

A Comprehensive Review of Haritaki (*Terminalia chebula* Retz.) and Ritu Haritaki W.S.R. To Ayurveda and Modern Pharmacological Perspective

Dr. Abdur Rahaman¹, Dr. Ushasi Ghosh Chaudhury², Dr. Nabanita Mahakal³

¹ Assistant Professor, Department of Dravyaguna Vigyan, Aligarh Ayurvedic Medical College and ACN Hospital, Aligarh, Uttar Pradesh, India

² Assistant Professor, Department of Dravyaguna Vigyan, Siddhakala Ayurved Mahavidyalaya, Sangamner, Maharashtra, India

³ General Ayurvedic Physician, BAMS, Purba Medinipur, West Bengal, India

Submitted: 01-05-2022

Accepted: 09-05-2022

ABSTRACT:

Haritaki or Harad is one of the important as well as commonest & easily available herbs used by Ayurveda system of Medicine. Acharya Charaka specifically stated that 'Haritaki pathyanam' means Haritaki as best among the herbs to be used regularly. About the origin of Haritaki, it is told that when Lord Indra was consuming divine nectar few drops fell on ground & due to its divine origin grew the seven types of Haritaki. According to Acharya Charaka except the Lavana Rasa, Haritaki has all five Rasas, hot in potency, good for general health. In Chikitsasthana first chapter of Rasayana pada is given the name Abhaya amalakirasayana pada and Haritaki itself and a lot of yogas (preparations) of it are depicted here in whole Rasayana pada. It shows that it is also a best Rasayana. For healthy life we should use Haritaki regularly. It cures different diseases with different Anupanadravyas. Owing to its gunas by Acharya "Bhavprakash", Haritaki is indicated as per Ritu (season) with different Anupanadravyas called as "Ritu Haritaki".

KEYWORDS:

Terminalia chebula, Haritaki, Ritu Haritaki, Pharmacological perspective.

Review,

I. INTRODUCTION:

Ayurveda has mentioned almost each and every aspect of life of an individual like personal, social, as well as global conditions, also suggested best probable solutions for every aspect of life. It helps us to relieve most of the problems related to our health, small changes in lifestyle and few simple medications if required. Even this Immortal science has focused on preventive aspect before starting with curative aspect as almost all the

Samhitas of Ayurveda starts with Sutrasthana elaborating the preventive aspect present in it. This is enough to emphasise the passion of the science to remain healthy. Hence to work on this topic with the prospective of preventive angle as well as curative angle was also desired and it seemed possible after overlooking the herbs like Haritaki & especially Ritu Haritaki which was mentioned in Ayurveda under the most versatile part named as Rasayana.

There are seven types of Haritaki described in Ayurveda, names are Vijaya, Rohini, Putana, Amrita, Abhaya, Jivanti and Chetaki. They all have different therapeutic effects like Amrita is used in purgation, Abhaya in ophthalmic disorders, Rohini for healing ulcers, Putana for topical application, Vijaya and Jivanti can be used in all type of diseased condition and Chetaki is a type of Haritaki which are highly effective for purgation, if any person only passes by the shade of the tree, their purgation starts immediately. In the text of Charaka Samhita, clearly mentioned about food which is regularly used by person in his daily routine, there are Haritaki is the one of these foods which should be taken regularly. So, in this article there is a comprehensive review of Haritaki and Ritu Haritaki in the perspective of Ayurveda and Modern science.

Haritaki consists of the pericarp of mature fruits of *Terminalia chebula* Retz. (Fam. Combretaceae), a moderate sized or large tree found throughout India, chiefly in deciduous forests and areas of light rainfall, but occasionally also in slightly moist forests, upto about 1500 m elevation, throughout India, flowers appear from April, August and fruits ripen from October-January.^[1]

Scientific name: *Terminalia chebula* Retz.
Family: COMBRETACEAE

TAXONOMICAL CLASSIFICATION ACCORDING TO BENTHAM AND HOOKER (1862-1883).^[3]

Kingdom: Plantae
Sub-kingdom: Viridiplantae
Infra-kingdom: Streptophyta
Super-division: Embryophyta
Division: Tracheophyta
Sub-division: Spermatophytia
Class: Magnoliopsida
Super-order: Rosanae
Order: Myrtales
Family: Combretaceae
Genus: Terminalia
Species: chebula (Gaertn.) Retz.

