

## ESTABLISHING DIAGNOSTIC CRITERIA FOR TCM SYNDROMES FROM THE PERSPECTIVE OF DOCTORS: QUALITATIVE RESEARCH

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### ABSTRACT

**Objective:** To explore the diagnostic criteria of Traditional Chinese Medicine (TCM) syndromes from the perspective of doctors.

**Methods:** Eight professional Chinese medicine doctors were interviewed by semi-structured interview method. QSR NVIVO11.0 software was used to sort out the interview data, and the recordings of individual interviewers were extracted, transcribed, sorted and coded. The qualitative analysis method is used to summarize the diagnostic criteria of TCM syndromes.

**Results:** Through the application of qualitative analysis research methods in the field of modernization of TCM, we have initially established the scope and diagnostic criteria of TCM syndrome diagnostic criteria, covering specific diagnostic methods, core clinical symptoms, specific clinical symptoms, and syndromes, etc.

**Conclusion:** TCM syndrome has important complementary diagnosis and alternative treatment effects. Traditional Chinese medicine diagnosis methods should be combined with Western modern diagnostic techniques. The biological essence of TCM syndromes should be studied in depth to meet the actual needs of clinical diagnosis at an early date. It is necessary to give play to the important role of humane care in the diagnosis process, and to take personal constitution, living habits, eating habits, etc. as an important part of diagnosis and adjuvant therapy.

**Keywords:** Qualitative research, TCM, semi-structured interview.

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### Introduction

The modernization of traditional Chinese medicine (TCM), that is, the use of modern scientific theories and technical means, systematically sort out the theory and academic thoughts of TCM, transform it into the achievements of modern scientific research, provide a window for the world to understand TCM, and promote the exchange of Chinese medicine and the world. With the popularization of Chinese medicine in the world, the voices and requirements of TCM standardization are getting higher and higher, including China, Japan, South Korea, Europe and the United States and other countries are making traditional medicine standards and making corresponding progress. As a trend in

the development of Chinese medicine, modernization of TCM is currently mainly in the aspects of acupuncture, traditional herbal medicine, and diagnosis of tongue. International organizations such as the International Organization for Standardization (ISO), the World Health Organization (WHO) and the World Federation of Chinese Medicine Societies (WFCMS) are the main channels for the development of international standards for the publication of Chinese medicine. In 2009, ISO approved China's application and established the Chinese Medicine Technical Committee (ISO/TC249) to make up for the gap in Chinese medicine standards that cannot directly enter the ISO system. The WHO also incorporates traditional medicine into the international disease classification system in the development of

the International Classification of Diseases (ICD-11). However, it is undeniable that the establishment of standardization for TCM theory, especially the establishment of traditional syndrome diagnosis, needs to be improved. In the process of modernization of TCM syndrome diagnostic standards, there is a lack of standard awareness in the industry, and the applicability of modern standards is not extensive, and it cannot meet the requirements of clinical, scientific research, and educational requirements.

As the core position in the diagnosis of TCM, the connotation of syndrome is completely different from the concept of disease in Western modern medicine. The definition of TCM syndrome is a reflection of the nature of the disease. It is manifested in a group of related clinical symptoms, including pulse, tongue and patient's subjective discomfort and objective signs. It can reveal the location, nature, cause and transformation of the disease to varying degrees, providing direction and basis for disease treatment. It differs greatly from Western modern medicine in terms of theoretical systems, disease understanding, diagnostic methods, and clinical treatment (Table 1).

First of all, from the perspective of guiding theory, TCM syndrome emphasizes the overall concept of traditional Chinese medicine theory, regards the occurrence and development of disease as the imbalance of the overall health of the human body, and advocates the diagnosis of diseases at the overall level according to the different situations of each individual. Western medicine, under modern medical technology, diagnoses specific diseases through the guidance of theoretical knowledge such as stratification, physiology, and pathology. Focusing on cell, organ, and tissue levels. Secondly, from the perspective of disease awareness, TCM syndromes focus on common parts of different specific diseases, such as hepatitis, gastritis, some common symptoms such as "no appetite", "mood depressed", "fine pulse" Performance, in the TCM syndrome understanding, belongs to the same TCM syndrome, using a more similar treatment method, that is, "different disease with the same treatment." Western medicine, in terms of understanding diseases, emphasizes the strict distinction of disease, and has completely different treatments for gastritis and hepatitis, and will not confuse them. In terms of diagnostic methods, TCM mainly uses traditional diagnostic methods to make use of four diagnostic methods of TCM, namely "inspection" (observing the patient's complexion, spirits, eyes, response, etc.) and "auscultation and olfaction" (through listening to the speech, listening

