

Review Article
Pharmacology

Inflammatory Bowel Disease: An Integrative Review of Contemporary Understanding and the Unani Perspective

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Abstract

Inflammatory Bowel Diseases (IBD), including Ulcerative Colitis and Crohn's disease, are chronic relapsing inflammatory diseases of the gastro-intestinal tract. Although modern medicine treats patients of IBD with immunosuppressant, biologics, and surgery, full remission still proves to be a difficult process coupled with serious side effects. The Unani system of medicine provides an intricate and systematic approach to chronic intestinal ulcers and inflammations. Clinical features of IBD are extensively described in Unani literature with the help of certain terms like Sahej-e-Am'aa (intestinal erosion/abrasion), Zoosantariya (bloody dysentery), and Ishaal-e-Madi (malabsorptive diarrhea). This review focuses on the humoral pathophysiology of IBD with the role of Safra-e-Hadd (acid yellow bile) and Balgham-e-Shor (corrosive salty phlegm) causing the disruption of mucosa integrity. In addition to that, we describe the systematic Unani multi-therapeutic protocol involving Principles of Therapy (Usool-e-Ilaj), dietotherapy (Ilaj-bil-Ghidha), regimental therapy (Ilaj-bil-Tadbeer), and pharmacotherapy (Ilaj-bil-Dawa) using cytoprotective, anti-inflammatory (Muhallil-e-Waram), and wound-healing (Mudammil-e-Qurooh) herbal preparations.

Keywords: Inflammatory bowel disease, Ulcerative colitis, Crohn's disease, Unani medicine, Sahej-e-Am'aa.

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INTRODUCTION

Inflammatory Bowel Disease (IBD) is a chronic, non-specific, inflammatory disease of the gastrointestinal tract is a problem in global healthcare. Previously recognised as primarily a disease of the western population, it is a newly emerging disease phenomenon in newly industrialised countries in Asia, Africa and South America, and is now a growing global disease burden [1,2]. The disease is anatomically divided into two forms of the condition: continuous lesions of the colonic mucosa (ulcerative colitis); and trans mural, skip-pattern lesions of any part of the "from mouth to anus" tract (Crohn's disease) [3]. Sampling the tissue, the Crohn's lesions are usually localized in the terminal ileum and proximal colon whereas the lesions of ulcerative colitis occur in the rectal region and advance proximally without interruption, limited to the colon.

The regional nature of gut organisation is not simply a lesson in anatomy but one which has a major influence on symptomatology, complications and the choice of management, depending on the site of the illness.

In clinical practice IBD patients have disabling symptoms where these include chronic bloody diarrhoea, abdominal pain, tenesmus (urgent need to defecate) and weight loss, plus the various extra intestinal features that include joint, skin and eye problems. In a morbid anatomical context, Crohn's disease consists of cobblestones mucosa, deep fissuring ulcers and granuloma formation that can further develop to strictures and fistulous tracts. In contrast, the characteristics of ulcerative colitis generally consist of crypt abscesses and pseudo polyps without inflammatory involvement of the muscularis. [4,5]. From the point of view of pathophysiology, current understanding of IBD

is that this condition is multifactorial and parameters such as environmental factors, dysbiotic balance in the gut flora and impaired mucosal immunity contribute to the ongoing tissue damage [6].

Modern medical treatment is based on 5-aminosalicylic acid (5-ASA) derivatives, corticosteroids, immunomodulators [such as azathioprine (Az), cyclosporine (Cs) and methimazole (MIM)] and biologics such as anti-tumour necrosis factor (anti-TNF) agents. Although these therapies have successfully produced acute remission, there are significant concerns associated with secondary non-response, high-cost burden and serious side effects due to the use of these agents in producing remission. As a result of this, there has been an increase in an exploration of and a validation of alternative and complementary medicine models. The Unani medical system which is rooted in the vast classical medical literature and experience of Hippocrates, Galen, Rhazes and Avicenna has a well-developed theoretical basis and has a few thousand years of experience dealing with the health problems of ulcers and chronic diarrhoea [7-9].

