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Indian herbal formulation for the management of haemorrhoids/Piles: A systematic review

Jaspreet S and Ashish SDOI: <https://doi.org/10.22271/flora.2023.v11.i2a.857>**Abstract**

Piles is a common disorder of gastrointestinal tract also known as haemorrhoids or tissue clumps in the rectum. Haemorrhoids are defined as the symptomatic enlargement and distal displacement of the normal anal cushions. Piles symptoms include prolapsed lump, painful bleeding, discomfort while passing stool, soiling, or itchiness. Piles can cause severe discomfort to the patients, hampering their daily activities thus reducing their quality of life. Majority of the people experience the disease at least once in their lifetime. People maintain secrecy about this disease due to social stigma in the initial stages, and then they must resort to surgery in the chronic stage when haemorrhoids become worse. The disease, due to its recurrent nature, needs new treatment modalities. The aim of this review is to determine the importance of herbal formulation, Hapéloo Piles relief capsule, for the management of haemorrhoids. The herbal formulation contains unique combination of plant-based ingredients like *Azadiracta indica*, *Terminalia chebula*, *Symplocos racemosa*, *Curcuma longa*, *Aegle marmelos*, *Glycyrrhiza glabra* and *Foeniculum vulgare* which are beneficial in management of piles by reducing the symptoms, thus contributing to the healing of haemorrhoidal oedema.

Keywords: Piles, haemorrhoids, anorectal disorders, herbal formulation, hapéloo**Introduction**

Haemorrhoids is a very common anorectal condition which affects millions of people around the world and this disease represents a major medical and socioeconomic problem [1]. Haemorrhoids is characterized by alteration in vasculature of the anal canal including blood vessels supporting tissues, muscles, and elastic fibres. There is a network of small veins within the inner lining of the anus and lower rectum. These veins occasionally become wider and engorged with more blood than usual, developing into areas of swelling known as haemorrhoids [2]. The word “haemorrhoid” is derived from the Greek word ‘haema’ means (blood) and ‘rhoos’ means (flowing) and implies the flow of blood from the veins of the anus. The term “piles” is derived from the Latin word “pila” meaning (a ball). There are two types of piles-Internal and External haemorrhoids [3].

This disorder seems to be a global problem, with a very high prevalence in India. According to an estimation, nearly 55% of population would have piles at some time in their life till they attain the age of 50. Both the genders are affected and there are reports of children getting affected too [4]. The symptoms associated with haemorrhoids include rectal bleeding, perianal pain, discomfort, mucous discharge, perianal itching, and irritation [5]. Multiple factors contribute to the development of haemorrhoids which may include faulty food intake, sedentary lifestyle, poor bathroom habits, constipation, high blood pressure, inflammation, increased intra-abdominal pressure (prolonged straining, ascites, an intra-abdominal mass, or pregnancy), genetics, ageing, obesity, and infections. Chronic diarrhoea or several gastrointestinal disorders can also become the cause for the development of haemorrhoids [6].

Available treatment options for haemorrhoids vary, which are based on the degree and severity of the symptoms. Management of haemorrhoids may be advised by medical means (dietary changes, anti-motility agents, topical analgesics, corticosteroid creams, oral flavonoids, etc.), non-operative means (sclerotherapy, cryotherapy, rubber band ligation, etc.) and the last resort – surgery (open, closed, or stapled hemorrhoidectomy). Medicinal plants are a part and parcel of human society to combat diseases from the dawn of civilization [7]. Traditional healthcare systems, including Ayurveda, utilize traditional medicines for the management of haemorrhoids which are preferred by patients due to low compliance with other available methods of treatment. Ayurveda uses medicinal plants in the form of variety of formulations like creams, ointments, tablets, and capsules which are easily available in the market.

Patients prefer taking tablets or capsules for instant relief from pain and irritation associated with piles.

