



Is Traditional Chinese Medicine Scientific and Effective?

Traditional Chinese medicines (TCM) have been widely used for thousands of years. Their preventative and therapeutic efficacies proven by countless people are much more convincing than results obtained from laboratory and animal experiments. No one should doubt this.

※ Written by Jianghua (Willow Liu) Liu

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What should you know about traditional Chinese medicine (TCM)?

1. How TCM developed

TCM was formed through the long history of ancient Chinese fighting diseases. They gradually discovered methods of diagnosis through careful observation and of treatment using Chinese herbs, acupuncture and others with personal experiences and countless practice. They created terminologies including qi and meridians to describe the human body and its physiology and pathology while the knowledge about human body and diseases were very limited back then. The TCM theories have been gradually summarized and constantly replenished and corrected together with treatment through generations up to now.

2. Holism – the most important TCM fundamental characteristics

TCM considers the various parts of the human body as an organic whole, emphasis the coordination of the internal organs among each other and the harmony of the human body with the external environment, in TCM terminology, yin - yang balance. Once the harmony is broken, yin - yang turns into imbalance, and the person becomes sick.

3. Concept of qi in TCM

There are different types of qi in TCM. According to their definitions, qi in TCM refers to both essential substances and functions that maintain normal function of our body. There are qi inherited from parents and qi acquired after birth. The acquired qi comes from the air and the foods we eat. The ingested foods are mechanically and chemically digested through stomach and small intestine and absorbed in small intestine, then processed in liver and turned into essential qi (substances for cells and energy). Neurotransmitters, hormones, immune factors, and other cytokines that regulate the functions of all systems, maintain the functions of cells, and circulated in the blood are all considered as substances of qi. The function of qi actually covers functions of nerve, endocrine and immune systems as well as that of organs and tissues.

4. Concept of meridians and collaterals in TCM

TCM believes that the human body is a complex network of connections, made up of meridians and collaterals, in which qi and blood circulate through. Many Chinese doctors who have knowledge on both TCM and modern medicine believe that the fundamental structures of the meridians and collaterals in TCM cover the neuroendocrine-immune network and circulatory (blood and lymphatic) systems. These networks not only connect the internal organs, but also control their functions through qi and blood. Through such connection, the dysfunction of an organ may impact the functions of other organs and tissues. Based on this concept, the treatment with Chinese medicine and acupuncture emphasizes qi and blood circulation in the network of channels and collaterals.

Is Traditional Chinese Medicine Effective and Scientific?

"Survival of the fittest" describes natural selection in evolutionary theory. In the case of medicine practices over the ages, Traditional Chinese Medicine (TCM) has been successfully applied over several thousand years on countless people in China. Therefore, it must have its unique features to survive and spread to the Western countries where conventional medicine dominates.

TCM is an empirical science. The diagnosis and treatment with herbs, acupuncture and other methods in TCM have all been derived from experiences of personal observation and practice. The theory that guides its diagnosis and treatment is the sum of the wisdom of countless Chinese people fighting diseases. In contrast to the recent boom in Western medical knowledge over the last 200 or so years, TCM has been continuously replenished and revised by practitioners for over 5000 years.

Since conventional Western medicine (CWM) arrived in China a hundred years ago, it has been continuously incorporated into the practice of TCM doctors. However in the West, even though acupuncture has been welcomed by more and more people, some Western physicians still currently doubt or even reject TCM because they may think that TCM is "unscientific" or "lacks scientific proof." They are either unaware or refuse to believe that TCM can more effectively treat many diseases or symptoms of which Western medicine currently is unable to diagnose with lab tests or exams, or has no treatment or only symptomatic treatment for. Therefore, I want to share my understanding and view about TCM with Western readers including physicians. The following are a few points that I would like to share with the readers about whether TCM is effective and scientific.



Shen Nong, a legendary person who wrote the first book introducing Chinese herbs two thousand years ago. It is said that he tasted over hundreds of herbs, once was poisoned for 70 times in one day, and finally died of toxic herbs.