Of these traditional systems of medicine, Unani medicine has a sound theory and has enough traditional practice for the treatment of symptoms similar to chronic ulceration/diarrhoea. Classical Unani conceived of such conditions as Qulanj (colic), Zaheer (Dysentery like bloody flux) and Ishal-e-Muzmin (Chronic diarrhoea) as resulting from disease of intestines due to Su-i-mizaj (temperamental imbalance of the intestines), corruption of humours (khilt) and weakness of digestive faculty (Quwwat-e-hazima) respectively [10,11,12]. In Unani medicine, management is done in a holistic manner and is individualized, covering all four main modes: Ilaj-bil-Ghiza (dietotherapy), which entails using food items that are easily digestible and nourish the mucosa with the use of mucosa-soothing food such as Sapistan (*Cordia myxa*), Post Anar (pomegranate rind) and Gul-e-Surkh (*Rosa damascena*); Ilaj-bit-Tadbeer (regimenal therapy), which involves the use of Mubarrid (cooling agents) administered to the patient through various means, as well as enema and rest, if necessary; and finally, Ilaj-bil-Yad (surgical intervention) by employing single or compound drugs with known anti-inflammatory, demulcent and astringent properties, such as Sapistan (*Cordia myxa*), Post Anar (pomegranate rind) and Gul-e-Surkh (*Rosa damascena*). The philosophy of restoring humoral balance, correcting temperament and building up organ function in this system provides a complementary perspective which may be used to help understand and treat chronic inflammation of the gut in addition to conventional treatments.

The significance of this review is to see that, currently, the healthcare issue of IBD is a new challenge in the public health system in Asia and India where the traditional system, 'Unani' is prevalent. Integrative approach may yield more effective, cost efficient and

total management. The current review thus seeks to give an overview of the anatomy, pathology and contemporary treatment of IBD and highlights the contributions that the Unani approach can make to the holistic understanding and treatment of this condition.

2. Definition and Classification of IBD in Modern Medicine

Inflammatory Bowel Disease can be described as an idiopathic, chronic and an inflammatory disorder of the Gastrointestinal tract with immune mediated mechanism.

A. Ulcerative Colitis:

It is an extensive, non-specific inflammation affecting the colon and the rectum. Inflammation involves the mucosa and sub-mucosa of the colon and rectum. It always involves the rectum extending continuously without any skip lesions. The hallmark feature is that of bloody diarrhoea with pus and mucus. According to the Montreal classification, it is classified into E1 [Ulcerative proctitis], E2 [Left sided UC] and E3 [Extensive/Pancolitis]. Severity is graded by Truelove and Witts criteria as mild, moderate and severe [13,14].

B. Crohn's Disease:

It is a chronic, transmural, granulomatous inflammation of the GIT which can involve anywhere from the mouth to the anus. However, most common sites are the terminal ileum and colon. The features include skip lesions, cobblestone appearance of the mucosa, formation of strictures, fistulas, and perianal disease. The behavior is divided into inflammatory, structuring, and penetrating type. Crohn's Disease Activity Index [CDAI] is used as an assessment tool. IBD has to be distinguished from irritable bowel syndrome, intestinal tuberculosis, amoebic colitis, and malignancies [15,16].

3. Epidemiology - Global and Indian Scenario

Classically thought to be restricted to Western nations, IBD is witnessing an evolution of its epidemiology with the prevalence rate of more than 0.3%. North America, Northern Europe and the United Kingdom have the highest prevalences of the disorder, with prevalence of UC being 120-200/100,000 and CD being 100-150/100,000 in the West.

In Asian nations including India, there is a three to four-fold increase in incidence of the disease over the past two decades. According to recent statistics from the Indian IBD task force, the incidences of UC and CD are 6.02 and 3.2/100,000 respectively. Unlike in the West, in India, UC is still more common than CD. The peak age of the disease is 20-40 years and there is no significant gender bias, though some studies show male preponderance for UC in India [17].

Some of the factors causing this increase in the country include urbanization, dietary changes towards

less fiber intake, high-fat diet, increased sugar intake, increased fast food consumption, better hygiene resulting in changes in the microbiota, increased use of antibiotics and NSAIDs, obesity, and psychosocial stress. The disorder is found more in urban populations and among people belonging to higher economic classes [18].

4. Etiopathogenesis: Modern Perspective

The precise cause is still idiopathic; however, the current understanding is that IBD is caused by the interplay between genetic predisposition, immune system dysregulation, gut microbiota, and environmental factors in genetically susceptible individuals.

- i. **Genetic Predisposition:** Mutation of NOD2/CARD15 gene located on chromosome 16 is known to be the leading cause of Crohn's disease. The other genes involved include IL23R, ATG16L1, and IRGM.
- ii. **Immune System Dysregulation:** Lack of tolerance for the gut flora causes dysregulation of both innate and adaptive immunity. In case of CD, there is Th1 and Th17 response with elevated levels of IL-12, IL-23, TNF-alpha, and Interferon-gamma. In UC, an atypical Th2 response with IL-13 and IL-5 occurs. Overproduction of pro-inflammatory cytokines causes mucosal damage.
- iii. **Gut Microbiota:** There is dysbiosis in IBD patients - decrease in beneficial bacteria from the Firmicutes group, such as *Faecalibacterium prausnitzii* and an increase in adherent-invasive *E. coli*. Short-chain fatty acid deficiency affects nutrition of colonocytes.
- iv. **Environmental Factors:** Smoking is paradoxical - a protective factor for UC but a risk factor for CD. The dietary factors include low-fiber and high-animal fat diet, emulsifiers, NSAIDs, oral contraceptives, absence of breastfeeding, vitamin D deficiency.
- v. **Intestinal Mucosal Barrier Defect:** Increased permeability facilitates bacterial translocation and maintains inflammation.