VERNACULAR NAMES:^[1]

Sanskrit: Abhaya, Kayastha, Siva, Pathya, Vijaya
Assamese: Shilikha
Bengali: Haritaki
English: Myrobalan

Hindi: Harre, Harad, Harar

Kannada: Alalekai

Kashmiri: Halela

Malayalam: Katukka

Marathi: Hirda, Haritaki

Oriya: Harida

SYNONYMS AND THEIR NIRUKTI (ETYMOLOGY):^[3]

The fruits of Haritaki have been widely used in Ayurveda by various names. These names have been given for various reasons and activities. The fruit contains five rasas except Lavana (Pancharasa), eliminates impurities from the bodies (Haritaki, Pramatha), cleanses the body (Putana). It clears the srotas (Pathya), improves the vital energy and strength (Pranada, Jivanti), israsayana (Amrita), removes fear of disorders (Abhaya) and maintains youth (Vayasya). It promotes the activities of both body and mind (Kayastha, Cetaki). It rejuvenates the tissues and heals wound (Rohini), is unfailing (Amogha). It is a remedy for all diseases (Avyatha, Vijaya). It has overall salutary effect (Siva) and occupies the highest position among drugs (Shreyasi).

SYNONYMS AS PER DIFFERENT NIGHANTU:^[3]

S.N.	SYNONYM	DN	HDN	MPN	RN	KN	BPN	SN	NA	MN	PN
1	Abhaya	+	+	+	+	+	+	+	+	+	+
2	Amogha	-	-	+	-	-	-	-	-	-	-
3	Amrita	+	-	+	+	-	+	+	-	+	-
4	Avyatha	+	-	-	+	-	+	+	+	+	-
5	Balya	-	-	-	-	-	-	-	-	+	-
6	Bisagarbha	-	-	-	+	-	-	-	-	-	-
7	Chetaki	+	+	+	+	-	+	+	+	+	-
8	Devi	-	-	-	+	-	-	-	-	-	-
9	Divya	-	-	-	+	-	-	-	-	-	-
10	Haimavati	+	-	+	+	+	+	+	+	+	-
11	Haritaki	+	+	+	+	-	+	+	+	+	+

(+denotes presence, -denotes absence)

(DN-Dhanwantari Nighantu, HDN- Hridaya Dipaka Nighantu, MNP-Madanapala Nighantu, RN-Raja

Nighantu, KN-Kaiyadeva Nighantu, BPN-Bhavprakash Nighantu, SN-Saligrama Nighantu, NA-

Nighantu Adarsha, MN-Mahaushadha Nigraha, PN-Priya Nighantu)

a) Niraja, b) Vanaja, and c) Parvatiya

VARIETIES OF HARITAKI:^[4]

- According to Bhavprakash Haritaki is of 7 types:
 - Vijaya, b) Rohini, c) Putana, d) Amrita, e) Abhaya, f) Jivanti and g) Chetaki
- According to Kaiyadeva Nighantu Haritaki is of 3 types:

II. LITERARY REVIEWS OF HARITAKI:

VEDIC & PAURANIK PERIOD: Haritaki has not been mentioned in the Vedas. The earliest reference of Haritaki was mentioned by **Panini** who described it for the management of Mutrapurish-nirodh (dysuria / anuria and constipation) in 4/4/53.

CATEGORIZATION OF HARITAKI IN SAMHITAS & NIGHANTUS:

S.N.	TEXTS	GANNA/ VARGA
1	Caraka Samhita	Jwaraghna, Arshoghna, Kasaghna, Kusthaghna, Virecanopaga, Prajasthapana, Vayasthapana
2	Sushruta Samhita	Amalakyadi, Parushakadi, Triphala, Mustadi
3	Astanga Sangraha	Arshoghna, Kushtaghna, Hikkani grahana, Kasahara, Jwaraghna, Garbhasthapana, Vayasthapana
4	Astanga Hridaya	Virecanagana, Parushakadigana, Mustakadigana, Mustadigana
5	Dhanwantari Nighantu	Guduchyadivarga
6	Hridaya Deepika Nighantu	Dwipadavarga
7	Madanpala Nighantu	Haritakyadivarga
8	Raj Nighantu	Amradivarga
9	Kaiyadeva Nighantu	Aushadhivarga
10	Bhavprakash Nighantu	Haritakyadivarga
11	Shaligram Nighantu	Haritakyadivarga
12	Nighantu Adarsha	Haritakyadivarga
13	Mahaushadha Nighantu	Mahaushadhivarga

A moderate to large deciduous tree with a cylindrical bole, rounded crown and spreading

BOTANICAL DESCRIPTION:^{[4][5]}

branches, 15-24m high, with rust coloured or silvery hairs over the younger branches.

