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Exploring the Efficacy of Kabzkure Powder in Hemorrhoid Management

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Abstract
This study investigates the management of diabetes of poly herbal formulation Kabzkure Powder which contains *Cassia Angustifolia, Cassia fistula, Rock salt, Trachy spermum ammi, Terminallia Balerica, Cassia Impoea Turpenthum, Dry Zingiber Officinale, Terminallia Chebula, Pimpinella awism* and *Cumin cyminum.* It has been discovered that the Kabzkure Powder is a useful medication for treating constipation. Eighty percent of the patients had improved constipation response, which led to a decrease in pile bulk. Therefore, Kabzkure Powder is safe to recommend for hemorrhoids, whether they are bleeding or not.

Keywords: Kabzkure, Hemorrhoid Management, Polyherbal formulation

Introduction

Research on the frequency of haemorrhoids is infrequent and yields inconsistent findings. Johnson and Sonnenberg calculated that the occurrence rate of this condition is 4.4% among adults in the United States, with the highest occurrence observed in individuals between the ages of 45 and 65. In a study conducted by Aiss et al., involving 976 patients who underwent colorectal cancer screening, it was discovered that 38.93% of them were afflicted with haemorrhoids. Merely 50% of these symptoms were recorded. Intraabdominal pressure is believed to be a contributing factor in the development of haemorrhoids. These factors encompass extended exertion, insufficient consumption of dietary fiber, prolonged sitting on the toilet, constipation, diarrhea, ascites, and pelvic masses. Constipation and extended exertion further elevate the shearing stress on the anal cushions, thus increasing the likelihood of developing haemorrhoids. Moreover, pregnancy increases the likelihood of developing haemorrhoids, but these often subside after childbirth.

A significant number of persons endure this condition without pursuing medical advice; patients frequently hesitate to seek medical assistance due to feelings of humiliation or apprehension regarding the treatment's related discomfort and anguish, therefore making it difficult to quantify the precise occurrence of this ailment. Research examining the occurrence and distribution of haemorrhoids revealed that 10 million individuals in the United States reported having haemorrhoids, resulting in a prevalence rate of 4.4%. Both males and females experience a high occurrence of haemorrhoids between the ages of 45 and 65. It is uncommon for haemorrhoids to develop before the age of 20, and Caucasians are more commonly affected than African Americans.

The primary ideas on the pathogenesis of haemorrhoidal disease include that it involves the aberrant enlargement of veins inside the internal haemorrhoidal venous plexus, inappropriate stretching of the arteriovenous anastomosis, and the protrusion of the cushions and the surrounding connective tissue. Increased anal sphincter pressure is also considered to be one of the causative causes contributing to the condition. It is unclear if these anorectal physiology alterations are a consequence of the existence of haemorrhoids or the underlying cause. The function of mucosal prolapse in haemorrhoidal disease is a subject of controversy. Some surgeons view it as a distinct pathology, while others believe that mucosal prolapse is an inherent component of haemorrhoidal disease. During the process of evacuation, the voluntary contraction of the sphincter muscles helps to move any remaining fecal matter from the anal canal back into the rectum. This is a natural physiological response during evacuation. Exerting excessive effort to achieve full emptying merely leads to the accumulation of blood vessels in the anal cushions. The disease is believed to be influenced by factors such as excessive straining, insufficient fiber consumption, prolonged sitting on the toilet, constipation, diarrhea, as well as situations including pregnancy, ascites, and pelvic space-occupying lesions that cause increased pressure within the abdomen. There is a hypothesis that a family history of haemorrhoidal disease may have a role in the development of the disease, but there is no concrete proof of a genetic predisposition. Additionally, dietary choices and bowel habits are frequently influenced by cultural and environmental factors. Haemorrhoids are commonly considered as either internal or external varicose veins. The phrase is deceptive as it refers to the tortuous extension and dilatation of superficial veins, typically found in the lower limbs, known as varicose (varices). Patients suffering from portal hypertension may exhibit rectal varices, which are an alternate blood circulation pathway where blood from the portal system flows into the systemic circulation via the middle and inferior haemorrhoidal veins. Nevertheless, it is important to note that haemorrhoids and rectal varices are distinct conditions, and numerous investigations have been unable to prove a higher occurrence of haemorrhoidal illness in individuals with portal hypertension [1-16].

