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Clinical Effect of Modified Shengyang Yiwei Decoction in the Treatment of Diarrhea-Predominant Irritable Bowel Syndrome due to Spleen and Stomach Weakness

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Abstract: *Objective:* To explore the therapeutic effect of Shengyang Yiwei Decoction in patients with diarrhea-predominant irritable bowel syndrome (IBS) due to spleen and stomach weakness. *Methods:* 40 patients with diarrhea-predominant IBS who were treated from April 2018 to April 2020 were taken as samples. TCM (traditional Chinese medicine) syndrome differentiation found that they were all due to spleen and stomach weakness. They were randomly divided into two groups. Group A was treated with modified prescriptions of Shengyang Yiwei Decoction, while Group B was treated with Western medicine. The therapeutic effects in the two groups were compared. *Results:* The treatment efficacy in Group A was higher than that in Group B ($P < 0.05$); the symptom scores of Group A such as loose stools, chills, physical weakness, poor appetite, and abdominal distension after meals were all lower than those in Group B ($P < 0.05$); the SF-36 (36-Item Short Form Health Survey) scores of patients with diarrhea-predominant IBS in Group A were higher than those in Group B ($P < 0.05$); the treatment satisfaction of Group A was higher than that of Group B ($P < 0.05$). *Conclusion:* Treatment of diarrhea-predominant IBS patients with spleen and stomach weakness by Shengyang Yiwei Decoction can promote the disappearance of gastrointestinal discomfort symptoms, improve the quality of life, and enhance treatment efficacy. Hence, it is an efficient and feasible treatment for diarrhea-predominant IBS due to spleen and stomach weakness.

Keywords: Diarrhea-predominant; Spleen and stomach weakness; Irritable bowel syndrome; Shengyang Yiwei Decoction; Efficacy

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1. Introduction

Irritable bowel syndrome (IBS) is a functional digestive system disease. Typical pathological changes are constipation, diarrhea, and abdominal pain, which can affect patients' daily food intake and reduce their quality of life. In Western medicine, IBS is related to gastrointestinal motility disorders, thus symptomatic drugs such

as montmorillonite powder are often used to correct these disorders. However, IBS is prone to relapse after drug withdrawal. In the theory of traditional Chinese medicine, based on the analysis of the pathogenesis of diarrhea-predominant IBS, it is believed that the disease is related to abnormal function of the spleen, stomach, liver, and kidneys. Spleen insufficiency can cause diarrhea, so it should be treated with dampness-dispelling and spleen-strengthening formulas [1]. This article selects Shengyang Yiwei Decoction for treatment, which can relieve qi stagnation, spleen deficiency, liver purging, and other symptoms, and can also promote the resolution of uncomfortable symptoms in patients with diarrhea-predominant IBS. This article aims to explore the treatment effects of modified Shengyang Yiwei Decoction in patients with diarrhea-predominant IBS.

2. Materials and methods

2.1. General information

40 patients with diarrhea-predominant IBS treated from April 2018 to April 2020 were selected as samples. They were all diagnosed with spleen and stomach weakness after TCM (traditional Chinese medicine) syndrome differentiation and were randomly divided into two groups. There was no difference in the data of diarrhea-predominant IBS patients between Group A and Group B, $P > 0.05$, as shown in **Table 1**.

Table 1. Analysis of diarrhea-predominant IBS patients' data

Group	*n*	Gender		Age (years)		Duration of disease (years)	
		Male	Female	Range	Mean	Range	Mean
Group A	20	12 (60.00)	8 (40.00)	23–79	49.28 ± 2.15	1–6	3.21 ± 0.48
Group B	20	13 (65.00)	7 (35.00)	23–80	49.31 ± 2.17	1–7	3.19 ± 0.51
χ^2/t	-	0.0492		0.0412		0.0647	
P	-	0.8244		0.9673		0.9486	

2.2. Diagnostic criteria and inclusion and exclusion criteria

Diagnostic criteria: In line with the "Consensus Opinions on the Diagnosis and Treatment of Irritable Bowel Syndrome Integrated Traditional Chinese and Western Medicine" [2] Western medicine diagnostic criteria and TCM syndrome types of spleen and stomach weakness.