1.1 TCM can treat many health conditions that CWM currently fails to treat

Many people are familiar with the use of acupuncture for musculoskeletal injuries or pain treatment. Some are familiar with the use of Chinese herbs for tonifying or detoxifying the body. These are actually just a small sampling of the potential application of acupuncture and Chinese herbs. In fact, when applied correctly, the combined approach of utilizing acupuncture and Chinese herbal formulas together, have extensive applications and unexpected potentials in treating a broad variety of symptoms and medical conditions, and thus, are effective in many functional disorders for which current CWM treatments are at a standstill.

I want to share with readers that, with acupuncture, Chinese herbal formulas, and often a combination of both, I have been able to help many patients who have had disappointed results with conventional drugs. I would also say that, in many situations, TCM treatment is far superior to CWM. These situations include problems caused by hormone disorders, nerve dysfunctions, and poor blood circulation. Here are a few clinical examples.

Example 1. In March 2014, a 77-year-old female patient who was diagnosed with gastroparesis (GP) by her specialist came to my clinic for help. She was a medical doctor in China and then research scientist at a famous university in Southern California. On Jan. 29, 2014, she caught a cold and vomited for two days. Since then, she felt increasingly frequent pain around her right hypochondriac region and upper back, especially when eating. The doctor diagnosed GP and prescribed her erythromycin. She took the antibiotic for one month, but it did not help. Moreover, she felt more fatigued after taking the medicine. The pain was worsening in intensity and frequency. She had also lost five pounds. As a retired medical doctor, she knew that CWM could not help her. Thus, she came to me after doing online searching for TCM. After four times of acupuncture treatment and ten days of herbal formula, she felt much less pain, the pain completely disappeared in three weeks.

She told me that, through the websites, she found that many GP patients are suffering and looking for help. When I told her that I was writing this book, she suggested me to tell the readers first that TCM can treat diseases that CWM fails to. I took her advice.

Example 2. In 2010, a 40-year-old lady came to my office and told me that she had a surgery for her anal cancer three years ago. Since then, she had constant bleeding from the anus. The doctors had tried everything to stop the bleeding, but to no avail. At the advice of her colleague, she searched the internet for an acupuncturist and found me. She was worried about the side effects of herbs and preferred to try acupuncture alone first. I told her that I never had such a case before, and that although I usually use herbal formulas for bleeding problems, I was willing to try acupuncture treatment alone on her if she insisted. I selected the points based on both their traditional functions and on modern anatomy and physiology. The result even surprised me. On her second acupuncture appointment, she told me that there were only minor blood spots after the first treatment. Later, she called me to cancel her third appointment because the bleeding stopped completely after the second treatment. This was not the only case that treatment result exceeded even my expectation.

Here are only two cases given as examples. TCM can effectively treat almost all types of illnesses: from acute infection to chronic inflammation, migraine headache to dizziness, chronic cough to severe asthma, chest tightness (angina) to heart attack, arm numbness to leg cramps; stomachache to abdominal fullness, hives to eczema, miscarriage to infertility, post herpetic neuralgia (nerve pain that lingers after shingles) to stroke sequelae, symptoms caused by cancers to side effects of chemotherapy, and so on. When a friend who has no TCM background read this as a reviewer, he commented on “heart attack” with “How is this possible?” I bet that most people may not know that acupuncture may save the life of a person experiencing a heart attack. But I have personally treated a patient with severe heart failure who underwent a heart attack with acupuncture. The power of acupuncture to save lives must be further explored and explained.

