

Clinical Study on Treating Diarrhea-Predominant IBS with Liver Depression and Spleen Deficiency Using Shu Gan Jian Pi Yi Qi Prescription and Grain-Sized Moxibustion

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Abstract: *Objective:* To evaluate the therapeutic effect of Shu Gan Jian Pi Yi Qi prescription combined with grain-sized moxibustion on diarrhea-predominant irritable bowel syndrome (IBS-D) with liver depression and spleen deficiency syndrome. *Methods:* 60 patients with IBS-D (liver depression and spleen deficiency syndrome) treated in the outpatient clinic from January 2021 to December 2023 were selected and randomly divided into two groups using a random number table. The combined group was treated with Shu Gan Jian Pi Yi Qi prescription and grain-sized moxibustion, while the reference group was treated with western medication. The total effective rate, IBS symptom severity score (IBS-SSS), Bristol stool scale score, and IBS-specific quality of life questionnaire (IBSQOL) were compared between the two groups. *Results:* The total effective rate of the combined group was higher than that of the reference group ($P < 0.05$). Before treatment, there were no differences in IBS-SSS score, Bristol stool scale score, and IBSQOL score between the two groups ($P > 0.05$). After treatment, the IBS-SSS score and Bristol stool scale score of the combined group were lower than those of the reference group, while the IBSQOL score was higher ($P < 0.05$). *Conclusion:* Shu Gan Jian Pi Yi Qi prescription combined with grain-sized moxibustion can improve the symptoms of IBS-D patients, including stool characteristics, and enhance their quality of life.

Keywords: Shu Gan Jian Pi Yi Qi prescription; Grain-sized moxibustion; Diarrhea-predominant irritable bowel syndrome; Liver depression and spleen deficiency syndrome

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1. Introduction

Irritable Bowel Syndrome (IBS) is a gastrointestinal disease with a high incidence rate, characterized by intermittent or persistent diarrhea and abdominal pain. It mostly occurs in young and middle-aged populations,

with a predominance of female patients. IBS-D is a common type of IBS, which often has a long course and is accompanied by symptoms such as depression and sleep disorders^[1]. In traditional Chinese medicine, IBS-D belongs to the category of “diarrhea” and is mainly caused by liver depression and spleen deficiency syndrome. The treatment principles include soothing the liver, strengthening the spleen, and nourishing Qi. Shu Gan Jian Pi Yi Qi prescription is often selected for this purpose. Simultaneously, combining grain-sized moxibustion can regulate Qi and blood, dredge meridians, and improve symptoms such as diarrhea. Furthermore, the combined use of these two traditional Chinese medicine therapies can fully utilize the pharmacological effects of Chinese herbal medicines through thermal action, thereby enhancing clinical efficacy. Based on this, the present study selected 60 patients with IBS-D (liver depression and spleen deficiency syndrome) to evaluate the therapeutic efficacy of Shu Gan Jian Pi Yi Qi prescription combined with grain-sized moxibustion.

2. Materials and methods

2.1. General information

Sixty patients with IBS-D (liver depression and spleen deficiency syndrome) treated from January 2021 to December 2023 were selected and randomly divided into two groups using a random number table. The combined group consisted of 30 patients, including 19 males and 11 females, with ages ranging from 24 to 75 years (mean age: 54.86 ± 4.18 years old) and a disease duration of 7 months to 9 years (mean duration: 5.18 ± 1.37 years). The reference group consisted of 30 patients, including 18 males and 12 females, with ages ranging from 23 to 77 years (mean age: 54.94 ± 4.27 years old) and a disease duration of 8 months to 10 years (mean duration: 5.33 ± 1.42 years). There were no significant differences in general information between the two groups ($P > 0.05$).

Inclusion criteria: Patients who met the diagnostic criteria of Rome IV, were diagnosed with liver depression and spleen deficiency syndrome, were less than 80 years old, had complete clinical data, and were informed and consented to the study. Exclusion criteria: Patients who received Chinese and Western medicine treatment in the past month, had a history of intestinal surgery, had other types of intestinal diseases, were in lactation or pregnancy, had insufficient liver and kidney function, or suffered from mental illnesses.