to the cough, smelling the smell of the breath, etc.), "palpation" (feeling the pulse, palpation of the forearm, palpation of the skin, etc.) and "inquiring" (inquiring about the patient's specific circumstances, including complaints, sleep, pains, discomfort, etc.).

Western medicine uses modern advanced physics and chemical methods, such as pathological examination, biochemical indicator chemical test, nuclear magnetic resonance, X-ray, etc. Finally, from the perspective of disciplinary development, TCM diagnosis is currently focused on the modernization of diagnostic methods and the establishment of complex syndrome models, while Western medicine has mature modern diagnostic techniques and rich disease models with the continuous improvement of science and technology.

In short, in this case, the establishment of standardization of TCM syndrome diagnosis is imminent. In particular, the qualitative research on syndrome diagnostic criteria is an area that needs to be studied in depth. Based on this, this study will focus on the qualitative evaluation of syndrome diagnostic criteria, interviews with senior doctors and professional professors in the field of TCM using semi-structured interviews, and encode and classify interview results using QSR NVIVO11.0 software. Analysis, in order to establish, improve and evaluate the diagnostic criteria of specific TCM syndromes, and provide reference for the standardization and modernization of TCM syndrome research.

## Materials and methods

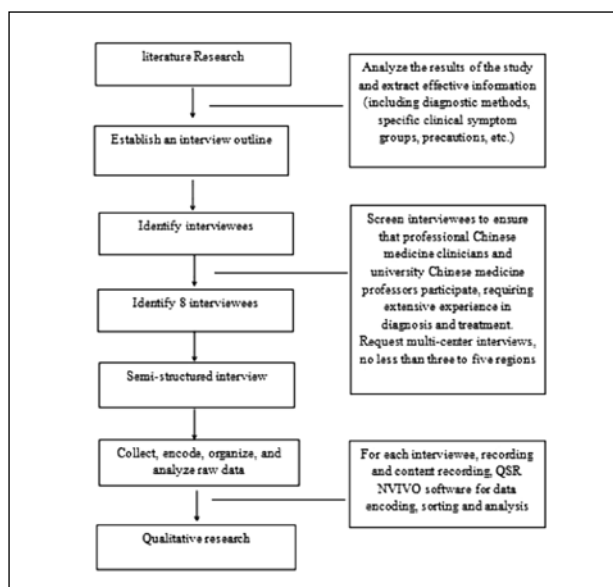
According to the previous introduction, TCM syndrome is a complex disease connotation of a variety of clinical symptoms, and its diagnosis and evaluation model needs to be considered from multiple perspectives, taking into account the doctors, caregivers, and patients in different stages of disease development. Different expectations and needs, combining the strengths of various treatments, and establishing complex interventions that are consistent with the characteristics of disease development<sup>(1)</sup>.

Therefore, we refer to the MRC (Medical Research Council) published in 2000, the establishment and evaluation of complex intervention programs, including five steps: pre-clinical theoretical preparation and exploration, model research (based on literature and qualitative research, select the main ingredients Preliminary construction of complex intervention models, including identification of research elements and interrelationships)<sup>(2)</sup>, ex-

ploratory trials (pretesting of preliminary models), confirmatory trials (designed to validate complex interventions for RCT programmes), and extension of applied observations (long-term implementation and evaluation)<sup>(3)</sup>. Combined with the characteristics of TCM, the semi-structured interview method and QSR NVIVO11.0 analysis method were used to establish and evaluate the diagnostic criteria of TCM specific syndromes based on qualitative research. The specific process is shown in Figure 1.