What if you’ve received a TCM treatment you tried did not help? First, as with CWM, TCM is unable to cure all diseases. Also, as with CWM, TCM treatment fails in many cases due to insufficient skill and knowledge of the individual practitioner. An effective TCM treatment must be based on correct diagnosis and differentiation. Although TCM diagnosis could not digitally detect the abnormality as indicated by blood test and image exam in CWM, TCM doctors are able to tell the internal changes by finding the abnormal appearance changes by means of inquiry, inspection, auscultation (listening) & olfaction (smelling), and palpation, and make a treatment plan based on differentiation analysis. With no doubt, for diseases hard to be treated, the greatest benefit of treatment will result from the integrated knowledge and application of TCM and modern medicine.



Pulse diagnosis



Tongue diagnosis

1.2 More knowledge is needed to reveal the mechanisms of TCM

On July 21 2012, I received a testimony by e-mail from my patient, a psychiatrist with a M.D. license who had been suffering from asthma and had been treated with inhaler and prednisone for over 20 years. In it, he wrote: “This year I needed prednisone in January, I took it. Then in February, I took it. Then in March I decided it was too much. I went to see Dr. Liu, who gave me some traditional medicine in the form of a brown powder and 5 acupuncture sessions. In a few days my wheezing was better and in ten days it was gone. Since then in four months I twice had some small viral infection with no asthma flare up. I still feel good and in two months I cut down to half of the inhaler Dulera. [...]. I always had an open mind

and even though I have no idea how it works, I have the proof of my own experience that your method works.”

He mentioned that when he told the results to his specialist who had treated his asthma for many years, the specialist responded: “There is no scientific proof.”

When my other patient told her physician about the successful treatment with only one session of acupuncture for her stomach problem at my clinic, she got a response with “That is just a psychological effect!”

Instead to discuss whether “there is a scientific proof” and if acupuncture “is just a psychological effect”, let us review the definition of “science” from the online Merriam-Webster dictionary:

- Knowledge about or study of the natural world based on facts learned through experiments and observation.
- The state of knowing; knowledge as distinguished from ignorance or misunderstanding.

I would speculate that neither the allergy specialist nor the second physician knew that the effectiveness of acupuncture and herbs for the treatment of chronic asthma and gastrointestinal ailment have been reported not only in ancient books, but also in modern research journals in China. The difference between my treatment and that of other acupuncturists is that I have been integrated the knowledge of both traditional TCM and CWM, as well as the results of modern research on Chinese herbs and acupuncture.

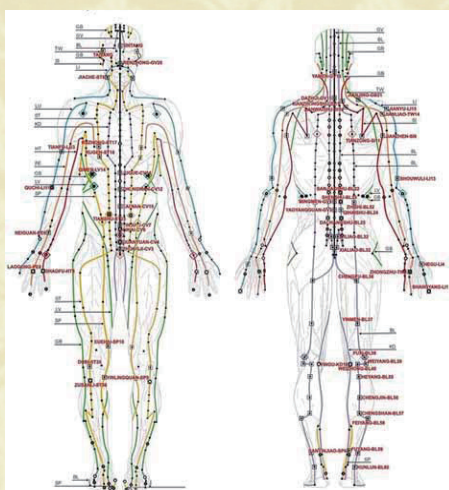
One who does not know whether there is proof should not say ‘There is no scientific proof.’ In addition, “No scientific proof” does not equate to being “not scientific.” Most people including physicians in the West would be curious as to how and why TCM works. Unfortunately, quite a few physicians feel that they could neither afford the time nor be willing to personally do some research on the matter. However, for the benefit of patients, physicians should ideally not only be curious and open-minded to, but also actively seek, alternative treatment options for conditions that they are unable to sufficiently treat on their own. For patients, it would also be wise for one to look into Chinese medicine when conventional methods of treatment have failed to achieve satisfied results.

