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Review

Traditional medicine in Taiwan: current status and future prospects

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SUMMARY

Oriental medicine is one of the main branches of traditional medicine left in the world. It includes acupuncture, acupressure, moxibustion, herbology, and qigong, all of which are still commonly used and officially recognized in some Asian countries, including Taiwan. In this article, the current educational, health insurance, and research and development status of traditional medicine in Taiwan will be introduced. The specific focus of the article is on efforts to integrate these ancient medical practices into modern medical science in our country.

Key words: Oriental medicine; Traditional medicine; Taiwan

INTRODUCTION

During the past few decades, in both the developed and developing countries, public interest in natural therapies has increased greatly and brought with it an expanding use of medicinal plants and herbs (Fink, 2002). While people in developed countries increasingly turn to traditional medicine (TM) or complementary and alternative medicine (CAM) for problems related to chronic diseases, cancer, and ageing (Foster *et al.*, 2000; Eisenberg, 2001; Reilly, 2001), about 80% of the world's population, mostly in developing countries, according to the World Health Organization (WHO), continue to rely on traditional medicine for primary health care. Ironically, however, in spite of this widespread use of TM/CAM worldwide, it has not been integrated into the health care systems in most countries (Reilly, 2001; Eisenberg *et al.*, 2002). Recently, the traditional medicine approach was actually promoted by the WHO. In May 2002, the WHO released a global plan, *World Health Organization Traditional Medicine Strategy 2002-2005*, "to address issues of policy, safety, efficacy, quality, access and rational use of traditional, complementary and alternative medicine" (WHO 2002). There is now what appears to be an official renaissance of interest in TM and CAM after more than a century of neglect by the practitioners of modern science and allopathic medicine.

Oriental medicine is one of the main branches of traditional medicine left in the world. It is most prominently used in East Asia, in China, Korea, Japan, Taiwan, and Vietnam. The oriental treatment modalities include acupuncture, acupressure, moxibustion, herbology, and qigong, which are still commonly used and officially recognized in these countries. In oriental cultures, foods and drugs have the same origin; herbs, for example, have been used for centuries as spices in everyday

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cooking, tonics for common living, and medicine to help the sick. In the last century, the advance of modern medicine made remarkable progress in the pathogenesis of diseases, biotechnology, genetic engineering, and new pharmaceutical therapies. But people are not yet completely liberated from disease and suffering. Taiwan, as is true of other developed countries in Asia, is currently struggling with an ageing population, chronic diseases, and rapidly increasing medical expenditures. New but cost-effective therapeutic models and agents are continuously expected but never arrive.

In this article, the status of traditional medicine in Taiwan will be presented with a focus on efforts to integrate these ancient medical practices into modern medical science, and attempts to refine the cultural treasure of traditional herbal remedies in our country.

Status of traditional medicine in Taiwan

The history of Chinese medicine begins thousands of years ago. Traditional Chinese medicine (TCM) is a branch of metaphysics that deals with the nature of the universe; its theoretical basis is philosophic rather than scientific. Influenced by Chinese culture, traditional medicine in Taiwan includes mainly traditional Chinese medicines as well as local Taiwanese medicinal plants and herbs as part of Taiwanese folk medicine. TCM has been a part of prevailing practice and belief throughout the history of Taiwan.

Western medical practices were introduced in Taiwan by Christian missionaries late in the nineteenth century, and these practices quickly replaced traditional medicine in institutional health care during the Japanese occupation from 1895 to 1945, following the downfall of traditional medicine in the Meiji Era (1868 - 1912) of Westernization in Japan. After World War II, the Kuomintang (KMT) government from China revived interest in Chinese medicine in addition to its continuous support of Western medicine. Because of the shortage of traditional medical practitioners in Taiwan after 50 years of Japanese suppression, in 1948, the Ministry of Examinations decided to open a non-institutional bypass for licensing Chinese medicine doctors by holding a two-step examination: "Qualification Examinations for Taking the Examination of the Doctor of Chinese Medicine" and "Chinese Medicine Special Examinations" for the licensure requirement for those interested in traditional medicine.

Although this system was vigorously criticized by professional medical communities because of its loose educational requirements, by 2001, 18,229 testees had passed the "Qualification Examinations", and of that number, 3047 had passed the "Special Examinations" for practicing TCM in Taiwan.

In 1966, formal education leading to the degree of Doctor of Chinese Medicine (DCM) was initiated in Taiwan at China Medical College in Taichung. After successfully completing a 7-year (8-year since 1996) course of study for both Western and traditional Chinese medicine, graduates took a licensing examination for DCM, and then a national medical licensing examination for physician (MD) board.

But after strong opposition by the orthodox medical communities, doctors who passed both medical examinations after being trained in both Western and Chinese medicine were forced by an executive order to choose either Western medicine or TCM for their licensed practice. The systemized practice environment, higher social status, and larger income offered by the former pushed most of those doctors into Western medicine. By the end of 2000, of the 2682 students who had graduated from medical school with both Western and traditional medicine majors, 2187 had passed the national board for TCM, and 2108 of those had passed the examination for a Western medical license, but only 392 opted for the DCM instead of the MD. The ban against a dual practice was lifted in April 2004.