	TCM	Western Medicine
Theoretical systems	Traditional Chinese medicine theory	Western modern medical theory
	Basic theory of Chinese medicine	Stratification
	Diagnostics of Traditional Chinese Medicine	Physiology
	Theory of TCM syndrome, etc.	Pathology, etc.
Disease understanding	Overall concept	Specific diseases
	Focus on common parts of different specific diseases(syndrome)	Emphasis on specific disease differentiation
Diagnostic methods	Traditional diagnostic methods	Modern advanced methods
	Inspection	Nuclear magnetic resonance
	Auscultation and olfaction	X-ray
	Inquiring	Pathological examination
	Palpation,etc.	Inquiring, etc.
Disease model	Complex syndrome models	Specific disease models

**Table 1:** Differences between Chinese medicine and Western modern medicine in understanding diseases.



**Figure 1:** Qualitative research flow chart.

**Previous literature research**

At the beginning of the study, we have carried out literature research on specific syndromes of TCM (liver stagnation syndrome), and based on

the results of literature research, we developed an interview outline, based on which semi-structured interviews were conducted.

**The semi-structured interview methods**

The semi-structured interview method is an important social science qualitative research method. It requires that the topic or content of the interview is not fixed<sup>(4)</sup>. Only the outline or rough questions are used to determine the scope of the interview.

It can obtain a large amount of important information in a short time. The study was conducted for clinicians and senior professors in the field of Chinese medicine. Among the three participants of “doctor-nurse-patient”<sup>(5)</sup>, data acquisition and qualitative research were first conducted from the perspective of doctors.

**Qualitative research (QSR NVIVO)**

Qualitative research is based on the researcher himself as a research tool. In the natural context, a variety of data collection methods (interview, observation, and physical analysis) are used to conduct an in-depth and comprehensive investigation of the research phenomenon, and to form conclusions and theories from the original data.

An activity that acquires an explanatory understanding of its behavior and meaning by interacting with the research object<sup>(6, 7)</sup>. In this study, we used QSR NVIVO11.0 software to encode, collate, analyze, and conduct qualitative research on the original data of the interviewees.

**Results**

**Results of Semi-structure interview**

Based on the selection of interviewees, we must conduct a multi-center, multi-sample research principle. We have conducted a screening of Chinese medicine clinicians and professional professors of Chinese medicine colleges nationwide.

From the perspective of the region, doctors and professors from Beijing, Guangzhou, Fujian province, and Henan province were selected. From the interviewee's definition, the final selection included eight doctors and professors, all of whom have rich experience in TCM diagnosis and treatment, and five of them are teaching at the same time in colleges and universities. Among the gender distribution, there are 3 females and 5 males. In the main treatment direction, 4 doctors focused on the diagnosis and treatment of Internal medicine, 2 doctors were engaged in

the diagnosis and treatment of gynecological diseases, and 1 doctor focused on the treatment of complex diseases. The treatment directions of the eight doctors included the specific syndrome of TCM (liver stagnation syndrome), and they have rich experience in clinical treatment. (Table 2).

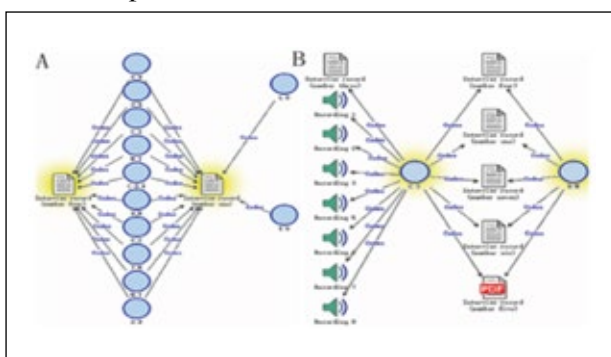
Interviewee	Gender	Career	Region	Treatment direction
Interviewee 1	Male	Doctor, Professor	Guangzhou	Internal medicine (Spleen and stomach)
Interviewee 2	Male	Doctor, Professor	Guangzhou	Complex diseases
Interviewee 3	Female	Doctor	Beijing	Gynecological diseases
Interviewee 4	Male	Doctor, Professor	Guangzhou	Internal medicine
Interviewee 5	Female	Doctor	Beijing	Internal medicine (Hepatobiliary)
Interviewee 6	Female	Doctor	Fujian	Gynecological diseases
Interviewee 7	Male	Doctor, Professor	Beijing	Internal medicine
Interviewee 8	Male	Doctor	Henan	Internal medicine (Spleen and stomach)

