

# A Clinical Study of Integrated Traditional Chinese and Western Medicine in the Treatment of Liver-Stomach Disharmony Functional Dyspepsia

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**Abstract:** *Objective:* To explore the clinical effect of integrated traditional Chinese and Western medicine in the treatment of liver-stomach disharmony functional dyspepsia. *Methods:* Sixty patients with functional dyspepsia of liver-stomach disharmony type admitted to our hospital from January to August 2022 were selected as research subjects and randomly divided into two groups, a study group and a control group, with 30 cases in each group. The main observations were stomachache or pain over bilateral flanks, emotionally depressed, belching, fullness and discomfort over the abdomen and flanks, acid regurgitation, loss of appetite, frequent sighing, noisy epigastric, and the treatment effect. *Results:* According to the classification of symptom severity on the traditional Chinese medicine (TCM) symptom score table, statistics were made on the corresponding severity of the main symptoms and secondary symptoms of the two groups of patients, and the data of the two groups were compared by Wilcoxon test. The results showed that there was no significant difference in the distribution of TCM symptoms between the two groups; the study group's total effective rate of pain relief (recovery + markedly effective + effective) was 96.67%, and Fisher's  $\chi^2$  test indicated a significant difference in the total effective rate of pain relief between the two groups ( $P = 0.027 < 0.05$ ). *Conclusion:* The use of integrated traditional Chinese and western medicine is clearly better than the simple application of western medicine. It is safe and has no side effects. It can be used as a treatment for patients with functional dyspepsia.

**Keywords:** Integrated traditional Chinese and Western medicine; Disharmony between liver and stomach; Dyspepsia

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## 1. Introduction

Functional dyspepsia (FD) is a common functional gastrointestinal disease, manifested as upper abdominal pain, belching (hiccups), nausea, vomiting, *etc.* At present, the treatment methods in Western medicine for FD include drug therapy, psychotherapy, and minimally invasive surgery under endoscopy. However, the effect of drug therapy is not satisfactory, and the symptoms of patients do not seem to improve even after taking the prescribed drugs. Psychotherapy is mainly based on psychological intervention, but its effect is insignificant<sup>[1]</sup>. In recent years, with the improvement of people's living standards and the deepening of medical research, traditional Chinese medicine (TCM) syndrome differentiation and treatment have garnered widespread attention<sup>[2]</sup>, and some TCM preparations have also been applied in clinical practice.

## 2. Materials and methods

### 2.1. Baseline data

Sixty patients with liver-stomach disharmony type functional dyspepsia admitted to our hospital from January to August 2022 were selected as the research subjects and randomly divided into two groups, a treatment study and a control group, with 30 cases in each group. The patients in each group were stratified and treated according to their condition. There was no significant difference in age, gender, marital status, education level, duration of hospitalization, and western medicine examination results between the groups ( $P > 0.05$ ). The inclusion criteria were as follows: (1) patients who met the diagnostic criteria for gastroesophageal reflux disease (GERD) in the Guidelines for the Diagnosis and Treatment of Functional Dyspepsia in China (2014); (2) patients without any history of mental and psychological illnesses; (3) patients who are psychologically well and can cooperate with the treatment. The exclusion criteria were as follows: (1) patients with history of mental disorders or other medical illnesses; (2) those who are allergic to drugs or with serious medical diseases; (3) pregnant and lactating women.

### 2.2. Method

The control group was treated with modified Yangyin Yiwei Decoction.

The study group received comprehensive treatment, including TCM, western medicine, psychotropic medications, and psychotherapy.

#### (1) Traditional Chinese medicine

Modified Xiaochaihu Decoction on the basis of Yangyin Yiwei Decoction. Xiaochaihu Decoction is the name or alias of the prescription. It contains *Bupleurum*, *Pinellia*, *Poria*, and *Radix Glycyrrhizae*. *Bupleurum* and *Pinellia* are the main drugs, which lighten the medicinal taste; *Pinellia* harmonizes and eliminates food as well as eliminates dampness and stagnation; *Poria cocos* invigorates the spleen, replenishes qi, generates body fluid, and harmonizes the stomach; *Radix Glycyrrhizae* (also known as roasted licorice) accommodates various medicines. The added and subtracted medicines are other TCMs in Xiaochaihu Decoction (*i.e.*, astragalus, dried ginger, and cinnamon), such as *Pinellia* 10 g (raw), *Ramulus cinnamomi* 10 g (raw), *etc.* Another example is processed licorice root 15 g (raw), which is a composition of other TCMs in Xiaochaihu Decoction [3].

#### (2) Western medicine

Anticholinergic drugs, amoxicillin capsules (taken orally, one or two tablets each time), omeprazole enteric-coated tablets (taken orally, 2 tablets at a time), and antacids (Gastropin with bellaponna; taken orally, 2 times a day, and one sachet each time [30 mg/sachet]).

