

A META-ANALYTICAL STUDY TO EVALUATE THE EFFECT OF HERBAL FORMULATION IN INFLAMMATORY BOWEL SYNDROME

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ABSTRACT

Introduction: Inflammatory Bowel Syndrome is a chronic inflammatory condition of intestinal mucosa with intestinal mucosal destruction. The Inflammatory Bowel Syndrome is of two types i.e. Chron's Disease in which entire gastrointestinal mucosa is involved and it is most common in colon and terminal ileum, Ulcerative colitis, in which there is mucosal inflammation of rectum and colon. The patho-physiology of inflammatory bowel syndrome revolves around genetic, immune and environmental factor. **Aim of study:** the present paper is prepared to evaluate the effect of different herbal formulation in the management of inflammatory bowel syndrome and scientific evidence for the safety and efficacy of herbal formulation in the management of inflammatory bowel syndrome. **Material Method:** Sources of data are from the classical literature, PubMed, Science direct, Scopus, and Google scholar were explored for related study. **Result:** An updated review on the concept of inflammatory bowel syndrome, their patho-physiology management and the comprehensive information about the herbal medicine given in inflammatory bowel syndrome.

KEYWORDS: Inflammatory Bowel Syndrome, Chron's Disease, Ulcerative Colitis, Colon, Rectum.

INTRODUCTION

Inflammatory Bowel Syndrome is a chronic inflammatory condition of the gastrointestinal tract that constitutes ulcerative colitis and Crohn's disease. The complex pathogenesis of IBS revolves around genetic, immunological, and environmental factors. If these disorders are not managed properly, they can seriously affect life and cause many complications.^[1,2,3,4]

The genetic and environmental factors, such as smoking, stress, medication, and poor nutrition, along with immunological factors that contribute to disorders of the intestinal microbiota, significantly influence the development of IBD. But the exact etiology of the disease is not completely elucidated, and that's why a complete cure for this condition is not available to date. However, the combination of medical treatment, dietary adjustments, lifestyle changes, and, when necessary, surgical interventions can effectively manage the condition.^[5,6,7,8,9,10]

Traditionally, the disease was considered a disease of western world. The study shows that there is a rapid increase in the incidence and prevalence of IBS in the newly industrialized nations of Asia over the last two decades due to the adoption of the Western culture. Due to this reason, the IBS is considered a disease of urban areas.^[11,12,13,14]

Various conditions of the gastrointestinal tract cause inflammation of the GI mucosa, but IBS causes severe inflammation of the GI mucosa that causes damage to the GI mucosa and thereby leads to the two conditions, i.e., Ulcerative colitis and Crohn's disease. Both ulcerative colitis and Crohn's disease have almost similar symptoms, such as diarrhea, GI bleeding, ulcer, stomach pain, bowel obstruction, perforation, and cancer. The studies show that some factors increase the chances of the development of this condition, which include smoking, stress, consumption of milk, spicy food stuff and consumption of polyunsaturated fatty acids.

Various tests, radiographic examination, blood test, and stool test are available to diagnose this condition and also to detect the severity of the condition. There are some medications in the modern system of medicine that are used to decrease the severity of the condition of IBS, such as several corticosteroids, amino salicylate, and immunomodulators.^[15,16,17,18]

AIM OF STUDY

The present paper is prepared to evaluate the effect of different herbal formulations in the management of inflammatory bowel syndrome and to provide scientific evidence for the safety and efficacy of herbal formulations in the management of inflammatory bowel syndrome.

MATERIAL METHOD

We have used several studies in this review paper conducted by various well qualified researchers. We use the Prisma-P guidelines for preparing this review paper. Here we have included various clinical studies and trials published in various international and national journals.

Eligibility criteria

Inclusion criteria

All clinical trials use herbal formulation in the treatment of IBS, several reviews on IBS and herbal medicine apart from this control studies, placebo and comparison studies were also included.

Exclusion criteria

All studies with lack of text, transparency in statistical data and studies were excluded.

Search Strategy

The present study was carried out on IBS to collect different clinical studies and to present different herbal formulations together in this paper with proven evidence via clinical studies. The clinical studies published in different international and national journal were considered and international databases like Pubmed, Google scholar, Scopus, Science direct were explored and apart from this classical literature were also discussed here.