Antibiotic therapy drastically changed medicine over the last century, so did therapies of cancer and many other diseases. Nevertheless, it cannot be denied that certain knowledge learned in CWM schools decades ago is now proven to be incomplete, inaccurate, or even wrong. In response to the question of “Where is medical education heading in order to meet the needs of health care in the 21st century?” posted on the school’s website (<http://promise.ucr.edu/profile-health-olds.html>), Richard Olds, the dean of medical school at University of California at Riverside (UCR), started with: “It is somewhat sobering to realize that most of what I learned in medical school more than three decades ago is probably not accurate anymore.” When I attended my daughter’s undergraduate graduation ceremony organized by the Neuroscience department in University of California at Los Angeles (UCLA) in 2011, the student speaker quoted similar words from one of her professors. The message they were trying to send is that understanding the human body and disease is a gradual and cumulative process; that medical knowledge is constantly expanding, thus our current knowledge about human body and diseases is always limited.

This comes as no surprise due to the short 200-year history of modern medicine and the still expanding knowledge about the human body and many diseases. TCM has been widely used for thousands of years. Leaving discussion aside about whether the effective preventative and therapeutic treatment experience accumulated from countless people over thousands of years can be deemed more “scientific” than those data obtained from modern laboratory and animal experiments, one should admit that there are still many “unknowns” of diseases in modern medicine.

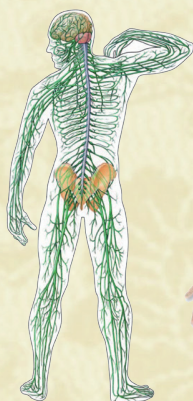
I would say that the alleged “mystery” surrounding the mechanisms of herbal and acupunctural treatments is not due to their “outdatedness,” but rather to inadequacy in our current knowledge about human body and diseases. With the development of more advanced technology, I believe that our limited knowledge about human body and diseases will be continuously revised and enriched. But to reach this goal, it would be wise for physicians to take a moment to reference the views on human body and diseases in TCM that have been testified for several thousand years and is being extended to the whole world. There are certainly reasons for such ancient medicine to continue to survive and spread.

Personally, after successfully treating certain patients with acupuncture and herbal formulas, I have tried my best to find scientific support by searching for new discoveries of modern medicine. I was often excited by these pieces of new evidence. For example, when I was trying to explain the meridians with nerves and the circulatory system, I discovered that the neuro-endo-immune network has been recognized; when I was trying to give explanation for the TCM saying of “blocked circulation of qi and blood can contribute to the development of hundred types of diseases,” I found evidence from the Textbook of Angiology in which vascular problems have been implicated in many diseases. I also found that, through clinical and animal studies, Chinese scientists have revealed that yin deficiency and yang deficiency are closely related to the dysfunctions of the hypothalamic-pituitary-adrenal axis, hypothalamic-pituitary-gonadal axis, and hypothalamic-pituitary-thyroid axis.



Human Body Meridians

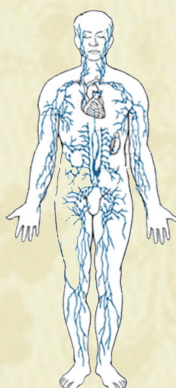
Nervous System



Endocrine System



Immune System



Cardiovascular System



Many doctors who have knowledge on both TCM and CWM believe that the fundamental structures of the meridians and collaterals in TCM cover the neuroendocrine-immune network and circulatory (blood and lymphatic) system.

1.3 Reports in the West might not always correctly reveal the TCM clinical applications

The mechanisms of acupuncture and Chinese herbs have been widely studied in the past decades. Most research results on Chinese herbs performed by scientists throughout the world using modern chemical, biological and pharmacological methods in the past decades have supported their applications. The acupuncture treatment has been found to involve regulation of nervous, endocrine, immune, and circulatory systems; and efficacies of acupuncture treatments have been confirmed in clinical studies. Unfortunately, most of the reports are in Chinese.

Currently, the double-blind clinical trial is the gold standard for scientific evaluation of drugs or other treatment methods. It is an experiment on humans in which neither the participants nor the researchers know which participants belong to the control group vs. the test group. More recently, a triple-blinded study has been proposed, in which, even the team analyzing the data is unaware of which group's data they are evaluating, i.e. from the protocol's placebo (control group) or treatment group.