In pathology, there is infiltration by neutrophils, cryptitis, crypt abscesses in UC, and non-caseating granulomas, trans mural lymphoid aggregates in CD, which result in ulcerations, bleeding, and malabsorption [19,20].

5. Unani Perspective

Classical Unani texts do not contain any mention of IBD under any modern name; however, the manifestations of IBD are extensively described under detailed clinical disease entities that occur as a result of specific pathological changes in the gastrointestinal tract.

The history of blood and mucoid type of diseases like diarrhoea has been documented from

ancient times. It was mentioned by Buqrat [Hippocrates 460-370 BC] that there was chronic diarrhoea with ulceration of bowels. Jalinoos [Galen 129-200 AD] made a detailed study on intestinal ulcers and relation with morbid humors [5]. In golden period of Unani medicine Al-Razi [Rhazes 865-925 AD] in *Al-Hawi*, Ibn Sina [Avicenna 980-1037 AD] in *Al-Qanoon Fit Tib*, Ali Ibn Abbas Majoosi in *Kamil-us-Sana'ah* and then Hakeem Azam Khan in *Akseer-e-Azam* and Haziq gave detailed accounts about chronic disorders of intestine under *Is'hal-e-Muzmin*, *Zaheer*, *Sahaj* and *Quruh-e-Ama'a*. The description is amazingly similar to the modern IBD from point of view of etiology, clinical picture and management.

The closest structure and manifestation to modern IBD, especially Ulcerative Colitis, is named *Sahej-e-Am'aa*, which literally means "erosion, scraping, or abrasion of the intestine." According to well-known medical philosophers like Ibn Sina (Avicenna) in his book *Al-Qanoon fil-Tibb* (Canon of Medicine) and Al-Razi (Rhazes) in *Kitab al-Hawi* (Comprehensive Book on Medicine), *Sahej-e-Am'aa* denotes a pathological condition wherein the *Ghisha-e-Makhati* (intestinal mucosa) sheds off, peels away, and develops ulcers because of irritants in the surrounding area. The manifestations characterized by a continuous discharge of blood and mucus with straining are termed as *Zoosantariya* (dysenteric diarrhoea) [7-12,21,22]. From a modern medical viewpoint, these ancient terms are very much related to the signs and symptoms of diseases such as Ulcerative Colitis and Enteritis.

The basic philosophy of the Unani system is based on the balance of the *Akhlat* (humors) which are: *Dam* (blood), *Balgham* (phlegm), *Safra* (yellow bile) and *Sauda* (black bile). All the humors have their respective qualitative *Mizaj* (temperaments). According to Unani philosophy, the cause of IBD/*Sahej-e-Am'aa* may be due to *Su-e-Mizaj Maddi* (quantitative or qualitative abnormality) of morbid, acrid or corrosive humors, which flow into the intestines and destroy them. Unani medicine describes the following two categories as humoral pathogenesis of the disease:

- a) **Safra-e-Hadd (Acrid/Sharp Yellow Bile):** Excessive presence of hot, sharp and highly alkaline yellow bile which becomes altered. This causes chemical burning and dissolution of the mucosa as a result of the continuous secretion of the acrid yellow bile in the gut lumen [1,3,6].
- b) **Balgham-e-Shor (Salty Phlegm):** Pathological type of phlegm mixed with warm and dry biles. This exerts corrosive and gradual erosion of tissues walls and weakens the structure of the gut significantly [7,9,12].

In addition to this, such chronic destruction of tissues leads to another major systemic deterioration called *Dof-e-Am'aa* (weakness of the intestines) and

Dof-e-Meda (weakness of the stomach). The stomach loses all its functional abilities, i.e., Quwwat-e-Masika (retentive function) and Quwwat-e-Hazima (digestive function). Since the irritated and inflamed mucosa can no longer stop and digest chyme, food is quickly excreted as Ishaal-e-Madi (diarrhoea due to poor absorption), which is very similar to malnutrition observed in modern Crohn's disease [7,10,16].

