

Traditional Chinese Medicine Education in Western Medical University in China: Modernization Perspective and Demand

Angui Li¹, Jing Ma¹, Dong Yao¹, Wei Jiang¹, Jianwei Fan¹, Jiangbin Sun¹, Zhenzong Du², Jianfei Song², Haiyong Wang¹

¹Affiliated Hospital of Guilin Medical University, Guilin 541001, China

²The Second Affiliated Hospital of Guilin Medical University, Guilin 541199, China

*Corresponding Author:

Haiyong Wang

Email: docwanghy@gmail.com

Abstract: Traditional Chinese medicine (TCM) is one old traditional medicine with a glorious history of thousands years in the world. It represents a significant feature and prominent advantage of the healthcare in China. The paper introduced the background and the curriculum of the TCM program established in China, analyzed the situation regarding TCM in western medical university and also discussed on ways to integrate western medicine and TCM in new teaching methods. This paper provides an overview of the educational reforms for western medical universities of TCM in China. We should make a systematic, comprehensive and sustainable push in fields such as TCM education and research.

Keywords: Traditional Chinese medicine, Education, China.

INTRODUCTION

Traditional Chinese medicine (TCM) has a long history in China and other Asian countries, such as Korea, Japan [1]. Over the past twenty years, TCM has been gaining a new understanding in the western world [2]. More recently, TCM education has been introduced into the public-funded higher education system in a number of western countries [3-5].

TCM had formed a unique theoretical base, diagnostic and treatment techniques [6]. TCM has many beneficial effects and has been practiced for several thousand years. It is known to treat the cause of a disease rather than to alleviate its symptoms. While western medicine has a strong scientific basis, TCM developed over thousands of years, and is very strongly influenced by Taoist belief. For example, there are twelve major organs, six “yin” and six “yang” in TCM. Each of the organs is associated with one of the Five Elements: water, wood, metal, fire and earth. Treatment is based on the concept that laws of nature can be used to understand the inner workings of the body.

The World Health Organization (WHO) currently defines TCM as “the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness” [7]. TCM developed gradually through China’s long history, and has been increasingly and

widely accepted by the global community. Outside China, the most popular forms of TCM healthcare are acupuncture and Chinese herbal medicine. It was reported that 27% of adults had utilized TCM service since in 2005 in Australia. [8]. Another example under scoring the recognition of TCM global communities was the establishment of national registration scheme for TCM practitioner since 2012 [9].

But the safety of TCM also should be emphasized in recent years. The U.S. Food and Drug Administration (FDA) found that some Chinese herbal treatments may led to adverse reactions that are sometimes life threatening or lethal. There have been many reports of products being contaminated with heavy metals, toxins, drugs or not containing the listed ingredients. For example, the Chinese herb ephedra (ma huang) has been linked to serious complications, including stroke and heart attack [10]. They should be understood as potential risks rather than as certainties [11].

Current Status of TCM teaching in China

Since 1949, the Chinese government has been promoting the development of TCM and integrating western medicine and TCM. This policy has been beneficial for the development of TCM in China as well as in other parts of the world [12]. For example, a lot of western medicine doctors also learned Chinese medicine. The acupuncture anesthesia and discovery of artemisinin from the Chinese herb Qinghao are

outcomes from the integration of TCM and western medicine.

In China, there are more than two thousands TCM hospitals. Approximately sixty thousands new TCM students are admitted to one of 30 TCM colleges or universities each year. The educational establishments for TCM training are vast with well-resourced modern campuses, modern teaching, laboratory and library facilities. In addition, all TCM universities and colleges have museums, with texts and exhibitions about the history of TCM. There are gardens with living specimens, so that students can look at plants in situ which helps students to recognize and distinguish specimens. In addition, 95% of general hospitals also have a TCM department.

These situations in western medical universities are different, because of more non-TCM specialties were in universities and hospitals. At present, western medical universities in China are undergoing a period of great change. Two features are very obvious in Chinese medical education today. First, the higher education system is undergoing a transition from elite to mass education. Second, Chinese higher education is undergoing a transition from a one-way outflow to a two-way student exchange [13]. Education reform has been a widely discussed topic for a number of years and numerous reform directives have been issued by government authorities. As a matter of fact, TCM educational reform did not stop with series of policies but extended to the internal organization of the university as well. One important reason is the strong competition at the global level for creative talents, which is forcing the TCM education sector to adopt innovative ideas and new operational models. Furthermore, many of scholars in higher universities of TCM have attributed the economic success of this industrialized society to a highly literate and well-educated population. Recent studies, however, have tended to be more critical of the Chinese educational machinery, often concluding that without major reform the system of teaching in China will continue to be a disservice to societal needs of the new century [14].

In China, TCM prescriptions and infusions and acupuncture are used together with western medication as part of standard care. Given such complex individualised care and treatment regimens, measuring effectiveness is complex [15]. In TCM theory, the health of human, like the universe at large, is subject to constant battling between opposing forces such as heat and cold, yin and yang, and joy and sadness [16]. One of its guiding principles is to "dispel evil and support the good." In addition to treating illness, TCM focuses on strengthening the body's defenses and enhancing its capacity for healing and to maintain health. TCM encompasses how the human body interacts with all

aspects of life and the environment, including the weather, seasons, time, our diet and emotional states. It sees the key to our health as the harmonious and balanced body functioning, mind and spirit, and holds that our body depends on the unobstructed flow of qi (pronounced chee) or "life energy" through the body, along pathways known as meridians. TCM practitioners see disease as the result of disruptions in the circulation of qi. Ascribing the healing abilities of TCM to modifying the flow of qi is problematic for many students, because qi itself cannot be directly measured, or even detected, through any known methods. Similar mechanisms may be at work for other TCM techniques such as acupuncture and cupping.