Inclusion criteria: Symptoms of abdominal pain, diarrhea, and irritability; informed consent; undigested food visible in stool.

Exclusion criteria: Diarrhea caused by gastrointestinal organic lesions; malignant tumors; patients with immune system and hematopoietic system lesions.

2.3. Treatment methods

Group A was treated with Shengyang Yiwei Decoction, and the formula was as follows: 20 g of *Astragalus*; 15 g each of *Atractylodes*, *Codonopsis*, and *Poria*; 10 g *Bupleurum*; 9 g each of *Pinellia*, tangerine peel, and white peony root; 6 g of Doubleteeth Pubescent Angelica Root; 3 g of *Coptis chinensis* and Radix Glycyrrhizae Preparata. The modifications were as follows: For severe abdominal distension, 15 g of abdominal peel was added; for severe abdominal pain, 15 g of Canadian bark was added; for insomnia, 15 g of *Acacia* bark and turmeric were added. The above medicines were decocted, and 250 ml of the decoction was taken warmly. One dose was taken every morning and evening for 4 weeks.

Group B was treated with montmorillonite powder (Hunan Huana Pharmaceutical Co., Ltd.), 3 g was

orally administered as a single dose 3 times/day; and flupentixol-melitracen tablets (Hisco Pharmaceutical Co., Ltd.), 1 tablet was taken orally as a single dose 1 time/day. Similarly, they were administered for 4 weeks.

2.4. Observation indicators

(1) Treatment efficacy: If the symptom score decreased by ≥ 70% and the physical signs improved, it was recorded as markedly effective; if the symptom score decreased by 30–69% and the physical signs improved, it was recorded as effective; if the symptom score decreased by < 30%, it was recorded as ineffective.

(2) Symptom score: Symptoms such as loose stools, chills, physical weakness, poor appetite, abdominal distension after meals, etc., were recorded, and 0–3 points were scored according to the severity of the symptoms.

(3) Quality of life: SF-36 (36-Item Short Form Health Survey) score was positively correlated with the quality of life of patients with diarrhea-predominant IBS.

(4) Treatment satisfaction: A self-made satisfaction scale was used to assess patients' satisfaction with diarrhea-predominant IBS treatment.

2.5. Statistical analysis

Diarrhea-predominant IBS data were processed with SPSS21.0, % recorded (χ^2 test) diarrhea-predominant IBS count data, mean ± standard deviation (SD) recorded (*t*-test) diarrhea-predominant IBS measurement data. There was a statistically significant difference if $P < 0.05$.

3. Results

3.1. Treatment efficacy

The treatment efficacy in Group A (95.00%) was higher than that in Group B (70.00%), $P < 0.05$, as shown in **Table 2**.

Table 2. Comparison of treatment efficacy [n (%)]

Group	Markedly effective	Effective	Ineffective	Total effective rate
Group A (n = 20)	14 (70.00)	5 (25.00)	1 (5.00)	95.00
Group B (n = 20)	8 (40.00)	6 (30.00)	6 (30.00)	70.00
χ^2	-	-	-	4.3290
P	-	-	-	0.0375

3.2. TCM symptom scores

After taking the medicine, the symptom scores of Group A, such as loose stools, chills, poor appetite, and abdominal distension after meals, were all lower than those of Group B, $P < 0.05$, as presented in **Table 3**.

Table 3. Comparison of traditional Chinese medicine symptom scores for diarrhea-predominant IBS (mean ± SD)

Group	Loose stool (minutes)		Chills and physical weakness (points)		Poor appetite (minutes)		Abdominal distension after eating (minutes)	
	Before medication	After medication	Before medication	After medication	Before medication	After medication	Before medication	After medication
Group A (n = 20)	2.48 ± 0.84	0.76 ± 0.42	2.55 ± 0.81	0.77 ± 0.43	2.61 ± 0.85	0.71 ± 0.41	2.48 ± 0.79	0.68 ± 0.33
Group B (n = 20)	2.51 ± 0.86	1.33 ± 0.59	2.57 ± 0.83	1.36 ± 0.61	2.63 ± 0.87	1.42 ± 0.58	2.49 ± 0.78	1.41 ± 0.51
t	0.1116	3.5198	0.0771	3.5354	0.0735	4.4704	0.0403	5.3743
P	0.9117	0.0011	0.9389	0.0011	0.9418	0.0001	0.9681	0.0000

3.3. Quality of life

After treatment, the SF-36 score of patients with diarrhea-predominant IBS in Group A was higher than that in Group B, $P < 0.05$, as shown in **Table 4**.

