1)

• Evidence Base of Clinical Studies on Qi Gong: A Bibliometric Analysis (2020)

Table 3
Top 15 diseases/conditions included in clinical studies on Qigong. (n = 886)

Disease/condition	Study design (number of studies)					Total (%)
	SR	RCT	CCS	CS	CR	
Diabetes	6	84	4	0	0	94(10.6)
COPD	6	70	8	0	0	84(9.5)
Hypertension	9	40	8	0	1	58(6.5)
Stroke	2	44	2	0	1	49(5.5)
Cervical spondylosis	0	34	3	0	0	37(4.2)
Lumbar disc herniation	0	34	2	1	0	37(4.2)
Insomnia disorders	0	19	7	0	0	26(2.9)
Osteoarthritis	0	20	3	1	0	24(2.7)
Low back pain	0	22	0	0	0	22(2.5)
Osteoporosis or osteopenia	1	17	0	0	0	18(2.0)
Coronary heart disease	2	14	2	0	0	18(2.0)
Breast cancer	1	9	2	1	0	13(1.5)
Periarthritis of shoulder	0	10	3	0	0	13(1.5)
Depression	2	5	3	1	0	11(1.2)
Metabolic syndrome	0	10	0	0	0	10(1.1)

Abbreviation: SR, systematic review; RCT, randomized clinical trial; CCS, non-randomized controlled clinical studies (quasi-randomized clinical trial or observational studies such as cohort or case-control studies); CS, case series; CR, case report; COPD, chronic obstructive pulmonary disease.

- Only include movement form of qigong (~2018)
 - Tai Chi and yoga were excluded
- Top 15 diseases/conditions
 - Metabolic syndrome
 - COPD
 - Cardiovascular disease (CVD)
 - Musculoskeletal disorders
 - Cancer, etc.

Zhang YP, et al. Evidence base of clinical studies on qi gong: a bibliometric analysis. *Complementary Therapies in Medicine*. 2020;50:102392.

Trends in research

Qigong

Qigong and Science 5. Diseases treated with Qigong(2)

- Analysis of Clinical Study Trends on 'Qigong': A Preliminary Scoping Review(2021)

Table 4. Disease Categories Based on ICD-10 Classifications

ICD-10 codes ^a	No. of study (%)
Mental and behavioural disorders (F00-F99)	25 (19.8%)
Neoplasms (C00-D48)	24 (19.0%)
Studies on healthy population and others	19 (15.1%)
Diseases of the nervous system (G00-G99)	12 (9.5%)
Diseases of the circulatory system (I00-I99)	11 (8.7%)
Diseases of the musculoskeletal system and connective tissue (M00-M99)	11 (8.7%)
Diseases of the respiratory system (J00-J99)	9 (7.1%)
Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)	1 (0.8%)
Endocrine, nutritional and metabolic diseases (E00-E99)	5 (3.9%)
Diseases of the digestive system (K00-K93)	5 (3.9%)
Factors influencing health status and contact with health services (Z00-Z99)	3 (2.3%)
Certain infectious and parasitic diseases (A00-B99)	1 (0.8%)
Codes for special purposes (U00-U85)	1 (0.8%)
Total	126 (100.0%)

