

## Analysis of the Effect of Traditional Chinese Medicine Characteristic Nursing Technology Intervention on Patients Undergoing Gastroscopy

Guichun Jin<sup>1#\*</sup> and Nan Jiang<sup>2#</sup>

<sup>1</sup> Spleen and stomach diseases department, Shanxi Traditional Chinese Hospital, Taiyuan, Shanxi, China

<sup>2</sup> Hepatology department, Shanxi Traditional Chinese Hospital, Taiyuan, Shanxi, China

### Keywords

Traditional Chinese medicine characteristic nursing technology, Routine nursing, Gastroscopy

### Correspondence

Guichun Jin, Spleen and stomach diseases department, Shanxi Traditional Chinese Hospital, No.16 Bingzhou West Street, Taiyuan City, Shanxi Province, 030000, ChinaE-mail: jgc@live.cn.

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### Abstract

**Background** To explore the effect of traditional Chinese medicine (TCM) nursing technology intervention on patients undergoing gastroscopy. **Methods** A total of 110 patients who underwent gastroscopy in our hospital from May 2019 to Jun. 2019 were selected. According to the method of random number table, they were divided into the control group and the observation group with 55 cases in each group. The control group received routine nursing, while the observation group received TCM characteristic nursing (emotion intervention and acupuncture point application of traditional Chinese medicine). To compare the self-rating anxiety scale (SAS) score, self-rating depression scale (SDS) score, adverse reactions and treatment satisfaction between the two groups. **Results** There was no significant difference in SAS and SDS scores between the two groups before intervention ( $P>0.05$ ). After intervention, the SAS and SDS scores of the two groups were significantly lower than those before the intervention ( $P<0.05$ ), and the SAS and SDS scores of the observation group were significantly lower than those of the control group ( $P<0.05$ ). During electron microscopy, both groups developed adverse reactions such as abdominal distension, nausea and vomiting, and coughing, but the total incidence of the observation group was significantly lower than that of the control group. The satisfaction of the observation group was significantly higher than that of the control group ( $P<0.05$ ). **Conclusion** Compared with routine nursing, TCM characteristic nursing technology can effectively reduce adverse reactions caused by gastroscopy, relieve anxiety and depression, and improve nursing satisfaction.



## 1. Introduction

Gastroscope is one of the main tools for the examination of diseases of the upper gastrointestinal tract. By using gastroscope, we can observe morphological changes in the mucosa of the gastric wall to detect disease and submit samples for timely test, which is very beneficial in the detection and confirmation of early tumors. In addition to the morphological diagnosis of multiple diseases, it is also used in various treatments such as polypectomy and foreign body removal [1]. However, as an intrusion detection, side effects such as nausea and vomiting are inevitable during the gastroscopy, resulting in nervousness, anxiety and psychological and vital signs changes in patients, and even disturbing the test [2].

As medicine science develops, gastroscopy has been widely applied to the diagnosis and treatment of diseases related to esophagus, gaster, duodenum, etc. However, when gastroscopy is performed, patients are prone to adverse reactions such as nausea and vomiting, which makes them suffering and, in severe cases, affects the smooth running of the examination [3]. Guided by the basic theory of traditional Chinese medicine (TCM) and based on the Zang Fu (internal organs) theory, TCM characteristic nursing technology plays an important role in the prevention and treatment of diseases by stimulating specific parts of the human body, harmonizing Qi and blood and activating the functions of the corresponding organs [4]. TCM characteristic nursing technology as a nursing method with TCM characteristics, plays a role in psychological adjustment of patients by regulating their emotions, stabilizing mind and quelling fears and worries, guiding them to form a correct understanding of gastroscopy and positive mentality towards the examination [5]. Nowadays, TCM characteristic nursing technology has been popular in the treatment clinical diseases. Besides, it has been reported that the application of TCM characteristic nursing technology in the treatment of patients with early ileus could effectively improve the curative rate and accelerate the disappearance of related symptoms [6].

Therefore, this study was attempted to compare the treatments of TCM characteristic nursing technology

and conventional nursing for patients who received gastroscopic examination, including self-rating anxiety scale (SAS) score, self-rating depression scale (SDS) score, adverse reactions and treatment satisfaction, hoping to find a new method to alleviate their suffering.