Senna leaves are utilized in many traditional systems to treat constipation, loss of appetite, hepatomegaly, spleenomegaly, indigestion, malaria, jaundice, and anemia. They are also used as a gentle and effective purgative that enhances the movement of the colon. The plant's pods possess equivalent therapeutic properties to the leaves, although they induce a lesser degree of griping. Unani and Ayurvedic systems recommend the use of senna leaves or fruits in the form of an infusion for therapeutic purposes. The leaves and fruits are utilized in many forms such as decoction, powder, confection, and other herbal and home remedies. The key components found in senna leaves and pods, known as sennoside A and sennoside B, are the crucial elements in purgative medications. Sennosides are administered in tablet form in the allopathic system, at a dosage of 30 mg per tablet. Furthermore, apart from its purgative properties, a concoction created by combining powdered leaves with vinegar is topically administered to treat skin conditions and eliminate acne. An ointment made by combining powdered seeds of senna and gurmala (C. fistula) with curds is effective in treating ringworm. The resin derived from senna is a component of the Unani medication Itrifal Ustukhudus, which is employed to eliminate sticky substances from the brain and stomach. Senna leaves are marketed as senna tea in the European market [17-22].

Cassia fistula L, commonly known as **Yellow Shower**, is a significant botanical species utilized in various traditional medical practices such as Ayurveda and Chinese Traditional Medicine. The many components of the plant species have demonstrated significant medical advantages, such as hypoglycemic, antioxidant, and anticancer properties. Cassia fistula is highly significant in various traditional medical systems due to its unique qualities that are beneficial for treating skin infections, inflammatory disorders, ulcers, rheumatism, jaundice, and anorexia. The root possesses purgative properties and can be used to alleviate heart-related ailments, fever, biliousness, nausea, and the retention of bodily waste, among other problems. The leaf extracts possess efficacy in treating ringworm infections, cough, as well as snakebites. The fruit pulp possesses laxative and analgesic properties, enabling it to alleviate chest blockages, excess heat in the circulatory system, and extreme heat in the liver tissues. It has the same gentle laxative effect on children and women, improves visual acuity, and helps relieve constipation [23-25].

Trachyspermum ammi (Ajwain) The fruit has stimulant, antispasmodic, and carminative effects. It is traditionally employed as a significant therapeutic agent for conditions such as flatulence, atonic dyspepsia, diarrhea, abdominal tumors, abdominal aches, piles, bronchial issues, loss of appetite, galactogogue, asthma, and amenorrhea. Medically, it has been scientifically demonstrated to exhibit a range of pharmacological effects including antifungal,

antioxidant, antimicrobial, antinociceptive, cytotoxic, hypolipidemic, antihypertensive, antispasmodic, broncho-dilating actions, antilithiasis, diuretic, abortifacient, antitussive, nematicidal, anthelmintic, and antifilarial properties. Trachyspermum ammi L. is a seed spice that is highly regarded for its therapeutic properties. It belongs to the Apiaceae family. The roots exhibit diuretic characteristics, while the seeds contain remarkable aphrodisiac qualities. Ajwain seeds contain a brown-colored oil called ajwain oil, which makes about 2-4.4% of the seeds. The primary constituent of this oil is thymol, which is utilized for the management of gastrointestinal disorders, loss of appetite, and bronchial issues. The oil demonstrates fungicidal, antibacterial, and anti-aggregatory properties in relation to humans. Ajwain is a traditional medicinal herb with significant therapeutic potential, commonly employed for the treatment of diverse ailments in both people and animals. The fruit exhibits stimulant, antispasmodic, and carminative effects. It is a significant therapeutic agent for treating flatulence, weak digestion, and diarrhea.Ajwain seeds has a bitter and pungent taste, and they exhibit anthelmintic, carminative, laxative, and stomachic properties. Additionally, it has the ability to treat stomach tumors, abdominal discomfort, and piles.Seeds possess an indispensable oil that comprises approximately 50% thymol, a potent germicide, anti-spasmodic, and fungicide. Thymol is additionally employed in toothpaste and fragrance [26-32].