6. Unani Method of Treatment

6.1 Principles of Therapy (Usool-e-Ilaj)

The system of therapy adopted by Ibn e Sina in his "Al-Qanoon" is a systematic process aimed at removing the irritating factor, soothing the ulcerated mucosa, and arresting bleeding [7].

i. Tanqiya (Removal of Hostile Humors)

Prior to healing of the ulcers, the irritating factor of bile or phlegm must first be carefully removed from the intestines without causing irritation through laxatives or enemas. Strong purgatives are absolutely prohibited since they worsen the erosion.

ii. Tadeel-e-Mizaj (Modification of Temperament)

Preparations of cold and humid (Barid-Ratab) characteristics are administered to neutralize the heat of the Safra (bile), which is damaging and dry.

iii. Tazleeq & Taftteh (Coating of Mucous Membrane)

The mucilaginous, oily and slimy compounds are applied to provide an artificial barrier over the ulcerated intestines to protect them against the action of the acids from the stomach and incoming bile.

iv. Tanjeef & Qabiz (Wound Healing and Astringents)

As soon as the inflammation subsides, potent astringents (Qabiz) and wound healing compounds (Mudammir) are used to dry up the ulcers, stop the hemorrhage (Habis-ud-Dam) and induce healing of the mucous membrane.

6.2 Unani Therapeutic Approach [10-12,21,22]

The treatment of IBD using the Unani system is an extensively planned process that focuses on the patient and follows the primary rule of Izala-e-Sabab (removal of the causative agent). This approach involves three modes of treatment, viz., Ilaj-bil-Ghadha (Dietotherapy), Ilaj-bil-Tadbeer (Regimental therapy), and Ilaj-bil-Dawa (Pharmacotherapy).

i. Ilaj-bil-Ghidha (Dietotherapy)

Changes in the dietary habits are thought to be essential in dealing with Sahej-e-Am'aa, especially for reducing any irritation to the exposed ulcers from the mechanical and chemical aspects. Purging medicines, spices, and foods containing large amounts of fiber

should not be used at all. In Unani medicine, a soft and cold diet which coats the intestine is recommended. The important parts of the diet are: Kheel (puffed rice), rice cooked in yogurt, goats' milk, and Isabghol (Psyllium husk). The food must have Qabiz (astringency) and Musakkin (calming) characteristics in order to stop the diarrhea without compromising nutrition. Avicenna suggested barley water along with broth of hoof jelly or meat containing gelatin which helps in the digestive tract coating.

ii. Ilaj-bil-Tadbeer (Regimenal Therapy)

Ilaj-bil-Tadbeer (Regimenal Therapy) seeks to clear morbid humors from the systemic body, regulate local metabolism, and promote faster healing through various methods, including the following:

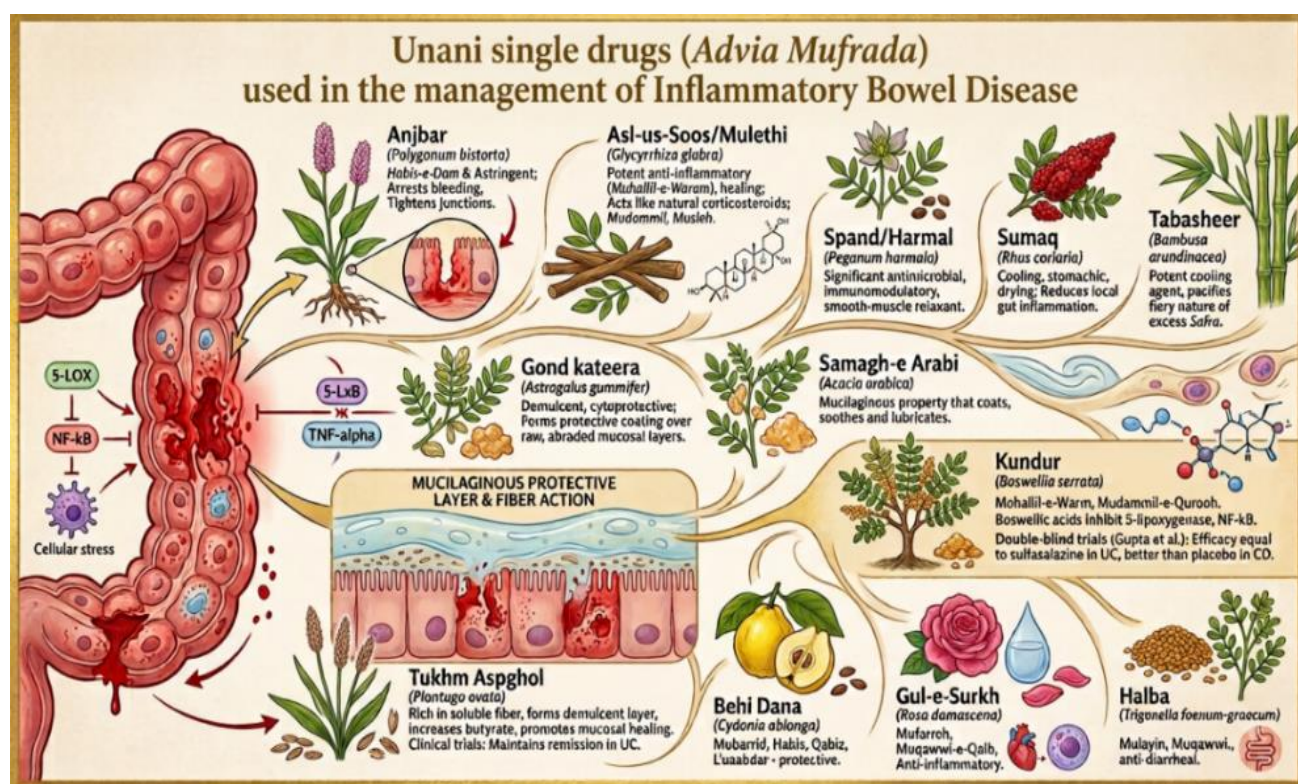
- a) **Huqna (Medicated Enema):** This is the best form of regimenal treatment for ulcers of the lower intestine. An enema of medicinal concoctions such as those made from the decoctions of Beekh-e-Anjabar and Asl-us-Soos mixed with ghee or wax is given directly into the colon, thus bypassing the effect of stomach acid in providing cytoprotection and curing ulcers.
- b) **Huqna-e-Mobarrida:** Most effective regimenal therapy for distal Ulcerative Colitis. Retention enema of L'uaab-e-Isabghol 30ml + Roghan-e-Gul 10ml + Sheer-e-Bargad or decoction of Gul-e-Surkh + Mulethi. Modern studies show 5-ASA enema mechanism is similar.
- c) **Abzan-e-Musakkina:** Sitz bath with decoction of Babuna, Khatmi, Berg-e-Hina to relieve tenesmus and pain.
- d) **Hijama (Cupping):** Dry cupping of the abdominal and lower back areas is performed to draw away morbid humors from the central mesenteric vessels.
- e) **Dalk-e-Mo'tadil:** Gentle abdominal massage with Roghan-e-Gul.
- f) **Tadabeer-e-Nafsani:** Meditation, breathing exercises, adequate sleep - correlated with gut-brain axis.