## 2. Clinical data

### 2.1 General data

A total of 110 patients who received gastroscopic examination in our hospital from May 2019 to June 2019 were collected for this study. All patients were randomly divided into the control group (n=55) and the observation group (n=55). The control group consisted of 21 males and 34 females, aged 18-58 years, with a mean age of  $(37.42 \pm 10.64)$  years. The observation group consisted of 24 males and 31 females, aged 21-62 years, with a mean age of  $(38.06 \pm 9.87)$  years. There was no significant difference between the two groups in terms of gender and age ( $P>0.05$ ) which, therefore, were comparable. The clinical trial program had been reviewed and approved by the Ethics Committee of our hospital. All patients voluntarily participated in the study and signed the informed consent form.

### 2.2 Inclusion criteria

Patients with digestive tract diseases were required to receive gastroscopic examination; patients showed normal blood routine and electrocardiogram (ECG); patients' vital signs showed stable.

### 2.3 Exclusive criteria

Patients suffer from severe liver and kidney dysfunction; patients suffer from cardiopulmonary insufficiency; patients have mental illness; patients suffer from cognitive impairment; patients were susceptible to allergy.

### 2.4 Nursing method

All patients were conducted to gastroscopic examination, and they were asked to fast after 8:00 pm the day before the examination. During the gastroscopy, patients were asked to keep their body

and head still, and needed to tolerate the adverse reactions that may arise. When patients reached an intolerable level, they could seek the necessary assistance measure from the doctor [7].

#### 2.4.1 Control group

Patients were only performed routine nursing measures during the gastroscopy. (i) Patients were informed the purpose of painless gastroscopy, examination methods, procedures, anesthesia methods, precautions and possible side effects. (ii) The nursing staff further confirmed patients' information ahead of anesthesia and checked oxygen supply device, multiple-parameter monitor, endotracheal intubation and first-aid medicine and outfit. (iii) During anesthesia, the nursing staff paid close attention to patients for discomfort such as mouth-guard removal, agitation, convulsion, reflexive coughing, nausea and vomiting, and also to vital signs such as blood pressure, pulse, respiration and oxygen saturation as recorded by the ECG monitor. (iv) After the examination, patients were placed in the lateral position to prevent choking and aspiration, and the ECG was kept working until 20 minutes after they were awake. The doctor informed patients and their families about possible adverse reactions and precautions to be taken after the examination.

#### 2.4.2 Observation group

Patients were treated with emotion intervention and TCM acupuncture point application. Emotion intervention: The nursing staff provided a comfortable environment for patients before the examination to relieve their tension. Relaxing and soothing music was used during the examination to reduce patients' pain and anxiety. At the same time, the nursing staff informed patients and their families of the precautions and possible adverse reactions, and provided careful and detailed answers to patients' questions in order to seek maximum cooperation from doctors and patients to ensure the smooth conduct of the examination. Acupuncture point application: The Chinese herbal medicine used for acupuncture point application consisted of ginger processed Rhizoma Pinelliae (50 g)

and Lidocaine, which were grinded up by our pharmacy department and made them into a paste. The paste was divided into equal amounts and placed in the center of adhesive patches (Fu-Yao-Tie). After routine disinfection of patients' skin, the paste was applied on acupuncture points of Sahngwan (RN13), Zhongwan (RN12), Xiawan (RN10) and Hegu (LI4) [8].

### 2.5 Observation indicators and statistically analysis

#### 2.5.1 Observation indicators

(i) Abdominal distension, nausea and vomiting and coughing were occurred in patients during the treatment. Total incidence rate= number of cases of (abdominal distension + nausea and vomiting + coughing)/total number of cases  $\times$  100%. (ii) The questionnaires regarding to Self-Rating Anxiety Scale (SAS) [9] and Self-Rating Depression Scale (SDS) [10] were given directly to patients and were completed by a professional nurse who tallies the scores. SDS: 53-62 scores indicated mild anxiety, 63-72 scores indicated moderate anxiety and >72 scores indicated major anxiety. SAS: 50-59 scores indicated mild depression, 60-70 scores indicated moderate depression and >70 scores indicated major depression. (iii) The nursing satisfaction of patients was investigated by applying our unified satisfaction survey which classified as very satisfactory, satisfactory and unsatisfactory. Satisfaction rate= (very satisfactory + satisfactory) number of cases/total number of cases  $\times$  100%.

#### 2.5.2 Statistically analysis

SPSS software (version 19.0, IBM, USA) was used for statistical analysis. Quantitative data was demonstrated as the mean  $\pm$  standard, with comparison using the *t*-test. Count data were compared using  $\chi^2$  test. It is indicated as a statistical significance, when  $P < 0.05$ .