**Table 2:** Basic information on interviewed experts in semi-structured interviews.

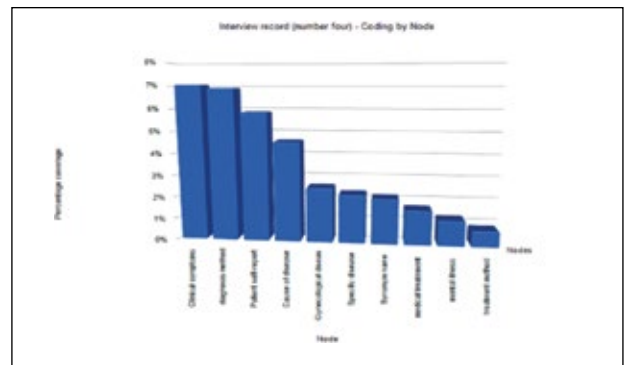
### *QSR NVIVO coding analysis visualization results*

This study used QSR NVIVO11.0 software to sort out the data of previous interviews, extract, transcribe, sort and encode the recordings of individual interviewees, and use the correlation comparison method to summarize and integrate all the cases of formal interviewees.

Compare ideas with insights. During the course of the study, we imported the audio and text data collected from eight respondents into QSR NVIVO11.0 software, determined the code according to the theme, and encoded the interview data (Figure 2). The completed code is subjected to cluster analysis (Fig. 3) to determine related topics. The specific visualization process is as follows:



**Figure 2:** Comparison Diagram. A. Comparison of the interview records of two interviewees based on the coding content of the interview data. B. Comparison of all interview records (text and audio recordings) based on the coded content of the interview data.



**Figure 3:** Frequency analysis chart. Analysis of the content of interviews with interviewee No. 4 based on the frequency of coding.

### *TCM syndrome diagnosis qualitative standard*

QSR NVIVO11.0 software was used to encode and analyze each interviewer's recordings and records. According to the frequency of topic coding, the qualitative research on TCM syndrome diagnostic criteria was mainly in clinical symptoms, syndrome names, specific diseases, disease etiology, diagnostic methods, etc. The contribution of clinical symptoms in syndrome diagnostic criteria should be emphasized, that is, the establishment of syndromes must have a set of related clinical symptoms, including patients' autonomic discomfort based on complaints, core clinical symptoms, related pulse symptoms and tongue manifestations. Based on the research content, we summarize the qualitative diagnostic criteria of TCM specific syndrome (liver stagnation syndrome), from the diagnostic methods, specific syndrome names, related diseases, core clinical symptoms, common clinical symptoms and other basic qualitative diagnostic indicators.

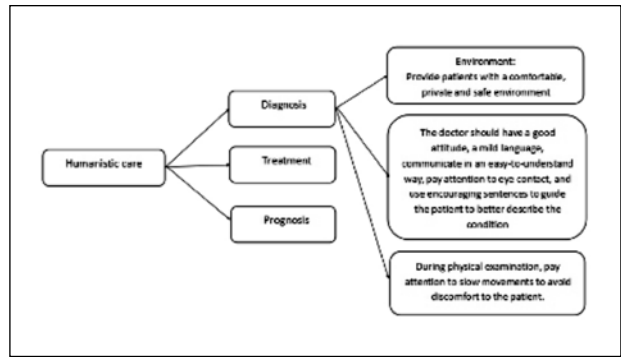
To establish a diagnostic standard for TCM syndromes, it is first necessary to establish the name of a specific syndrome, that is, a series of core symptoms and clinical symptoms. In this study, we analyzed the established TCM syndrome as a liver stagnation syndrome. After establishing the name of the syndrome, we collected clinical data. This concept is similar to the history of the disease, the main complaint, the symptom check, and the clinical index test in the Western medical field. The collection of clinical data for TCM syndromes is mainly based on traditional diagnostic methods, including Inspection, Auscultation and olfaction, Inquiring and Palpation. Modern diagnostic methods exist as an auxiliary means. It should be noted that the TCM syndrome does not conflict with the specific diseases of Western medicine. TCM syndromes can be manifested in many diseases. In particular, many diseases have the

same or similar clinical symptoms. In this case, they represent The same TCM syndrome.

