



FUNCTIONAL NATURAL INGREDIENTS FOR IRRITABLE BOWEL SYNDROME

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Received for publication: October 15, 2012; **Accepted:** December 20, 2012.

Abstract: Irritable bowel syndrome (IBS) is a common gut disorder, causing abdominal cramps and pain. It impacts the lifestyle and interrupts daily functioning, which leads to increased stress. Because of its multiple factors of pathophysiology, the conventional medical approach is more complex and challenging, whereas a holistic herbal therapy seems promising for many individuals. Nearly more than 80% of the population depends on herbal medication for their primary health care. Herbal remedies may be considered as a supplement or alternative to treat IBS patients. However, parallelly it should address all possible contributing factors, such as stress, diet and lifestyle. In this context, various herbs such as curcuma, peppermint oil, fennel and ginger have been proved for their management of gut disorders such as IBS. Even though the mechanism of action varies between herb to herb but as a whole the consumer interest towards these functional ingredients is increasing due to hopeful results.

Keywords: Irritable bowel syndrome, *Foeniculum vulgare*, *Curcuma longa*,

INTRODUCTION

Irritable bowel syndrome (IBS) is a functional gastrointestinal (GI) disorder with a range of symptoms that significantly affect quality of life for patients. This is not a disease but a group of symptoms that occurs together. The most common symptoms of IBS are abdominal pain or discomfort often reported as cramping, along with diarrhea, constipation, or both. In the past, IBS was called colitis, mucous colitis, spastic colon, nervous colon, and spastic bowel. IBS is diagnosed when a person has abdominal pain or discomfort at least three times per month for the last three months without other disease or injury that could explain the pain. Irritable bowel syndrome (IBS) is one of the most common conditions that are encountered in general medical practices. Almost 5–11% of the population of most countries is affected by IBS. The symptoms of irritable bowel syndrome (IBS), includes abdominal distension, bloating, abdominal pain, constipation, and diarrhea.

Pathophysiology:

The pivotal mechanisms involved in the pathophysiology of IBS include altered psychological function, diet, gene mutations, psychosocial factors, and immune mediated processes, Psychological stress can increase severity of IBS symptoms. It affects daily functioning, work and lifestyle and interrupts sleep, which leads to increased fatigue

Clinical management of IBS:

Management is based on a multifactorial approach and includes establishment of an effective patient–

provider relationship, education, dietary alterations, pharmacotherapy, behavioral and psychological treatment. Although symptoms that are suggestive of IBS are common but only a quarter of symptomatic patients seek medical advice.

IBS is often classified into four subtypes based on a person's usual stool consistency. These subtypes are important as they affect the types of treatment. The four subtypes of IBS are IBS with constipation (IBS-C), IBS with diarrhea (IBS-D), Mixed IBS (IBS-M), Unsubtyped IBS (IBS-U).

Current therapy involves the use of immune suppressives such as corticosteroids, azathioprine, mercaptopurines, ciclosporin, and monoclonal antibodies against TNF- α . However, these agents are expensive and sometimes limited by drug-induced toxicity. The lack of predictably efficacious therapy has led to an increased use of complementary and alternative therapies. It must be emphasized that there is no one single successful therapy for IBS and that treatment may need to be continued over months or years allied with continued psychological support for patients.

Herbs in management of IBS:

A primary goal of all IBS is to provide the relief of symptoms and improve the quality of life. Various herbal remedies have been found for managing IBS, either as a single herb or herbal combination. Single



herbs include turmeric, peppermint oil, ginger and fennel. [1, 2, 3, 4]

Peppermint oil:

Peppermint oil is an effective therapeutic agent for pain and abdominal discomfort in patients with irritable bowel syndrome (IBS). Peppermint oil is currently being used for IBS it has been used as a digestive aid and to soothe upset stomachs. It is indicated to prevent abdominal pain and distension of functional dyspepsia particularly in patients with flatulence. Some clinical trials confirmed its efficacy over placebo, with improved quality of life and bowel symptoms with regard to diarrhea, constipation, urgency, incomplete defecation, pain and bloating. Based on this, the probable mechanisms may include calcium channel blocking on a local level, causing smooth muscle relaxation. [5]

Curcuma:

Curcumin, the principal ingredient of the *Curcuma longa*, is a likely winner of the “cure-all” title: a (wonder) remedy that can cure all ailments. Curcumin is a promising phytonutrient for the prevention and treatment of a diversity of disorders, such as atherosclerosis, cataracts, rheumatoid arthritis, gall stones, stomach ulcers, inflammatory bowel diseases, cancer, depression and dementia. Curcumin’s anti-inflammatory and therapeutic benefits have led to active research on its use for a variety of inflammatory and gastrointestinal conditions which involve reductions in myeloperoxidase activity in the number of infiltrating neutrophils and in the expression of IL-1 β . Based on early cell culture and animal research, clinical trials indicate curcumin may have potential as a therapeutic agent in inflammatory bowel symptoms. Some recent studies have also shown the effect of curcumin in reducing the clinical symptoms of IBS in human patients. Because of its increased bioavailability in the gastrointestinal tract, gastrointestinal diseases including inflammatory bowel syndrome is one of the most investigated diseases demonstrating the therapeutic potential of curcumin. Animal studies have showed curcumin to be effective against Irritable Bowel Syndrome (IBS) by reducing the effects of mucosal and intestinal wall changes. However, the therapeutic efficacy of curcumin is reduced due to a lack of proper delivery. Most studies are promising and further exploration of curcumin’s therapeutic value for inflammatory conditions is warranted. [6, 7, 8, 9]

Fennel:

Fennel (*Foeniculum vulgare*), also known as *F. officinale*, is a member of the Umbelliferae (Apiaceae) family. Fennel is often used for improving digestive system. The anti-spasmodic properties stimulate the production of gastric juices. High volatile oil fennel tea is exceptionally beneficial for bloating and gas, which

tend to be the most difficult IBS symptoms to overcome. Fennel tea can be drunk after meals to relieve symptoms of IBS. Fennel is also useful for gastrointestinal and menstrual cramps, bowel irregularities (studies have shown that fennel regulates contractions of the small intestine), colic, heartburn, indigestion, and stomachaches. Fennel seed is a very effective herbal remedy for IBS as it helps relieve the intestinal spasms or cramps that are associated with the condition while aiding in the elimination of fats from the digestive system. Hence, this is commonly believed to be beneficial in IBS however no published studies are available to support their use.

Ginger:

The herb ginger also may play a role in IBS treatment. Gingerols, the main component of ginger functions as a serotonin 5-HT antagonist and enhances motility. Ginger, either fresh or powdered helps relieve gas and pains. It has also been shown to increase intestinal lipase activity and also enhance activity of sucrose and maltase. It promotes healthy digestion of food and essentially appropriates for the symptoms of IBS. Not much evidence has been found in support of ginger as a treatment in Irritable bowel syndrome but commercially many combinations with ginger are being used in treatment. [10, 11]

CONCLUSION

As Irritable bowel syndrome (IBS) is one of the most common conditions that are encountered in general medical practices in today’s scenario, various herbal and plant products are used for managing IBS even though their true efficacy is often unknown due to the lack of sufficient clinical studies. However natural ingredients have been extensively used to treat various gastrointestinal conditions in traditional medicinal systems of various regions like China, Tibet and India etc but in modern system their efficacy & safety remains unclear due to lack of documentation. Hence more studies are required to get more conclusive results about the efficacy & safety of these herbs in IBS. So that apart from conventional medications, functional natural ingredients may also be considered as a supplement or alternative if they do not exhibit any intolerable or serious side effects.

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Source of support: Nil

Conflict of interest: None Declared