2.2. Methods

The combined group was treated with Shu Gan Jian Pi Yi Qi prescription and grain-sized moxibustion. The self-made Shu Gan Jian Pi Yi Qi prescription consisted of the following herbs: Huangqi (10 g), Chuanxiong (6 g), Baizhu (15 g), Xiangfu (6 g), Sharen (6 g), Lianzirou (15 g), Dangshen (10 g), Shanyao (6 g), Yinyiren (15 g), Chenpi (6 g), Chaihu (10 g), Baibiandou (10 g), Fuling (6 g), Baishao (6 g), and Zhigancao (6 g). These herbs were made into granules and dissolved in 60 °C water to a volume of 150 mL. One dose was taken twice a day after meals. Additionally, grain-sized moxibustion was applied to Guanyuan, Zusanli, Dachangshu, Zhongwan, Taichong, Tianshu, Pishu, and Baihui acupoints. A suitable amount of mugwort floss was made into grain-sized conical moxa cones. A small amount of water was sprinkled on the acupoints, and then the moxa cones were adhered and ignited with incense. Seven moxa cones were ignited on each acupoint. After treatment, patients were instructed not to burst the moxibustion blisters to allow for full absorption. The treatment was performed three times a week.

The reference group was treated with Western medication. They were given Pinaverium Bromide tablets orally, with a dose of 50 mg each time, three times a day, taken with meals and swallowed whole. Both groups

underwent a treatment course of 4 weeks, which was repeated for 3 courses.

2.3. Observation indicators

- (1) IBS-SSS Score: The score includes indicators such as abdominal pain frequency, abdominal pain symptoms, bowel satisfaction, abdominal distension, and impact on quality of life. Each item is rated on a scale from asymptomatic (20 points), not very severe (40 points), slightly severe (60 points), severe (80 points), to very severe (100 points) based on severity.
- (2) Bristol Score: 1 point for hard, lumpy stools; 2 points for sausage-shaped stools; 3 points for dry, cracked sausage-shaped stools; 4 points for soft, sausage-shaped stools; 5 points for soft blobs; 6 points for muddy stools; and 7 points for watery diarrhea.
- (3) IBSQOL Score: It includes 8 items such as conflict behavior, health concerns, restlessness, and dietary restrictions. The total score for each dimension is converted to a percentage system, with a positive score for quality of life.

2.4. Criteria for evaluating therapeutic effect

Complete recovery indicates normal gastrointestinal function with no related symptoms. Significant efficacy indicates normal stool characteristics, reduced frequency, and significant symptom relief. Initial efficacy indicates improvement in stool characteristics, reduced frequency, and some symptom relief; no efficacy indicates no change in stool characteristics or frequency, and no symptom relief.

2.5. Statistical analysis

Data were processed using SPSS 28.0 software. Measurement data were expressed as mean \pm standard deviation (mean \pm SD) and compared using the *t*-test. Count data were expressed as numbers and percentages (*n*/%) and compared using the chi-square (χ^2) test. Statistical significance was set at $P < 0.05$.

3. Results

3.1. Comparison of total effective rate between two groups

The total effective rate of the combined group was higher than that of the reference group ($P < 0.05$) (Table 1).

Table 1. Comparison of total effective rate between two groups (*n*/%)

Grouping	<i>n</i>	Complete recovery	Significant efficacy	Initial efficacy	No efficacy	Total effective rate
Combined group	30	13	10	6	1	96.67% (29/30)
Reference group	30	10	8	5	7	76.67% (23/30)
χ^2	-	-	-	-	-	5.192
<i>P</i>	-	-	-	-	-	0.023

3.2. Comparison of IBS-SSS scores between two groups

Before treatment, there was no difference in IBS-SSS scores between the two groups ($P > 0.05$). After treatment, the IBS-SSS score of the combined group was lower than that of the reference group ($P < 0.05$) (Table 2).

Table 2. Comparison of IBS-SSS scores between two groups (mean ± SD /score)

Grouping	<i>n</i>	Before treatment	After treatment
Combined group	30	371.31 ± 48.61	182.44 ± 21.61
Reference group	30	370.98 ± 50.81	207.63 ± 22.73
<i>t</i>	-	0.026	4.399
<i>P</i>	-	0.980	0.000

3.3. Comparison of Bristol scores between two groups of patients

Before treatment, there was no difference in Bristol scores between the two groups ($P > 0.05$). After treatment, the Bristol score of the combined group was lower than that of the reference group ($P < 0.05$) (Table 3).