Leaves: mostly subopposite, distant, ovate or oblong-ovate, 8-20cm long, deciduous in cold season, glabrous to tawny villous beneath with a pair of large glands at the top of the petiole

Flowers: dull white or yellowish, strong offensive smell, in spikes from the upper axils and in small terminal panicles, blooming April-May

Fruit: drupe, ellipsoidal, obovoid or ovoid, from a broad base, glabrous, yellow to orange-brown, sometimes tinged with red or black and hard when ripe, 3-5cm long, 5 ribbed on drying, ripe in November-January

Seeds: hard, pale-yellow.

DISTRIBUTION: [5]

Abundant in Northern India. It is found throughout the greater part of India from eastern region to Himalayas to an altitude of 1500m.

AYURVEDIC PROPERTIES: [6]

Rasa-Pancharasa (except Lavana), mainly Kasaya

Guna-Laghu, Ruksha

Virya-Usna

Vipaka-Madhura

KARMA: [7]

Dosakarma: Tridosasamaka, mainly Vatasamaka

Sharirakarma: Sothahara, Vadanasthapana, Vranasodhana, vranaropana, Nadibalya, Medhya, Chakusya, Deepana, Pacana, Yakriduttejaka, Anulomana, Mridu recana, Krimighna, grahi, shonitasthapana, Hridya, Ka

phaghna, srotasodhana, Vrishya, Garbhasatsothahara, Prajasthapana, Mutrala, Kusthaghna, Rasayana

Vyadhikarma: Vatavyadhi, Sothavedanayuktavikara, Vrana, Mukharoga, Kantharoga, Nadidourbalya, Mastishkadourbalya, Natrabhishandhya, Dristimandya, Indriyadourbalya, Agnimandya, Shula, Anaha, Gulma, Vibandha, Udararoga, Arsha, Kamala, Yakritpleehavidhi, Krimiroga, Hrididourbalya, Vatarakta, Raktavikara, Sotha, Pratisyaya, Kasa, Swarabheda, Hikka, Swasa, Prameha, Sukrameha, Swetapradara, Garbhasaya-dourbalya, Mutrakriccha, Mutraghata, Asmari, Kustha, Visarpa, Twakdosa, Visamajwara, Jeernajwara.

RITUHARITAKI: [8,9,10]

Haritaki acts as a rejuvenator (by cleaning various malas from the body). But for producing its rasayana effect, it needs various supportive dravyas in different seasons in the form of anupana (vehicle). So, Haritaki is administered with different anupana in different ritu (seasons). [8] Anupana (vehicle) is defined as the pana (drink) which is taken immediately after ahara (food), oushadhaanga and oushadha yoga (medicines) [9]. As the oil added to water spreads quickly on the surface of water, so the oushadha (medicine) along with the Anupana spreads in the body and produces its effect when administered with appropriate Anupana [10].

Anupana of Haritaki according to Ritu and their ayurvedic properties [8]

Ritu	Anupana	Rasa	Guna	Virya	Vipaka	Karma
Varsha	Saindhavalavana	Lavana	Laghu, Tikshna, Snigdha	Sita	Madhura	Tridosahara, Rochaka, Dipana
Sarad	Sarkara	Madhura	Guru, Snigdha	Sita	Madhura	Vata-Pittasamana, Brihmhana
Hemanta	Sunthi	Katu	Laghu, Snigdha	Usna	Madhura	Vata-Kaphasamana, Dipana, Vrishya
Sisira	Pippali	Katu	Laghu, Snigdha, Teekshna	Usna	Madhura	Kapha-Pittasamana, Dipana, Vrishya
Vasanta	Madhu	Kasaya	Laghu, Ruksha	Sita	Madhura	Tridosasamana, Dipana, Balya
Grishma	Guda	Madhura	Guru, Snigdha	Sita	Madhura	Tridosasamana, Balya

AYURVEDIC PHARMACOLOGY OF RITU HARITAKI:

Varsha itu (rainy season) is first season of visarga kala (debilitating), during which alparukshata (mild roughness), amla rasa (sour

taste) are predominant. Agni (digestive power) becomes irregular. Bala (strength) of the person is less. Due to mandagni (decreased digestive energy) and excess cold, sanchaya (accumulation) of pittadosha and prakopa (aggravation) of vatatakes

place. Saindhavalavana acts as vatashamaka due to its lavana rasa, snigdha guna (unctuousness), and Madhura vipaka (post digestion). Haritaki acts as vatashamaka due to the madhura, amla rasa, ushnaviryaa and madhuravipaka. When the vata and pitta are brought to their equilibrium state, they ultimately enhance the agni (metabolism), which is important due to vata prakopa (aggravation of vata) and pitta anchaya (accumulation of pitta).^[11]

Sharada ritu (autumn season) is second ritu (season) of visarga kala, comes under the sadharanaritu. During which madhyamasnigdha (mild unctuousness) and lavana rasa (salt taste) are predominant. Agni (digestion) becomes teekshna (increased), Bala (strength) of the person is madhyam (moderate), due to predominance of snigdha guna, lavana rasa. Haritaki with sharkara (unrefined sugar) does purification of provoked pitta, due to its snigdha guna (unctuousness), madhura rasa (sweet taste) and vipaka (post digestion). Madhura rasa, madhuravipaka and sheetaviryaa of sharkara prevent the further vitiation of the pitta. Along with this they help in mitigating shamanarupivata (which are under mitigating stage), due to their snigdha guna, madhura rasa and madhuravipaka. The ushnaviryaa of Haritaki mitigate the vata.^[11]

Hemantaritu (pre-winter season) is the last season of visarga kala, during which the snigdha guna and madhura rasa are predominant. In this season the strength of the person is good, the pitta is in mitigating state and kapha at its accumulating stage. It mitigates the kapha at its accumulating stage and prevents aggravation, due to ushnaviryaa (hot potency), katu, tikta, Kashaya rasa (pungent, bitter, astringent taste), laghu, ruksha guna (lightness, dryness) of Haritaki and shunti (ginger). Along with this it helps to bring back the pitta to equilibrium state by its madhuravipaka. Due to its ushnaviryaa it stimulates the agni which gets impaired during vitiation of pitta.^[11]

Shishiraritu (winter season) is first season of the adana kala (strengthening season), during this period the intensity of sun rays will gradually increase, along with increase in ruksha guna (dryness) and strength of person gradually decreases due to excess coldness. The accumulation of kapha takes place in this season. To mitigate the accumulated

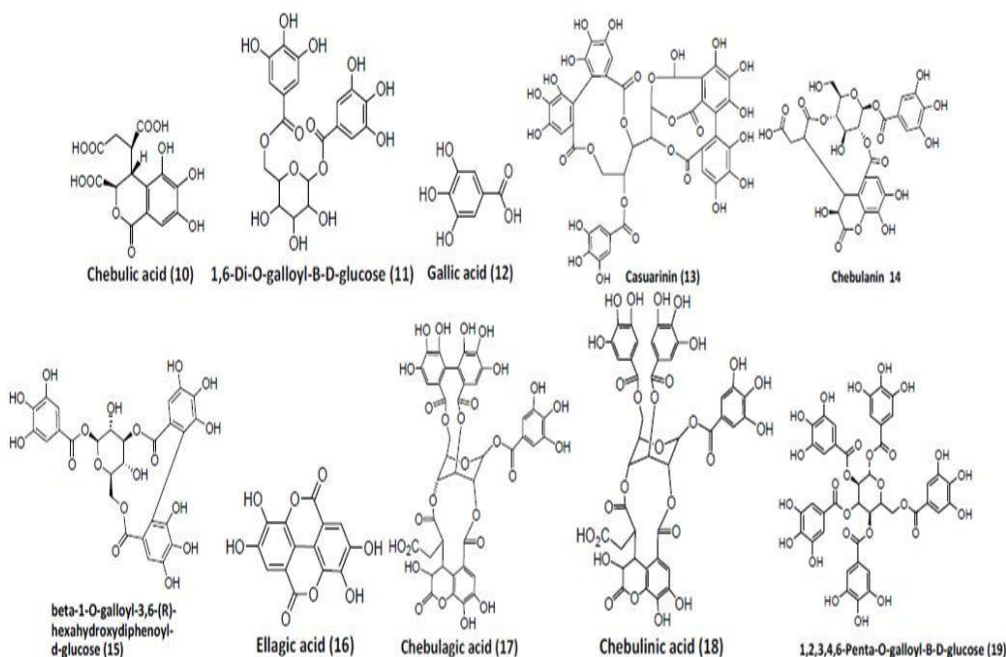
kapha, Haritaki should be taken with pippali fruit, as it is good sleshmahara (kapha mitigator), due to its katu rasa (pungent taste), laghu, tikshna guna (lightness and penetrating properties) and ushnaviryaa. Apart from this it also brings the shamanarupi pitta to its equilibrium state. By this it maintains the equilibrium status of the dosha leading to agni samyata, dhatu samyata (equilibrium state of agni and body tissue) and ultimately leads to Rasayanakarma.^[11]