Terminallia Balerica (bibhitaki) In Ayurveda, the medication is categorized as an expectorant. Triphala, an essential component of Ayurvedic laxative formulation, is utilized for treating common cold, pharyngitis, and constipation. The bark possesses mild diuretic properties and can be beneficial in treating conditions such as anemia and leucoderma. The fruits possess astringent, acrid, digestive, anthelmintic, aperient, expectorant, sweet, anodyne, stypic, narcotic, ophthalmic, antipyretic, antiemetic, and rejuvenating properties. Unripe fruit possesses a gentle laxative effect, while ripe fruit exhibits astringent properties. Seeds are employed as a substance that enhances sexual desire. The oil derived from the pulp of the seeds is utilized in the treatment of leucoderma and alopecia. Recent studies have confirmed the oil's laxative properties [33-36].

Zingiber officinale **(Ginger)** In addition to its culinary use, ginger and its primary constituents are recognized for their advantageous medical effects. Multiple preclinical investigations have substantiated their efficacy in treating diabetes, obesity, diarrhea, allergies, pain, fever, rheumatoid arthritis, inflammation, and different types of cancer. The biologically active components of ginger have proven to be useful in treating tumors in the intestine, breast, ovaries, pancreas, liver, CNS, and cardiovascular diseases in animal models. Ginger and its metabolites are acknowledged for their powerful antioxidant properties, as they effectively hinder the oxidation process of different free radicals and the generation of nitric oxide [37].

Terminalia Chebula is a significant component in a herbal preparation known as TRIPHALA, which is a widely recognized traditional remedy for chronic conditions like as diabetes, nervous system disorders, and epilepsy. The plant has been documented to exhibit many pleiotropic properties, including antioxidant, antidiabetic, renoprotective, hepatoprotective, immunomodulatory, and prokinetic activities. The dried ripe fruit of T. chebula is a prominent Indian herb that is extensively used in the traditional Ayurvedic medicinal system due to its homeostatic, antitussive, laxative, diuretic, and cardiotonic characteristics. Dried fruits serve as a notable reservoir of vegetable tanning substances and have a lengthy record of utilization in India. Within the Ayurvedic medical framework, this herb is employed as a tonic and for the treatment of hepatic and spleen enlargements, as well as dermatological issues. The combination of this chemical with water has been found to have anti-inflammatory and analgesic qualities, as well as the capacity to purify and facilitate the healing of wounds. These chemicals are employed as astringents for the treatment of haemorrhoids. The powder exhibits exceptional astringent qualities and can be utilized as a dentifrice to address issues such as loose gums, bleeding, and gum ulcers. The chebulic acid produced from the fruit of Terminalia chebula has antispasmodic characteristics similar to those of Papaverine. Increasing one's appetite can be advantageous as a means to help digestion. It acts as a moderate cathartic and a gentle herbal agent for cleansing the colon. It improves the sensory perception of the five senses. The infusion is used as a gargle for chronic cough and sore throat. This therapy is advantageous for alleviating the symptoms of dysuria and urine retention. It is advantageous in skin problems marked by secretions, such as allergies and other redness-related ailments. It helps reduce the negative effects of ingesting rich, creamy, and fatty food. Furthermore, research has demonstrated that the extract derived from T. chebula can serve as a supplementary therapy to medications aimed at correcting cholesterol levels. Furthermore, these investigations have demonstrated that the extract had the capacity

