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TRIPHALA- A BIRD VIEW

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ABSTRACT

Ayurveda deals with innumerable drugs with its complete description and therapeutic utility. These drugs are grouped into various groups according to guna, karma, parts used. Triphala is one such group of drugs with great therapeutic utility. The fruits of Haritaki, Vibhitaki and Amalaki together known as Triphala. Triphala has been described in Ayurvedic classics as a tridoshik rasayana, the therapeutic agent with balancing and rejuvenating effects on tridoshas and body thereby. Vara and phalatrika are the synonyms of Triphala. Recent studies have proven that Triphala possess anti oxidant, immuno modulatory, anti-peptic, anti-mutagenic activities. Though many research works have been carried out on Triphala till date, this review is intended to highlight the significance of individual drugs in Triphala along with its therapeutic utility.

KEYWORDS: Triphala, Rasayana, Tridosas, Anti-oxidant.

INTRODUCTION

Ayurveda an antient science which deals with the maintenance of health of the healthy individual and disease of the diseased one too. According to Ayurveda, health and disease of the individuals are determined by balanced and imbalanced state of doshas respectively. It mainly deals with innumerable medicinal formulations of plants, metals, minerals and animal origin in treating the disease. Among them, this review is mainly focuses on the group of drugs namely Triphala. Triphala includes haritaki (Terminalia chebula), vibhitaki (Terminalia bellerica) and amalaki (Emblica officinalis). Though many have been carried on 'Triphala'

till date, this review is intended to highlight the significance of individual drugs in Triphala along with its therapeutic utility.

Triphala

Triphala is one of the most commonly used drug in the Ayurvedic literature. It is also found in the home remedies and folk remedies from Times immemorial we come cross reference about triphala in the vedic literature as well.

Classification[1]

In Ayurvedic classics all the drugs have been classified accordingly in different ganas, vargas and skandas etc. the plants are classified according to their therapeutic efficacy. Nighantu has mentioned three types of Triphala-

Swalpa Triphala

Draksha, kharjura, parushaka; these three fruits are together called as Swalpa Triphala.

Madhura Triphala

Draksha, kharjura, kasmarya; these three fruits are together called as swadu Triphala. It improves vision, appetite, the desire for taking food, and alleviates irregular fever.

Sugandhi Triphala

Jatiphalam, ela, lavangam; these three fruits are together called as Sugandhi Triphala. It constitutes kashaya rasa, madhura vipaka and useful in treating mala bandha due to kapha and vata.

Rasa Panchaka

Rasa - Kasaya

Guna - Ruksha,Sara.

Virya - Anusna

Vipaka - Madhura

Karma - Chaksusys, Dipana, Tridoshasamaka, Vrishya, Prameha, Kustha, Vishamajwaranashaka, Medohara.

Pharmacological Activities

Triphala is classified as an important medicinal preparation of Rasayana group and it is believed to promote health, immunity, longevity and used to treat chronic ulcer and it has

antioxidant properties. The aqueous extract of Triphala is reported as anti-gastric ulcer and anti-peptic activity. The extracts of Triphala reported to exhibited antimutagenic activity, reduce damage due to oxidative stress, possess sustained anti- diabetic activity, cytotoxic and apoptotic agent against breast and prostate cancer and possess antibacterial activity. Triphala reported as anti- inflammatory and anti-arthritic drug and as potent and novel therapeutic agents for scavenging of nitric oxide and as a cardio tonic drug which is also prescribed for symptoms of inflammation, heat, infection, obesity, anaemia, fatigue, poor digestion, assimilation and even in respiratory diseases also.

Haritaki[2]

Classical name: Haritaki

Latin name - *Terminalia chebula* Linn.

Family - Combretaceae

Sanskrit synonyms - Abhaya, Pathya, Avyatha, Vayastha, Haimavati, Haritaki, Shiva

English name - Chebulic Myrobalan

Swaroopa (Habit) - A moderate sized / large deciduous tree

Habitat - Found in MP, W. Bengal, Karnataka and Maharashtra in India, Burma and Ceylon

Rasa panchaka (Ayurvedic pharmacodynamics)

Rasa - Pancharasa (madhura, amla, katu, thikta and kashaya)

Guna - Laghu, Ruksha

Virya - Ushna

Vipaka - Madhura

Prabhava - Tridoshahara

Dosha karma - Kapha pitta shamaka

Parts used – Fruits.

Chemical Composition

Fruit contains tannin up to 30%, chebulic acid and gallic acid and some purgative constituents of the nature of Anthraquinone.