Table 4. Comparison of quality-of-life scores in diarrhea-predominant IBS patients (mean ± SD)

Group	Physical functions (points)		Mental health (points)		Physiological functions (points)		Social functions (points)	
	Before medication	After medication	Before medication	After medication	Before medication	After medication	Before medication	After medication
Group A (n = 20)	63.15 ± 2.41	83.25 ± 2.96	64.14 ± 2.39	84.15 ± 3.01	63.22 ± 2.36	83.42 ± 3.15	64.11 ± 2.42	84.16 ± 3.18
Group B (n = 20)	63.17 ± 2.39	74.33 ± 2.64	64.12 ± 2.44	75.21 ± 2.79	63.21 ± 2.41	74.63 ± 2.53	64.19 ± 2.43	75.21 ± 2.67
t	0.0264	10.0577	0.0262	9.7415	0.0133	9.7297	0.1043	9.6395
P	0.9791	0.0000	0.9792	0.0000	0.9895	0.0000	0.9175	0.0000

3.4. Treatment satisfaction

The treatment satisfaction in Group A was 95.00%, which was higher than that in Group B (70.00%), $P < 0.05$, as displayed in **Table 5**.

Table 5. Comparison of treatment satisfaction [n (%)]

Group	Satisfied	Basically satisfied	Not satisfied	Satisfaction rate
Group A (n = 20)	16 (80.00)	3 (15.00)	1 (5.00)	95.00
Group B (n = 20)	10 (50.00)	4 (20.00)	6 (30.00)	70.00
χ^2	-	-	-	4.3290
P	-	-	-	0.0375

4. Discussion

The clinical risk of IBS is high and is related to many factors such as gastrointestinal disorders, patients' eating habits, and mental health. Although it is not fatal, it can reduce patient's quality of life. At present, Western medicine mostly uses antidiarrheal drugs to symptomatically treat diarrhea-predominant IBS. However, there is a risk of drug resistance, and long-term oral administration of Western drugs can cause adverse reactions and worsen the condition of IBS. Therefore, efficient treatment options should be explored. Based on the

theoretical analysis of traditional Chinese medicine, diarrhea-predominant IBS is included in the categories of "constipation" and "abdominal pain," and spleen and stomach weakness is the most common type. This article included diarrhea-predominant IBS patients with spleen and stomach weakness. Typical symptoms are epigastric pain, fatigue and drowsiness, and sallow complexion, which are related to emotional damage, improper diet, overwork, invasion of external pathogens, stress, and weakened spleen and stomach. When the gastrointestinal function is damaged, internal dampness and turbidity will occur. If the dampness remains unchanged after a long-term illness, the clear yang cannot be raised. Therefore, it should be treated with the prescription of replenishing qi and rising yang, harmonizing the stomach, and strengthening the spleen to optimize the transportation and transformation functions of the spleen and stomach. Shengyang Yiwei Decoction is commonly used in traditional Chinese medicine to treat gastrointestinal diseases, and is suitable for the treatment of patients with spleen and stomach qi deficiency and dampness and heat. The combination of *Atractylodes*, *Astragalus membranaceus*, ginseng, and other drugs in Shengyang Yiwei Decoction can nourish the qi of the spleen and stomach and lift the clear yang; the combination of Doubleteeth Pubescent Angelica Root, *Saposhnikoviae Radix*, and *Bupleurum* can enhance the effect of lifting the lucid yang; Combined with *Poria cocos*, *Notopterygium* root, and oriental water plantain rhizome, it can inhibit diarrhea, act as analgesia and diuresis, and relieve depression; *Coptis chinensis*, combined with *Pinellia ternata*, can clear heat and remove dampness; citri reticulatae pericarpium (tangerine peel) can harmonize the stomach and regulate qi; and Radix Glycyrrhizae Preparata can increase spleen and stomach qi [3]. The above-mentioned medicines can be used together to achieve the effects of nourishing and strengthening the spleen and stomach, thereby dispelling pathogens and strengthening the body, enhancing the effects of replenishing qi and raising yang, removing dampness, and strengthening the spleen.