to hinder the growth of bacteria in saliva and shows potential as an agent for preventing tooth decay. Terminalia is utilized in Ayurveda and Siddha for the treatment of various ailments such as constipation, chronic diarrhea, ulcers, gastroenteritis, asthma, cough, dyspnea, indigestion, hemorrhoids, candidiasis, parasitic infections, malabsorption syndrome, hepatomegaly, nephrolithiasis, urinary discharge, neoplasms, dermatological disorders, amnesia, epilepsy, diabetes, cardiovascular disease, anorexia, and wounds. Furthermore, it has been recorded to demonstrate antibacterial, antifungal, antiviral, anticarcinogenic, antioxidant, cardioprotective, antidiabetic, and wound healing characteristics. Triphala is a commonly prescribed drug for chronic ailments such as diabetes, neurological problems, and epilepsy. Triphala is a combination of three tropical fruits: Terminalia chebula, Emblica officinalis, and Terminalia bellerica. It efficiently promotes interior cleansing and improves digestion and absorption in all instances of blockage. Terminalia chebula is a component of the polyherbal blend known as "Geriforte," an Ayurvedic Rasayana recognized for its capacity to improve both physical and mental health, as well as enhance the immune system's resilience against different types of stress [38-47].

Cumin cyminum: The fruit of this plant, commonly referred to as cumin seed, is mostly utilized for culinary and medicinal applications. It is commonly employed as a food ingredient, widely used spice, and flavoring agent in various culinary traditions. Cumin has been extensively utilized in traditional medicine for the treatment of several ailments such as hypolipidemia, cancer, and diabetes. Cumin seeds have long been utilized in the form of powder or decoction to treat gastrointestinal ailments. It is advised for its stomachic, carminative, antispasmodic, and anthelmintic properties. The decoction has also been employed as an emmenagogue, which is a substance that accelerates the flow of menstruation. In addition, cumin is frequently utilized as a poultice to externally treat acute infectious inflammations, such as neck mumps. In addition, Indian herbalists frequently recommend cumin as a remedy for insomnia, colds, and fever. The application of a mixture consisting of ground cumin seeds and onion juice has been frequently used to reduce the occurrence of upbeats in cases of scorpion and bee stings. The fruits of the plant have been extensively utilized in traditional Iranian medicine to treat toothaches and epilepsy. Cumin has been widely utilized in Ayurvedic medicine, an ancient Indian medicinal practice, for the management of dyspepsia, diarrhea, and jaundice. Increasing data suggests that the plant material have beneficial antioxidant, diuretic, and hypoglycemic properties. Cumin possesses tonic and stimulating characteristics that assist in digestion and alleviate symptoms of colic, gas, and diarrhea. Studies have demonstrated that it has the ability to enhance lactation and alleviate nausea in pregnant individuals. Additionally, it can be topically applied as a poultice to alleviate swelling in the breast or testicles [48-54].

Composition

Each 1gm Kabz Kure Laxative Powder contains following ingredients:

Cassia Angustifolia	28%	Cassia Impoea Turpenthum:	5%
Cassia fistula:	20%	Dry Zingiber Officinale:	5%
Rock salt:	10%	Terminallia Chebula:	10%
Trachy spermum ammi:	5%	Pimpinella awism:	5%
Terminallia Balerica:	5%	Cumin cyminum:	5%

Aim & Objective

The aim of this study was to evaluate therapeutic value of Pykure Capsule, Pykure Ointment and Kabzkure Powder in the patients of Ano-rectal disorders. Present study was undertaken for 22 cases of Haemorrhoids

Material & Methods

22 Patients of Haemorrhoidal disorder were registered for management of the particular condition with Pykure Capsule, Pykure Ointment and Kabzkure Powder. Out of 22 patients, 20 cases completed the full treatment schedule i.e. 90 days while remaining 2 cases left the treatment. However, clinical pattern was studied in all 22 cases for incidence of age, sex, occupation, economical status, educational status, social status and symptoms of piles disorders.