### 3. Results

#### 3.1 TCM characteristic nursing increased psychological condition scores in patients

**undergoing gastroscopy**

There was no significant difference in the comparison of SAS and SDS scores between the two groups before the intervention ( $P>0.05$ ). After the intervention, the SAS and SDS scores of the two

groups were significantly lower than those before the intervention ( $P<0.05$ ), and the SAS and SDS scores of the observation group were significantly lower than those of the control group ( $P<0.05$ ), as shown in Table 1.

Table 1. Comparison of psychological condition scores between the two groups

groups	cases	SAS scores		SDS scores	
		pre-intervention	post-intervention	pre-intervention	post-intervention
observation group	55	51.45±6.42	41.15±5.48 <sup>a</sup>	56.64±7.08	44.36±6.24 <sup>a</sup>
control group	55	52.33±5.89	48.66±5.57 <sup>a</sup>	57.21±7.14	50.54±6.78 <sup>a</sup>
<i>t</i>		-0.749	-7.128	-0.420	-4.974
<i>P</i>		0.455	0.000	0.675	0.000

Note: compared to pre-intervention, <sup>a</sup> $P<0.05$

**3.2 TCM characteristic nursing decreased adverse reactions in patients undergoing gastroscopy**

Patients in both groups experienced adverse reactions such as abdominal distension, nausea and vomiting and coughing during the treatment, and the total incidence rate of adverse reactions in the observation group was significantly lower than that in the control

group ( $P<0.05$ ), as shown in Table 2.

**3.3 TCM characteristic nursing increased nursing satisfaction in patients undergoing gastroscopy**

Patients in the observation group had a higher satisfaction rate comparing to patients in the control group ( $P<0.05$ ), as shown in Table 3.

Table 2. Comparison of adverse reactions between the two groups [n (%)]

groups	cases	abdominal distension	nausea and vomiting	coughing	total incidence rate
observation group	55	3 (5.45)	7 (12.73)	4 (7.27)	14 (25.45)
control group	55	8 (14.55)	19 (34.55)	11 (20.00)	38 (69.09)
$\chi^2$					21.008
<i>P</i>					0.000

Table 3. Comparison of nursing satisfaction between the two groups [n (%)]

groups	cases	very satisfactory	satisfactory	unsatisfactory	satisfaction rate
observation group	55	27 (49.09)	25 (45.45)	3 (5.45)	52 (94.55)
control group	55	21(38.18)	20 (36.36)	14 (25.45)	41 (74.55)
$\chi^2$					8.419
<i>P</i>					0.004

**4. Discussion**

In this study, we found that compared with routine nursing, TCM characteristic nursing technology can effectively reduce adverse reactions caused by gastroscopy, relieve anxiety and depression, as well as

improve nursing satisfaction.

In the current study, the TCM characteristic nursing consists of emotion intervention and acupuncture point application. Emotion intervention in TCM has ample connotation. For example, TCM characteristic

nursing helps to relieve emotional distress in parturients with postpartum breast pain [11]. By a variety of intervention methods, it can reduce the negative moods that patients have about the examination, help patients develop a positive mindset, enhance the cooperation of doctors and patients, decrease the probability of complications that may occur during the examination, shorten the gastroscopy time, improve the emotional state of patients and increase patient satisfaction with their nursing. For example, playing soft music in the consultation room can be effective in relieving nervousness of patients, and informing patients of precautions and possible adverse reactions can be effective in allaying their fears.

As an important part of this technology, acupuncture point application is based on the main and collateral channels theory in TCM, and has effects on stimulating the function of main and collateral channels in human body, harmonizing internal organs and adjusting blood and Qi, thus enhancing the adaptability of the body to the external environment [12]. On the basis of routine nursing intervention, the combination of TCM emotion nursing and acupuncture can further reduce the adverse reactions of painless gastroscopy, and improve the degree of cooperation and nursing satisfaction of patients [13]. In terms of the acupuncture points selected in the nursing intervention, Shangwai is used to treat abdominal distention and vomiting; Zhongwai is used for harmonizing the stomach and fortifying the spleen; Xiawan is used to treat abdominal distention and indigestion; Hegu is used to alleviate physical pain and harmonize body functions. The application of these acupuncture points is expected to address the adverse reactions possibly occurred during gastroscopy. Additionally, ginger processed Rhizoma Pinelliae is effective in harmonizing stomach and stopping vomiting, which could help to mitigate the adverse reactions caused by gastroscopy. In this study, after the gastroscopy-treated patients were given TCM characteristic nursing or routine nursing, the patients who received TCM characteristic nursing technology showed significantly better results than those

underwent routine nursing. Specifically, patients who were interfered with TCM characteristic nursing technology during gastroscopy had significantly low SAS and SDS scores, and their adverse reactions including abdominal distention, coughing, nausea and vomiting were considerably diminished, resulting in the improvement of nursing satisfaction and the significance of therapeutic effect.