^aICD-10: International Classification of Diseases

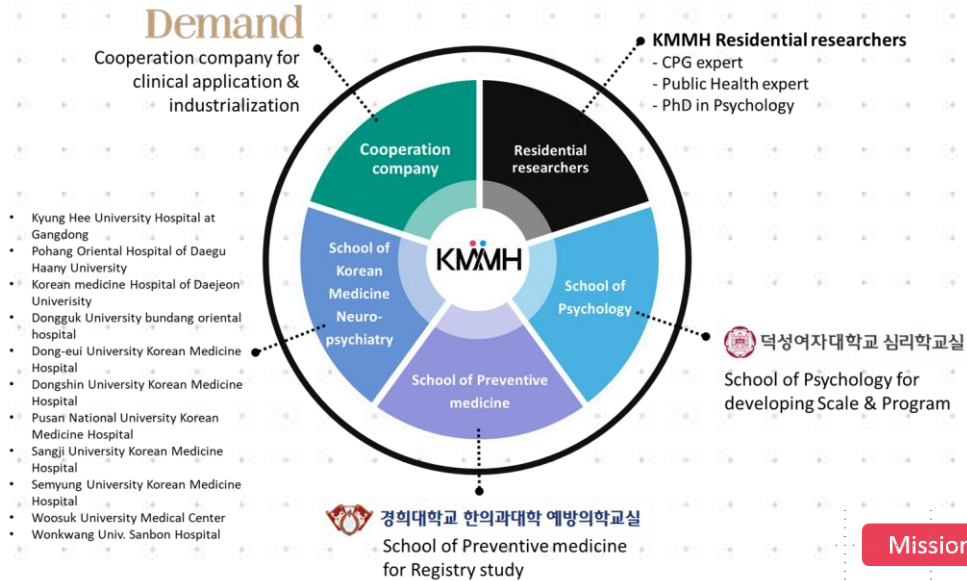
- Include all types of qigong (2019~2021)
 - Include movement form, static form, standing form, etc.
 - However, most of the studies investigated movement form of qigong
- Major diseases/conditions
 - Mental health
 - Cancer
 - Neurological disorder
 - Cardiovascular disease (CVD)
 - Musculoskeletal disorder

Choi, W., Suh, H. W., & Kim, J. W. (2021). Analysis of Clinical Study Trends on 'Qigong': A Preliminary Scoping Review. Journal of Oriental Neuropsychiatry, 32(3), 207-217.



Qigong Research

Korean Medicine Mental Health Center



Mission

Optimal Mental Health Through Balance and Harmony

Vision

- Korean Medicine-based Mental Health Care
- HQ for Continuous Research
- National Mental Health Hub

Goals

- Establishing patients' registry and conducting large-scale observational studies on Hwa-byung and depressive disorders
- Development of Korean Medicine Diagnosis, Evaluation and Treatment Technology for mental disorders
- Developing Korean Medicine Mental Health Program that combines IT technology
- New Health Technology Registration and Insurance Entry for the public interest
- Ultimately, contributing to the promotion of Korean mental health



Qigong Research

Defining concept and
development of measurement tools



- **Understanding of Qi**

- ✓ It is difficult to reveal the reality of Qi and measure it objectively. But, it is possible to share common experiences of qi in everyday/training contexts.(ex: A feeling of heat rising in your chest when you are angry, A feeling of warmth and firmness in the palm and dantian during qigong practice, etc.)

- **Definition of Qi**

1. Feeling qi(感氣) : The ability to recognize the feeling of Qi
2. Accumulating Qi (蓄氣) : The ability to store the energy of Qi
3. Circulating Qi (行氣) : The ability to use the energy of Qi

- **The measurement scale of Qi**

- ✓ Feeling Qi questionnaire : "I can feel the warmth in my palm." etc. Develop observable phenomena of Qi into the form of self-report questionnaires.
- In the future, it is necessary to increase the reproducibility of the research through the development of a standardized qigong programs, and to reveal its effectiveness and neurological mechanisms.

Mental Health Program
Development Project.
- Qi questionnaire

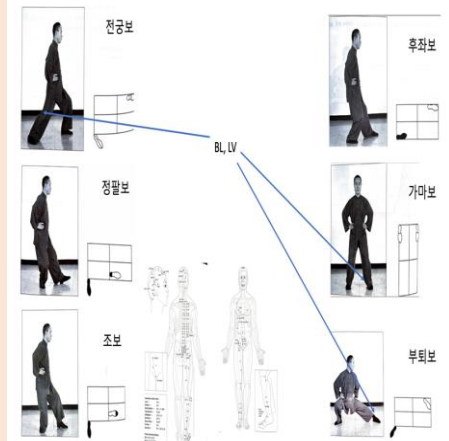
Seok-in Yoon(KMMH)