RESULT

The total 20 articles were identified, in which five was single case studies and remaining were the case series, comparative and Ayurveda, western, Chinese studies. In all collected studies the effect of herbal medicine or plant origin medicine were observed and it has been reported that all the herbal medicine proves to be beneficial in relieving the symptoms of IBS. The studies also shows that the herbal medicine could also be prove to be better alternative to western medicine.

Use of herbal formulations in IBS with dirrhoea

Author	Year	Sample size	Method	Result
Bensoussan A et al ^[19]	1998	116 patients diagnosed with IBS were recruited in this study.	The patients included in this study were divided in to three a group in which first group receives individualized Chinese herbal formulation, second group receives standard Chinese herbal formulation and third group receives placebo.	The result shows that Chinese herbal formulation was found to be effective in the symptoms of IBS.
Vejdani et al ^[20]	2006	32 patients diagnosed with IBS were recruited in this study.	The patients were randomly assigned to either receive carmint that contains the total extract of <i>Melissa officinalis</i> , <i>Mentha spicata</i> , and <i>Coriandrum sativum</i> , which have antispasmodic, carminative, and sedative effects or placebo, plus Loperamide or psyllium for 8 weeks.	The result shows that carmint plus psyllu or loperamide shows significantly better result in cases of IBS.
G. Cappello et al ^[21]	2007	57 patients who are fulfilling the inclusion criterion.	The enrolled patients were divided in to two groups in which first group with 28 patients are taking enteric coated peppermint oil capsules while on the other hand the second group with 29 patients for 4 weeks.	The result shows that the group taking enteric coated peppermint oil capsules shows better result than placebo.
Sahib AS et al ^[22]	2013	40 patients diagnosed with IBS were recruited in this study.	The total patients were divided in to two groups and each group consists of 20 individuals. The first group with 20 patients receives mebeverine and second group with 20 patients receives combination of three herbs which includes <i>Mentha longifolia</i> , <i>Cyperus rotundus</i> and <i>Zingiber officinale</i> for 8 weeks.	The result shows that the herbal formulation has significant improvement in symptoms of IBS.
Maryam Mosaffa-Jahromi et al ^[23]	2016	This trial consists of 120 patients.	The 120 enrolled patients were divided in to three groups in which group one receives anise oil capsules, group two receives placebo and group three receives colpermin capsules and patient in each group receives three capsules per day for four weeks.	The result shows that the group receives anise oil capsules shows more significant effect on symptoms of IBS than placebo and colpermin.

Ahmad Minhaj et al ^[24]	2016	Open trial (un-blinded) was conducted on 30 patients.	The herbal drug containing Bael (Agle marmelos) Cumin (Cuminu cyminium) Amla (Embllica oficinalis) Given in powder form twice daily for 6 weeks to 15 patients and second group receives placebo containing 15 patients.	There is a reported relief in symptoms of IBS in a group taking herbal medicine in the form of powder.
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Liang SB et al ^[27]	2020	96 patients diagnosed with IBS were recruited in this study.	The total patients were divided into two groups in which experimental group comprises of 48 patients treated with TXYF granules and these granules are produced from four Chinese medicine <i>Bai Zhu (Atractylodes macrocephala Koidz.)</i> , <i>Bai Shao (Paeonia lactiflora Pall.)</i> , <i>Chen Pi (Citrus aurantium L.)</i> , and <i>Fang Feng (Radix saposhnikoviae)</i> . The control group which comprises of 48 patients treated with placebo.	The result of the trial shows that the TXYF granules were found to be effective and safe in the management of IBS.
Firasath Farheen et al ^[28]	2020	40 patients with two types of IBS	Clinical trial in which both the groups receive two kinds of unani drugs with different mufrad drugs.	The significant relieve was observed in both the group. The group A shows more relief in complaints of IBS than group B.
Khalil, Atif. Et al ^[29]	2021	Single patient case report.	The patient consumes the herbal medicine in the form of powder before meal either with black tea or slight sugar to avoid bitter taste.	The study shows the positive effect in managing the condition.
Baughman J et al ^[30]	2021	Single patient case report	Patient receives Chinese herbal medicine for the purpose of treatment for the period of one ear with dietary intervention.	The patient gradually reached to the full remission of all complaints.
Heydari P, et al ^[31]	2022	Randomized, double-blinded, placebo-	The patients assigned in this study were randomly allocated to either group i.e placebo control group or intervention	The result shows that <i>D. kotschy</i> is effective against

