

# Theory of traditional Chinese medicine and therapeutic method of diseases

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## Abstract

Traditional Chinese medicine, including herbal medicine and acupuncture, as one of the most important parts in complementary and alternative medicine (CAM), plays the key role in the formation of integrative medicine. Why do not the modern drugs targeting the specificity of diseases produce theoretical effects in clinical observation? Why does not the traditional Chinese medicine targeting the Zheng (syndrome) produce theoretical effects in clinic? There should have some reasons to combine Western medicine with Chinese herbal medicine so as to form the integrative medicine. During the integration, how to clarify the impact of CAM theory on Western medicine has become an emergent topic. This paper focuses on the exploration of the impact of theory of traditional Chinese medicine on the therapy of diseases in Western medicine.

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## INTRODUCTION

More than one third of patients in the United States use complementary and alternative medicine (CAM)<sup>[1]</sup>, and more and more scientists are interested in integrative medicine research in USA. Recent research showed that integrative medicine (also complementary and alternative medicine) could contribute to primary health care<sup>[2,3]</sup>. Traditional Chinese medicine (TAM), including herbal medicine and acupuncture, as one of the most important parts in CAM, should play the key role in the formation of integrative medicine. During the integration, how to clarify the impact of CAM theory on Western medicine has become the emergent topic.

TCM was formed two thousand years ago, and developed in the following centuries. TCM recognizes human body by system discrimination and cybernetic way. TCM can be characterized as holistic with emphasis on the integrity of the human body and the close relationship between human and its social and natural environment. TCM focuses on health maintenance and in the treatment of disease emphasizes on

enhancing the body's resistance to diseases. For improving health, TCM applies multiple natural therapeutic methods.

Zheng (syndrome) is the basic unit and key term in TCM theory. Zheng is an outcome after analyzing all symptoms and signs. All therapeutic methods in TCM come from the differentiation of Zheng. The methods have been used for thousands of years, which proves that TCM therapeutic approach is effective. From this point of view, Zheng should play an important role in determining the effect. Combined with modern medicine, Zheng should have an impact on disease pathogenesis that directly influences the therapeutic effect.

## HISTORICAL BACKGROUND

At the time when TCM formed, there was nothing modernized in medical and biological fields, but there was something developed in Chinese philosophy, astronomy and literature. Also at that time, people got a great amount of experiences on how to deal with the disorders by natural methods, such as puncture, Qigong (mind controlling), taking plants. Some talents in China began to summarize those phenomena and sublimated to theory based on their philosophical and social knowledge at that time. The theory is the original TCM. Thus TCM handles human physiology and pathology following old Chinese philosophical thinking. In the following centuries, accumulation of experiences and addition of relative knowledge (such as clinical observation data and less anatomical experience) made TCM developed. The terminology TCM is partially originated from Chinese philosophy. Other terms in TCM, even same as those in modern medicine, have completely different meanings. It is believed that to understand the physiology of TCM, to some extent, should have some knowledge about Chinese philosophy.

## PHYSIOLOGY AND PATHOLOGY IN TCM

During the formation and development of TCM, there are two ideological ideas that fully penetrate into the whole process. The first is the homeostasis idea that focuses on the integrity of human body, and emphasizes the close relationship between human body and its social and natural environment (integrity between human and cosmos). The second is the dynamic balance idea that takes emphasis on the movement in the integrity. Physiologically TCM recognizes human body by system discrimination and cybernetic way. In system discrimination approach, the intrinsic activities of human body can be clarified by analyzing the audio-visual information. The human body, a complicated system, could be identified as different closely related systems that form a network (integrity). The external information should reflect something intrinsic because of the integrity between human body and its social and natural environment. For example, the heart as a center, together with blood, vessel, mind, tongue, small intestine, consists of the heart system in TCM. Any information from any parts in the system can demonstrate the system's activity even the structure of the part is unclear. In cybernetic approach, TCM takes human body as a self-controlled system network. The network is connected by the meridian that exists in whole body. Blood

and vital energy flow also contributes to the connection. The Five elements theory in TCM, named as wood, fire, earth, metal and water, divides human body into five systems. Each system has its own specific features that can be inferred by analyzing those natural materials. The movement and interchange among the five elements are used to explain human body's physiology.

Since TCM has its unique physiology in understanding human body, it has its special understanding on human body's disorders. Pathologically, TCM focuses on the pathogenicity of social and natural factors. The factors have a close relationship with humans to consist of the integrity. Mostly they are non-direct and non-specific factors if we say bacteria or viruses are direct and specific ones. TCM is not completely to seek the specific pathogen, and pathological changes in a specific organ, while it is to seek the disturbances among the self-controlled systems by analyzing all symptoms and signs. In the heart system, any disturbance in any part of the system is useful to clarify the pathology. At the same time, comparison of the disturbance happened in different period is also important in pathological analyses. TCM takes emphasis on the dynamic changes in any parts and any connections in the self-controlled system.