Table 3. Comparison of Bristol scores between two groups of patients (mean ± SD /score)

Grouping	<i>n</i>	Before treatment	After treatment
Combined group	30	5.89 ± 1.34	3.87 ± 0.71
Reference group	30	5.91 ± 1.36	4.76 ± 0.82
<i>t</i>	-	0.057	4.494
<i>P</i>	-	0.954	0.000

3.4. Comparison of IBSQOL scores between two groups of patients

Before treatment, there was no significant difference in IBSQOL scores between the two groups ($P > 0.05$). After treatment, the IBSQOL score of the combined group was higher than that of the reference group ($P < 0.05$) (Table 4).

Table 4. Comparison of IBSQOL scores between two groups of patients (mean ± SD /score)

Grouping	<i>n</i>	Before treatment	After treatment
Combined group	30	75.29 ± 4.91	89.35 ± 6.10
Reference group	30	75.18 ± 4.86	84.12 ± 6.02
<i>t</i>	-	0.087	3.342
<i>P</i>	-	0.931	0.001

4. Discussion

IBS-D (syndrome of liver stagnation and spleen deficiency) falls under the category of “diarrhea” in traditional Chinese medicine. The causes are related to dietary indiscretion harming the spleen and stomach, constitutional weakness affecting the spleen, and its pathogenesis associated with factors such as liver Qi stagnation, emotional imbalance, and water-dampness retention^[2]. The disease locus lies in the kidneys, intestines, and spleen, requiring symptomatic treatments like meridian dredging, warming the kidneys and strengthening the spleen, stopping diarrhea, and dispelling cold.

The self-prescribed formula for soothing the liver, strengthening the spleen, and nourishing Qi is a commonly used traditional Chinese medicine prescription for this disease. It can be administered orally to soothe the liver, regulate Qi, and relieve pain. This prescription is based on Shenling Baizhu Powder combined with methods to

soothe the liver and relieve depression, with the therapeutic goal of nourishing qi and strengthening the spleen [3]. In this formula, Baizhu, Dangshen, and Fuling are the principal herbs, capable of strengthening the spleen, stimulating appetite, promoting urination and dampness dispersion, and nourishing Qi and generating fluids. Yiyiren and Baibiandou are the minister herbs, which can play a role in strengthening the spleen and dispersing dampness. Other herbs serve as assistants, where Chuanxiong and Xiangfu can soothe the liver, regulate Qi, relieve pain, and promote blood circulation. Chaihu has effects such as removing blood stagnation, relieving depression, and promoting Qi and blood circulation. Next, Chenpi has effects like promoting Qi circulation and regulating Qi stagnation. In addition, Huangqi and Gancao can nourish Qi and neutralize its medicinal properties. Baishao has the function of softening the liver and nourishing blood [4]. The combination of these herbs can promote Qi circulation, nourish Qi, and strengthen the spleen, nourishing the liver and stomach while soothing the liver, thereby restoring gastrointestinal function.

Grain-sized moxibustion is one of the classic moxibustion methods, and its effect is to regulate Qi and blood and warm the meridians. Among the selected acupoints, Guanyuan and Pishu are commonly used acupoints for treating diarrhea. Moxibustion on these acupoints has effects such as strengthening the spleen and stopping diarrhea. The combination of Guanyuan and Zusanli is considered a strengthening acupoint, which can play a role in consolidating the foundation and cultivating the original Qi, and enhancing physical fitness [5]. Dachangshu belongs to the large intestine meridian, and Tianshu belongs to the Back-shu point. The combination of the two can improve the physiological functions of the internal organs. Zhongwan is a stomach meridian point of the Ren meridian, which can improve gastrointestinal and nervous system functions. Taichong belongs to the liver meridian, and moxibustion on this acupoint can regulate qi and blood and soothe the liver to relieve depression [6]. Baihui can reach the Yin and Yang meridians, and moxibustion on this acupoint has a calming effect. Combining traditional Chinese medicine prescriptions with grain-sized moxibustion can soothe the liver, stop diarrhea, nourish Qi, and strengthen the spleen [7].