6.3. Pharmacotherapy (Ilaj-bil-Dawa)

Unani pharmacotherapy makes use of individual drugs (Mufradat) and compounds selected based on their particular pharmacodynamics effect, like Muhallil-e-Waram (anti-inflammatory), Habis-e-Dam (haemostatic) and Mudammil-e-Qurooh (cicatrizant/ulcer-healing). Gil-e-Armani, Geru, Sang-e-Jarahat, Dam-ul-Akhwain: Habis-ud-Dam, Mujjaffif, Mudammil - used in bleeding phase for haemostasis.

Table 1: Unani single drugs for IBD: botanical equivalents and key actions [7-12]

Unani Name	Botanical Name	Primary Pharmacological Actions in IBD
Anjbar	<i>Polygonum bistorta</i>	Powerful hemostatic (Habis-e-Dam) and astringent; arrests mucosal bleeding and tightens junctions.
Asl-us-Soos	<i>Glycyrrhiza glabra</i>	Potent anti-inflammatory (Muhallil-e-Waram) and healing agent; acts similarly to natural corticosteroids.
Spand/harmal	<i>Peganum harmala</i>	Possesses significant antimicrobial, immunomodulatory, and smooth-muscle relaxant properties.
Sumaq	<i>Rhus coriaria</i>	Possesses cooling, stomachic and drying properties that reduces local gut inflammation.
Tabasheer	<i>Bambusa arundinacea</i>	Acts as a potent cooling agent to pacify the fiery nature of excess Safra.
Gond kateera	<i>Astragalus gummifer</i>	Demulcent and cytoprotective; forms a protective coating over the raw, abraded mucosal layers.
Samagh-e Arabi	<i>Acacia arabica</i>	Used for its mucilaginous property that coats, soothe and lubricate the raw, abraded tissue.
Tukhm Aspghol	<i>Plantago ovata</i>	Mubarrid, Mudammil, Qabiz, Musakkin. Rich in soluble fiber, forms demulcent layer, increases butyrate, promotes mucosal healing. Clinical trials show maintenance of remission in UC.
Kundur	<i>Boswellia serrata</i>	Mohallil-e-Warm, Mudammil-e-Qurooh. Boswellic acids are potent inhibitor of 5-lipoxygenase, NF-kB. Double-blind trials by Gupta <i>et al.</i> , showed efficacy equal to sulfasalazine in UC and better than placebo in CD.
Behi Dana	<i>Cydonia oblonga</i>	Mubarrid, Habis, Qabiz, L'uaabdar - protective
Gul-e-Surkh	<i>Rosa damascena</i>	Mufarreh, Muqawwi-e-Qalb, Anti-inflammatory.
Mulethi	<i>Glycyrrhiza glabra</i>	Mudammil, Musleh, anti-ulcer. Glycyrrhizin inhibits inflammation.
Halba	<i>Trigonella foenum</i>	Mullayin, Muqawwi. anti-diarrheal