As the global scenario is changing towards the usage of non-toxic and safe plant products having traditional medicinal uses, Yushuna Healthcare Private Limited, has developed a herbal formulation using the centuries old knowledge on medicinal plants, – “Hapeloo – Piles relief capsule” for management of piles and other anorectal disorders. The herbal formulation is a unique blend of standardised plant-based extract ingredients like *Azadiracta indica* (26%), *Terminalia chebula* (26%), *Symplocos racemose* (13%), *Curcuma longa* (13%), *Aegle marmelos* (13%), *Glycyrrhiza glabra* (6%) and *Foeniculum vulgare* (3%) along with other pharmaceutical accepted excipients, which helps in managing the symptoms of piles naturally.

The administration route for Piles relief capsule is oral and the advisable dosage regimen is as follows.

Acute: 1-2 capsules twice a day or as directed by healthcare professional

Maintenance: Adults: To reduce the risk of relapse of piles / haemorrhoids, take 1-2 capsule per day or as professionally advised

Ingredients of piles relief capsule

The Piles relief capsule contains a blend of well-known herbal anti-inflammatory, Anti-infective, wound healing & other natural ingredients, which are as shown in figure 1 and described below in details for its clinical efficacy, possible mechanism of actions and traditional use:

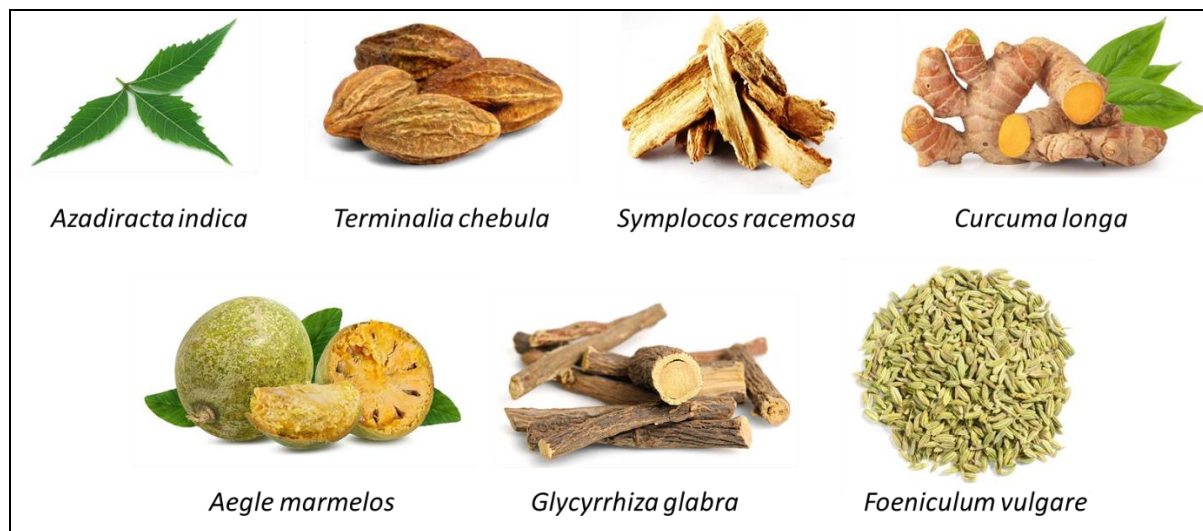


Fig 1: Active ingredients of Haemorrhoid relief capsule

A. *Azadiracta indica* (Neem)

Azadiracta indica is known in India for thousands of years as one of the most versatile medicinal plants for a wide range of biological activities. In Sanskrit Neem is known as “Arishtha” which means “reliever of sickness”. This wonder tree has become important in the global context today for its healing properties due to its variety of medicinal uses^[8].

All parts of the Neem tree including leaves, bark roots, seeds and twigs contain active ingredients and have medicinal properties. Neem produces anti-inflammatory and pain-relieving compounds which assist in the healing of wounds. A component of Neem, Nimbidin, possesses anti-inflammatory qualities and suppresses the function of macrophages and neutrophils which cause inflammation^[9]. Neem helps to prevent haemorrhoids by promoting the elimination of waste and avoiding constipation. It arrests bleeding by imparting antihemorrhagic activity hence helps to cure bleeding piles.

Azadiracta indica possesses strong anti-bacterial and anti-septic properties. Studies show the susceptibility of various gram-positive and gram-negative bacteria to the extracts of Neem leaves^[10].

