

Discussion on the Treatment of Diarrhea Type Irritable Bowel Syndrome from the Basic Pathogenesis

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Abstract: Diarrhoeal irritable bowel syndrome (IBS) is a common functional disease. Due to the complexity and diversity of its course, recurrent attacks and no specificity, simple western medicine treatment is mainly to alleviate symptoms, which seriously affects the quality of life and work of patients. This study, combined with relevant research in recent years, reviewed the etiology and pathogenesis of diarrhea predominant irritable bowel syndrome, Chinese medicine treatment, Chinese medicine treatment, integrated traditional and western medicine treatment and other aspects, looking for a treatment plan for diarrhea predominant irritable bowel syndrome, hoping to provide ideas and reference for subsequent clinical diagnosis and treatment.

Keywords: diarrhea predominant Irritable Bowel Syndrome; basic pathogenesis; spleen deficiency and liver depression; traditional Chinese medicine

1. Introduction

Irritable bowel syndrome (IBS) is a functional gastrointestinal disease. It is a group of symptoms including abdominal pain and changes in intestinal peristalsis patterns without any evidence of potential damage. It is a relatively common chronic digestive disease. Patients have long-term symptoms of abdominal pain, abdominal distention, diarrhea or constipation, often accompanied by changes in bowel habits, and lack of morphological and biochemical abnormalities to explain the symptoms. Irritable bowel syndrome (IBS) has several different clinical classification methods, which can be divided into four types according to stool characteristics: IBS-D, IBS-C, IBS-M, IBS-U^[1], diarrhoeal irritable bowel syndrome (IBS-D) is the most common subtype of IBS in China^[2]. Epidemiological studies around the world show that IBS is a multiple disease worldwide, as shown in Figure 1. About 10% - 20% of people in western countries are affected by IBS. An epidemiological study in China according to the Rome II standard shows that the prevalence rate of community population is 5.67%^[3], 22% of them have ever seen a doctor because of IBS symptoms, while the overall prevalence rate of IBS among the general population in China is 1.4%-11.5%, and only 25% of IBS patients go to the hospital^[1]. In recent years, with the acceleration of social rhythm and the change of living habits, the prevalence of IBS-D in China has reached 12.9%^[4], and the incidence is increasing year by year^[5].



Figure 1: World prevalence of IBS

Since Pare first proposed the term "irritable bowel syndrome" in 1944, modern research on the etiology, pathology and pathogenesis of IBS has been more than 70 years. However, due to its complex course, diversity, and nonspecific symptoms of repeated attacks, the etiology and pathogenesis of IBS have not yet been fully understood. Modern medicine often believes that IBS is caused by multiple factors, including genetic factors, dietary factors, gastrointestinal motility abnormalities, visceral hypersensitivity, abnormal regulation of the brain-gut axis, and psychological factors [6], as shown in Figure 2 and Figure 3. The diagnosis and treatment of this disease mainly focuses on alleviating symptoms, and its treatment effect is often unsatisfactory. Traditional medicine in China has a good effect in the diagnosis and treatment of IBS-D. This article reviews the progress of Traditional medicine in the treatment of IBS-D, hoping to provide ideas and reference for the follow-up clinical diagnosis and treatment of IBS-D.