- **Distinctiveness of Taichi & Movement analysis based on meridian system**
- ✓ There are two explanations for the health effects of Taichi. The first explanation notes that it relieves inflammatory responses in the immune system(Ho, Wang, Ng, Ho, Ziea, Wong,...Chan, 2013). It has the effect of enhancing harmony with sympathetic nerves by strengthening the parasympathetic nervous system of the autonomic nervous system (Audette et al., 2006; Chang et al., 2008; Figueroa, DeMeersman, & Manning, 2012; Väänänen, Xusheng, Wang, Laitinen, & Pekkarinen, 2002). Taichi's slow movements and meditative mental state are advantageous for operating these mechanisms.
- ✓ The second explanation notes that Taichi improves blood circulation(Rogers et al 1990). Through active blood circulation, it not only reduces inflammation but also enhances cardiorespiratory function. It is advantageous for Taichi to have this effect because Taichi is a moderate-intensity aerobic exercise similar to fast walking or stretching (Lan et al 2008; Lan et al 2001) and can be trained for a relatively long time without straining joints or muscles.
- Special health effects of Taichi are explored in oriental traditions especially in Oriental Medicine and Taoism. Taichi's movements were developed and passed down for hundreds of years under the influence of martial arts, Oriental medicine and Taoism. Above all, movement and training methods can be analyzed based on the meridian theory of Oriental Medicine and Taoist life-nurturing(養生).

Taichi based program development.

Jackie Shin (Indiana State Univ.)



- **Study of Life-nurturing(養生)**

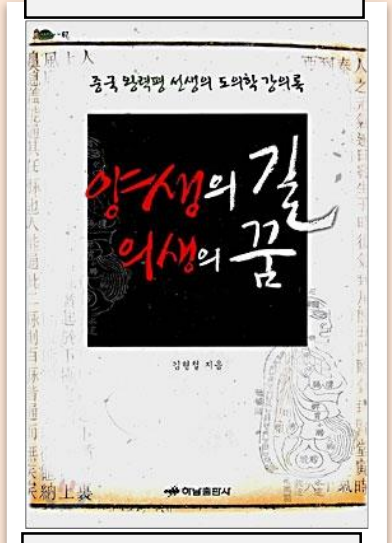
Among the characteristics of Oriental Medicine, they have strengths against prevention and management, and sub-health (未病) before diseases. Taking advantages of these strengths is called 'Life-nurturing(養生)'. Life-nurturing(養生) means nurturing vitality. To boost vitality, herbal medicine or acupuncture is used, but training mind and behavior is important as well.

Qigong(气功) is a specific practice of life-nurturing(養生). Qigong consists of breathing, posture, and mind control. Oriental Medicine mainly explains breathing and posture by using the circulation pathway called meridian system. Dantian breathing is used for breathing meditation and Taichi is used for practicing postures. Above all, the essential part here is mind control, or mental training.

Mind control and mental training are dealt with more in the field of philosophy and religion than in Oriental Medicine. In China, various methods of Taoism, Confucianism, and Buddhism are presented according to the characteristics of each field. As Chinese philosophy and religion flowed into Korea, it developed in a distinctive way in Korea.



Life-nurturing, 2020



Way of Life-nurturing & Dream of Doctor, 2020

Meditation and Qigong

Development of Qigong program



Development of Qigong program

1. Stabilization : As a basic move to restore physical stability and confidence, it uses the posture of standing qigong(站桩功), the first movement "Ki-se(起勢)" and the last movement "Su-se(收勢)" of Taichi.
1. The process of accumulating Qi : In the posture of the standing qigong(站桩功) and the sedentary position, feel Qi in the Dantian through Dantian breathing and experience the accumulation of Qi.
1. The process of Feeling Qi : Among the movements of Taichi, use the movement of palms crossing each other such as "Unsu(雲手)".
1. The process of using Qi : Among the movements of Taichi, learn the movement of transmitting Qi to the fingertips and confirm that Qi is transmitted to the end.
1. Adapting Qi to your own situation : By identifying uncomfortable body parts and delivering Qi there, a healing mechanism arises.
1. Becoming one's optimal state : Through meditation with Qi, be the optimal state of mind and body with your own rhythm, and train yourself to return to this state any time.

Mental Health Program
Development Project.
- Qigong program

Jongwoo Kim, Hyoweon
Suh(KMMH)



4

Meditation and Oriental Medicine for health



There are many ideas when organizing meditation and Oriental Medicine. It's about the goals you want to achieve, what you want to do, what you can do, and what you're doing right now. In the past, humanities and natural sciences were not separated but integrated. As times change, the field of study has become specialized, and the medicine has already been included in the domain of science. While the field that are not explained by scientific research are being denigrated as "non-science."