Vasantaritu (spring season) is second ritu of adana kala, comes under sadharanaritu. During this ritu, ahara and oushadhadravayas (food and medicines) are madhyamarukshata (moderately dry) and astringent. Hence, strength of person is reduced. The aggravation of kapha takes place in this ritu. To mitigate the aggravated kapha, Haritaki should be taken with honey. The laghu, ruksha guna (lightness and dryness) and kashaya rasa (astringent taste) of Haritaki and madhu help to mitigate kapha. Ushnaviryaa of Haritaki also acts as kaphahara. Because of its madhuravipaka this combination also acts as Rasayana.^[11]

Grishmaritu (summer season) is the last season of Adana kala and comes under visishtaritu. During this season dravyas have atirukshata guna (excessive dryness) and katu rasa (pungent taste), which considerably reduce the strength of a person. Accumulation of vata and mitigation of kapha will take place in this season. Guru Snigdha gunas (heaviness and unctuousness) and Madhura vipaka of jaggery and ushnaviryaa, madhuravipaka of Haritaki helps to prevent the vata anchaya. By this, it checks vata from moving into further kriya kalas (pathological stages). Ushnaviryaa and laghu, ruksha gunas of Haritaki bring the shamanarupi kapha to its equilibrium state.^[11]

CHEMICAL CONSTITUENTS OF HARITAKI:^[12]

Anthraquinone glycoside, Chebulinic acid, Chebulagic acid, Tannic acid, Terchebin, Tetrachebulin, Vitamin C, Arachidic acid, Behenic acid, Linoleic acid, Oleic acid, Palmitic acid, Stearic acid, Chebulin, 2- α -hydroxymycromeric acid, Maslinic acid, 2- α -hydroxyursolic acid.



Major chemical constituents of Haritaki

MODERN PHARMACOLOGICAL ACTIVITY:^[12]

Antimicrobial, Antifungal, Antibacterial, Antiviral, Antistress, Antispasmodic, Hypotensive, Endurance promoting activity, Anti-Hepatitis-B virus activity, Hypo-lipidemic, anthelmintic, Purgative.

Some of the pharmacological activities have been explained on the basis of research works that has been conducted on Haritaki.

Anti-bacterial activity: The broad-spectrum antibacterial property of *T. chebula* against various pathogenic gram-positive and gram-negative bacteria has been reported. The ethanolic extract of the fruits of *T. chebula* was studied for its antibacterial action against standard reference bacterial strains of clinical importance and it was found that the extract was highly effective against *Bacillus subtilis*, *S. epidermidis*, *S. aureus*, *S. typhi* and *Pseudomonas aeruginosa* (Kanna et al., 2015). Moreover, Mostafa et al. explored the action of *T. chebula* as compared with traditional antibiotics, against enteric pathogens, namely, *Shigella* sp., *Salmonella* sp., *Vibrio cholerae* and *Escherichia coli*, where they found the potential antibacterial activity (Mostafa, Rahman, & Karim, 2011).^[13]

Antiviral activity: Various investigations had displayed the repressive action of *T. chebula* on viral diseases caused by herpes simplex virus-1