Such design attempts aims to eliminate subjective and unrecognized biases carried by the experiment's subjects and researchers. Therefore, evaluation of efficacy with such design is more scientific and convincing. Unfortunately, the tremendous cost – about ten of thousands dollars or Euros for each patient in a trial, makes it impossible for individual researchers to do a double-blind clinical trial, which requires large numbers of patients, usually several hundreds for the results to be considered statistically significant and nearly a thousand for new drug application. Such trials are now mostly performed by research groups in large universities or research institutes with funding support from government

organizations, non-profit organizations, or a few pharmaceutical companies. Without a Chinese state FDA mandate and significant benefit, only a handful of Chinese pharmaceutical companies are willing to spend large amounts of money to conduct such a clinical study for their existing Chinese herbal products which have already been on the market for decades if not used for centuries, thus are not qualified for patent-protection.

A phenomenon that must be mentioned here is that the results of some clinical studies on Chinese herbal formulas or acupuncture exhibited variation between those performed by Western and Eastern scientists. For example, according to a review presented in the Proceeding of the 20th Anniversary of The World Federation of Acupuncture-Moxibustion Societies, the efficacy of acupuncture treatments for asthma in the clinical studies performed in China is 44~100%, averaging above 80% [1]. However, three clinical trial study reports published in 2002 about acupuncture for asthma carried out separately by researchers in Israel [2], Switzerland [3], Sweden [4] all concluded that acupuncture did not exhibit significant efficacy. As a fact, I have personally treated several dozens of asthma patients in my own clinic with combination of acupuncture, cupping, and Chinese herbal formula, sometimes plus blood pricking also if their symptoms were severe. Among all the cases of asthma I've seen in my clinic, only one patient who came just two times for acupuncture treatment did not get significant improvement. I once tried to apply funding for clinical trial study from an asthma organization. Unfortunately, even though I previously spent nearly 20 years on research in several universities, and I have effectively treated dozens of patients, I was told that I was not qualified to receive a research funding because it is only granted to professors in universities (not include acupuncture schools).

Moreover, in acupuncture clinical studies, the results from groups in the West often exhibited that acupuncture-treated groups were effective in comparison with the no treatment group, but there was no significant difference between the real (needles on acupoints) and sham (needles on none acupoints) acupuncture groups. Therefore, some scientists or physicians deduced that acupuncture treatment had a placebo, or psychological effect [5]. In the review article of Traditional acupuncture theories yield null outcomes: a systematic review of clinical trials, the author even concluded with "traditional acupuncture theories, for selecting points, locating them on the body and choosing appropriate stimulation, appear to be unreliable for creating distinct exposures" [6]. According to online information, this author is a researcher from a division of research in a well-known hospital in the US, who only has a Master's of Public Health (MPH) but no acupuncture certification or license. Would you believe such a hasty and imprudent conclusion simply based on review of clinical trials of acupuncture published in English within only one year by one who has no personal acupuncture practice experience?

What is the main reason that accounts for the different results or conclusions between the Western and Chinese studies?

Let me first cite the words by Dr. Joseph Needham (1900-1995), a famous British scientist, historian and sinologist known for his scientific research and writing on the history of Chinese science. In his book *Celestial Lancet: A History and Rationale of Acupuncture and Moxa* that coauthored with his wife Dr. Lu,

he wrote: “In approaching acupuncture through the works of representatives of the present-day practitioners in the Western world, some reserve should be exercised, for the following reasons: (a) very few of them have had reliable linguistic access to the voluminous Chinese sources of many different periods, (b) it is often not quite clear with the living Chinese clinical traditions, (c) the history in their works is liable to be minimal or unscholarly, (d) their accounts of theory are generally very inadequate, (e) they tend to adopt a too



simplistic assimilation of classical Chinese entities to those of modern Western medicine, (f) the cardinal importance of sphygmology in Chinese differential diagnosis is almost ignored, and (g) their works are naturally so much influenced by modern Western concepts of diseases etiology and semiography that they seem not to practice the classical Chinese methods of holistic classification and diagnosis” [7].