#### (3) Psychotropic medications

People in anxiety often have various physiological dysfunctions, such as dizziness, headache, palpitation, and other symptoms. It is necessary to improve their mental state through drug treatment.

#### (4) Psychotherapy

Psychotherapy mainly refers to establishing a relationship of mutual respect and understanding between doctor and patient [4]. The course of treatment often lasts more than 3 months but less than 2 years.

A questionnaire survey was carried out after treatment, and the curative effect was evaluated according to specific conditions.

### 2.3. Observation indicators

The main clinical indicators were stomachache or pain over bilateral flanks, emotionally depressed, belching, fullness and discomfort over the abdomen and flanks, acid regurgitation, loss of appetite, frequent sighing, noisy epigastric, and the treatment effect.

## 2.4. Statistical analysis

SPSS 24.0 was used for data analysis. Measurement data were expressed as  $\bar{x} \pm s$ , and t-test was performed; count data were expressed as percentages, and chi-squared ( $\chi^2$ ) test was performed.  $P < 0.05$  was considered statistically significant.

## 3. Results

### 3.1. Comparison of the distribution of TCM symptoms between the two groups

According to the classification of symptom severity on the TCM symptom score table, statistics were made based on the corresponding severity of the main symptoms and secondary symptoms of the two groups of patients, and the data of the two groups of patients were compared by Wilcoxon test. The results showed that the distribution of TCM symptoms between the two groups was different without any statistical significance, as shown in **Table 1**.

**Table 1.** Distribution of symptoms based on severity ( $f$ ,  $n = 30$ )

TCM symptoms	Study group				Control group				Z	P
	None	Mild	Moderate	Severe	None	Mild	Moderate	Severe		
Stomachache or pain over bilateral flanks	12	7	7	4	17	1	10	2	0.820	> 0.05
Emotionally depressed	5	7	14	4	6	4	15	5	0.380	
Belching	12	4	10	4	11	3	11	5	0.453	
Abdominal fullness and discomfort	20	3	5	2	15	1	10	4	1.544	
Acid regurgitation	12	4	10	4	11	3	11	5	0.453	
Loss of appetite	8	2	12	8	10	4	10	6	0.899	
Frequent sighing	18	7	5	0	23	4	3	0	1.343	
Noisy epigastric	22	4	3	1	18	4	8	0	1.135	

### 3.2. Comparison of curative effect in reference to TCM symptoms between the two groups after treatment

The rank-sum test was used for calculation and analysis, and the treatment effect was categorized as follows: recovery, markedly effective, effective, and ineffective. There was a significant difference in the curative effect between the two groups (Mann-Whitney  $U = 307.500$ ,  $P = 0.026 < 0.05$ ); the study group's total effective rate of pain relief (recovery + markedly effective + effective) was 96.67%, while that of the control group was 76.67%; Fisher  $\chi^2$  test showed that there was a significant difference in the total effective rate of pain relief between the two groups ( $P = 0.027 < 0.05$ ), see **Table 2**.

**Table 2.** Comparison of curative effect in reference to TCM symptoms between the two groups

Group	Recovery	Markedly effective	Effective	Ineffective	$\chi^2$	Total effective rate
Study group ( $n = 30$ )	8	13	8	1	25.75	96.67%
Control group ( $n = 30$ )	3	12	8	7	35.25	76.67%

## 4. Discussion

Functional dyspepsia (FD) is a common digestive system disease, mainly manifested as upper abdominal fullness, pain, early satiety, belching, and other discomfort symptoms. Its prevalence rate is as high as 10% in European and American populations. In recent years, the prevalence of FD has increased year by year, and the World Health Organization (WHO) has classified it as a type of functional gastrointestinal disease. Although FD is a common disease, its pathogenesis remains unclear, and it is a relatively difficult disease to treat. Studies have shown that the quality of life of FD patients is significantly affected by their gastrointestinal function and mental and psychological disorders. From the perspective of TCM, FD patients mostly belong to the syndrome category of “disharmony between liver and stomach.” The main clinical manifestations are epigastric pain/discomfort and noisy epigastric. In Western medicine, the symptoms are generally caused by gastrointestinal motility disorders, *Helicobacter pylori* infection, and other factors.

### 4.1. Etiology and pathogenesis

The etiology of FD mainly includes emotional factors, improper diet, overeating cold, overeating hot, and overworking. Liver-stomach disharmony type FD is mainly caused by hepatic and gastric dissonance. With regard to liver loss, one of the pathogeneses of FD is liver wood taking advantage of spleen soil. According to *Lingshu Meridians*, “...liver qi takes advantage of the spleen, and the spleen is injured,” and “liver stagnation” indicates reversed stomach qi. Therefore, liver depression and qi stagnation are the main pathogenesis of FD. With regard to liver qi perversion, the liver and the spleen as well as the stomach are complementary to each other. The stomach governs catharsis, and the stagnation of the liver can lead to poor qi movement and affect liver qi. With regard to the weakness of the spleen and stomach, the stomach is one of the six internal organs. According to *Su Wen Yu Ji Zhen Zang Lun*, “When a person lies down, the blood returns to the abdomen.” Improper diet is also one of the main pathogeneses of FD.