This confirms the great potential of bioactive compounds present in Neem which rationalises the use of this plant in primary healthcare. The antibacterial activity of Neem also extends to resistant bacterial strains responsible for secondary infections associated with haemorrhoids thus promotes faster healing of the infected tissues exhibiting astringent property. Neem has antioxidant property which plays an important role in disease prevention.

B. *Terminalia chebula* (Haritaki)

Terminalia chebula is one of the most versatile plants having a wide spectrum of pharmacological and medicinal activities such as antioxidant, anti-microbial, analgesic, anti-inflammatory, and wound healing activity due to which this plant is considered very beneficial in the management of bleeding piles. It is excellent for digestion due to its laxative properties^[11].

The fruit of the plant is found to be mild laxative and stomachic, thus found to be useful in haemorrhoids. Its paste with water is found to be anti-inflammatory, analgesic and has purifying and healing capacity for wounds. It is used to increase appetite, as a digestive aid, liver stimulant, stomachic, gastrointestinal prokinetic agent and mild laxative, thus rendering the plant extraordinary power of healing^[12].

Ethanedioic acid and ellagic acid, isolated from the fruit extract of *T. chebula* exhibits anti-bacterial activity against several gram-positive and gram-negative human pathogenic bacteria, which helps to treat haemorrhoids^[13].

Chebulagic acid, isolated from *T. chebula*, exhibits anti-inflammatory activity. Chebulagic acid promotes wound healing and thus helps to cure piles. The phenolics found in the leaves, bark and fruit of the plant possess high antioxidant activity. This free radical scavenging activity of the plant helps combat the disease naturally. *T. chebula* fruit has been shown to increase gastric emptying time, thus proving its laxative properties. This helps to cure constipation, thus improving digestion and evacuating toxic wastes from the system^[14]. These properties of haritaki helps in the

management of haemorrhoids by reducing intra-abdominal straining and prolapse.

C. *Symplocos racemosa* (Lodhra):

Symplocos racemosa, known as Lodhra in Sanskrit, is an evergreen medicinal plant widely used in many ayurvedic and herbal preparations due to its various ethnomedicinal uses, including management of bleeding piles. The bark of the plant has anti-inflammatory and stomachic properties which help in the management of haemorrhoids [15].

In Ayurveda, Lodhra is known to cleanse the wound, arrests bleeding and initiates fast healing process of the wound. Due to Rodhaka (arresting) property of the plant, it is also called Rodhra. Lodhra bark is acrid, digesting and astringent to bowels, thus has been used safely to treat digestive issues [16].

Symplocos racemosa exhibits presence of compounds such as Symposide and Ellagic acid which are useful in bleeding piles, effective in wound healing and helps to stop haemorrhage.

Symposide, an anti-fibrinolytic glycoside helps to control bleeding associated with piles. It interferes with the formation of the fibrinolytic enzyme plasmin from its precursor plasminogen. It is assumed to block the binding sites of the enzymes or plasminogen respectively and thus stops plasmin formation, thus controlling bleeding associated with piles. It also reduces pain and oedema associated with haemorrhoids. Due to its laxative properties, it helps in digestion which helps to control straining and hence the enlargement of the haemorrhoidal plexus [17].

D. *Curcuma longa* (Turmeric)

Curcuma longa, also known as turmeric, is a traditional spice that has various medicinal properties. It is also known as "Golden spice" or "Spice of Life", which owes its golden colour to its constituent "curcumin". Curcumin has anti-inflammatory, antioxidant, and anti-microbial properties. The anti-inflammatory effects can be attributed to inhibition of IL-1 β and TNF- α , which helps in reducing inflammation and improvement of symptoms [18].

Curcumin has anti-bacterial activity which helps to treat haemorrhoids due to its activity against a wide spectrum of bacteria, including even resistant strains associated with secondary infection associated with haemorrhoids. The antibacterial action also prevents secondary infection and thus promotes faster healing of the infected tissues which explains its wound healing properties.

Curcuma longa exhibits analgesic effect by inhibition of prostaglandin synthesis, a peripheral mechanism of pain inhibition. It acts on the mediators which include prostaglandins which cause pain and fever [19]. Thus, it helps in the management of haemorrhoids by reducing pain associated with piles.