The results showed that the total effective rate of the combined group was higher than that of the reference group ($P < 0.05$). This is basically consistent with the research results of Wu (2024) [8]. After treatment, the IBS-SSS score and Bristol score of the combined group were lower than those of the reference group, and the IBSQOL score was higher than that of the reference group ($P < 0.05$). The reason is that the formula for soothing the liver, strengthening the spleen, and nourishing Qi has an anti-inflammatory mechanism, can enhance spleen and stomach function, improve the digestive and absorptive capacity of the gastrointestinal tract, and thereby relieve symptoms such as abdominal distension and diarrhea. Moreover, the formula can exert antioxidant and antibacterial effects, exerting multiple therapeutic mechanisms [9,10]. Combining grain-sized moxibustion can achieve both internal and external treatment, treating the disease in a coordinated manner with a holistic view and local treatment, which can significantly improve patients' disease symptoms and maximize their quality of life.

In summary, the combination of the formula for soothing the liver, strengthening the spleen, and nourishing Qi with grain-sized moxibustion can improve the disease symptoms of patients with IBS-D (syndrome of liver stagnation and spleen deficiency), increase the total effective rate, and benefit the improvement of quality of life, possessing high therapeutic value.

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References

- [1] Lai B, Hong M, Li X, et al., 2024, Preparation of a Rat Model of Diarrhea-Predominant Irritable Bowel Syndrome with Liver Stagnation and Spleen Deficiency Induced by Acetic Acid Enema Combined with Restraint and Tail-Clamp Stress. *Chinese Journal of Laboratory Animal Science*, 32(3): 317–328.
- [2] Xiao X, Hu L, Chen J, et al., 2023, Observation on the Efficacy of Heat-Sensitive Grain-Sized Moxibustion in Treating Irritable Bowel Syndrome. *Journal of External Therapy of Traditional Chinese Medicine*, 32(6): 52–55.
- [3] Chen Q, Bao K, Du X, 2020, Observation on the Efficacy of Grain-Sized Moxibustion Combined with Yimu Decoction in Treating Irritable Bowel Syndrome and Its Impact on Mental Health. *Chinese Journal of Traditional Medical Science and Technology*, 27(5): 804–805.
- [4] Gao W, Yu J, Hua J, 2021, Clinical Study on Self-Prescribed Yiqi Shugan Jianpi Decoction in Treating Nonalcoholic Fatty Liver Disease. *Chinese Journal of Integrated Traditional and Western Medicine on Liver Diseases*, 31(3): 209–212.
- [5] Liu F, Liu G, 2021, Clinical Observation on Yiqi Shugan Jianpi Decoction Combined with Polyethylphosphatidylcholine in Treating Nonalcoholic Fatty Liver Disease. *Chinese Journal of Modern Distance Education of Traditional Chinese Medicine*, 19(13): 131–133.
- [6] Lin X, Deng N, Xia X, et al., 2024, Effects of Sishen Pills on the Expression of MCT and c-Fos in the Colon of Rats with Diarrhea-Predominant Irritable Bowel Syndrome. *Chinese Traditional Patent Medicine*, 46(5): 1658–1661.
- [7] Wang K, Yang Q, 2021, Observation on the Efficacy of Shugan Zhonghe Decoction in Treating Diarrhea-Predominant Irritable Bowel Syndrome with Liver Stagnation and Spleen Deficiency. *Journal of Clinical Medicine in Practice*, 25(23): 58–61 + 68.
- [8] Wu Y, 2024, Clinical Observation on the Treatment of Diarrhea-Predominant Irritable Bowel Syndrome with Liver Stagnation and Spleen Deficiency Using Shugan Jianpi Yiqi Formula Combined with Grain-Sized Moxibustion. *Chinese Journal of Modern Distance Education of Traditional Chinese Medicine*, 22(18): 100–103.
- [9] Zhuang Y, Huang S, Li H, 2023, Observation on the Efficacy of Wrist-Ankle Acupuncture Combined with Jianpi Shugan Formula in Treating Patients with Irritable Bowel Syndrome of Spleen Deficiency and Qi Stagnation Type. *World Journal of Integrated Traditional and Western Medicine*, 18(12): 2498–2502.
- [10] Wu B, Wang X, Fu D, et al., 2022, Efficacy of Shugan Jieyu Formula on a Rat Model of Constipation-Predominant Irritable Bowel Syndrome and Its Effects on Brain-Gut Axis Function. *Laboratory Animal and Comparative Medicine*, 42(6): 551–559.

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