(HSV-1), cytomegalovirus (CMV), influenza and human immunodeficiency virus type 1 (HIV-1) (Badmaev & Nowakowski, 2000; Kurokawa et al., 1995; Oyuntsetseg et al., 2014; Yukawa et al., 1996). The fruits of *T. chebula* were reported to have gallic acid and tannins as human HIV type I integrase inhibitors where galloyl component reportedly perform a pivotal function in hindering the 30-processing of HIV-1 integrase (Ahn et al., 2002). Kurokawa et al. reported that *T. chebula* showed a stronger antiviral activity in conjunction with acyclovir (synthetic analogue of the purine nucleoside) opposed to HSV-1 infection in vivo and in-vitro as evident by decrement in the yield of virus in the brain of mice (Kurokawa et al., 1995).^[13]

Hepato-protective activity: *T. chebula* extract may reportedly surpass the 2-acetylaminofluorene instigated drug resistance and oxidative stress in the hepatic tissue and nullify the probable neoplastic transformation resulting in hepatocarcinoma by inhibiting the expression of multidrug resistance-1 via prevention of cyclooxygenase-2 (COX-2) expression and ROS generation through MAPK and Akt signalling (Nishanth, Prasad, Jyotsna, Reddy, & Reddanna, 2014). Furthermore, *T. chebula* averted the hepatotoxicity resulted by the application of isoniazid, pyrazinamide and rifampicin (in combination) in a sub-chronic mode possibly

viatsnotablemembrane stabilizing and anti-oxidative activities (Tasduq et al., 2006). Similarly, the water extract of T. chebula, attenuated the elevation of serum liver enzymes aspartate transaminase, alanine trans-aminase and lactate dehydrogenase level exerting a hepatoprotective effect against t-BHP-induced liver injury in C57/BL6 mice.^[13]

Anti-

hyperlipidaemic activity and hypocholesterolemic activity: It was reported that in hyperlipidaemic model of rats induced by atherogenic diet, the treatment with T. chebula on such rat models exhibited resulted into decline in triglycerides, total cholesterol, total protein and increase in high density lipoprotein cholesterol thus revealing its hypolipidemic activity (Maruthappan & Shree, 2010). Other reported that oral administration of T. chebula mice on atherogenic diet had successfully alleviated the effects related to high cholesterol containing diet as; body weight, serum cholesterol, triglyceride, thickening of the walls of aorta and shrinkage in its lumen (Rathore, Soni, & Bhatnagar, 2004).^[13]

Immunomodulatory activity: The immunosuppressive response of CA and gallic acid, isolated from T. chebula, were found to block the CTL mediated cytotoxicity via blocking granule exocytosis in response to anti-CD3 stimulation (García Sevillano et al., 2014). Aher and Wahi (2010) reported that T. chebula alcoholic extract shows immunomodulatory activity on male Wistar rats as evident by increased neutrophils, lymphocytes and linear time-dependent significant phagocytic activity with increase in the immunoglobulin level (Aher & Wahi, 2010). Aher and Wahi (2011) has explored the immunomodulatory of the dried ripe fruits of T. chebula at cellular level. The immunological effect was examined and the study reported that treatment with T. chebula extract elevated the level of glutathione, superoxide dismutase and catalase (25.36, 252.22 and 273.32 units/mg protein, respectively), while the extract has decreased the level of LPO to 68.01 nmol MDA/gHb.^[13]

PARTUSED: Fruits^[6]

DOSAGE: Powder-3-6 gm^[6]

INDICATIONS:

Skin diseases,
Leprosy, Stomatitis, Hyperacidity, Haemorrhoids, Jaundice, Hepato-splenomegaly, Helminthiasis, Flatulence, Constipation, Dyspnoea, Cough, Coryza, Wounds, Ulcers etc.^[7]

THERAPEUTIC USES OF HARITAKI:^[14]

External use: Sothahara, Vedanasthapana, Vranasodhana, Varanaropana

Nadisamsthana: Balya, Medhya

Pacanasamsthana: Dipana, Pacana, Yakriduttejaka, Anulomana, Mridurecana, Krimighna

Raktavahasamsthana: Hridya, Sonitasthapana, Sothahara.

Swanasamsthana: Kaphaghna

Prajananasamsthana: Vrishya, Garbhasayasothehara, Prajasthapana

Mutravahasamsthana: Mutrala

Twacha: Kusthaghna

Tapokrama: Jwaraghna

Satmikarana: Rasayana

IMPORTANT FORMULATIONS OF HARITAKI:^[15]

Abhayamodaka, Abhayarista, Pathyadivati, Pathyadi kwath, Vyaghriharitaki, Haritakileha, Chitrakaharitaki, Agastyaharitaki, Dantiharitaki, Haritakikhanda, Pathyadichurna, Abhayadiguggula, Abhayadikalka, Amritaharitaki, Abhayamalakiyarasayana.