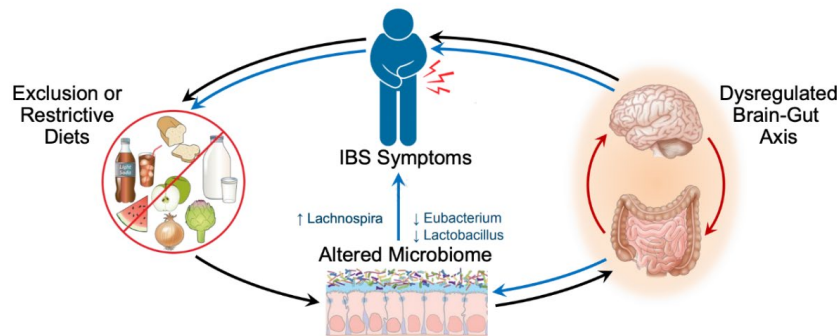


Figure 2: The main pathogenic factors of IBS

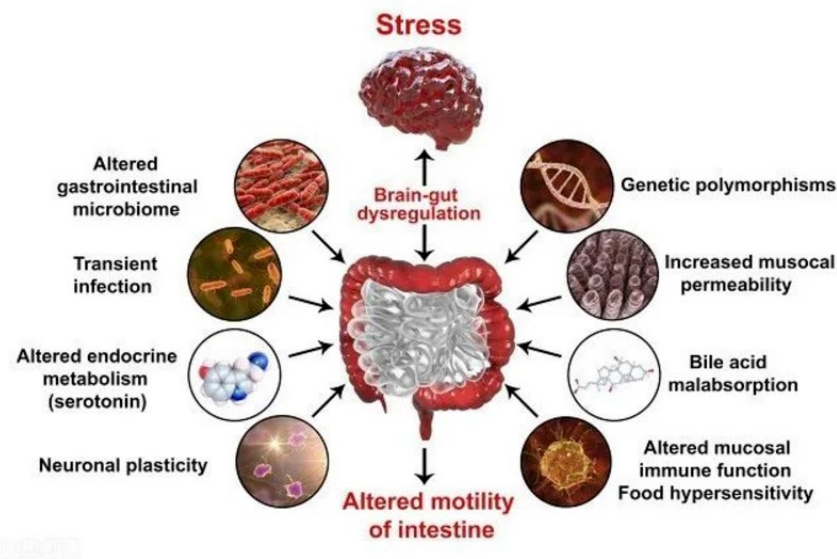


Figure 3: Brain-gut dysregulation

2. The etiology and pathogenesis of traditional Chinese medicine

There is no exact name for "diarrhea type irritable bowel syndrome" in traditional Chinese medicine. Various Chinese medicine classics describe IBS-D according to its clinical symptoms, which are scattered in content such as "abdominal pain", "diarrhea", "intestinal addiction", "rest dysentery", "stagnation", and "depression syndrome". From the perspective of traditional Chinese medicine, the main location of this disease is in the large intestine. Most doctors believe that the etiology of IBS-D is mainly attributed to several aspects, such as emotional disorders, external and internal invasion, weak body, and improper diet. The onset is related to the liver and spleen, including liver stagnation and qi stagnation, and spleen deficiency and loss of circulation. As stated in the "Complete Book of Jing Yue: Diarrhea",

"Those who encounter anger and turn it into diarrhea must first eat narrowly when angry, causing damage to the spleen and stomach. However, if they commit an offense, it will occur upon contact, which is a disease of the liver and spleen. Therefore, the liver wood is used to control the soil, and the temper is affected." Similarly, as stated in the "Zhi Yi Bi Bian" on the liver qi (two articles): "When the liver qi moves, it will take advantage of the spleen soil, causing pain and swelling, and even causing diarrhea." Both indicate that the onset of IBS is closely related to the liver and spleen. In recent years, most studies have also shown that emotional distress is the main cause of IBS-D, and the basic pathogenesis of IBS-D is related to the liver and spleen [6-8].

Traditional Chinese medicine believes that the spleen is responsible for transportation and purification, and the stomach is responsible for receiving and reducing turbidity. The absorption and purification are interdependent, and the rise and fall are related. Only by combining these factors can the spleen and stomach jointly maintain normal digestion, absorption, and waste excretion functions of the body. At the same time, the generation and distribution of water, grain, and zinc micro substances in the spleen and stomach are also closely related. As Li Dongyuan said in his book "Spleen and Stomach Theory", "All diseases are caused by spleen and stomach failure." The book "Su Wen Jue Lun" also states: "The spleen is the body fluid that circulates the stomach." Modern medical books often emphasize the function of the spleen in transporting and dispersing the essence of water and grains, but overlook its ability to also transport dregs; We have attached great importance to the characteristics of the spleen's ascending clearing and the stomach's descending turbidity, while neglecting the functions of the stomach's ascending dispersing and the spleen's descending diarrhea. As stated in "Su Wen · Meridian Bie Lun 21": "Drinking into the stomach, swimming and overflowing essence and qi, ascending and descending to the spleen, dispersing essence through the spleen..." explains the function of the stomach in ascending and dispersing qi; The "Treatise on Typhoid Fever - Taiyin Disease" states: "... Although it is extremely troublesome, it can be beneficial for more than ten days, but it must stop on its own. The spleen should be used to strengthen the family, and the decaying impurities should be eliminated." This indicates that the spleen has the function of expelling impurities and purgation. The Yangming Disease section of the Treatise on Febrile Diseases also repeatedly reminds: "If the stool is hard at the beginning, it will become loose later and cannot be attacked." This describes the symptoms and characteristics of spleen deficiency that cannot be transported and transformed, leading to ineffective bowel movements. Therefore, spleen and stomach weakness is an essential factor in the pathogenesis of IBS-D.

