Comments on Whether or not Traditional Chinese Medicine and Acupuncture are Pseudoscience

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Abstract

Whether or not the traditional Chinese medicine (TCM) and acupuncture are viewed as science remains controversial because it seems that they should not be judged with the criteria based on the deductive reasoning. It goes beyond doubt that the different logical reasoning models between the East and the West need more conversation. Issues affecting the efficacy of TCM and acupuncture like Collection, Processing, Acupuncture as part of the health system, Designing Pattern-based research, locating acupoints accurately, and Proper prescription are presented for the modernization and the scientization of acupuncture.

Keywords: Inductive/Deductive reasoning; Acupoint; Yin-Yang; Pattern identification

Introduction

Acupuncture and the traditional Chinese Medicine (TCM) are complex developed with the philosophical principles and reflecting Chinese thought, which is used to place the human body into a large system through the observation of nature and has been recognized and practiced to treat various diseases and symptoms worldwide. It’s been argued academically and clinically for long whether or not acupuncture is science or pseudoscience. The Chinese are used to the inductive reasoning for more than five thousand years, compared to deductive reasoning of in the West. Based on this logic model, the TCM and acupuncture features similarities with Yin-Yang, Qi-Blood, the Five Elements, and Pattern identification in theories. In addition to the scientific evidence with modern techniques, such as fMRI and CT, to examine the effects of acupuncture, it seems to suggest that some key issues deserve attention to have the better understanding and learning of acupuncture, which will greatly promote acupuncture research, may be beneficial to modernization and scientization of the TCM and acupuncture and rethinking the definition of science.

Current issues

Collection: The clinical use of Chinese herbs must follow the TCM theories and be based on the patient’s specific conditions with accurate diagnosis, following the principles of pattern identification. Ban-xia (Pinellia ternate), literally in Chinese means in the middle summer, is effective to drain phlegm caused by dampness, which indicates the best harvest time is in the mid-summer between May 6 (lixia, 立夏) when summer begins and June 21, maximum summer (xiazhi, 夏至) for the maximum constituents and best quality. However, this rule seems to be difficult to follow, suggesting why the efficacy is as good as expected for the clinical outcomes [1].

Processing: In order to facilitate the use of Chinese herbs to meet the clinical needs, herb processing is required because it can generally reduce toxicity, alter energetic nature, and reinforce efficacy to increase the therapeutic effectiveness. Radix Bupleuri (RB) bearing the properties of spicy, cool, and bitter is one of the most popular traditional Chinese medical herbs to treat Liver-related diseases. Radix Bupleuri is derived from the dried roots of Bupleurum scorzonerifolium Willd (Nan Chaïhu) and Bupleurum Chinese DC. (Pei Chaïhu), which is the main ingredient of the most frequently used preparations Da Chaï Hu decoction and Xiao Chaï Hu decoction in the Treatise on Injury by Cold (Shang Han Lon). The major differences between Bupleurum scorzonerifolium and Wild Bupleurum Chinese DC are the indication of Bupleurum Chinese DC is to disperse stagnated Liver qi while Bupleurum...
**Acupuncture as part of the health system**

Whether or not acupuncture is science remains controversial only because this issue is presented and discussed by those who are used to the deductive reasoning. However, the objective evidence of the population of China has given the answer, explaining the statuses of TCM and acupuncture in China and the Chinese communities around the world. TCM and acupuncture had been the major approaches in the health system in the ancient China until the Qing dynasty. In the first half of the nineteenth centuries, the population of China accounted for one-third of the world population even though China had been tortured by the twenty-one major wars and battles, leading to the fluctuation of population. It is estimated the population was about forty-two million in the Qin dynasty (221-206 BC) and increased to eighty-six million in the Han dynasty (206 BC-220 AD). The population moved around 100 million to 150 million until 1700s after the Ming dynasty (1368-1644) and earlier period of the Qing dynasty (1644-1912). More impressive evidence is that the population doubled in a century in the period between 1749 and 1851 [3,4].

**Designing Pattern-based research**

It is noted that most of the contemporary scientific researches examining the efficacy of acupuncture and TCM only focuses on diseases, instead of following the Pattern identification. It is understood that a disease refers to the loss of the balance of Yin-Yang [3]. TCM and acupuncture see the body as a miniature of the universe in diagnosis and treatment and believe the body acts with the universe, which is totally different from the Western medicine. Yin and Yang are the philosophical concepts and abstract with the functions broader than the anatomical knowledge of the Western medicine. On the other hand, TCM emphasizes the congenital constitution passed from the parents, which is equivalent to the concept of gene cantered in the Precision medicine [5]. In other words, the research designs not following the Pattern identification cannot accurately exemplify the TCM and acupuncture theories to a great extent because they are breaking the rules and principles developed with the inductive reasoning model [6].

**Locating acupoints accurately**

How to accurately locate an acupoint is the key to the successful treatment. For example, LIV1 (Da Dun) is the most commonly used acupoint in the acupuncture treatment for regulating Qi in the lower jiao and Liver qi to alleviate pain. Unfortunately, whether this acupoint is located on the dorsal aspect of the big toe, at the base of the nail, or on the lateral side of the terminal phalanx of the great toe remains controversial in clinical practice.

**Proper prescription**

As discussed above, Pattern identification is vital for the successful treatment outcomes. The historical developments show that an acupuncturist may face the following challenging issues, such as only selecting traditional acupoints for use, only selecting extra acupoints, or the combinations of traditional acupoints with extra acupoints, while a TCM practitioner needs to consider the processed/unprocessed herbs, the collection way of the herbs. Up to now, there has not scientific evidence to show which choice can reach the best treatment outcomes. In other words, these issues depend on acupuncturists’ wisdom and experience.

**Discussion**

There has not been sufficient scientific evidence to prove the meridians exist. However, acupuncture is recommended by the WHO [8] and widely known for the effectiveness in the treatment of pain. Current development and the acceptance of acupuncture in the West may suggest whether or not the definition of science can apply to the acupuncture and TCM still deserves attention and discussion. The efficacy in reducing pain is one of the main reasons why it has been recognized to be the effective approach around the world. The plentiful evidence on the effects of acupuncture on specific painful conditions has been presented. The systematic review of 13 trials of acute pain found that acupuncture is more effective than both sham needling and painkillers [9-10]. The historical developments show that there are challenges ahead of the TCM and acupuncture learners and practitioners, such as whether it is effective to select the unprocessed herbs, research design following the pattern identification, only use acupoints on the traditional regular meridians, when to combine the regular acupoints with the extra acupoints, how to decide the accurate needling duration, etc.

**Conclusion**

The expected treatment and experiment outcomes will not occur when the acupuncture and TCM patterns are followed and taken into the consideration since there exist some fundamental differences between the Western medicine and TCM, including acupuncture. On the other hand, it deserves attention that whether the definition of science developed with deductive reasoning can apply to the Yin-Yang and the Five Elements theories derived from the inductive reasoning needs more discussion.

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