Varieties: Seven types namely Vijaya, Rohini, Putana, Amrita, Abhaya, Jivanti and Chetaki

The one which stimulates jivanodyoga (biological activity) is known as jivanti. The one which cleanses the body by removing the metabolic waste etc. is known as putana, the one which acts a nector is known as amrta. The one which conquers all the disease is known as

abhaya, the one which enhances the health being is known as rohini and the one which makes the human being very active / energetic is known as cetaki.

All the seven varieties have their individual significance in managing different conditions. Hence, different names or etymology.

Therapeutic utility of each variety of haritaki

Jivanti is used for almost all the diseases. Putana is used in external applications (pralepana). Amrita is mainly used in shodhana (cleansing)/virechana (purgation). Vijaya is useful in all the diseases. Abhaya is best for the eye diseases. Rohini is used for the wound healing (vranaropana) and cetaki is mainly used in the powder form (churna). These are the individual therapeutic utilities of seven varieties of haritaki.

Internal uses[3]

Nervous system useful in weakness of the nerves and brain as well as in mother disorders and diminished vision.

Digestive system- useful in loss of appetite, pain in the abdomen, constipation, Gulma, as it is hemorrhoids, hepatomegaly, splenomegaly and parasites. relieve constipation in chronic abdominal diseases and also help in digestion of ama. The bark of Haritaki, if eaten after chewing it properly in the mouth, improve digestion. Powdered Haritaki produces constipation. The fine powder of Haritaki is used as a tooth powder. It strengthens the gums.

Circulatory system- since Haritaki is raktagami(exhibiting much action on Rakta Dhatu), it is used in weakness of heart, vatarakta and other disorders of the blood.

Respiratory system- rhinitis due to constipation, cough, hoarseness of voice, hiccups and Distress are relieved by Haritaki as it reduces congestion.

Urinary system- useful in this area, retention of urine, calculus and kaphaja prameha.

Skin- useful in erysipelas under the skin disorders, Haritaki prevents accumulation of pus in skin diseases and acts as a Rasayana. Harithaki + oil is extremely helpful in healing of wounds (especially in burns).

Temperature - useful in typhoid fever and also chronic fever.

Restorative effect - Haritaki acts as a rejuvenator (by clearing the body of various Malas).

Quality parameters of haritaki

The chebula fruit will be new, smooth, heavy, round and one which sink in the water is considered as the best variety of haritaki. Such variety will be useful in curing all the ailments and it provides several benefits to the individual who is going to utilize it.

The best variety of haritaki will have little reddish tingr, breaks easily like jaggerry, somewhat smaller in size, astringent in taste, thick fruit rind, possessing good amount of juice, smaller seed and heavy in weight.

Effect of each variety of haritaki

If the rind is chewed or orally consumed it improves digestive function (agni vardhana), if the same is grinded and administered orally it causes purgation, boiled fruit/fruit rind will correct the ill effects of the processed food.

Variation of anupana according to season

Sl. no.	Season	Anupana according to season
1	Greeshma/ summer	Hareetaki + equal quantity of guda/jiggery
2	Varsa/ rainy	Along with saindhava lavana
3	Sarat/late rainy season	Along with sarkara/sugar
4	Hemanta/ winter	Along with sunti/ dry ginger
5	Sisira/late winter	Along wirh black pepper
6	Vasanta/spring	Along with madhu/ honey

Paniniya ganapathy (4/4/53) described Haritaki in the management of dysuria or anurea and constipation (Mitra purisha nirodha).

In Charaka it is mentioned under Jwaragna, arshogna, kasagna kushtagna, and prajasthapana groups. Sushruta listed it among the ingredients of amalakyadhi, parushakadhi, and Triphala groups. Vagbhata described it under the parushakadhi gana only. Chirag further highlighted its rasayana properties in the chapter abhayamalakiya in chikitsa sthana.

Kaiyadeva quated three varieties of Haritaki that is neeraja, vanaja, parvateeya.

Scientific studies

1. Chebulic fruit is found to process hypoglycemic activity when tested on glucose induced hyperglycemic rats.
2. The laxative property of terminalia chebula clinically evaluated. Symptoms other than

frequency, evacuation and consistency were improved with terminalia chebula fruit rind powder (6gms) given after meals for days.

3. Terminalia chebula fruit rind extract inhibits growth of E.coli, the most common organism responsible for urinary tract infection.
4. Antioxidant property is reported with the alcoholic extract at a dose of 10 to 20fg/ml.

Research works

Study of in-vitro antibacterial activity of extracts from the plants of terminalia chebula.E. Alba and O. Sanctum was carried out by disc diffusion technique. All showed such activity against human pathogenic gram positive and Gram Negative bacteria. The activity against Salmonella organisms was shown only by terminalia chebula against Shiggela organisms by T.chebula and E.alba, but not on O. Sanctum. The widest spectrum of antibacterial activity was shown by terminalia chebula. It was also most potent.