E. *Aegle marmelos* (Bael)

Aegle marmelos (Bael) is one of the most useful medicinal plants of India. All parts of the tree have medicinal properties. The fruit is rich in various nutrients which are extremely beneficial for human health. The unripe fruit is astringent, digestive, stomachic, cures constipation through its laxative effect, thus is useful in the management of piles [20].

Aegle marmelos manifests strong anti-bacterial activity against several bacteria including *Staphylococcus aureus*, *S. epidermidis*, *Proteus vulgaris*, *Escherichia coli*, *Salmonella typhimurium* and *Bacillus subtilis* [21].

Bael is a great remedy for constipation as it is a rich source of fiber, and fiber is essential for forcing the GIT material towards excretion [22]. The fiber of Bael cleans the intestine and its regular use thus helps in the management of piles.

Bael exhibits excellent wound healing properties. Wound healing comprises different steps namely inflammation, proliferation of cells and contraction in the formation of collagen lattice. Reddening, pain, and oedema are basic symptoms are associated with wound and occur during inflammation. The release of reactive oxygen species is found to be a defence mechanism. Bael seed ointment has been shown to heal the wound completely in experimental animals thus accounting for anti-inflammatory and antioxidant activity of Bael [23]. Bael comprises flavonoids, alkaloids, essential oils, and sterols. These phytoconstituents are responsible for the wound healing property of Bael which causes an increased rate of epithelization, wound contraction, tensile strength and hydroxyproline content in experimental animals [24].

F. *Glycyrrhiza glabra* (Licorice)

Glycyrrhiza glabra also generally known as licorice, is broadly used for food and medicinal purposes all around the globe. Traditionally, licorice is widely used as an antidote to reduce the toxicity caused by drug therapies. In Ayurveda, licorice is considered as "Rasayana", which means to have nourishing, rejuvenating, and strengthening effects which proves its health-promoting activities [25].

Glycyrrhiza glabra is being used worldwide as an anti-inflammatory, antacid, laxative, tonic, antibacterial, antioxidant and as wound healing medicine. All these properties help in the management of haemorrhoids [26]. The anti-inflammatory property of Licorice can be attributed to glycyrrhizin - which has a similar structure and activity as the adrenal steroids and has an anti-inflammatory activity like cortisone. This is due, in part, to inhibition of phospholipase A2 activity, an enzyme critical to numerous inflammatory processes. A flavonoid, isolated from *Glycyrrhiza glabra* shows analgesic activity in experimental animals. Therefore, the above properties of *Glycyrrhiza glabra* like analgesic, anti-inflammatory and laxative helps in the management of haemorrhoids by reducing pain associated with piles.

G. *Foeniculum vulgare* (Fennel)

Foeniculum vulgare, commonly known as fennel, has been used in traditional medicine for a wide range of ailments related to digestive, endocrine, reproductive and respiratory systems. It remains to be one of the most widely used herbal plants having medicinal properties. Fennel is used in various traditional systems of medicines like Ayurveda, Unani, Siddha in the Indian and Iranian traditional systems of alternative medicine [27].

F. vulgare is used in many parts of the world for the management of a number of diseases, including constipation, thus proving its role as a laxative, a property which is required for the management of haemorrhoids. In many parts of India roasted fennel seeds are used as a mouth freshener which also functions as a digestive aid [28]. Fennel is an ancient seasonal herb which shows the presence of numerous valuable compounds such as volatile compounds, flavonoids, phenolic compounds, fatty acids and amino acids.

Chronic constipation may have deleterious effects on the quality of patient's life, especially if the patient is suffering from haemorrhoids. Therefore, treatment with therapeutic agents is required to treat and prevent chronic constipation. Due to less efficacy and side effects of currently available

therapeutic treatments there is a need to evaluate more efficacious and safe options for treatment. Recently, herbal plants are being evaluated as new targets for treating constipation. A study demonstrates protective effects of co-treatment of *Cassia obtusifolia* (CO) and *Foeniculum vulgare* (FV) against constipation on loperamide induced constipated rats [29]. According to this study, the mixture of CO and FV demonstrates laxative effects against constipation through the improvement of colonic motor activity, faeces excretion and release of fluids in the intestine. The mixture also dramatically increases mucosa and mucosal layers of colon in constipated rats, thus demonstrating beneficial effects against

constipation, which is helpful in patients suffering from haemorrhoids.