		controlled clinical trial, with 76 IBS patient.	group. The placebo control group receives placebo and intervention group receives capsules containing dry extract of <i>D. kotschyi</i> .	IBS.
Moazzam SW et al ^[32]	2022	26 patients with IBS	It was a single arm open labeled study with pre and post clinical trial.	The study shows that Jawarish Shahi was safe and effective in relieving the symptoms of IBS.
Teja D.et al ^[33]	2023	48 patients lying in age group 20-60 years diagnosed as IBS	Patient receives Kalingadi Churna 3 g twice a day, before food with buttermilk as a vehicle.	There is improvement in the symptoms of disease with the use of Kalingadi Churna.
Hemant Chouhan et al ^[34]	2024	Single patient case report	Patient received "Toxifree syrup" which contains Tulsi, Punernava, Yastimadhu, Bhringraj, Daruharida, Corriander, Cinnamon, Methi, Nagarmoth, Triphala, Khadira, Giloy, Harad, Senna, Jatamansi, Bhuiaamla, Carrot, Brahmi, Draksha, Aloe Vera, Nagkesar, Amla, Vach, Tumburu, Jaiphal for one month.	The motion frequency and consistency improved with the continuation of therapy, abdominal pain and anorexia also reduced along with feeling of heaviness.
Richa Kumari. et al ^[35]	2024	Single patient case report	Patient receives Kaidarya (Murray kenigi), Haritaki (<i>Terminalia chebula</i>), Nagara (<i>Zingiber officinalis</i>), Patola (<i>Trichosanthes cucumerina</i>).	There is notifiable improvement in the symptoms of IBS.
Maryam Azimi et al ^[36]	2024	96 patients with IBS	Double blind randomized clinical trial. In these trial participants either receives the 500mg of herbal formula or a placebo.	There was no significant difference in the intervention group and in the control group.
Mohd Faizan,.et.al ^[37]	2025	Single patient case report	Unani formulation include Tukhme Rehan, Isapgol, Konch, and Bartang (5 grams each, soaked in a glass of water for 2-3 hours and consumed at bedtime) and Majoon Sang Dana Murgh (7 grams twice daily with plain water after meals) for 60 days.	The patient feel relieve in their symptoms.

DISCUSSION

IBS is a disorder of gastrointestinal tract that affects the patients quality of life but it is observed that the prescribed treatment for IBS doesn't exert full therapeutic effect. Therefore there are some steady attempts are made to treat IBS with herbal medicine to give an evidence based report regarding the treatment of IBS with herbal medicine.

Based on the detailed review articles, the use of herbal medicine in IBS seems to be extensive for the subsidence of the symptoms of IBS. Nowadays the herbal medicine is extensively used for the management of IBS. The herbal medicine is used to treat symptoms of IBS that are not responding to conventional treatment. The medicine of natural origin is being used twice or once a day in the Chinese system of medicine, Ayurveda, and also in the Western scenario. All of these systems of medicine accept the various therapeutic effects of herbal medicine in the management of IBS and give more priority to natural medicine over the conventional system of medicine.^[38]

The symptoms of IBS include pain, distention of the abdomen, altered bowel habit, and bloating. However, for relieving the symptoms of IBS, here are some medicines like jawarish shahi and its ingredients that have some pharmacological activity like Muqawwi meda (stomachic), Muhallil (resolvent), and Musakkin-e-alam (Analgesic) that help in reducing the symptoms of IBS and regulate bowel movement.³⁹

The recent studies show that there is low-grade inflammation and altered immune function along with a change in bowel habit. One of the best herbal medicines that includes Elettaria cardamomum and Coriandrum sativum Linn. That has an anti-inflammatory and gastro-protective effect on the gastric mucosa. The gastroprotective effect is due to the scavenging property of the above-mentioned drug.^[40,41]

CONCLUSION

Due to the properties of single and compound herbal medicine, they can prove to be very beneficial in treating the condition of IBS without much adverse effect on the body. The studies we have included in this paper show that natural medicine has not only been accepted by unani system and the Ayurveda system of medicine but also by the Chinese and Western medicine systems.

This meta-analytical study shows that traditional medicine could prove to be a more beneficial alternative in managing the condition of IBS than modern medicine. In this paper, it is made to include all the available literature and studies, but due to the lack of access to the available articles, unpublished reports, limited work done by the people involved in research work, and limited available literature, we only include several studies. However, the analysis of the available studies and literature shows that the use of herbal medicine is accepted on a global level, and people are now attracted towards herbal medicine and want to treat the condition in a more natural way to avoid adverse effects due to the prescribed treatment.

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