From the results, the treatment efficacy of Group A (95.00%) was higher than that of Group B, which was 70.00%, suggesting that treatment of diarrhea-predominant IBS with Shengyang Yiwei Decoction can enhance the therapeutic effect. The main causes of diarrhea-predominant IBS are constitutional insufficiency, internal injuries caused by excess of seven emotions, and exogenous factors, etc., and the weakness of the spleen and stomach is closely related to the weakness of the internal organs. To eliminate this condition, it is necessary to reverse the spleen deficiency and excess dampness, and inhibit the spleen insufficiency caused by dampness. Intestinal dysfunction should be treated by regulating the internal organs and making full use of the meridians throughout the body to transport oxygen to improve the body's microcirculation. Although simple symptomatic treatment with Western medicine can quickly control diarrhea symptoms, it treats the symptoms rather than the root cause, does not regulate extraintestinal-related functions, and has a high risk of recurrence after drug withdrawal [4]. In addition, Chinese medicine treatment can eliminate the pathogenesis of weak internal organs, and can also optimize the circulation of qi and blood throughout the body, allowing the essence of water and grain to spread throughout the body, exerting the effect of raising yang and replenishing qi, thereby rebuilding the protective barrier of the digestive system and enhancing the ability of the spleen and stomach to resist germs [5].

In addition, Group A had loose stools (0.76 ± 0.42), chills and physical weakness (0.77 ± 0.43), poor appetite (0.71 ± 0.41), and abdominal distension after meals (0.68 ± 0.33). The symptom scores were all lower than those in Group B; the SF-36 scores of patients with diarrhea-predominant IBS in Group A were higher than those in Group B, $P < 0.05$. It is suggested that treatment of diarrhea-predominant IBS with Shengyang Yiwei Decoction can promote the resolution of gastrointestinal discomfort symptoms and enhance the quality of life of patients. Analysis of the reasons shows that spleen and stomach dysfunction in patients with diarrhea-predominant IBS due to spleen and stomach weakness is closely related to various symptoms caused by IBS. This article chooses Shengyang Yiwei Decoction for treatment. The combination of medicinal ingredients such

as *Bupleurum*, white peony root, and Radix Glycyrrhizae Preparata can jointly relieve depression, promote qi, and soothe the liver; the medicinal ingredients of *Notopterygium* root can remove dampness and promote yang. The above drugs can be used in combination to harmonize liver qi, and the lifting of yang can cause the liver and kidney pathogens and dampness to be driven away. It then reconciles yin and yang and promotes the essence of water and grain to spread throughout the body through the circulation system to meet the metabolic needs of the spleen and stomach during daily activities, thereby ensuring the normal metabolism of body fluid, blood, qi, essence, etc. [6]. In addition, the medicinal ingredients of white peony root can enter the liver and spleen meridians, and flavonoids, glycosides, alkaloids, and other substances can regulate the body's metabolism, thereby achieving the effects of nourishing the liver and blood, protecting the liver, eliminating dampness, and strengthening the spleen. The active ingredients of citri reticulatae pericarpium and the active ingredients of *Atractylodes* can regulate blood circulation and promote the metabolism of tiny substances accumulated in the meridians, thereby correcting the metabolic disorder of the body's microcirculation [7]. The combined use of various medicines in the prescription can restore the metabolism of the kidney and liver meridians, strengthen the gastrointestinal function, stabilize the physiological functional system, and thereby relieve the symptoms of diarrhea-predominant IBS patients [8].