The Chinese scientists carefully reviewed literature about controlled clinical trials on acupuncture versus sham acupuncture carried out in Germany from 2002 to 2011. They found that the control methods of sham acupuncture used in Germany may not be standardized and may not be suitable for acupuncture clinical trial research. It concluded that there is still no enough evidence to support the statements that “acupuncture and sham acupuncture have no difference in treatment effect” and “acupuncture is just a placebo effect” [8]. Consistently, through their reviews about sham-controlled trials of acupuncture, two German researchers from München discovered that “true and sham interventions often differed in a variety of other variables, such as manipulation of needles, depth of insertion, achievement of an irradiating needling sensation (called *de chi* in Chinese), etc.” and concluded that “summarizing all the different sham interventions as “placebo” controls seems misleading and scientifically unacceptable” [9] and “information strategies vary considerably and are often not fully explicit. This has not only ethical relevance but also might influence results of trials” [10].

The designers of studies on efficacies of acupuncture or Chinese herbs including clinical trials should have enough knowledge of both modern and traditional medicine. The investigators in the group should include at least one who is knowledgeable about and skillful at the application of acupuncture or herbs studied. However, this is often not true for studies on Chinese herbs in the US, where research is often funded or granted from governmental organizations such as the National Institute of Health (NIH).

TCM is the biggest branch of alternative medicine. However, all of the directors and senior staffs in the National Center for Complementary and Alternative Medicine (NCCAM) under NIH are Americans with M.D. or Ph.D. degrees. Moreover, as far as I know, some researchers who designed or conducted the funding research project might have little or no knowledge or personal experience about the application of their study objects.

Despite how advanced the technology and how fine the equipment used, I would say that mistakes can easily occur in groups where researchers have inadequate knowledge about clinical application of the object they are studying. While working at a prestigious university in the US, I personally witnessed how improper design for studies on herbal medicines could lead to negative results. Factors such as inappropriate dosing, insufficient experimental period, wrong solvent used for extraction, improper indicator selected, etc. may all result in false negative results [11]. Therefore, it is irrational to simply use one negative result from a lab study to deny the clinical efficacies of Chinese herbs; the same applies for acupuncture.

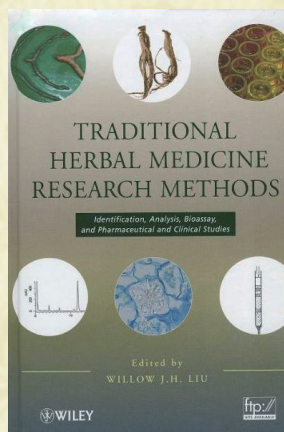
Mechanism studying on Chinese herbs is not as easy as screening a new drug candidate; simply copying methods for drug screening may lead to incorrect results. For this reason, I gave a presentation on research methods of traditional herbal medicine at a national meeting in 2006, and thereafter, I was invited to edit a book about it by the famous publisher John Wiley & Sons. For this reason, *Traditional Herbal Medicine Research methods - Identification, Analysis, Bioassay, Pharmacological and Clinical Studies* was published in 2011.

To evaluate the efficacy of Chinese herbs and reveal their mechanism of treatment, having knowledge about drug discovery and application of advanced technology is not enough for researchers. They must understand the application of Chinese herbs. And it is important to know that TCM views the human body and diseases differently from conventional medicine.

Even without mistakes in experimental design, one should not simply use negative results from an assay or animal test for drug screening in lab to deny the efficacy of Chinese herbs, particularly the formulas. This is because they may treat symptoms or diseases with mechanisms different from modern drugs.