Oriental Medicine has been requested to develop into a "science" from "non-science. Such demand is strong not only in basic theory but also in clinical settings. For that reason "Yin-Yang and Five-Elements", "Qi(氣)", "principle(道)", "life-nurturing(養生)", and "Qigong(氣功)" are moving away from the subject of research, and only remain in individual practice.

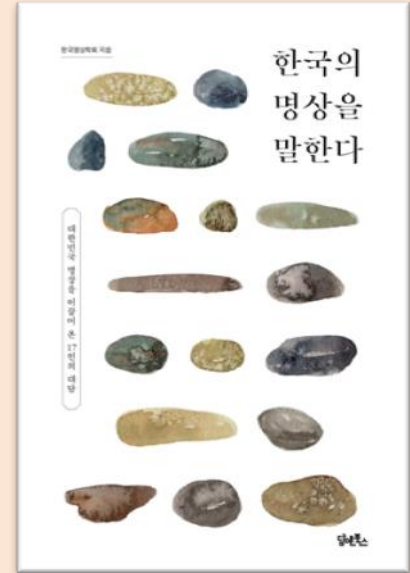
Nowadays, it is impossible to escape from "science". Therefore with the difficulty of identifying through scientific methods, sometimes it takes a step forward, but it repeats a step backward. However if you leave the field of science for a while and enter the world of training, there are still paths and dreams to practice consistently. Also the methods that can be applied to patients are being sought, not remaining in the individual performer. Moreover, there is wisdom to choose an appropriate scientific research methodology, and the convergence of science and humanities is also possible, so the research should not be given up.

Meditation and Oriental Medicine for health

Korean meditation

Q. What is meditation?

- ✓ Just being calm and living well
- ✓ Being free from thoughts
- ✓ Awaken and examine the body-mind-thought, restore one's presence as the way it is
- ✓ The way of approaching truth
- ✓ The way to look at 'life' in a rich and warm way
- ✓ The inner gesture of compassion and kindness towards oneself and others.
- ✓ one's own way of life
- ✓ The process of enlightening the mind
- ✓ Putting down thoughts(judgments) about a certain object and fully concentrating.
- ✓ Gaining wisdom in the process of observing mind and body
- ✓ The process of creating the optimal state



Speak of Korean meditation, 2020

Meditation and Oriental Medicine for health

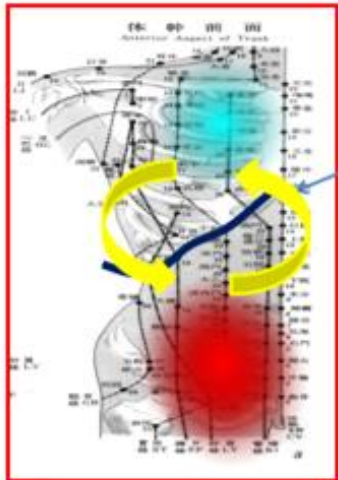
Optimal state of Mind and Body

Optimal state of the body

【頭寒足熱】

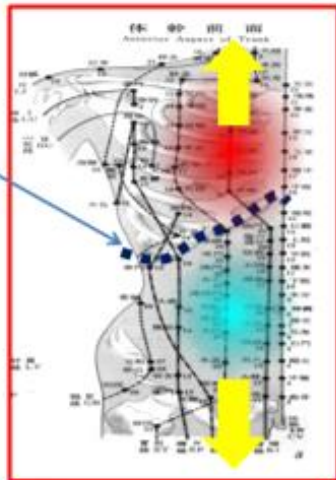
The upper side of the body is cool and lower side of the body is warm

• healthy person



Cold and heat are circulated and harmonized

• unhealthy person



Cold and heat are biased towards one side

Optimal state of the mind

【虛心合道】

If Mind is Unintentional, people could follow the principle(道)

- ✓ Empty your mind without being obsessed
- ✓ don't be distracted and be free from agony
- ✓ The mind becomes calm and peaceful
- ✓ Be in the right mind and follow the principle
- ✓ Be in a healthy state of mind



삼단전의 위치



한의학에서 본 명상 기제

Korean Medicine Mental Health Center



Thank You / 감사합니다



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