Secondly, the spleen and stomach are the source of qi and blood biochemistry, and the foundation of postnatal development determines the strength of the body's positive qi. As the saying goes, "positive qi exists within the body, and evil cannot be interfered with." If the spleen is strong, it is not affected by water or wood. The liver is the official of a general, belonging to wood and mainly responsible for relieving qi. It is the hub for the rise and fall of qi, while the spleen is the official of a granary, belonging to soil and mainly responsible for transportation and transformation. It is advisable to ascend; Therefore, if liver wood is affected, the qi mechanism is closed and the spleen soil is suppressed, and the transportation and transformation function of the spleen is restricted. As stated in the "Su Wen · The Great Theory of Qi Exchange": "When the age is too high, the wind is prevalent, the spleen and soil are affected by evil, the people suffer from diseases such as diarrhea and food loss, weight is troublesome, and the stomach is full of intestinal ringing." Also like Ye Tianshi [9] said: "Feelings are uncomfortable. Yang qi stagnates in the middle, changes the internal wind, turns and turns,... covering the liver is the source of the disease, and the stomach is the place where the disease is spread. If you drink alcohol, it will be easy to loose and slippery." It can be seen that emotional problems can lead to stagnation of liver qi, poor qi, blocking the spleen, and diarrhea if the spleen and stomach are not well transported; Or it may be due to the loss of the liver's ability to regulate its flow, obstruction of qi, obstruction of the spleen and soil, loss of healthy spleen movement, stagnation of soil and wood, and unfavorable flow of qi in the organs, which can lead to abdominal distension and pain. In summary, emotional distress is the main cause of IBS-D, while spleen deficiency and liver depression are the basic pathogenesis of IBS-D.

3. Traditional Chinese Medicine Internal Treatment Method

It is mentioned in the Internal Classic that "the land is derived from the trees". In order to achieve the coordination and balance of the spleen and stomach functions, it is necessary to have the normal function of liver drainage, which is conducive to the treatment of IBS. According to Zhou Xuehai's [10] "Reading Medical Essays Volume 1" in the Qing Dynasty, "the spleen is the main body of damp soil in the center,... its nature is calm,... when it is calm, it is easy to stagnate, and wooden qi must be used to disperse it. Therefore, the spleen is mainly used for movement, and it is also wooden qi." It is said that the spleen is yin soil, and its nature is good at nourishing stagnation, and it is easy to cause depression. It must rely on

the liver's catharsis function to avoid stagnation, and then maintain its normal transportation function. In combination with its basic pathogenesis, traditional Chinese medicine treats IBS-D mainly from the liver and spleen, focusing on regulating the liver and spleen.