Take menstrual disorders as an example. Amenorrhea (lack of period), metrorrhagia (irregular periods), or menorrhagia (heavy menstruation) is mainly treated with birth control pills containing estrogen and progesterone in conventional medicine. However, many Chinese herbs effective for such problems have been confirmed to have neither estrogen nor progesterone activity. These herbs include angelica, one of the most commonly used Chinese herbs in formulas for menstrual disorders, and motherwort, also very effective for pre-menstrual syndrome (PMS). They both take effect through other mechanisms; one of them is improving blood circulation in the uterus.

Furthermore, it must be clear that both herbal and acupunctural treatments are applied in a form of formula, rather than a single herb or acupunctural point based on TCM diagnosis and differentiation. Therefore, for an herbal study, the doses and



This is the only book so far that fully introduces research methods for traditional herbal medicine using modern botany, chemistry, biochemistry, pharmacology, and clinic study. Dr. Liu was invited to edit it by Wiley after she gave a presentation with the same topic in a national conference.

ingredients selected in a formula, the solvent for extraction used, and the duration of the study performed all impact the result of a study. For an acupuncture study, the points selected, the position accuracy of the point, and the depth of the needles inserted may vary between practitioners, thereby leading to different results. Besides, the symptoms selected and the data measured are also very important factors to both herbal and acupunctural studies. This is also the main reason that a patient may receive different results when treated by different practitioners.

1.4 Find a reliable acupuncturist or TCM practitioner

TCM covers acupuncture, Chinese herbal formulas, and other treatment methods. However, in most states of the US, only license of acupuncturist, rather than TCM doctors, is issued. In fact, oriental medicine (OM), rather than TCM is the more commonly used term in the US, due to urging by Korean and Japanese Americans, although Korean medicine and Kampo both originated from TCM.

The regulation of acupuncture practice might be slightly difference between states. Because California has the most licensure holders of acupuncture (about 15000, half of the total number in the US), let's just use it as an example. According to the website of Acupuncture Board of Department of Consumer Affairs in California (http://www.acupuncture.ca.gov/consumers/consumer_faqs.shtml), an acupuncturist is allowed to engage in the practice of acupuncture, ..., perform or prescribe the use of oriental massage, acupressure, moxibustion, cupping, ... nutrition, diet, herbs,...and dietary supplements. The initials O.M.D. standing for "Oriental Medical Doctor" is an academic title (similar to Ph.D.) that may only be used by those licensed acupuncturists who possess an earned doctorate degree, from a California accredited, approved and/or authorized educational institute.

The treatment skills vary a lot between acupuncturists. For one patient, because no standardization, different acupuncturists might give different TCM diagnosis. Even with the same diagnosis, different practitioners might apply different methods for treatment; i.e. some with acupuncture, others with herbal formula, or acupressure, etc. Furthermore, even with the same diagnosis and treatment method, the formula used might vary significantly. All of these differences would lead to different treating result. Even giving a satisfied result, one practitioner might treat for three days, while another might treat for three weeks.

Same as any type of medical specialty, treatment skills of acupuncturists and TCM doctors may vary greatly depending on one's enthusiasm, preferences, experience, and knowledge.

One thing needs to be mentioned here is that, in the past few decades, due to the unique history of acupuncture in the US, the training of acupuncturists in the US varied greatly. In the 1970s, in order to expend the number of acupuncturists in the country, the acupuncture license was easily earned with training requirement of few dozen hours. Gradually, the education hours were increased by the acupuncture board. Now, about three years of study in acupuncture school is needed to meet the requirement for license exam. In China, it takes at least five years for students to finish the study in a TCM college or university.

Regardless of one's background, the best way to help patients is to integrate, that is, to combine, advantages of both TCM and conventional systems. Therefore, these

who have broad knowledge in both traditional and modern medicine are usually more reliable.

