

# Relationship between Psychosomatic Factors and Functional Dyspepsia and Progress in Treatment

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**Abstract:** *Objective:* To investigate the relationship between psychosomatic factors and functional indigestion, to provide relevant treatment methods and measures according to the actual situation as a clinical reference. *Methods:* This pilot study was conducted in the hospital from August 2023 to August 2024, and 100 patients who were diagnosed with functional dyspepsia were selected for the study. In this study, the anxiety self-rating scale and depression self-rating scale were applied to assess the psychological conditions of the patients and analyze the relationship between psychological conditions and functional dyspepsia. Subsequently, the patients were divided into two groups, in which one group was given conventional glutamine and other treatments, as the control group, and the other group was given comprehensive treatment, as the experimental group, to compare and analyze the differences in the treatment effects of the patients in the two groups. *Results:* Among the 100 patients in this study, 34 of them were accompanied by anxiety mood disorder, 22 patients were accompanied by depression mood disorder, and 44 patients were accompanied by anxiety and depression mood disorder. The psychosomatic factors were significantly associated with functional dyspepsia. After treatment, both groups of patients have high treatment efficiency of 98.00% and 84.00% respectively, but the difference in data comparison is statistically significant ( $P < 0.05$ ), in which the experimental group has the higher efficiency. At the same time, before treatment, both groups of patients were accompanied by bad mood (SAS and SDS scores are higher than the standard score), and the comparison of data between groups is not significant ( $P > 0.05$ ). After the treatment, the effect was significant, the patients' scores (SAS and SDS) were reduced, meaning the patients in the experimental group had a greater degree of reduction, and the difference between the experimental group and the control group increased ( $P < 0.05$ ), and the improvement of bad mood was better. *Conclusion:* The human body's mental psychological factors usually functional dyspepsia accompanied by correlation, the occurrence of adverse mental psychological problems can lead to functional dyspepsia. Based on this, it is of positive significance to give patients comprehensive treatment, adopt measures such as acid suppression and gastric protection, and at the same time give patients psychological treatment, which is more conducive to improving patients' bad mood and digestive function and promoting patients' recovery.

**Keywords:** Psychological factors; Functional dyspepsia; Relationship

**Online publication:** September 6, 2024

## 1. Introduction

Functional dyspepsia is a common clinical disease, and its incidence rate has continued to increase in recent years due to the influence of people's daily dietary habits and other factors <sup>[1]</sup>. From the actual development situation, after the onset of the disease, the clinical symptoms of the patient are mainly postprandial satiety, epigastric pain, epigastric burning, and early satiety, which has a greater impact on the patient's aphasia and is prone to lead to a variety of complications, which is more threatening to the patient's health. At present, there are many factors leading to the occurrence of this disease in patients, among which living environment, family genetic history, and dietary habits are important factors <sup>[2]</sup>. In recent years, clinical data from several studies have shown that adverse psychological factors are an important cause of functional dyspepsia <sup>[3]</sup>. Based on this, it is particularly important to further analyze the impact of psychosocial factors on functional dyspepsia and give targeted treatment strategies according to the actual situation, and this study is carried out to analyze the specific analyses as follows.

## 2. Information and methods

### 2.1. Data analysis

This research work was carried out in the hospital, from July 2023 to July 2024, with a total of 100 patients selected as subjects for the study (all of them with functional dyspepsia). For the subsequent treatment, the patients were divided into two groups to judge the feasibility of the comparative study. In the experimental group, there were 50 patients, 26 males and 24 females, and the mean age of the patients was 45.34 years with a standard deviation of 5.45 (range: 23–77 years). In the control group, there were 28 males and 22 females and the mean age of the patients was 45.28 years with a standard deviation of 6.52 (range: 24–79 years). The data of the two groups of patients were compared and analyzed under the statistical method, and the results indicated that all of them were  $P > 0.05$ , indicating that this comparative test was valid.

Inclusion criteria: all patients were diagnosed with functional dyspepsia after various examinations (gastroscopy, ultrasound, blood biochemistry examination, and so on); all patients did not have the occurrence of organic lesions with systemic symptoms; and all patients grasped the study process through explanation, indicating that they were voluntarily participating and cooperating.

Exclusion criteria: patients who have major diseases in other organs; patients allergic to the current study drugs; patients who agreed to participate and cooperate with the study, but have poor compliance; patients with mental/consciousness abnormalities.