3.1. Classic prescriptions of ancient books

The culture of traditional Chinese medicine is vast and profound, and the classics of traditional Chinese medicine are even more vast. Various doctors have excavated many classic formulas from the classics to harmonize the liver and spleen in the treatment of IBS-D. Wen Yandong^[11] and others summarized the theoretical system of relevant meridians and proposed that the core pathogenesis of IBS-D is liver depression and spleen deficiency, and emotional imbalance is an important factor in its pathogenesis. They emphasized that the treatment of IBS-D should start from the perspective of the liver and spleen, based on the liver and spleen, and select the meridian Sini San to soothe the liver and regulate the spleen, and regulate the qi mechanism; Licorice Xiexin Tang is used to relieve bitterness and alleviate bitterness, and to slow down sweetness and stop diuresis; Wumei Pill has the therapeutic effect of clearing and warming, nourishing astringency, soothing the liver and regulating the spleen, in order to achieve the relaxation of qi and restore the normal function of the intestines and organs. It is also combined with the factors of deficiency, excess, cold and heat, as well as emotional factors to guide the selection of prescription and medication. Tongxie Yaofang is a specialized formula for treating IBS-D of spleen deficiency and liver stagnation type. It consists of a combination of four simple herbs: Baizhu, Baishao, Chenpi, and Fangfeng. It has the effects of softening the liver, stopping diarrhea, and suppressing wood and supporting soil. On the basis of routine treatment, Chen Jingye^[12] applied Tongxie Yaofang to treat IBS patients. The results showed that the total effective rate (96.30%) and the improvement effect of traditional Chinese medicine syndrome points in the observation group were better than those in the control group (77.78%), with a statistically significant difference ($P < 0.05$). This suggests that Tongxie Yaofang can further alleviate the discomfort symptoms of patients, improve clinical efficacy, promote better progress of patients' conditions, and the treatment is safe, reliable, and well tolerated. Xiaoyao Powder, derived from the "Taiping Huimin He Prescription", has the effects of relieving depression and soothing the liver, nourishing blood and benefiting the spleen. Due to its balance of qi and blood, as well as the treatment of liver and spleen, it is also quite suitable for treating liver spleen disharmony type IBS-D. Bai Guisheng^[13] treated 80 patients with liver depression and spleen deficiency type IBS in the observation group with the combination of Xiaoyao Pill and psychotherapy, and compared it with 79 patients in the control group treated with Pivdone Bromide Tablets. During the treatment process, the observation group showed ideal efficacy and low recurrence rate, which can effectively improve clinical symptoms such as abdominal pain and diarrhea to a large extent.

3.2. Clinical trial formula

Professor Guo Peng^[14] believes that the key pathogenesis of IBS-D is disharmony between the liver and spleen. White peony, Chaihu, Codonopsis pilosula, Fructus Aurantii, Poria cocos, Atractylodes macrocephala, and licorice are used as formulas to soothe the liver, strengthen the spleen, and regulate qi. At the same time, patients are advised to pay attention to lifestyle regulation, and the overall therapeutic effect is significant. Su Jianbin^[15] used Professor Zhang Lun's self-designed Pei Tu Shun Mu Tang as the observation group, while the control group received oral treatment with *Saccharomyces boulardii*. Pei Tu Shun Mu Tang is formulated with herbs such as Codonopsis pilosula, Poria cocos, Atractylodes macrocephala, tangerine peel, red peony, yam, and roasted licorice to achieve the therapeutic effects of strengthening the spleen and soothing the liver. After treatment, the total effective rate of the observation group (93.33%) was significantly higher than that of the control group (70.00%), with a statistically significant difference ($P < 0.05$), indicating that Peitu Shunmu Tang can significantly improve the clinical symptoms of IBS-D patients and has a certain therapeutic effect on improving their quality of life.

4. External Treatment Methods of Traditional Chinese Medicine

Traditional Chinese medicine has a variety of treatment methods for IBS-D. In addition to the above oral internal treatment with traditional Chinese medicine, there are also external treatment methods such as acupuncture, massage, acupoint application, auricular point application, and acupoint catgut embedding. Zhao Hanqing^[16] used the method of Evidence-based medicine to evaluate the clinical efficacy of external treatment of traditional Chinese medicine in the treatment of IBS-D. He found that