In the setting of the continuous reform and innovation of the medical model, the function of the nursing staff has also changed, from the traditional medical device order executor to the patient postoperative comprehensive nurse. TCM characteristic nursing requires people to follow the basic theory of TCM in medical practice, inform patients and their families of the precautions and possible adverse reactions, and provided careful and detailed answers to patients' questions, and focus on emotion intervention, health care, and pain relief which have important clinical significance in increasing nursing satisfaction. However, room for improvement still exists in this study, such as expanding the scope and sample size by combining multiple medical institutions.

## **5. Conclusions**

The patients who were interfered with TCM characteristic nursing during gastroscopy have good clinical effect. The intervention played a significant role in decreasing SAS and SDS scores, reducing the occurrence of adverse reactions and improving patient satisfaction.

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Not applicable

## **Conflict-of-Interest**

The authors declare no conflicts of interest.

## **Authors' contributions**

Conceptualization: G.C.J and N.J; Data curation: N.J; Formal analysis: G.C.J; Methodology: G.C.J; Writing – original draft: G.C.J and N.J; Writing – review and editing: G.C.J and N.J; All authors have read and agreed to the published version of manuscript.

### Ethics approval and consent to participate

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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### Availability of Data and Materials

The analyzed data sets generated during the study are available from the corresponding author on reasonable request.

### Supplementary Material

Not applicable

### References

- [1] Nie Xiaolian, Min Guoying. Effect of Psychological Care on the Patient Psychological Intervention with Gastroscopy [J]. Medical Forums in Basic,2012,16(03):274-276.
- [2] Wang Fangju. Survey Analysis of Anxiety and Depression in Gastroscopy-treated Patients and Observation of the Effect of Nursing Intervention [J]. Gansu Medical Journal,2017,36(07):589-590.
- [3] Zhan Rui. The Effect of Music Intervention on Gastroscopy [J]. Chinese Medical Journal of Metallurgical Industry,2019,36(01):113-114.
- [4] Zhao Ying. Experience of Clinical Promotion of TCM Nursing Techniques [J]. Today Nurse,2019,26(04):108-110.
- [5] Liu Haiyin. The Effect of TCM Emotion Intervention on the Cooperation of Patients

undergoing Gastroscopy [J]. China's Naturopathy,2018,26(05):85-86.

[6] Li Lijiao. Application of TCM Characteristic Nursing Techniques in Patients with Early Intestinal Obstruction [J]. Chinese Journal of Modern Drug Application,2019,13(08):191-192.

[7] Liu Jinlin. The Value of TCM Emotion Intervention for Patients undergoing Gastroscopy [J]. Chinese Journal of Modern Drug Application,2017,11(02):167-168.

[8] Chen Suxin, Liu Fengyi, Liu Shuimei. Study on the Application of Emotion Intervention Combined with Acupuncture Point Application in the Overall Nursing of Gastroscopy [J]. Modern Digestion & Intervention,2018,23(01):93-94.

[9] Zung W.W. A rating instrument for anxiety disorders. Psychosomatics. 1971;12(6):371-379.

[10] Zung W.W. A Self-rating depression scale. Arch. Gen. Psychiatry. 1965;12:63-70.

[11] Liu J, Chen H, Wang W, Zhao D. Application of Traditional Chinese Medical Science Characteristic Nursing Mode Based on Evidence-Based Medicine to Puerperal Breast Tenderness and Pain[J]. Evid Based Complement Alternat Med. 2022;2022:7527890.

[12] Liu Xijian, Han Tao. Current Research Status and Ideas of Acupuncture Point Application in TCM [J]. Information on Traditional Chinese Medicine,2014,31(5):130-132.

[13] Chen Jihua, Lang Yanfeng. An Analysis of the Effect of Emotion Nursing of Chinese Medicine Combined with Acupuncture on the Relief of Responses Due to Painless Gastroscopy [J]. New Journal of Traditional Chinese Medicine,2019,51(04):273-275.