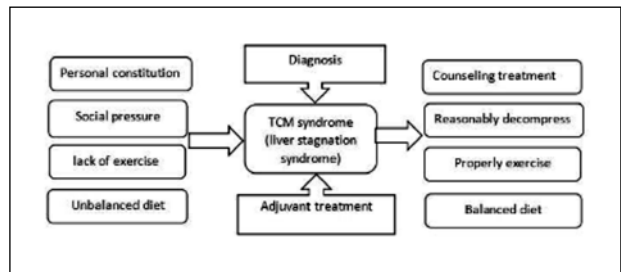
That is to say, the syndrome is diagnosed with its common related diseases. Through qualitative analysis, we summarized four kinds of common diseases that can be diagnosed as TCM syndrome (liver depression syndrome), namely internal medicine diseases, surgical diseases, gynecological diseases and mental diseases. Among gynecological diseases and mental diseases, depression are the more common diseases associated with TCM syndromes (liver stagnation syndrome). This qualitative emphasis on the importance of core clinical symptoms, which is considered as the most contributing clinical symptoms to the diagnosis of syndrome, as a key indicator of diagnosis. For TCM syndromes (liver stagnation syndrome), frequent mental depression, loss of appetite is its core symptoms. If such symptoms are found in a specific disease, it can be considered as a potential TCM syndrome (liver stagnation syndrome). Common clinical symptoms are also an important part of syndrome diagnosis. Because of the differences in human individuals, the symptoms of diseases in patients are different. Therefore, we need to summarize the more common clinical symptoms and use them as an important basis for syndrome diagnosis. For the specific syndrome of TCM (liver stagnation syndrome), its common clinical symptoms are frequent sighs, abdominal pain, irritability, feeling fever, Hectic fever, forgetfulness and so on. Pulse symptoms and tongue symptoms are unique clinical features observed under TCM diagnostic techniques and an important adjunct to TCM syndrome diagnosis. According to the analysis of this study, the pulse and tongue image of TCM specific syndrome (liver stagnation syndrome) can be summarized as: pulse string, red tongue, white tongue coating.

TCM specific syndrome (liver stagnation syndrome) qualitative criteria subject area	
Diagnosis methods	Inspection
	Auscultation and olfaction
	Inquiring
	Palpation Modern technology (accessory means)
Related diseases	Medical diseases (Hepatitis, Gastritis, Chronic nephritis) Surgical disease (Goiters)
	Gynecological diseases (Uterine fibroids, Menopausal syndrome, Polycystic ovary syndrome)
	Mental diseases (Depression, Anxiety)
Core clinical symptoms	Frequent mental depression, poor appetite
Common clinical symptoms	Frequent sighs
	Abdominal pain
	Irritability
	Hectic fever
	Sweating
	Dizziness
	Easy to get angry
	forgetful; having a bad memory/palpitations
Pulse symptoms	Pulse string
Tongue symptom	Red tongue, white tongue coating

**Table 3:** Qualitative criteria for TCM syndrome diagnosis based on the frequency of interview data.



**Figure 4:** Humanistic care in the diagnosis process.



**Figure 5:** Diagnosis and adjuvant treatment strategy of TCM syndrome(liver stagnation syndrome).

**Discussion**

*Humanistic care in the diagnosis process*

The modern medical model is a "biology-psychology-social" disease diagnosis and treatment model. With the technical support of modern scientific methods, the clinical diagnosis of Western medicine can already carry out better physiological aspects, especially the diagnosis of cells and genes. However, it is undeniable that there is a lack of public medical resources in the Western world, which leads to doctors not being able to make good psychological attention during the clinical diagnosis process (or can understand that the points of diagnosis have not been placed on psychological concerns, It is pinned on a professional psychological counseling agency). A large number of clinical studies have shown that psychological status is closely related to the occurrence, development and prognosis of human diseases. Therefore, this requires the inclusion of psychological concerns in the diagnostic system during the diagnosis process, which can further highlight the humanistic care in the diagnosis process.