the efficacy of nine external treatment methods of traditional Chinese medicine, including acupuncture, moxibustion, warm acupuncture and moxibustion, acupoint catgut embedding, was better than that of eight conventional western medicine treatments, and moxibustion was the best external treatment method of traditional Chinese medicine for IBS-D. Yang Min et al. [17] selected Tianshu, Neiguan, Zusanli and other acupoints, and cooperated with ginger separated moxibustion at Shenque after acupuncture, compared with the treatment using Diosmectite and western medicine droperithiaton melitracen tablet. The results showed that acupuncture combined with ginger separated moxibustion could effectively improve the physiological function, energy, general health status, mental health, and emotional function of patients. Wang Qian et al. [18] observed the changes of Gut microbiota in IBS patients, and compared acupuncture and moxibustion at bilateral Tianshu, Zusanli, Shangjuxu, Sanyinjiao and Taichong points with trimebutine maleate in the observation group. The results showed that acupuncture and moxibustion had a significant advantage in treating IBS patients with liver depression and spleen deficiency, and could improve the clinical treatment efficiency of IBS patients while reducing the recurrence rate. Han Zhicun and others [19] explored the auricular point sticking and pressing therapy for IBS-D. The auricular point sticking and pressing therapy points are: spleen, stomach, liver, large intestine, endocrine, and subcortical. Compared with the treatment with oral Diosmectite, they found that auricular point sticking and pressing therapy can significantly improve the clinical efficacy of patients with IBS-D, and can also reduce the SDS and SAS scores of patients, and ease the mood of patients. Wei Jingjing et al. [20] used a traditional Chinese medicine decoction combining acupoint catgut embedding with the method of strengthening the spleen and soothing the liver to treat liver depression and spleen deficiency type IBS-D. The acupoints for acupoint catgut embedding were selected from both sides of Hegu, Tianshu, Zusanli, Shangjuxu, Sanyinjiao, and Taichong acupoints. Compared with the control group solely using traditional Chinese medicine decoction, the results showed that acupoint catgut embedding combined with the method of strengthening the spleen and soothing the liver can effectively improve the relevant clinical symptoms of patients. At the same time, it has also been verified that 5-HT plays an important role in stimulating intestinal peristalsis and promoting secretion. Wei Huihui [21] explored the use of traditional Chinese medicine essential oils refined from Tongxie Yaofang for massage treatment of IBS-D, and found that it can effectively improve the quality of life of patients and enhance clinical efficacy.

5. Integrated Traditional Chinese and Western Medicine Treatment

The combination of traditional Chinese and Western medicine often achieves significant therapeutic effects. Wang Zhengfang et al. [22] treated 35 patients with IBS-D with self-made Shugan Jianpi Decoction combined with conventional western medicine, and 35 patients in the control group were treated with conventional western medicine trimebutine Maleic acid tablets and pividone bromide tablets. The effective rate of the observation group (91.42%) was significantly higher than that of the control group (71.42%), with a statistically significant difference ($P < 0.05$). After treatment, the levels of the four related indicators in the serum and clinical symptom scores of the two groups decreased compared to before treatment, and the observation group was significantly lower than the control group, with a statistically significant difference ($P < 0.01$). Prove that the comprehensive treatment of IBS-D with self-made Shugan Jianpi Tang combined with Western medicine has better clinical efficacy than simple Western medicine treatment, and can more significantly improve the clinical symptoms of patients. Liu Hao et al. [23] used a randomized controlled prospective experimental method to select the combination of Wenjing Tongluo Re Gao Mo and Tongxie Yao Fang for the treatment of IBS-D (Liver Depression and Spleen Deficiency Type). Compared with the conventional use of Pividone Bromide, the treatment effect of traditional Chinese medicine Re Gao Mo combined with traditional Chinese medicine decoction has significant advantages in improving gastrointestinal symptoms and traditional Chinese medicine syndrome efficacy, significantly improving the quality of life of patients. Zhang Shuqing et al. [24] explored the use of Xiaoyao decoction oral combined with acupoint application for the treatment of liver depression and spleen deficiency type IBS-D, based on the control group of Western medicine *Clostridium butyricum* combined with live bacteria and Pivovir ammonium bromide. They found that compared to using Western medicine alone, the dual stimulation of Xiaoyao decoction oral combined with acupoint application can improve the treatment effect and improve the quality of life of patients, while also reducing negative emotions, and has good short-term and long-term efficacy. Chen Yong et al. [25], on the basis of trimebutine maleate tablets, combined with the massage method of "soothing the liver and promoting qi, regulating the mind and relieving depression" to treat IBS-D, found that compared with the control group using trimebutine maleate tablets alone, the treatment efficacy of the control group was far lower than that of the combined group, and the recurrence rate of the control group was also significantly higher than that of the combined group during follow-up, indicating that the long-term efficacy of simultaneous treatment of IBS-D with massage and western medicine was better than that of

simple western medicine.