### THERAPEUTIC MECHANISM IN TCM

Physiology in TCM is featured with self-controlled system discrimination and its pathology is featured with dynamic changes in the system (whether direct or indirect, specific or non-specific). The therapeutic mechanism in TCM focuses on enhancing human body's resistance to diseases and prevention by improving the inter-connections among self-controlled systems. To reach the approach, TCM uses different therapeutic methods, such as mind-spiritual methods (such as Qigong, Taiji boxing), natural methods (acupuncture, moxibustion, herbal medicine). These therapeutic methods are characterized by fewer side effects since they are natural. TCM evaluates the therapeutic results by comparing the symptoms before and after the treatment. The treatment is based on the differentiation of symptoms to clarify what is wrong in the self-controlled system. TCM seeks the therapeutic mechanism from the integrity. The integrity includes the human itself as integrity, and the integrity between human and its social and natural environment. The therapeutic mechanism can be achieved by activating systems, improving system connection and enhancing human resistance. The mechanism in TCM is not like modern medicine that seeks the mechanism from cellular or molecular level (such as killing bacteria and virus, antagonistic method). If someone lives well (no symptoms), she is healthy in TCM, whether she has some signs in cellular and molecular level such as high blood pressure.

### KEY TERM IN TCM THERAPEUTIC APPROACH: DIFFERENTIATION OF ZHENG

Zheng (syndrome), a basic unit in TCM, decides the therapeutic methods. Zheng is the outcome after a careful analysis of all symptoms and signs (tongue appearance and pulse feeling included). Zheng outcome might change since the symptoms and signs might change. There are many Zhengs in TCM, either simple Zheng or combined ones.

Zheng, as the key term and basic unit in TCM therapeutic theory, develops following the progress in disease theory progress. Tens of years ago, Zheng did not include any signs from modern diagnostic instruments, and nowadays, Zheng is combined with or referred to disease diagnosis during the therapeutic process to some content.

The process of how to get the outcome is called differentiation

of Zheng, which is based on the physiology and pathology of TCM.

### IMPACT OF ZHENG ON DISEASE TREATMENT

Disease's key units usually contain etiology, pathology and disease location. Modern medicine is trying to get the specificity of the cause, pathology and location, and as a result, the therapeutic approach is targeting on the specificity. New drugs in modern medicine are developed from strictly designed scientific pharmacological tests that are targeting on the specificity. Pharmacological tests show better effect than the effect shown in clinic.

In differentiation of Zheng, clinical effect should be better if the theory of differentiation of Zheng and physiology of TCM are followed. Unfortunately the effect in practice, even completely following the differentiation of Zheng, is not as good as the theoretical one. There should have some reasons to explain the difference between theoretical and clinical effects in TCM practice.

As summarized, there are two questions about the therapeutic problem in medical science. One is why is there difference between the pharmacological and clinical effects in modern medicine? The other is why is there difference between the theoretical and clinical effects in traditional Chinese medicine?

The questions refer to that there are some shortages of therapeutic approach both in modern medicine and in traditional Chinese medicine.

Any disease (morbidity) could contain two parts of appearance. One is the so-called specificity to the realities of morbidity, such as the pathological change. The other is the non-specificity that refers to the reactions caused by interactions between personal physique and environments, such as heterogeneous manifestations. Modern medicine is aimed to explore the specificity of morbidity, while traditional Chinese medicine is mainly aimed to explore the reality of the morbidity by checking the external appearance (that is the differentiation of Zheng). It is believed that the non-specificity sometimes could influence or change the process of morbidity, and only targeting the specificity is not enough to stop the progress of morbidity<sup>[4]</sup>.

Disease mainly refers to the specificity of cause and pathology with less emphasis on the non-specificity. Non-specificity includes all symptoms and signs not directly induced by the specific cause and pathology. Usually the specificity decides the process of diseases. Drugs in modern medicine are targeting the specific cause and pathology, and it usually gives good effect even though the effect is not as good as the pharmacological effect. Since the specific cause and pathology cannot be found in all diseases, the effect of modern drugs depends on whether the cause and pathology are clear or not. In reality, modern drugs are good at curing those diseases with clarified cause and pathology, and not good at curing those diseases due to multiple factors in the pathogenesis, which have become more common in medical science.

However, whenever the non-specificity influences on the specificity, drugs targeting the specificity have no good effect. That is the main reason why modern drugs sometimes are not effective in some cases in the treatment of a disease with a clarified cause and pathology.