We should not only focus all the attention on the appearance of the disease, but also deepen the appearance of the disease. We need to explore whether there are psychological and social factors related to the occurrence of diseases in addition to physiologically relevant indicators. According to this qualitative analysis, humanistic care in the di-

agnosis process is mentioned in different specific forms. The first is that doctors must recognize their responsibilities. The doctor's responsibility is not only the cure of the disease, but also the friend of the patient. In Dr. Trudeau's epitaph, there is a saying: "Sometimes to heal, often to help, always to soothe." On the one hand, this shows the weakness of human beings in the face of disease, but more importantly reveals human care and Psychological soothing is what every doctor must do. At present, humanistic care is often mentioned in nursing, but this is not enough. Doctors must also take care of patients with their own practical actions. In the diagnosis process, human care should be taken seriously, and feasible clinical specifications should be implemented. Based on the results of this analysis, we summarize some of the key points to be aware of during the diagnosis.

First of all, when facing the patient, the doctor should have a good attitude, listen carefully to the patient's situation, and make eye contact with the patient. Ensure that the patient is in a comfortable, safe and private environment. When asking about the disease and clinical symptoms, the doctor should be gentle in language and communicate with the patient in an easy-to-understand way. Don't be impatient, be good at guiding patients to state their illness. Secondly, when the doctor performs a physical examination, he should pay attention to the slow movement and avoid discomfort to the patient. In addition, when performing tongue, pulse, physical examination or biochemical examination, it is necessary to fully explain the necessity of the application of diagnostic techniques to the patient, so that the patient can better understand his condition and minimize panic. In short, humanistic care should be reflected in every aspect of diagnosis, reflected in the entire process of interaction between doctors and patients. (Fig. 4).

### ***The biological nature of TCM syndromes***

The biological nature of TCM syndrome is an important aspect of TCM modernization research. Its essence is to study the biology of TCM syndrome (core clinical symptoms) by molecular biology, proteomics, metabolomics<sup>(8)</sup>, gene editing and other methods. On the one hand, it uses modern medical knowledge to explain Chinese medicine theory, and provides a way to better display traditional Chinese medicine to Western countries. On the other hand, it also perfects Chinese medicine theory and strengthens deep understanding of diseases.

At present, the study of the essence of syn-

dromes in TCM is mainly based on the combination of TCM syndromes and specific diseases of modern medicine. For example, Professor Chen Jiaxu took depression as a research object when conducting biological research on TCM specific syndrome (liver stagnation syndrome)<sup>(9,10)</sup>.

This is because the clinical symptoms of depression meet the core clinical symptoms of TCM syndromes of liver stagnation syndrome, which are characterized by emotional depression, lack of interest. From the central monoamine neurotransmitter metabolism, synaptic plasticity, neuronal microstructure, neurotrophic factors, brain gut peptide and various omics, they found that TCM syndrome (liver stagnation syndrome) exists in this Changes in these areas. However, it is worth noting that the simple and convenient TCM syndrome detection indicators in the diagnostic field have not yet been discovered. On the one hand, it is because TCM syndrome is a combination of a series of complex clinical symptoms, on the other hand, it is limited to the current lack of scientific and technological means. Modernization of TCM, especially the modernization of TCM syndrome diagnosis, is a long-term and arduous task. More efforts are needed to explore the combination of Western diagnostic techniques.

### ***What is the cause of the disease?***

Modern medicine's understanding of diseases is based on "biology-psychology-social", which is consistent with the TCM "Man and nature-related" views. According to the results of this qualitative study, personal Constitution, living environment, personality factors, eating habits, exercise, etc. are closely related to the occurrence of the disease. A happy mood, a good lifestyle can reduce the incidence of disease, or help the recovery of the disease. Long-term psychological stress, lack of exercise, and imbalanced diet can cause various diseases to occur and worsen.

Constitution theory is a conceptual connotation closely related to the diagnosis of TCM syndromes. Based on the results of this analysis, people with "qi stagnation" constitution (people with such constitution generally show frequent depression, pessimistic personality and sensitive suspicion) are susceptible populations of TCM specific syndrome (liver stagnation syndrome). Poor living conditions and long-term stress can easily lead to illness, and these diseases are manifested in specific syndromes of TCM (liver stagnation syndrome). Similar to this is the lack of exercise. According to research findings,

proper exercise can increase the secretion of "dopamine" in the human brain, which is known as the body's happiness factor. The lack of exercise will obviously reduce the secretion of "dopamine", which may lead to people's sadness and depression<sup>(11, 12)</sup>. Unbalanced diet is also a cause of illness<sup>(13)</sup> (TCM Syndrome of Liver Depression). TCM believes that excessive intake of sour food can lead to depression and irritability.