6. Summary and Outlook

In recent years, the understanding and treatment of the etiology and pathogenesis of IBS-D in traditional Chinese medicine are getting better, especially in improving patients' clinical symptoms and long-term treatment effect. Traditional Chinese medicine treatment has the characteristics of accurate clinical efficacy, personalized syndrome differentiation and treatment, and no obvious adverse reactions. The diversity of treatment methods of integrated traditional Chinese and western medicine as well as the characteristic treatment of traditional Chinese medicine will also provide us with more professional choices in the future clinical practice. From the overall perspective, combined with social, biological, psychological and many other factors, we will develop a treatment plan suitable for every IBS-D patient. However, at this stage, the pathogenesis of IBS-D has not yet been fully clarified, and the condition is complex and changeable. The study has problems such as lack of sample size, lax design, inconsistent efficacy evaluation criteria, and lack of prospective research. In the future, more basic experimental research and large sample clinical observation research should be carried out to deeply explore the most standardized diagnostic and therapeutic standards and efficacy evaluation for the treatment of IBS-D, giving full play to the advantages of traditional Chinese medicine in the treatment of IBS-D, in order to improve the clinical efficacy and quality of clinical research.

References

- [1] Study Group of Functional Gastrointestinal Disorders, Study Group of Gastrointestinal Motility, Chinese Society of Gastroenterology, Chinese Medical Association. Chinese expert consensus of irritable bowel syndrome in 2020[J]. *Chinese Journal of Digestion*, 2020, 40(12):803-818.
- [2] Xu Xiaojuan, Liu Liang, Yao Shukun, et al. Visceral sensitivity, gut barrier function and autonomic nerve function in patients with diarrhea-predominant irritable bowel syndrome [J]. *Journal of Central South University (Medical Science)*, 2017, 42(5):522-528.
- [3] Zhu Jiajie, Liu Shan, Zhao Pengcheng, Lu Yin, Yaxin Liu, Dengke Liu, Wei Wei. Epidemiological research progress of irritable bowel syndrome [J]. *International Journal of Digestive Diseases*, 2017, 37 (05): 271-273.
- [4] Li Junxiang, Chen Xuan, Tang Xudong, et al. Consensus on Integrated Chinese and Western Medicine in Diagnosis and Treatment of Irritable Bowel Syndrome (2017) [J]. *Chinese Journal of Integrated Traditional and Western Medicine on Digestion*, 2018, 26 (03): 227-232.
- [5] Yang Fang, Yan Jing, Liu Lina, et al. New progress in the study of the etiology and pathogenesis of irritable bowel syndrome [J]. *Journal of Hebei Medical University*, 2020, 41 (08): 987-992.
- [6] Zhang Shengsheng, Wei Wei, Yang Jianqin. Expert consensus on diagnosis and treatment of irritable bowel syndrome (2017) [J]. *Journal of Traditional Chinese Medicine*, 2017, 58(18): 1614-1620.
- [7] Zhao Haiyan, Hu Naiqiang, Huang Shi, et al. Treatment of irritable bowel syndrome based on syndrome differentiation of five internal organs [J]. *Liaoning Journal of Traditional Chinese Medicine*, 2017, 44 (02): 271-273.
- [8] Gu Zheyuan, Ye Wei. Experience Introduction of YE Wei Treating Irritable Bowel Syndrome of Diarrheic Type from Liver and Spleen [J]. *Journal of New Chinese Medicine*, 2022, 54 (08): 228-231.
- [9] (Qing Dynasty) Ye Tianshi, Xu Lingtaizhu, Clinical guideline medical record [M]. Science and Technology Health Publishing House, 1959.
- [10] Medical essay volume 1 [M] Yangzhou: Jiangsu Guangling Ancient Book Engraving Press, June 1984.
- [11] Li Zhongyu, Chen Ting, Wang Yang, Xu Qing, Wen Yandong. Theoretical and Methodological Studies on Treating Diarrhea-Predominant IBS with Classical Prescriptions [J]. *Chinese Journal of Integrated Traditional and Western Medicine*, 2022, 42 (01): 107-111.
- [12] Chen Jingye, Diao Peisi. Observation on safety and efficacy of Tongxie Yaofang on irritable bowel syndrome [J]. *Clinical Journal of Chinese Medicine*, 2019, 11 (20): 59-61.
- [13] Bai Guisheng. Analysis of the therapeutic effect of modified Xiaoyao Pills combined with psychotherapy on patients with irritable bowel syndrome of liver depression and spleen deficiency type [J]. *Psychological Monthly*, 2021, 16(11):55-56.
- [14] Guo Rui, Tang Xudong, Ou Yuyang, Zeng Enjin, Guo Peng. A case of irritable bowel syndrome treated by liver dispersing with spleen strengthening method [J]. *Tianjin Journal of Traditional Chinese Medicine*, 2019, 36 (12): 1210-1212.
- [15] Su JianBin, Zhang Lun. Clinical Observation of Self-prescribed Peitu Shunmu Decoction for the