**Figure 1: Unani single drugs for IBD: botanical equivalents and key actions [7-12]**

Murakkabat [Compound formulations]

Several compound formulations (Murakkabat) are employed at different stages of the disease according to their intended clinical objective. Preparations such as Qurs-e-Keherba, Qurs-e-Gul, and Qurs-e-Dam are primarily indicated for the control of bleeding, whereas Hab-e-Sahaj and Hab-e-Is'hal are specifically formulated for Sahaj and chronic dysentery. Formulations including Jawarish Anarain Shireen, Jawarish Anarain Tursh, Jawarish Mastagi, Majoon-Dabeed-ul-Ward, and Jawarish Shahi are used to achieve Taqwiyat-e-Mi'da wa Ama'a (strengthening of the stomach and intestines), while Safoof-e-Isabghol and Safoof-e-Sang-e-Jarahat serve as maintenance therapy during the remission phase. Sharbat-e-Anar and Sharbat-e-Behi, in turn, function as palatable vehicles that additionally contribute to dietotherapy [23-24].

A substantial number of these Unani formulations have demonstrated an anti-colitis effect in experimental models of acetic acid-induced colitis in rats, lending pharmacological support to their traditional therapeutic use [25-31].

7. Integration, Research Gaps and Future Scope

Today, the treatment of IBD involves 5-ASA, corticosteroids, azathioprine, biologic agents and surgery. They work well but have significant side effects and are expensive, such as immunosuppression, osteoporosis and high relapse rate. There has been an increased demand for complementary therapies. (Infliximab/Adalimumab) [32-35].

8. Potential of Integration: Unani approach offers

The avenues for integration are seen in the ability of unani system in holistic management at patient level. This is corrective measures done in the area of Mizaj (temperament) and lifestyle which look at the causative factors behind the disease. Spread of Kief in Huqna (medicated enema) is one of the therapy modalities that is more patient friendly and is conceptually similar to the present day Enema therapy in which specific parts of the colon is treated with medicinal fluid. Moreover, the ulcer healing and immunomodulatory properties of Unani drugs have been reported and several of the drugs have been seen to possess favourable safety profile. Lastly, in a way that integrates into the whole treatment plan, all of this is complemented by the inclusion of organised dietary recommendations and psychosomatic treatment support, which also treats mental and physical health.

9. Research Gaps

There are several challenges in the integration of unani approach into the mainstream healthcare of IBDs. Some of them are absence of consistency in term in use of Unani concept with the forms of IBD, scanty number of large-scale double blind randomized control trials of Unani formulations, lack of quality control and standardization of Murakkabat (compound formulations)

and absence of mechanistic study to explore the action of Unani drug on gut microbiome.

10. Future Scope

Efforts on well-designed RCTs for Kundur and Qurs-e-Keherba plus Isabghol as an add on therapy, efforts on Huqna-e-Mobarrida with modern drug delivery methods and follow up with pharmacovigilance study should be given more emphasis. Further, it is recommended to develop a Unani activity score for IBD which would incorporate the parameters of Mizaj, Baraz followed by integrated diet charts based on Ilaj bil Ghiza and modern nutrition.

11. DISCUSSION

Analyzing the Unani perspective on the investigation of Modern Inflammatory Bowel disease, great congruence in clinical approach as well as in modern understanding of pathology can be observed. According to Modern pathology, it's an abnormality of mucosa-immune system, with continuous mucosa death. This disease is exactly the same as the disease described by Unani under the name of Sahej-e-Am'aa in which Safra and Balgham-e-Shor eat away the line of the intestine. This term Dof-e-Am'aa which means 'weakness of the intestine' fits very well to the present day understanding of malabsorption and the loss of micro-nutrients.

The foremost advantage of the Unani system of treatment is its method of application which is very specific and very localized. For instance, the use of Huqna (medicated enema) in cases of colonic disease is similar to that of the currently used enema of steroids and 5-ASA in distal ulcerative cases, which are used to reduce side effects of the medications. Further, the conventional Unani medicines containing Glycyrrhiza glabra (Asl-us-Soos) and Polygonum bistorta (Anjabar) have recently been found to possess anti-inflammatory, anti-oxidation and down regulation activity on pro-inflammatory cytokines such as tumor necrosis factor alpha (TNF- α), interleukin-1 beta (IL-1 β), and interleukin-6 (IL-6), thus confirming their ancient clinical uses.