Selection of cases

All patients selected for study were interrogated and detailed history was recorded on prescribed case history sheet. All patients were thoroughly examined and findings were also recorded for establishing the final diagnosis. Routine examination of blood etc were also done, in addition to the observation of subjective features, clinically.

All patients included in clinical study were carefully examined physically and records were maintained with clinical history. The individuals who have symptoms of ano-rectal disorders with or without rectal bleeding were subjected to clinical trial.

Method of Drug Administration:

Kabxkure Powder: 1 or 2 Teaspoonful with normal or lukewarm water at bed time. Each case was followed up at the interval of 15 days for 90 days. The patients were also treated with Pykure Capsule and Pykure Ointment.

Clinical Pattern:

Present study consists of total 22 registered cases, out of which 2 cases did not complete full course of treatment. So clinical pattern will be discussed on 22 cases, however, results will be analyzed on observations of findings of 20 cases.

Age Incidence

Patients of present study were from 20 to 60 years of age. Details are presented in Table 1.

Table 1: The incidence of different Age Group

S. No	Age Group (In Years)	Number of Patients	Percentage
1	20-35 Years	7	31.8%
2	36-50 Years	7	31.8%
3	51 and above	8	36.4%
	Total	22	100.0%

Sex Incidence

Patients of both sexes were registered for present study. The sex group is given in Table 2.

Table 2: The incidence of sex

S. No.	Sex	Number of Patients	Percentage
1	Male	15	68.20%
2	Female	7	31.80%
	Total	22	100.00%

Occupational Incidence

In present study the patients belonging to various occupations were included and shown in Table 3.

Table 3: The breakup of Piles in patients of different Occupation

S. No.	Occupation	Number of Patients	Percentage
1	Service	7	31.80%
2	Housewife	5	22.70%
3	Businessman	4	18.10%
4	Student	2	9.10%
5	Cultivator	2	9.10%
6	Retired	2	9.10%
	Total	**22**	**100.00%**

Educational Status

When educational status shows patients of both literate and illiterate group were found in the study as given in Table 4.

Table 4: The incidence of Educational status

S. No.	Occupation	Number of Patients	Percentage
1	Service	7	31.80%
2	Housewife	5	22.70%
3	Businessman	4	18.10%
4	Student	2	9.10%
5	Cultivator	2	9.10%
6	Retired	2	9.10%
	Total	**22**	**100.00%**

Rural and Urban incidence

This study includes the patients from Rural & Urban area as shown in Table 5.

Table No 5: The incidence of Rural and Urban status

S. No.	Occupation	Number of Patients	Percentage
1	Service	7	31.80%
2	Housewife	5	22.70%
3	Businessman	4	18.10%
4	Student	2	9.10%
5	Cultivator	2	9.10%
6	Retired	2	9.10%
	Total	22	100.00%

Incidence of Diet Habits

Patients included in the present study were found to have both types of diet habits (Veg. & Non-Veg.) which are presented in Table 6.

Table 6: The distribution according to Diet Habits

S. No.	Diet Habits	Number of Patients	Percentage
1	Non-Vegetarian	10	45.4%
2	Vegetarian	12	54.6%
	Total	22	100.00%

Incidence of Marital Status

In this study married and unmarried both patients are included and details are shown in Table 7.

Table 7: The incidence of Marital Status

S. No.	Diet Habits	Number of Patients	Percentage
1	Non-Vegetarian	10	45.4%
2	Vegetarian	12	54.6%
	Total	22	100.00%

Incidence of Nature of Work

In this trial Nature of Work has been presented In Table No: 8

Table 8: The Nature of work in 22 patients of Haemorrhoids

S. No.	Nature of Work	Number of Patients	Percentage
1	Sedentry	10	45.5%
2	Moderate	8	36.3%
	Hard Worker	4	18.2%
	Total	**22**	**100.00%**

Incidence of Internal and External Heamorrhoids:

Patients included in this study had both types of hemorrhoids which are presented in Table 9.