Treatment of Diarrhea-predominated Irritable Bowel Syndrome of Liver Stagnation and Spleen Deficiency Type [J]. Journal of Guangzhou University of Traditional Chinese Medicine, 2022, 39 (12): 2776-2781.

[16] Zhao Hanqing. *Screening of superior schemes and research on potential mechanism of action of external treatment of Chinese medicine for diarrhea predominant irritable bowel syndrome based on clinical evidence [D]. Shandong University of Traditional Chinese Medicine, 2019.*

[17] Yang Min, Zhou Li, Xu Paidi, Zou Ran, Li Yue. *Analysis on effect of acupuncture combined with ginger partitioned moxibustion on treating stagnation of liver qi and spleen deficiency type of irritable bowel syndrome [J]. Chongqing medicine, 2021, 50 (16): 2726-2730.*

[18] Wang Qian, Chen Kanjun, Yu Ansheng. *Therapeutic effects and mechanism of acupuncture on hepatic spleen deficiency and irritable bowel syndrome [J]. Chinese Journal of Integrated Traditional and Western Medicine on Digestion, 2019, 27 (07): 520-524.*

[19] Han Zhicun, Ren Lili, Ruan Chen, Shao Chunqi, Hu Yijuan. *Clinical observation on auricular point sticking in the treatment of 40 cases of diarrhea type irritable bowel syndrome [J]. Zhejiang Journal of Traditional Chinese Medicine, 2018, 53 (11): 831.*

[20] Wei Jingjing, Hao Lili, Wang Hongxia, Kang Hongchang, Wang Wei, Yue Yan. *Clinical observation and safety evaluation of acupoint embedding combined with soothing the liver and strengthening the spleen in the treatment of irritable bowel syndrome-diarrheal of liver depression and spleen deficiency [J]. Tianjin Journal of Traditional Chinese Medicine, 2021, 38 (05): 620-624.*

[21] Wei Huihui. *Clinical effect evaluation of Chinese herbal essential oil massage on irritable bowel syndrome of diarrhea type due to liver stagnation and spleen deficiency [J]. The Medical Forum, 2021, 25 (16): 2350-2351.*

[22] Wang Zhengfang, Jia Yu, Hou Yanan. *Clinical Observation on therapy of Soothing the Liver and Strengthening the Spleen in Diarrhea-Predominant Irritable Bowel Syndrome(IBS-D) of Liver Depression and Spleen Deficiency Syndrome and Its Influence on Serum Brain-gut Peptide Level [J]. World Chinese Medicine, 2016, 11 (12): 2685-2688.*

[23] Huo Yongli, Mao Jingyu, Hou Zilei, Liu Hao, She Yanfen. *Curative effect observation of Wenjing Tongluo Hot Ointment combined with Tongxie Yaofang on diarrhea-type irritable bowel syndrome of liver depression and spleen deficiency [J]. China Journal of Traditional Chinese Medicine and Pharmacy, 2021, 36 (09): 5689-5692.*

[24] Zhang Shuqing, Zha Ansheng, Zou Xiaohua, et al. *Clinical Effect of Xiaoyao Decoction Combined with Acupoint Application in Treatment of Diarrhea-predominant Irritable Bowel Syndrome with Liver Depression and Spleen Deficiency [J]. Journal of Anhui University of Chinese Medicine, 2020, 39 (01): 16-20.*

[25] Chen Yong, Ren Chenghua, Wu Zuolin, et al. *Observation on the therapeutic effect of "soothing liver and regulating qi, regulating mind and relieving depression" massage combined with western medicine on diarrhea type irritable bowel syndrome [J]. Asia-Pacific Traditional Medicine, 2018, 14 (07): 163-165.*