Furthermore, the treatment satisfaction in Group A (95.00%) was higher than that in Group B (70.00%), $P < 0.05$. It is suggested that treatment of diarrhea-predominant IBS with Shengyang Yiwei Decoction can enhance the treatment satisfaction. Analyzing the reasons, the medicinal ingredients such as *Poria cocos* and *Atractylodes macrocephala* in Shengyang Yiwei Decoction can regulate neurotransmitter transmission activities and stimulate gastrointestinal motility, thereby promoting the transmission of information to the central nervous system and achieving a biphasic response effect [9]. In addition, the combination of Shengyang Yiwei Decoction on the basis of Western medicine can improve intestinal sensitivity and correct gastrointestinal motility disorders, and drugs such as *Saposhnikoviae Radix*, *Notopterygium* root and *Bupleurum* can strengthen the spleen and eliminate dampness. Combined with Radix Glycyrrhizae Preparata, it can regulate the spleen's transportation and transformation functions, and correct gastrointestinal disorders while protecting normal gastrointestinal physiological functions, thereby reducing adverse drug reactions and ensuring drug safety [10].

5. Conclusion

In summary, patients with gastrointestinal weakness and diarrhea-predominant IBS treated with Shengyang Yiwei Decoction have reduced symptoms of gastrointestinal discomfort, improved quality of life, and enhanced regulatory effect of IBS, which shows the significant promotion value of Shengyang Yiwei Decoction.

Disclosure statement

The author declares no conflict of interest.

References

[1] Guan P, Lin T, Yang B, et al., 2020, To Explore the Clinical Efficacy of Modified Shengyang Yiwei Decoction in the Treatment of Irritable Bowel Syndrome due to Spleen and Stomach Weakness. Inner Mongolia Traditional Chinese Medicine, 39(8): 53–54.

[2] Professional Committee on Digestive System Diseases of the Chinese Society of Integrated Traditional Chinese and Western Medicine, 2018, Consensus Opinions on the Diagnosis and Treatment of Irritable Bowel Syndrome by Integrated Traditional Chinese and Western Medicine (2017). Chinese Journal of Integrated Traditional Chinese and

Western Medicine for Digestion, 26(3): 227–232.

[3] Jia X, Yu T, 2018, Observation on the Efficacy of External Hot Therapy of Wenzhong Powder Combined with Oral Administration of Shenling Atractylodes Powder in the Treatment of Diarrhea-Predominant Irritable Bowel Syndrome with Weak Spleen and Stomach. Western Traditional Chinese Medicine, 31(11): 81–83.

[4] Sheng T, Geng X, Sun X, et al., 2020, Clinical Efficacy of modified Gegen Qinlian Decoction in the Treatment of Spleen and Stomach Damp-Heat Diarrhea-Predominant Irritable Bowel Syndrome. Journal of Clinical Military Medicine, 4(9): 1039–1041.

[5] Zheng C, Li J, Liu L, et al., 2019, Clinical Observation of Fuzi Lizhong Pills Combined with Danggui, Ginger and Mutton Decoction in the Treatment of Diarrhea-Predominant Irritable Bowel Syndrome with Spleen and Kidney Yang Deficiency. Chinese Journal of Digestion of Integrated Traditional Chinese and Western Medicine, 27(3): 175–178.

[6] Li J, 2019, Clinical Observation on 55 Cases of Diarrhea-Predominant Irritable Bowel Syndrome with Spleen and Kidney Yang Deficiency Syndrome Combined with Fuzi Lizhong Pills Combined with Angelica Ginger and Mutton Decoction. Chinese Ethnic and Folk Medicine, 28(22): 111–113.

[7] Zhang Z, Chang T, 2019, Clinical Study on Bupi Yichang Pills Combined with Compound Glutamine in the Treatment of Diarrhea-Predominant Irritable Bowel Syndrome. Modern Drugs and Clinics, 34(4): 1059–1064.

[8] Zhang X, 2018, Clinical Study on the Treatment of Diarrhea-Predominant Irritable Bowel Syndrome with Spleen Deficiency and Dampness Syndrome by Shengyang Yiwei Decoction, dissertation, Shanxi University of Traditional Chinese Medicine.

[9] Liang Z, Li B, Wu L, 2018, Clinical Observation of Modified Shengyang Yiwei Decoction in the Treatment of Diarrhea-Predominant Irritable Bowel Syndrome. Chinese Modern Distance Education of Traditional Chinese Medicine, 16(21): 99–101.

[10] Lu R, Jiang C, 2018, Case Studies of Shengyang Yiwei Decoction in Treating Irritable Bowel Syndrome with Liver Stagnation and Spleen Deficiency Combined with Emotional Problems. Heilongjiang Medicine, 42(7): 677, 680.