### 2.2. Methods

Firstly, the relationship between psychological factors and functional dyspepsia was analyzed. In the implementation, it was necessary to apply the self-assessment scale of anxiety (SAS) and self-depression scale (SDS) to assess the psychological moods of the 100 patients in the study. The scores of the two scales consisted of 20 entries, and the evaluation of each entry was scored with a 5-point scale, with the scores from 0 to 4 indicating the aggravation of the degree, respectively. Afterward, the total score was calculated, and the standard score was 50 and 53 points, respectively. Exceeding the standard score was classified as accompanied by anxiety and depression, and as the score increased, the patient's negative emotions worsened. Subsequently, the correlation between bad mood and functional dyspepsia was determined.

The patients were then divided into two groups, in which 50 patients in the control group were given conventional treatment, mainly glutathione and vitamin B. The dosage of the drugs was 10 mg and 20 mg, respectively, and the frequency of use was three times a day. The patients in the experimental group were

given the same treatment, with a comprehensive treatment method added. The patients were given the standard treatment of acid inhibitors, gastrokinetic drugs, and anti-*Helicobacter pylori* treatment. At the same time, the patients were given psychological treatment mainly based on cognitive therapy. The nursing staff strengthened communication with patients, clarified the causes of patients' negative emotions, and then gave targeted counseling to explain disease knowledge to patients and guide patients to understand the impact of negative emotions on the disease. The nursing staff guides patients to master the implementation strategies of mindfulness-based stress reduction and so on to improve their negative emotions. At the same time, increase the traditional Chinese medicine treatment, the application of Pinellia and Magnolia bark decoction, including *Poria cocos*, Magnolia bark, Perilla leaf, Magnolia bark, ginger, and Pinellia. The medicine is boiled in water and the decoction is given, 1 dose per day, divided into 2 doses.

### 2.3. Observation indexes

Statistically analyze the correlation between psychosomatic factors and functional dyspepsia.

Comparison of the treatment effect of the two groups of patients, mainly based on the evaluation of the improvement of the patient's symptoms, including the three indicators of significant effect, effective and ineffective, the evaluation criteria for significant effect: after treatment, the patient's symptoms (epigastric pain, postprandial satiety) disappeared. Effective evaluation criteria: after treatment, the patient's symptoms (epigastric pain, postprandial fullness) significantly improved, occasionally. Ineffective evaluation criteria: after treatment, the patient's symptoms (epigastric pain, postprandial fullness) still exist, or even aggravated. Afterward, the total effective rate of the patients was calculated (the sum after excluding the ineffective rate).

Calculate the psychological mood changes of the patients after treatment, still applying the anxiety self-assessment scale and depression self-assessment scale, with higher scores meaning the worse the moods of the patients.

### 2.4. Statistical methods

Calculations were performed with the help of SPSS 26.0 software. (mean  $\pm$  SD) indicates the mean and standard deviation of the measurement data. In the process of data processing, the data between different groups were mainly calculated and compared, and the *t*-value was used to verify the difference in the data. If the calculated results show a *P*-value less than 0.05, it is considered that there is a significant difference between the two groups.

## 3. Results

### 3.1. Correlation analysis

Among the 100 patients in this study, 34 of them were accompanied by anxiety mood disorders, 22 were accompanied by depression mood disorders, and 44 were accompanied by anxiety and depression mood disorders. The psychological factors are significantly associated with functional dyspepsia, as shown in **Table 1**.

**Table 1.** Correlation between psychosomatic factors and functional dyspepsia [*n* (%)]

Factors	$\beta$	95% CI	OR	Wald value	<i>P</i>
Anxious mood disorders	0.327	1.076–1.776	0.983	4.767	<0.05
Depressive mood disorder	0.388	1.055–2.032	0.814	6.789	<0.05
Anxiety, depressive mood disorder	0.943	1.105–5.546	0.914	11.467	<0.05

### 3.2. Effective rate of treatment

Although both groups of patients have a high treatment effectiveness rate, with 98.00% and 84.00% respectively, the difference in data comparison is statistically significant ( $P < 0.05$ ), in which the experimental group has a higher effectiveness rate (Table 2).

**Table 2.** Comparison of patients' therapeutic effects [n(%)]

Groups	Significant	Effective	Ineffective	Total effective rate
Experimental group (n = 50)	37 (74.00)	12 (24.00)	1 (2.00)	49 (98.00)
Control group (n = 50)	25 (50.00)	17 (34.00)	8 (16.00)	42 (84.00)
$\chi^2$				5.983
$P$				0.014

### 3.3. Mood improvement

Before treatment, both groups of patients were accompanied by adverse emotions (SAS and SDS scores were higher than the standard score), and the comparison of data between groups was not meaningful ( $P > 0.05$ ). After treatment, the effect is significant and the patients' scores (SAS and SDS) are reduced. The experimental group patients' scores reduced to a greater extent, and the difference with the control group increased ( $P < 0.05$ ), indicating improvement of bad mood is better. The specific comparison is shown in Table 3.