Table 9: The incidence of Type of Haemorrhoides

S. No.	Type of Hemorrhoids	Number of Patients	Percentage
1	Internal Hemorrhoids	11	50.0%
2	External Hemorrhoids	6	27.3%
	Both	5	22.7%
	Total	22	100.00%

Other Types of Ano-rectal Disorders:

Patients included in this study found to have different types of ano-rectal disorders as presented in Table No: 10.

Table 10: The different associated Ano-rectal Disorders in 22 patients of Haemorrhoids

S. No.	Type of Anorectal disorders	Number of Patients
1	Hemorrhoids	11
2	Fistula in Ano	2
	Fisture in Ano	7
	Fistula c Fisture	2

Results and Observation

In this study 22 patients of haemorrhoids were included, out of which 2 patients discontinued and 20 cases had completed the treatment schedule of 90 days. Patients were observed in terms of subjective criteria before treatment, during treatment and after treatment.

The response of treatment on subjective criteria and observed before and after treatment as presented in Table 11.

Table 11: The response of treatment on subjective features of Ano-rectal disorders

S. No	Symptoms	No. of Patients Before treatment	No. of Patients After treatment			Percentage
			After 1 Month	After 2 Month	After 3 Month	
1	Pain	15	15	10	nil off & 04	100%
2	Bleeding	19	7	8	nil off & 04	78%
3	Pruritus Anii	2	2	nil	2	100%
4	Prolapse Pile mass	5	3	2	4	40%
5	Constipation	20	11	5	2	81.80%
6	Mucous discharge	8	2	4		75%

It is revealed from above table that more than 80% of relief was observed in symptoms like pain in rectum, rectal pruritus and constipation. More than 65% of relief was observed in symptoms like rectal bleeding, rectal prolapse and itching.

Conclusion

The result in the trial group has shown encouraging results after 6 weeks of treatment. After 90 days of treatment along with the improvements of the subjective criteria's significant response was also noticed. The active bleeding was found to be absolutely control by 8 weeks in 79% of the cases while 21% cases continued bleeding off and on and the size of pile mass was found to be reduced.

The Kabzkure Powder has been found to be an effective drug for correcting the constipation. There were 80% of the patients noticed for better response in constipation and resulting in reduction of pile mass. Hence, Kabzkure Powder can safely be recommended in bleeding / non bleeding haemorrhoids.