An herbal combination containing *Foeniculum vulgare*, was evaluated in a clinical study on 64 postmenopausal women suffering from chronic constipation [30]. The combined herbal capsule significantly improved constipation and associated symptoms, thus proving the role of fennel in treating constipation which is helpful in the management of haemorrhoids.

The mode of action of various medicinal herbs of Hapéloo Piles relief are shown in Table 1.

Table 1: Different Mode of Action of Active ingredients

Common name	Botanical name	Chemical constituents	Actions	Benefits
Neem	<i>Azadirachta indica</i>	Isoprenoids (diterpenoids and triterpenoids, for eg. Nimbin, salanin, azadirachtin), polyphenolics such as flavonoids, gallic acid, epicatechin and catechin	Anti-inflammatory, Antihemorrhagic, Analgesic, Antiarthritic, Antimicrobial, Astringent, Laxative, Purgative, Antioxidant, Antiseptic	Controls bleeding and pain, relieves constipation (promotes elimination of waste)
Haritaki	<i>Terminalia chebula</i>	Gallic acid, Chebulagic acid, Ethanedioic acid and ellagic acid	Stomachic, Laxative, Antioxidant, Wound healing properties, Antimicrobial, Antihemorrhagic, Analgesic, GI prokinetic action	Digestive aid, Reduces intra abdominal straining and prolapse
Lodhra	<i>Symplocos racemosa</i>	Symposide (anti-fibronylic glycoside), ellagic acid	Anti-fibrinolytic, Anti-inflammatory, Stomachic	Arrests bleeding, Initiates fast healing
Turmeric	<i>Curcuma longa</i>	Curcumin	Analgesic, Anti-inflammatory, Anti-microbial, Antioxidant, Analgesic	Reduces pain, promotes faster healing
Bael	<i>Aegle marmelos</i>	Flavonoids, Alkaloids, essential oils, sterols	Astringent, Digestive, Stomachic, Laxative, Antibacterial, Analgesic effect	Wound healing properties
Licorice	<i>Glycyrrhiza glabra</i>	Glycyrrhizin, flavonoids	Rasayana, Anti-inflammatory, Antacid, Laxative, Antibacterial, Antioxidant, Wound healing	Tonic, Health promoting activities (nourishing, rejuvenating and strengthening effects)
Fennel	<i>Foeniculum vulgare</i>	Essential oils, flavonoids, fatty acids, phenolics, volatile compounds	Laxative	Digestive properties (improvement of colonic motor activity, faeces excretion and release of fluids in the intestine)

Conclusion

Therapeutic treatment of haemorrhoids ranges from changes in diet and lifestyle, depending on the degree and severity of the symptoms. While surgery is effective in advanced stages of the condition, other non-operative treatments such as topical or pharmacological approaches, are used, but are not very effective. Hence, there is a need for the development of natural and safe methods of management of haemorrhoids. Thus, herbal products are gaining attention as an alternative to high-cost modern drugs and associated side effects.

In the present review, the anti-haemorrhoidal activity of many herbal plants has been discussed. The polyherbal piled relief capsule - Hapéloo Piles relief capsule consists of herbs having various medicinal properties which help in controlling bleeding, prolapse, pain and mucus discharge, and reduced the size of the pile mass. The anti-inflammatory and anti-infective properties of the herbs reduce the infection in a natural way. Herbs having laxative properties act as a digestive aid and improve all faecal parameters, thus reducing the discomfort associated with constipation, which ultimately reduces the overall discomfort in haemorrhoids. The herbs

which reduce bleeding, prolapse, pain and mucous discharge further provide comfort to the patients in a natural and safe way. Thus, Hapéloo Piles relief capsule, also exhibiting natural wound healing properties, fulfils all the criteria of requirement of a safe and natural management for haemorrhoids.

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