**Table 3.** Comparison of patient's mood changes (mean  $\pm$  SD)

Groups	SAS (points)		SDS (points)	
	Before treatment	After treatment	Before treatment	After treatment
Experimental group (n = 50)	53.45 $\pm$ 5.45	42.65 $\pm$ 6.56	55.67 $\pm$ 6.56	44.39 $\pm$ 6.34
Control group (n = 50)	53.67 $\pm$ 5.28	46.67 $\pm$ 6.04	55.78 $\pm$ 6.23	47.98 $\pm$ 6.19
$\chi^2$	0.205	3.188	0.086	2.865
$P$	0.838	0.002	0.932	0.005

## 4. Discussion

Functional dyspepsia is a common clinical disease. The occurrence of this disease is usually related to non-organic diseases, which leads to gastrointestinal motility disorders in patients. In recent years, the incidence of this disease has gradually increased, and the clinical awareness of the prevention and treatment of this disease has also been continuously improved [4]. From the actual development situation, to prevent and treat this disease, first need to analyze the pathogenic factors that cause this disease. At present, there are relatively many studies on the pathogenic factors of the disease, among which many theories believe that anxiety, depression, and other adverse mental and psychological problems lead to the occurrence and development of this disease. However, it is not perfect and further research and analysis are needed [5].

In the present study, after taking the functional dyspepsia patients selected from the hospital as an example, the results show that there is a significant correlation between psychological factors and functional dyspepsia. The analysis of research results showed that it was related to the following aspects. Firstly, when mental psychological disorders occur in the human body, it usually breaks the balance between the limbic system of the



brain and the hypothalamus, which affects the contraction force of the patient's circular muscle and adversely affects the vagus nerve tension, which affects the patient's stomach and causes delayed gastric emptying, and causes a series of dyspeptic reactions to occur [6]. At the same time, when mental and psychological abnormalities occur, it will have an impact on the transmission of the brain-intestinal axis, thus disrupting the balance of the hypothalamus and its limbic system. This situation not only reduces the contraction conduction speed of the human stomach and intestines but also has an impact on the efficiency of its conduction efficiency, which is prone to triggering the obstruction of gastric emptying, thus leading to the occurrence of abdominal pain, abdominal distension and other functional dyspepsia symptoms in the human body [7]. In addition, mental and psychological abnormalities will also affect the function of the human autonomic nervous system, making it unable to effectively regulate the distal colon, limiting intestinal motility, triggering the occurrence of gastrointestinal immune dysfunction and other adverse conditions, so that the patient suffers from dyspepsia and other uncomfortable symptoms.

In this case, it is particularly important to treat patients with functional dyspepsia by improving their anxiety and depression and giving psychological treatment [8]. Among them, conventional therapeutic drugs can improve the gastrointestinal function of patients, promote the recovery of gastrointestinal dynamics, and alleviate the symptoms of functional dyspepsia in patients. At the same time, according to clinical research data, traditional Chinese medicine has a positive significance on the improvement of patients' anxiety, depression, and other adverse emotions. Among them, the effect of Pinellia and Magnolia decoction is remarkable. This method is a kind of traditional medicine that can promote the improvement of gastric emptying of patients while improving the gastrointestinal function of patients and improving the dyspepsia of patients. In addition, there is 90% ethanol extract in this prescription, which is similar to the effect of fluoxetine in Western medicine, and both of them can achieve the antidepressant effect. Therefore, this drug has a significant effect on the improvement of the patient's bad mood, dyspepsia, and other conditions [9]. Psychotherapy can help patients understand their disease from their subjective consciousness, and point out that emotions and mental state are important factors affecting the regression and occurrence of functional dyspepsia, thereby improving patients' understanding, promoting patients to actively regulate their emotions, and improving treatment compliance. This can alleviate the severity of the disease, improve the symptoms of functional dyspepsia, and facilitate the recovery of patients [10].

In summary, functional dyspepsia is a serious disease, in which psychological factors have a significant correlation with the occurrence and development of the disease. Therefore, it is necessary to pay attention to the degree of clinical importance, strengthen the process of treatment of this disease, and increase the utilization of traditional Chinese medicine and psychotherapy to improve the patient's bad mood and promote the recovery of the patient. The result of this study is significant so it is worthwhile to promote and publicize clinically, providing a guarantee for the health and recovery of patients with functional dyspepsia.

## Disclosure statement

The authors declare no conflict of interest.

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