III. CONCLUSION:

Now everyone wants a healthy quality life but in present era it is hard to maintain the healthy life due to unwholesome diet habits and life style. There are many methods in Ayurveda to regulate the healthy status of life like Dinacharya (daily regimen), Ritucharya (seasonal regimen), Sadvritta (good habits), Aachara Rasayana (to maintain social health) etc. Ritu Haritaki is the one of among them. It is said that "As is the grain so is the mind". Haritaki producing the wholesome effect (the ones that helps to stay healthy) "Haritaki Pathayanam". In Ritu Haritaki, Haritaki is recommended with different adjuvant in different season like Pippali, jiggery, dried ginger etc., Adjuvant is an ingredient which modifies and enhances the strength and the qualities of principal ingredient. Therefore, there is the requirement to investigate the biological activity of its Phyto-constituents at extensive research level to exhibit its unexplored potential for development of an effective, safe and cheap drugs for various ailments.

REFERENCE:

- [1]. Ayurveda Pharmacopoeia of India, Ministry of health and family welfare, department of Indian system of medicine & Homoeopathy, Govt. of India, New Delhi, Part I, Volume I, Page 62



- [2]. The Integrated Taxonomic Information System on-line database, <https://www.itis.gov>
- [3]. Sharma P.V., Namarupajnanam (Characterization of Medicinal Plants), Chaukhamba Visvabharati Oriental Publisher and Distributors, Varanasi, Reprint 2011, Page 196-197
- [4]. Sastry J.L.N., Illustrated Dravyaguna Vijnana, Chaukhamba Orientalia, Varanasi, Reprint 2012, Volume II, Page 2105.
- [5]. Database on Medicinal Plants used in Ayurveda, Central Council for Research in Ayurveda and Siddha, Dept. of ISM & H, Ministry of Health and Family Welfare, Govt. of India, New Delhi, Reprint 2005, Volume III, Page 282
- [6]. Sastry J.L.N., Illustrated Dravyaguna Vijnana, Chaukhamba Orientalia, Varanasi, Reprint 2012, Volume II, Page 211
- [7]. Database on Medicinal Plants used in Ayurveda, Central Council for Research in Ayurveda and Siddha, Dept. of ISM & H, Ministry of Health and Family Welfare, Govt. of India, New Delhi, Reprint 2005, Volume III, Page 283
- [8]. Chunekar.K.C, Bhavaprakasha Nighantu of Bhavamishra, Chaukhamba Bharati Academy, Varanasi, 1999, Volume-I., 9th edition., Page 7.
- [9]. Shastri J.L.N. Dravyaguna Vijnana, Vol II, reprint, Varanasi: Chaukhamba Orientalia Varanasi 2006, pp 358.
- [10]. Tripathy Bramhananda, Sharangadhara Samhita purvardha, Chowkhamba Bharati prakashana, Varanasi: Reprint 2004, Page 173.
- [11]. Mehatra Dhulappa, Ritu Haritakee- A Rejuvenator, Review article, International Journal of Ayurvedic Medicine, 2013, 4(1), 1-8, ISSN: 0976-5921, Published online in <http://ijam.co.in>
- [12]. Database on Medicinal Plants used in Ayurveda, Central Council for Research in Ayurveda and Siddha, Dept. of ISM & H, Ministry of Health and Family Welfare, Govt. of India, New Delhi, Reprint 2005, Volume III, Page 284
- [13]. Nigametal., Fruits of Terminalia chebula Retz.: A review on traditional uses, bioactive chemical constituents and pharmacological activities, Phytotherapy Research. 2020; 1-16, DOI: 10.1002/ptr.6702
- [14]. Sharma P.V., Dravyaguna Vijnana, Chaukhamba Bharati Academy, Varanasi, Reprint 2018, Volume II, Page 75515.
- [15]. Database on Medicinal Plants used in Ayurveda, Central Council for Research in Ayurveda and Siddha, Dept. of ISM & H, Ministry of Health and Family Welfare, Govt. of India, New Delhi, Reprint 2005, Volume III, Page 285