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References

[1]. Kaidar-Person, O., Person, B., & Wexner, S. D. (2007). Hemorrhoidal disease: a comprehensive review. Journal of the American College of Surgeons, 204(1), 102-117.
[2]. Loder, P. B., Kamm, M. A., Nicholls, R. J., & Phillips, R. K. S. (1994). Haemorrhoids: pathology, pathophysiology and aetiology. British journal of surgery, 81(7), 946-954.
[3]. Lohsiriwat V. Haemorrhoids: From basic pathophysiology to clinical management. World Journal of Gastroenterology 2012; 18(17): 2009-17.
[4]. Mounsey AL. Halladay J, Sadiq TS. Haemorrhoids. American Family Physician 2011; 15;84(2):204-10.
[5]. Riss S. Weiser FA. Schwameis K, et al. The Prevalence of haemorrhoids in adults. Int J Colorectal Dis 2011; 27(2):215-20.
[6]. Johanson JF, Sonnenberg A. Constipation is not a risk factor for haemorrhoids: a case-control study of potential etiological agents. Am J Gastroenterol 1994; 89:1981-6.
[7]. Gan SG. Hemorrhoids. In: Diseases of the rectum, anus, and colon. 1st ed. Philadelphia & London: WB Saunders Company; 1923:419–531
[8]. Hulme-Moir M, Bartolo DC. Hemorrhoids. Gastroenterol Clin North Am 2001;30:183–197.
[9]. Johanson JF, Sonnenberg A. The prevalence of hemorrhoids and chronic constipation. An epidemiologic study. Gastroenterology 1990;98:380–386
[10]. Deutsch AA, Moshkovitz M, Nudelman I, et al. Anal pressure measurements in the study of hemorrhoid etiology and their relation to treatment. Dis Colon Rectum 1987;30:855–857.
[11]. Sardinha TC, Corman ML. Hemorrhoids. Surg Clin North Am 2002;82:1153–1167.
[12]. Gaj F, Trecca A. Hemorrhoids and rectal internal mucosal prolapse: one or two conditions? A national survey. Tech Coloproctol 2005;9:163–165.
[13]. Loder PB, Kamm MA, Nicholls RJ, Phillips RK. Haemorrhoids: pathology, pathophysiology and aetiology. Br J Surg 1994;81:946–954.
[14]. Wald A. Constipation, diarrhea, and symptomatic hemorrhoids during pregnancy. Gastroenterol Clin North Am 2003; 32:309–322.
[15]. Johannsson HO, Graf W, Pahlman L. Bowel habits in hemorrhoid patients and normal subjects. Am J Gastroenterol 2005; 100:401–406
[16]. Hosking SW, Smart HL, Johnson AG, Triger DR. Anorectal varices, haemorrhoids, and portal hypertension. Lancet 1989; 1:349–352.
[17]. Anon. 1966. Pharmacopoeia r!f India (2nd edn.). Manager of Government Publications, Delhi, India. pp 647-49.
[18]. Gupta R. 1971. Senna has a growing export market. Indian Farming 21: 29-32.
[19]. Anton R. and Haag-Berrurier M. 1980. Therapeutic use of natural anthraquinones for other than laxative activities, Pharmacology 20 (Suppl. I) I04.
[20]. Asolkar L.V., Kakkar K.K. and Charkre O.J. 1992. Glossary of Indian Medicinal Plants with Active Principles. Part I. CSIR, New Delhi, India. pp. 177-178.
[21]. Selvaraj Y. and Subhashchandra M. 1978. Senna, its chemistry, distribution and pharmacological uses. Journal of Indian Institute of Science 60: 179-190
[22]. Tripathi, Y. C. (1999). Cassia angustifolia, a versatile medicinal crop. International tree crops journal, 10(2), 121-129.
[23]. Mwangi, R. W., Macharia, J. M., Wagara, I. N., & Bence, R. L. (2021). The medicinal properties of Cassia fistula L: A review. Biomedicine & Pharmacotherapy, 144, 112240.
[24]. Pawar, A. V., & Killedar, S. G. (2017). Uses of Cassia fistula Linn as a medicinal plant. International Journal for Advance Research and Development, 2(3).