To sum up, the Unani treatment is comprehensive, logical and highly individualistic concerning the treatment of modern IBD. Whereas endlessly suppressing systemic immune response, the Unani works at the purification of the humoral milieu, protects the delicate mucosal lining and promotes natural healing within the body. It would be important to see the synergies that could arise from introducing these time-tested herbal plants and regimental therapies into the current conceit and usher in a sort of safer and complete remission from Inflammatory Bowel Disease.

12. CONCLUSION

Sahaj-e-Ama'a & Quruh-e-Ama'a of Unani system of medicine can be easily correlated with IBD.

The principles of Unani System of Medicine; Tanqiya, Tadeel and Taqwiyat along with Ghiza, Tadbeer and Dawa are comprehensive and holistic approach. The adoption of Unani Medicine can help reduce the chances of relapses, tapering of adverse effects of steroids and enhance food efficiency (improved nutritional status and nutrition related quality of life). There is need for rigorous scientific validation.

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REFERENCES

- Ng, S. C., Shi, H. Y., Hamidi, N., Underwood, F. E., Tang, W., Benchimol, E. I., Panaccione, R., Ghosh, S., Wu, J. C. Y., Chan, F. K. L., Sung, J. J. Y., & Kaplan, G. G. (2017). Worldwide incidence and prevalence of inflammatory bowel disease in the 21st century: A systematic review of population-based studies. *The Lancet*, 390(10114), 2769–2778. [https://doi.org/10.1016/S0140-6736\(17\)32448-0](https://doi.org/10.1016/S0140-6736(17)32448-0)
- Kaplan, G. G. (2015). The global burden of IBD: From 2015 to 2025. *Nature Reviews Gastroenterology & Hepatology*, 12(12), 720–727. <https://doi.org/10.1038/nrgastro.2015.150>
- Baumgart, D. C., & Sandborn, W. J. (2012). Crohn's disease. *The Lancet*, 380(9853), 1590–1605. [https://doi.org/10.1016/S0140-6736\(12\)60026-9](https://doi.org/10.1016/S0140-6736(12)60026-9)
- Baumgart, D. C., & Carding, S. R. (2007). Inflammatory bowel disease: Cause and immunobiology. *The Lancet*, 369(9573), 1627–1640. [https://doi.org/10.1016/S0140-6736\(07\)60750-8](https://doi.org/10.1016/S0140-6736(07)60750-8)
- Ordás, I., Eckmann, L., Tekkiah, C., Baumgart, D. C., Sandborn, W. J., & others. (2012). Ulcerative colitis. *The Lancet*, 380(9853), 1606–1619. [https://doi.org/10.1016/S0140-6736\(12\)60150-0](https://doi.org/10.1016/S0140-6736(12)60150-0)
- Podolsky, D. K. (2002). Inflammatory bowel disease. *New England Journal of Medicine*, 347(6), 417–429. <https://doi.org/10.1056/NEJMra020831>
- Ibn Sina (Avicenna). (2010). *Al-Qanoon fil-Tibb* (Vol. 3; G. H. Kantori, Urdu trans.). Idarah Kitab-us-Shifa.
- Al-Razi (Rhazes). (2007). *Kitab al-Hawi fil-Tibb* (Vol. 5; Urdu trans.). Central Council for Research in Unani Medicine, Ministry of Health & Family Welfare, Government of India.
- Jurjani, A. H. (2010). *Zakheera Khawarizm Shahi* (Vol. 6; H. H. Khan, trans.). Idarah Kitab-us-Shifa.
- Majusi, I. B. (Haly Abbas). (2010). *Kamilus Sana* (G. H. Kantori, Urdu trans.). Idarah Kitab-us-Shifa.
- Jurjani, I. (2010). *Zakheera Khwarazm Shahi* (Vol. 6; H. H. Khan, trans.). Idara Kitab-us-Shifa.
- Khan, M. A. (2011). *Akseer-e-Azam* (Vol. 3; M. Kabeeruddin, trans.). Idara Kitab-us-Shifa.
- Satsangi, J., Silverberg, M. S., Vermeire, S., & Colombel, J. F. (2006). The Montreal classification of inflammatory bowel disease: Controversies, consensus, and implications. *Gut*, 55(6), 749–753. <https://doi.org/10.1136/gut.2005.082909>
- Truelove, S. C., & Witts, L. J. (1955). Cortisone in ulcerative colitis: Final report on a therapeutic trial. *British Medical Journal*, 2(4947), 1041–1048. <https://doi.org/10.1136/bmj.2.4947.1041>
- Baumgart, D. C., & Sandborn, W. J. (2007). Inflammatory bowel disease: Clinical aspects and established and evolving therapies. *The Lancet*, 369, 1641–1657.
- Baumgart, D. C., & Sandborn, W. J. (2012). Crohn's disease. *The Lancet*, 380, 1590–1605.
- Kedia, S., & Ahuja, V. (2017). Epidemiology of inflammatory bowel disease in India: The great shift east. *Inflammatory Intestinal Diseases*, 2, 102–115.
- Ahuja, V., & Tandon, R. K. (2010). Inflammatory bowel disease in the Asia-Pacific area: A comparison with developed countries and regional differences. *Journal of Digestive Diseases*, 11, 134–143.
- Ungaro, R., Mehandru, S., Allen, P. B., Peyrin-Biroulet, L., & Colombel, J. F. (2017). Ulcerative colitis. *The Lancet*, 389, 1756–1770.
- Torres, J., Mehandru, S., Colombel, J. F., & Peyrin-Biroulet, L. (2017). Crohn's disease. *The Lancet*, 389, 1741–1755.
- Baghdadi, I. H. (2004). *Kitab al-Mukhtarat fit Tib* (Vol. 3). Central Council for Research in Unani Medicine.
- Ibn Zuhr, A. M. A. (1986). *Kitab al-Taiseer*. Central Council for Research in Unani Medicine.
- Moazzam, S. W., Mobeen, A., & Siddiqui, M. A. (2022). Efficacy of Jawarish Shahi, a herbal formulation, in irritable bowel syndrome: An open-labeled single-arm clinical trial. *Journal of Traditional and Complementary Medicine*, 12(6), 529–535. <https://doi.org/10.1016/j.jtcme.2022.04.004>
- Baghaei, Amir & Amrollahi, Zahra & Sadeghi-Ghadi, Zaynab & Amiri-Andebili, Marziyeh & Bozorgi, Atefeh & Jahandideh, Maryam & Shirzad, Meysam & Ghane, Talat & Ahmadian-Attari, Mohammad Mahdi. (2023). Formulation, standardization, and evaluation of the anti-colitis activity of Qur-e Gol, a Persian polyherbal