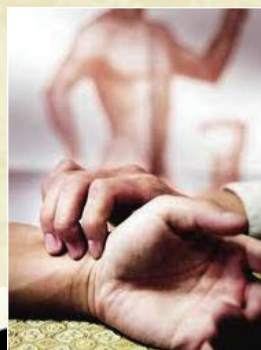
1.5 Integration of TCM and Western medicine

Dr. David Eisenberg, a graduate of Harvard Medical School who was the first American medical exchange student sent to China posed some large questions in his book *Encounters with Qi* [12]:

- What can we in the West learn from the medical practices of the Chinese people that might improve our understanding of health, illness, and the healing process?
- Which Chinese medical techniques should we investigate?
- Can Chinese medicine be integrated into Western medicine practice?
- Can Chinese medicine prove its assertion that lifestyle and attitude can significantly alter the nature course of human illness?

It has been proved by Chinese medicine for a long time that lifestyle and attitude can significantly alter the nature course of human illness. In fact, many examples and study results about relationship of mind and illness and its healing were presented in *Healing and the Mind* [13], the book Dr. Eisenberg later coauthored with Bill Moyers and other American medical doctors and scientists. The Chinese medicine has integrated with Western medicine in China in the past century, not only diagnosis, but also treatment. However, TCM has not been truly integrated into CWM in the West.

I believe that if the TCM practitioners who have knowledge on both traditional and modern medicine can work together with physicians and take the advantage of both TCM and CWM, we are not only able to effectively help more patients, but also find new pathology of diseases and new direction of treatment.



Integrative

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Dr. Liu with former German President Roman Herzog in 1996 when she was in Germany for collaborative study on Chinese herbs. She was invited to Germany by a German professor and financially supported by the famous AvH foundation



Dr. Liu was invited to give a lecture to acupuncturists in San Diego (2012)



About the author:

Dr. Jianghua (Willow) Liu is a licensed acupuncturist (CA) and a holder of diplomate in Oriental Medicine, Acupuncture, and Chinese Herbology (NCCAOM). She is the founder and director of TCM Health Education & Research Center (non-profit), and the owner and practitioner of 21st Century Herbs & Acupuncture Clinic. She is also the editor and author of Traditional Herbal Medicine Research Methods - Identification, Analysis, Bioassay, and Pharmacological and Clinical Studies (published by Wiley in 2011). She was interviewed and reported by China Central Television International Channel (CCTV4) in the program of Chinese World with a title of Persistent Researcher of Chinese Medicine – Jianghua Liu (2012). She has published nearly 30 research papers in English and Chinese journals.

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Alexander von Humboldt Research Fellow at Institute of Pharmaceutical Biology, Düsseldorf University, Germany
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Previous Working Experience:

Professor (part-time) at Alhambra Medical University, Alhambra, CA
Professor (part-time) at College of Acupuncture and Oriental Medicine, Southern California University of Health Science, Whittier, CA
Teaching Faculty (part time) at South Baylo University, Anaheim, CA
Visiting Research Assistant Professor/Research specialist at UIC/NIH Center for Botanical Dietary Supplement Research in Women's Health in College of Pharmacy, University of Illinois at Chicago, Chicago
Post-doctoral Research Scientist at University of Columbia, New York City
Research Fellow of Alexander von Humboldt Foundation at University of Düsseldorf, Düsseldorf, Germany
Professor/ Lecturer/ Research Assistant at Liaoning University of Traditional Chinese Medicine, China

Other Activities:

Speaker in UCLA Center of East-West Medicine, David Geffen Medical School in UCLA, several TCM or acupuncture associations in Southern California, and national or international conference meetings.
Reviewer of Evidence-Based Complementary and Alternative Medicine (eCAM, an international, peer-reviewed journal)
Executive director of the World Federation of Chinese Medicine Societies (WFCMS) – Specialty Committee of Natural Therapy; Specialty Committee of Identification of Chinese Materia Medica.
Principal investigator of research projects sponsored respectively by Chinese National Committee of Science and Technology, National Committee of Science and Technology, and Educational Committee of Liaoning Province.