[25]. Saeed, M., Naseer, S., Hussain, S., & Iqbal, M. (2020). Phytochemical composition and pharmacological effects of Cassia fistula. Scientific Inquiry and Review, 4(1), 59-69.
[26]. Bairwa, R., Sodha, R. S., & Rajawat, B. S. (2012). Trachyspermum ammi. Pharmacognosy reviews, 6(11), 56.
[27]. Singh I, Singh VP. Antifungal properties of aqueous and organic extracts of seed plants against Aspergillus flavus and A. niger. Phytomorphology. 2000;20:151–7.
[28]. Sivropoulou A, Papanikolaou E, Nilolaou C, Kokkini S, Lanaras T, Arsenakis M. Antimicrobial and cytotoxic activities of origanum essential oils. J Agric Food Chem. 1996;44:1202–5.
[29]. Srivastava KC. Extract of a spice Omum (Trachyspermum ammi) shows antiaggregatory effects and alters arachidonic acid metabolism in human platelets. Prostaglandins Leukot Essent Fatty Acids. 1988;33:1–6. [PubMed]
[30]. Bentely R, Trimen H. Medicinal Plants. New Delhi: Asiatic Publishing House; 1999. pp. 107–15.
[31]. Krishnamoorthy V, Madalageri MB. Bishop weeds (Trachyspermum ammi): An essential crop for north Karnatka. J Med Aromat Plant Sci. 1999;21:996–8.
[32]. Joshi SG. Medicinal Plants. New Delhi: Oxford and IBH Publishing Co. Pvt. Ltd; 2000. p. 47.
[33]. Saraswathi Motamarri, N., Karthikeyan, M., Kannan, M., & Rajasekar, S. (2012). Terminalia belerica Roxb.—A phytopharmacological review. Int. J. Res. Pharm. Biomed. Sci, 3, 96-99.
[34]. Amrithpal Singh Saroya. Herbalism phytochemistry and Ethanopharmacology, Science Publishers. 2011;357-361.
[35]. The Ayurvedic Pharmacopoiea of India,1stedition,Published by The controller of Publications,Civil Lines, New Delhi .2001;part-1,01: 252
[36]. Vaidyaratnam PS. Varier's, Indian Medicinal Plants, Published by Orient Longman Private Ltd. Chennai.2004;05:258-262
[37]. Dhanik, J., Arya, N., & Nand, V. (2017). A review on Zingiber officinale. Journal of Pharmacognosy and phytochemistry, 6(3), 174-184.
[38]. Barthakur, N.N. and A.P. Arnold, 1991. Nutr itive value of the chebulic myrobalan Terminalia chebula Retz.) and its potential as a food source. Food Chem., 40: 213-219.
[39]. Krishnan, K.S., 1998. The wealth of India. Raw Mater., 10: 171-171.
[40]. Chopra, R.N., S.L. Nayar andl.C. Chopra, 1956. Glossary of Indian Medicinal Plants. CSIR, New Delhi, India.
[41]. Dastur, J.F., 1962. Medicinal Plants of India and Pakistan. D.B. Taraporevala Sons and Co. Pvt. Ltd., Bombay, pp: 162-163.
[42]. Sharma, P.V., 1995. Dravya Guna Vigyana by Priya Vrita Sharma. Chaukhamba Bharati Acad., 2: 753-758.
[43]. Nadkami, K.M., 1976. Indian Material Medica. Popular Prakashan Pvt. Ltd., Bombay, pp: 1202-1211 .
[44]. Jagtap, A.G. and S.G. Karkera, 1999. Potential of theaqueous extract of Terminalia chehula as an anticaries agent. J. Ethnopharmacol., 68: 299-306.
[45]. Chattopadhyay, R.R. and S.K. Bhattacharyya, 2007. PHCOGREV.: Plant review Terminalia chebula: An update. Pharmacog. Rev., 1: 151-156.
[46]. Tambekar, D.H., B.S. Khante, S.B. Dahikar and Y.S. Banginwar, 2007. Antibacterial properties of contents of Triphala: A traditional Indian herbal preparation. Continental J. Microbiol., 1: 8-12
[47]. Singh, N., R. Nath, N. Mishra and R.P. Kohli, 1978. An experimental evaluation of anti-stress effects of geriforte (an ayurvedic drug). Pharm. Biol., 16: 125-136
[48]. Mnif, S., & Aifa, S. (2015). Cumin (Cuminum cyminum L.) from traditional uses to potential biomedical applications. Chemistry & biodiversity, 12(5), 733-742.
[49]. J. Bellakhdar, ÐLa pharmacop¦e marocaine traditionnelleÏ, Ibis Press, Paris, 1997, p. 764.
[50]. P. Vican, ÐEncyclop¦die des plantes m¦dicinalesÏ, Larousse. Paris, 2001, p. 355.
[51]. M. Janahmadi, F. Niazi, S. Danyali, M. Kamalinejad, J. Ethnopharmacol. 2006, 104, 278.
[52]. S. Dhandapani, V. R. Subramanian, S. Rajagopal, N. Namasivayam, Pharm. Res. 2002, 46, 251.

[53]. L. Bremness, ĐLes plantes aromatiques et m¦dicinalesÏ, Bordas, Paris, 1996, p. 303.
[54]. M. Jalali-Heravi, B. Zekavat, H. Sereshti, J. Chromatogr. A 2007, 1143, 215.