### 4.2. Clinical manifestations

The main clinical manifestations of FD patients are epigastric discomfort, fullness, and discomfort, early satiety, belching, bitterness or dry mouth, *etc.* These symptoms are more common in men <sup>[5]</sup>. Generally, other than the typical symptoms, there are no other signs <sup>[6,7]</sup>. However, these may be accompanied by burning sensation, heartburn, and other acid reflux symptoms <sup>[8]</sup>. Patients that suffer from FD often have loss of appetite. Nausea and vomiting are also common <sup>[9,10]</sup>. For female patients, they may also experience menstrual disorders, while male patients are prone to symptoms related to sexual dysfunction. Furthermore, FD patients may also present with mental and psychological symptoms, such as anxiety and depression.

### 4.3. Syndrome differentiation and treatment

According to TCM, FD is a syndrome of “liver stagnation and spleen deficiency,” “liver-stomach disharmony,” and “liver-wind internal movement”; and its pathogenesis is characterized by emotional failure, worrying and hurting the spleen, liver qi stagnation, “rebellious” stomach, weakness of the spleen and stomach, and liver dysfunction. The common clinical manifestation of FD is epigastric pain, accompanied by symptoms such as emotional distress, abdominal distension, liver qi stagnation, and loss of appetite. Based on syndrome differentiation, the treatment for FD focuses on soothing the liver and harmonizing the stomach, invigorating the spleen and regulating qi. Prescriptions are commonly used with addition and subtraction of Chaihu Shugan San or Chaihu Shugan San combined with *Rhizoma Atractylodis*, white peony root, *White Atractylodes Rhizome* and other drugs. In the prescription, Chaihu Shugan San relieves stagnation and pain; *White Atractylodes Rhizome* nourishes yin and harmonizes stomach to relieve pain; roasted licorice nourishes qi and harmonizes the middle; *Atractylodes macrocephala* invigorates the

spleen and replenishes qi. In the prescription, Rhizoma Atractylodis regulates qi and dries dampness and collaterals; white peony root relieves liver, regulates qi, and relieves pain; peony enters the liver meridian, nourishes the blood, softens the liver, and relieves pain. The combination of the three medicines works together to soothe the liver and dissipate depression, and at the same time, it restores the functions of the liver and stomach, aids the movement and transformation of both the spleen and the stomach, and promotes the balance of qi movement.

#### **4.4. Treatment methods**

##### **(1) Western medicine treatment**

Western medicine treatment includes acid inhibition and anti-inflammation. The FD Diagnosis and Treatment Guidelines issued by the US FDA should be referred to for specific treatment plans.

##### **(2) Chinese medicine treatment**

TCM believes that FD is due to a disharmony between the liver and stomach and the treatment of FD should focus on soothing the liver and harmonizing the stomach, regulating qi and reducing adverse reactions. Some of the prescriptions include Chaihu Shugan San, Chaihu Shugan San combined with Zuojin Pills, Shugan Hwei Pills, Modified Sanao Decoction, *etc.* The FD Diagnosis and Treatment Guidelines and Functional Dyspepsia TCM Diagnosis and Treatment Expert Consensus should be referred to for specific treatment plans.

##### **(3) Lifestyle modification**

TCM believes that the pathogenesis of FD is the disharmony of spleen and stomach. Therefore, patients should pay attention to dietary rules and balancing work and rest to avoid overworking; they should also quit smoking and drinking alcohol and eat less spicy, cold, and fried food; at the same time, cultivating a positive attitude and exercising would help enhance the patients' immunity.

##### **(4) Psychological counseling**

Psychological counseling and counseling for patients can ease the emotions of such patients and improve their sleep conditions as well as their quality of life.

#### **5. Conclusion**

FD currently lacks effective treatment methods. Although TCM treatment is widely used in clinical practice because of its definite curative effect and lesser side effects, the TCM syndrome differentiation of FD is complicated, and there are very few scales used at present; the lack of syndrome differentiation standards in TCM syndrome differentiation leads to the limitations in TCM diagnosis and treatment of FD. In addition, it is difficult to diagnose and treat FD due to individual differences and unstable clinical efficacy. TCM compound has multichannel and multitarget effects on the pathogenesis and pathophysiological mechanism of FD, and its therapeutic advantages are unmatched by other traditional medicines.

In conclusion, the combination of TCM and western medicine for comprehensive treatment shows better efficacy than western medicine alone and is safe without any side effects; thus, it can be used as treatment for patients with FD.

#### **Disclosure statement**

The authors declare no conflict of interest.

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