To normalize the TCM educational system and protect health care consumers, in 1986, the

Department of Health decided to close the non-institutional method of national licensing. Because non-institutional TCM doctors successfully lobbied against this measure for more than a decade in the legislature, however, the cancellation dates were postponed. Finally, the government ruled that the "Qualification Examinations for Taking the Examination of the Doctor of Chinese Medicine" will be cancelled in 2008 and the "Chinese Medicine Special Examinations" will be cancelled in 2011. Until now, the differences in training standards and fundamental beliefs, and the licensure debate, between Western medicine and traditional Chinese medicine practice, have generated mistrust, extremism, and even hostility between these medical communities.

Education system for traditional medicine in Taiwan

There are two educational pathways for doctors of traditional Chinese medicine in Taiwan. One is an 8-year course with a double major in Western and traditional Chinese medicine. Two medical schools, both China Medical University (previously China Medical College) and Chang Gung University currently provide such courses. They recruit 120 and 50 students per year, respectively. Graduates may have licenses for both a Chinese medicine practice and a Western medicine practice. The other is a 5-year post-Bachelor program in TCM leading to a degree of DCM. This option is currently provided to 100 students per year only at China Medical University. To encourage currently licensed and practicing MDs interested in TCM, a 45-credit course leading to a TCM license is also offered by government authorities. As of December 31, 2001, 339 physicians took this course, and 75 became licensed DCMs.

Insurance reimbursement for traditional medicine in Taiwan

Taiwan's National Health Insurance (NHI) system was implemented island-wide in 1995. Almost 97% of the residents of Taiwan are enrolled. At the end of 2001, there were 35,562 licensed and practicing MDs and 3,979 DCMs.

TCM has been covered by the NHI since its implementation in 1995, but the coverage was for ambulatory care only, which currently accounts for 3.75 - 4.23% of the NT$347,822 million (US$11,330 million; exchange rate: US$1 : NT$30.7) in annual health care expenses reimbursed by the NHI system. Reimbursable items include physician fees, fees for traditional medicine prepared from concentrated herbal extracts, fees for the preparation of traditional medicines, acupuncture-treatment fees, and Chinese-style massage/manipulation fees. Only concentrated herbal extracts are reimbursed; crude herbal decoctions must be paid for out-of-pocket by patients. Although traditional medicinal herbal preparations have been used for thousands of years, their metaphysical basis and a lack of scientific evidence-based support have limited their use by MDs in Taiwan.

Current research and development of traditional medicine in Taiwan

Natural products have long been a source of novel molecules for drug development. In Taiwan, traditional herbal remedies are viewed as a cultural treasure as well as a source for drug development; therefore, research on herbal materials is abundant in Taiwan. The primary research approach follows the model of conventional drug development: an *in vitro*, high-throughput, mechanism-based approach focused on the search for mechanisms of action and relevant active compounds or molecules in specific individual herbs. Although successes have been claimed, they are extremely costly and time consuming. (Normile, 2003; Lee, 2004; Lin *et al.*, 2005).

Because traditional therapies have been used in humans for many centuries, recently, an efficacy-driven-approach model for traditional herbal medicine study has been advocated (Harlan, 2001; Tang and Leung, 2001). Proponents of this approach argue that using well-designed clinical

trials is a reasonable and economical way of evaluating the efficacy of herbal medicine already documented as having been used in humans. If a therapy is indeed efficacious, it may not be possible to immediately determine the underlying mechanisms and active substances in the complexity of an herbal therapy, and if a therapy does not work clinically, unnecessary basic research may be avoided. Currently, the U.S. Food and Drug Administration (FDA)'s *Guidance for Industry: Botanical Drug Products* (FDA, June 2004) allows lawfully marketed botanical products without safety concerns to go directly to phase-1 and phase-2 clinical studies and simultaneously proceed with the search for mechanisms of action and relevant active compounds or molecules in the preclinical phase. The FDA apparently shares an appreciation of the efficacy-driven-approach model. This model may sharply shorten the study time, save research resources, and increase the successful rate of drug discovery (Schuster, 2001). This approach has been approved and implemented for the future development of traditional herbal medicine in Taiwan.

In 2000, the Taiwan Ministry of Economic Affairs proposed a 5-year plan for the Technological Development of the Chinese Herbal Medicine Industry. One result of that proposal was the creation of the Program Office of Herbal Medicine, Department of Industrial Technology, Ministry of Economic Affairs, Taipei, Taiwan (http://www.herbalmed.org.tw/Eng/index.htm). In addition, beginning in 2001, a Clinical Trial Center for Chinese Medicine was set up in each of twelve domestic teaching hospitals. These centers may carry out, for academic or pharmaceutical institutions, clinical trials for investigational new drugs and help to review the efficacy of existing herbal therapies (Lin, 2004). There has been a recent increase in the publication of clinical trial studies for traditional Chinese medicine, but the methodological quality of these studies requires further improvement (Tang *et al.*, 1999). How to scientifically prove effects of herbal medicine continues to be a challenge.

CONCLUSION

We in Taiwan are in an era of booming modern biotechnology and a renaissance of traditional medicine. We need to close the gap between traditional and allopathic medicine here. As medical professionals, we are responsible for passing the cultural heritage of traditional Chinese medicine on to future generations, and, hopefully, thereby contributing to the welfare of humankind in the centuries to come.

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