Based on the above point of view, for the specific syndrome of TCM (liver stagnation syndrome), adjuvant therapy should be added in addition to mainstream drug therapy<sup>(14)</sup>. First, doctors should provide timely and effective psychological counseling to patients, Or suggest that the patient turn to the psychiatrist and use psychological counseling as an important treatment<sup>(15)</sup>. The second is to warn patients to choose a reasonable way of decompression, release the pressure from the social environment and the working environment, rather than hiding the pressure in the heart. What else needs to be done is to give the patient a healthy balanced diet and avoid over-feeding. Last but not least, the doctor has to tell the patient to exercise. Emphasizing the importance of proper exercise allows patients to have good lifestyle habits<sup>(16-18)</sup>. (Fig. 5).

### ***The contribution of TCM syndrome diagnosis mode to modern medicine***

In the process of modernization, TCM, in addition to its own need to rely on Western advanced technology, can also play a special role in the improvement of modern medicine, especially in the field of alternative diagnosis and alternative treatment. In particular, the establishment of the TCM syndrome diagnosis mode is of great significance for alternative diagnosis.

The first is the richness of the modern medical system. By emphasizing the core symptoms, a series of diseases with common clinical symptoms are classified and defined as the same type of TCM syndrome for treatment. Generally speaking, the principle that the same syndromes are treated in similar ways, while different syndromes are treated in different ways, is the core of TCM. On the one hand, it can enrich the diagnostic system of modern medicine, on the other hand, it can directly interfere with the symptoms of discomfort and alleviate the suffering of patients. For example, for sub-healthy people, the use of Western medical diagnostic techniques can not find abnormal results, so that targeted treatment is not possible. However, by using the TCM

diagnostic method, the diagnosis of the patient's discomfort can be directly diagnosed as a specific TCM syndrome and be treated. Another example is the diagnosis and treatment of difficult diseases. In the face of a variety of complex diseases, the treatment of Western medicine is mainly based on multiple treatments for each disease, but this treatment has many shortcomings, including inefficient treatment effects and mutual side effects of drugs.

However, the diagnosis of Chinese medicine can take the diagnosis of the difficult disease as a specific syndrome, which greatly improves the treatment effect and reduces the side effects of the drug. These all reflect the important complementary therapeutic effect of TCM.

The second is to improve the diagnostic methods and play an important role in the alternative diagnosis. The basic methods of TCM diagnosis, especially the application of tongue diagnosis and pulse diagnosis, are simple and quick, and can maximize the advantages of doctors. In the areas where medical equipment is equipped and advanced technology is lacking, it plays an advantageous role in diagnosis and treatment.

### ***Summary and outlook***

Through the introduction of qualitative analysis research methods into the field of modernization of TCM, we have made a useful attempt to diagnose the criteria of TCM syndrome (liver stagnation syndrome). By semi-structured interviews, we interviewed eight Chinese medicine practitioners and explored diagnostic criteria from a doctor's perspective. And by using QSR NVIVO11.0 software, the interview data is encoded and analyzed, and the scope and diagnostic criteria of TCM syndrome diagnostic criteria are preliminarily established, covering specific diagnostic methods, core clinical symptoms, specific clinical symptoms, and syndrome-related diseases. At the same time, the traditional diagnosis method of TCM is compared with western modern diagnostic technology<sup>(19-30)</sup>.

The biological essence of TCM syndrome is explored and the actual needs of clinical diagnosis are put forward. We discussed the important role of human care in the diagnosis process, taking personal constitution, living habits, eating habits, etc. as an important part of diagnosis and adjuvant therapy, and highlighting the important supplementary diagnosis and alternative treatment of TCM syndrome. In the future work, we will continue to conduct research on the standardization of TCM syndrome

diagnosis models, including methods for exploring TCM modernization from the perspective of patients and nurses. At the same time, we will focus on the biological nature of TCM syndromes, provide accurate biochemical indicators for clinical diagnosis and treatment, and meet the needs of clinical diagnosis and treatment.

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