Zheng mainly refers to the non-specificity and part of specificity that is only obtained from symptoms and signs by asking, watching and feeling since there are no modern diagnostic instruments. Chinese herbal medicine, based on the Zheng which is taken as an outcome of differentiation of symptoms and signs, targets to the non-specificity and part of the specificity. The effect of herbal medicine is not so good in curing a disease with specific signs, which can be only obtained

by modern diagnostic instruments since Zheng does not refer to those signs. However, the effect of herbal medicine is better in treating some cases when the non-specificity decides the process of a disease. Thus, the reason why there is a difference between the theoretical effect based on Zheng differentiation and the clinical effect is that Zheng differentiation can not exactly differentiate the specificity of a disease.

### COMBINING ZHENG WITH DISEASE: NEW STRATEGY IN THERAPEUTIC APPROACH

Following TCM Zheng theory, different diseases may be treated by a same therapeutic approach if they show same Zhengs. One herbal preparation can be used to treat different diseases, a common phenomenon in TCM. Similarly, the same disease may be treated by different therapeutic approaches if the disease shows different Zhengs. It is common in TCM that one kind of disease is treated with different therapies. As mentioned above, Zheng is the outcome of differentiation of symptoms and primary signs obtained by getting from watching (tongue watching) and feeling (pulse feeling), and definitely Zheng is not so accurate. The following example can be used to explain the shortage of Zheng information. Gastritis and stomach cancer could show similar symptoms and primary signs, suggesting that they could be differentiated as the same Zheng in TCM, and could be treated by the same TCM approach. The effect, there is no doubt, should be different since stomach cancer is difficult to be cured by herbal medicine. Thus, the differentiation of Zheng would not give any good effect when the specificity is not clarified resulting from the decisive factor in the evaluation of effects.

It was reported that the effects of two herbal preparations that targeted on coronary heart disease with different Zhengs were at least partially dependent on the Zhengs. The results showed that for coronary heart disease cases with Qi deficiency, Zheng could be alleviated by herbal medicine to reinforce Qi deficiency at effective rate of 89%, while the cases could be alleviated by herbal medicine targeting coronary heart disease and nourishing Yin at effective rate of 60%. For the coronary heart disease cases with Yin deficiency, Zheng could be alleviated by herbal medicine to nourish Yin at the effective rate of 87%, while the cases could be alleviated by herbal medicine to reinforce Qi at effective rate of 65%. Thus, the differentiation of Zheng plays an important role in the therapeutic process and affects the therapeutic result of a specific disease.

Following the disease theory there should have a specific therapy targeting the specific cause, pathology and location. If the specificity is clarified, the disease would be cured. Actually, there might not be so good effect in alleviating some diseases or symptoms even the specificity is clarified. The reason is that the non-specificity influences the specificity. Thus, targeting the specificity of a disease may not result in a good effect or give no effect at all when the non-specificity is decisive in the effect evaluation. The example about drugs in lowering blood pressure would be helpful to explain the reason. In patients with hypertension, there are some good drugs in decreasing blood pressure, and the real thing is that there always have some cases showing any effect after taking drugs. The partial reason is that, in some cases of hypertension, the non-specific appearance could play a key role in influencing the effect of

drugs. At this point, new anti-hypertension drugs for the cases in which the non-specificity is a decisive factor need to be developed.

Combining the differentiation of Zheng with diagnosis of disease, which is combining herbal medicine mainly targeting non-specificity with modern drugs targeting the specificity, would achieve the best therapeutic effect.

Many clinical studies have shown that combining modern drugs with herbal medicine would dominantly increase the effect. For example, the effect rate in treating coronary heart disease with modern drugs (routine therapy) was 45.5%, while combining with herbal medicine it was up to 87.3%<sup>[5]</sup>. The importance is to explore how to combine the two therapies.

More double-blinded clinical trials need to be conducted, both for modern drugs and herbal medicine. All specific and non-specific information needs to be collected for further analysis.

Any new drug, even targeting the exact specific pathology, does not act on all cases of diseases since the effect of non-specificity may affect the process of pathogenesis. Any herbal medicine originating from the exact differentiation of Zheng does not act on all cases with Zheng since lack of enough specificity may lose the decisive factor in the treatment.

After the information about new drug classification is obtained, the best effect could be achieved by either combination of drugs targeting the specificity with herbal medicine targeting the non-specificity, or by complex new drug development focusing both on specificity and non-specificity.

TCM focuses on the integrity of human body and the close relationship with its social and natural environments. It recognizes human physiology by analyzing external information by system discrimination and cybernetic approach, and regards that any disorders are caused by the disturbance in any part of the self-controlled system in the integrity. In therapeutics, TCM targets the non-specificity and part of specificity by natural ways.

Why modern drugs cannot achieve the effect as the pharmacological study and the same effect in a same disease is that Zheng in TCM contributes to the progress of a disease. It is important to clarify that in what situation drugs targeting the disease specificity would be effective and how to make the drug become more effective.

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