- formulation in acetic acid-induced colitis. <https://doi.org/10.21203/rs.3.rs-3044068/v1>
25. Gupta, I., Parihar, A., Malhotra, P., Singh, G. B., Lüdtke, R., Safayhi, H., & Ammon, H. P. T. (1997). Effects of *Boswellia serrata* gum resin in patients with ulcerative colitis. *European Journal of Medical Research*, 2, 37–43.
 26. Gupta, I., Parihar, A., Malhotra, P., Gupta, S., Lüdtke, R., Safayhi, H., & Ammon, H. P. T. (2001). Effects of gum resin of *Boswellia serrata* in patients with chronic colitis. *Planta Medica*, 67, 391–395.
 27. Fernández-Bañares, F., Hinojosa, J., Sánchez-Lombrana, J. L., Navarro, E., Martínez-Salmerón, J. F., García-Pugés, A., & others. (1999). Randomized clinical trial of *Plantago ovata* seeds (dietary fiber) as compared with mesalamine in maintaining remission in ulcerative colitis. *The American Journal of Gastroenterology*, 94, 427–433.
 28. Singh, O., Khanam, S., Misra, N., & Srivastava, M. K. (2011). Chamomile (*Matricaria chamomilla* L.): An overview. *Pharmacognosy Reviews*, 5, 82–95.
 29. Langmead, L., Dawson, C., Hawkins, C., Banna, N., Loo, S., & Rampton, D. S. (2002). Antioxidant effects of herbal therapies used by patients with inflammatory bowel disease: An in vitro study. *Alimentary Pharmacology & Therapeutics*, 16, 197–205.
 30. Jagtap, A. G., Shirke, S. S., & Phadke, A. S. (2004). Effect of polyherbal formulation on experimental models of inflammatory bowel diseases. *Journal of Ethnopharmacology*, 90(2–3), 195–204.
 31. Bafna, P. A., & Balaraman, R. (2005). Anti-ulcer and anti-oxidant activity of Pepticare, a herbomineral formulation. *Phytomedicine*, 12, 264–270.
 32. Triantafillidis, J. K., Triantafillidi, A., Vagianos, C., & Papalois, A. (2016). Favorable results from the use of herbal and plant products in inflammatory bowel disease: Evidence from experimental animal studies. *Annals of Gastroenterology*, 29, 268–281.
 33. Ahuja, V., & Tandon, R. (2011). The inflammatory bowel disease—Unmet needs and prospects. *Tropical Gastroenterology*, 32, 3–6.
 34. Kaur, A., & Kaushal, S. (2023). *Plantago ovata*: A comprehensive review on cultivation, bioactive compounds and pharmacological activities. *Journal of Ethnopharmacology*, 305, 116096.
 35. Anjum, N., Jamil, S., Hannan, A., & Ahmad, W. (2020). Unani concept of Is'hal-e-Muzmin and its management: A review. *Journal of Ayurveda and Integrative Medicine*, 11, 521–527.