However, we are in an evidence-based medicine which requires scientific proof. The gold standard of effectiveness is the randomized controlled trial. Randomized controlled trials are also based on certain assumptions about disease and healing in that all people are essentially the same, and both treatments and people can be treated homogeneously. For example, the findings derived from the treatment of irritable bowel syndrome with TCM revealed that TCM intervention was significantly better than western medicine in terms of cure rate, effect, recurrence rate and safety. However, because of the limitations inherited from the studies included in the analyses, these findings should be viewed with caution [17].

Although most medical universities continued the traditional teacher-centered curriculum, in the past two decades many TCM curriculum innovations have been carried out in some western medical universities. We believe the programs are overburdened with lecture sessions and an overemphasis on didactic teaching and examinations. This has resulted in a passive approach to learning by students. In addition, there is a lack of clearly stated educational objectives and poorly developed monitoring and assessment systems. Most innovative attempts to correct some of these problems have failed to be adopted on a broad basis [18]. Moreover, the problems of lower product quality, substandard codes and standards, and under-enhancement of fundamental research have restricted TCM further development and acceptance internationally.

Opportunities and challenges

Studies on TCM, like those of other systems of traditional medicine, are very variable in their quality, content and focus, resulting in issues around their acceptability to the global scientific community. For example, European Union funded FP7 consortium, composed of both Chinese and European scientists and named "Good practice in traditional Chinese medicine" (GP-TCM), has devised a series of guidelines and technical notes to facilitate good practice in collecting,

assessing and publishing TCM literature as well as highlighting the scope of information that should be in future publications on TCM. The GP-TCM consortium had grown into a large collaborative network involving hundreds of scientists from 24 countries and 107 institutions. They agreed that high-quality efficacy/effectiveness and mechanistic studies are grand priorities and that the TCM legacy in general and its management of chronic diseases in particular represent grand opportunities. They also cast their votes of confidence in omics and systems biology approaches to TCM research and believed that quality of TCM products are not only grand priorities, but also grand challenges [19]. So, the future of TCM is bright.

Reform in TCM teaching in western medical university is very important. Students should build a good foundation in TCM knowledge. They should be trained to understand the human body from its structure and physiology, through to pathology and sickness in both western sciences and TCM perspectives. During clinical practice, they are required to put their learned knowledge into practice under close supervision of experienced TCM practitioners in teaching hospitals. Educational reform of clinical teaching in China has been carried out for several years. Clinical practice is also an important part in the educational activities of TCM lessons in our university. It aims to teach students to practice clinical knowledge and skills in their clinical practice. The practical work consists of a series of individual teaching the students to design TCM clinical techniques [20].

Obviously, clinical practice is the main field for integrated western and traditional medicine. Western medicine and TCM practices are integrated in the hospital for the western medicine and TCM practitioners to cooperate in treating patients.

Prospect for TCM education brightens

Of course, we are faced with challenges. For example, many staff have never applied for research projects about TCM and do not know how to design and write the TCM protocol. We should apply for scientific research grants on TCM. If we can successfully obtain research grants for research projects, we will not be able to build up its reputation in this field and strive to become recognized as a leader in integrating western and traditional medicine.

Many websites are introduced that are the courses on TCM. These were launched by the Ministry of Education of China. The websites provide free and peer-reviewed course materials on TCM. We should not ignore these website resources. The online educational materials are rich indeed, though there is quite a lot of material that is repeated [21]. All of the courses provide excellent, peer-reviewed material, and many of them

make good use of slideshows and video presentation. More multimedia resources will become available online. However, it should be noted that clinical experience cannot be provided via online resources [22].

We also tried various teaching approaches, including problem-based learning, group discussions, seminars and bedside teaching. This ensures that they have obtained the requisite theoretical understanding, practical skills and professional attitudes necessary for a TCM practitioner. In addition to the conventional teaching approaches of lectures, tutorials and practical sessions, we incorporate online and blended learning. It plays an extremely important role for the students who should recognize TCM as their motherland medicine [13]. In order to enable the students as much as possible to grasp the basic TCM knowledge, and to fully utilize the knowledge in clinical practice and scientific research work in the future, we think that innovating in teaching method and quality is an essential according to the characteristics of western medical universities. To evaluate the teaching effect, we conducted the unified examination and anonymous questionnaire in Guilin Medical University. The students were randomly divided into two groups, experimental group adopted the implementation of Problem Based Learning and Case Based Learning teaching mode, the traditional teaching mode group as control group. The Problem Based Learning and Case Based Learning teaching mode group students in analysis problem solving skills were better than the control group, the test scores were higher than the control group also. It is helpful for students to improve their learning interests and test scores, it is worth to popularize in adopting Problem Based Learning and Case Based Learning teaching mode compared with the traditional teaching in the students. The TCM course also allows the students to participate in subject activities, undertake assessment quizzes. This new learning activity which involves the active participation of all students, increases student accountability due to refraction time, encourages reluctant participants to participate and assists in developing students' confidence.

CONCLUSION

TCM is now facing some difficulties in China. To fully prepare and enact active and vigorous steps to seize opportunities, we should have a clear picture about the challenges hampering TCM teaching reform. We should make a systematic, comprehensive, and sustainable push in fields such as TCM education and research. The ultimate goal is to allow TCM play a role in safeguarding public health along with modern medicines.

AUTHOR'S CONTRIBUTION

Haiyong Wang and Angui Li wrote the paper. Jing Ma, Dong Yao, Jiangbin Sun, Zhenzong Du, Wei Jiang and Jianwei Fan supervised the composition of the paper. All authors read and approved the final paper.

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