1. Where is extract prepared from the powdered fruits have been wide antibacterial and antifungal Spectrum.
2. The oil in the kernel increased the mortality of GIT of the mouse. The action was compatible with castor oil. the oil by itself is not irritant but releases an irritant principle when incubated with lipase.
3. LD50 of chebulin was 550 MG per KG in mice. It exhibited antispasmodic action on smooth muscle similar to that of papaverine.
4. Ether extract should hire antioxidant activity then B H A and B H T. Acid ester present in phenolic fraction of extract were found most effective.
5. Terminalia chebula fruit extracts inhibits atpase activity in the cardiac muscle of frog in a dose dependent manner.
6. The hypolipidemic action of Ethyl Acetate soluble fraction of alcoholic extract of terminalia stem in normal and trishon treated rats is reported.
7. Bala Haritaki is found to be effective in reducing the level of total lipids serum TG, serum cholesterol, LDL and VLDL significantly. On the other hand level of HDL is increased significantly.
8. The water soluble fraction of terminalia chebula Administration one hour before compound 48/80 injection inhibited compound 48/80 induced anaphylactic shock 100% with doses of 0. 01 to 1. 0 g/kg. When WFTC was administered 500 mg 10 minutes. After compound 48/80 injection, the mortality also decreased in a dose dependent Manner. The results indicated that wft CA process strong anti-anaphylactic action.

Therapeutic Uses

The fruit is the prominent herbal drug, commonly and widely used in Indian system of Medicine and is a frequent addition in a large number of formulations. It is useful in asthma, sore throat, thirst, vomiting, eye disease, heart and bladder diseases, urinary discharges, ascites, biliousness, inflammation, bleeding piles, typhoid, constipation, anemia, elephantiasis and delirium. The ripe fruit are purgative, tonic, carminative and strengthens the brain, eyes and gums. The unripe fruit is astringent and useful in dysentery and diarrhoea.

Vibhitaki[4]

Classical name - Vibhitaka

Latin name - *Terminalia bellerica* Roxb.

Family – Combretaceae

Sanskrit synonyms - Aksha, Kaliphala, Bhutavasa, Kalidruma, Karnaphala

English name - Belleric Myrobalan

Swaroopa (Habit) – large deciduous tree

Habitat - Throughout the deciduous forests of India and Burma

Rasa panchaka (Ayurvedic pharmacodynamics)

Rasa - Kashaya

Guna - Laghu, Ruksha

Virya - Ushna

Vipaka - Madhura

Prabhava - Tridoshagna

Dosha karma -Kaphahara

Parts used – Fruits.

Chemical Composition

Fruit contains 17% tannin and gallo-tannic acid (colouring matter) and resin. Seeds contain greenish yellow oil.

Internal uses[5]

Nervous system: the pulp is used in Vata disorders and insomnia.

Digestive system: useful in digestion, flatulence, excessive thirst, MCC, hemorrhoids, helminthiasis. half ripe fruit relieves constipation whereas dried fruit is useful in diarrhoea and dysentery.

Circulatory system: useful in internal bleeding. More useful in hemoptysis.

Respiratory system: by consuming the Pulp of one seed everyday, impotence is eliminated and libido is improved.

Special notes- in Rig-veda we can come across the herb vibhitaki. Its branches are used for Yajna, but prohibited for usage as toothbrush. It is claimed to be madakara (inebriant). Keshav padati and other ancient texts quoted it for the treatment of hair falling or alopecia.

Sarika mentioned it under Jwara hara and Kasahara groups of drugs. I also indicated it for Rasa, Rakta, mamsa and Medho Vikaras.

Vibhitaki is extensively used in ancient medicine and described by all the nigantu works. Folk considered as seed as poisonous. in the recent studies and edible oil is obtained from vibhitaki seeds justifying the synonym tailaphala. vagbhata describe the tincture prepared with vibhitaki which is known as Aksiki Sura.

Research works

1. Out of 93 cases of cough and asthma treated with terminalia bellerica, 22 showed complete relief, 27 were significantly relieved, while 35 cases where moderately relieved the drug exhibited bronchodilatory, antispasmodic and antiasthmatic activities
2. Ethanolic extract of terminalia bellirica bakchod 62 66% antifertility activity when administered orally at 250 mg per kg dose.
3. Most potent inhibitory activity on avian Milo blastocyst virus (AMV) -reverse transcriptase was shown by terminal billerica water and methanol extract.
4. The HIV 1 protease inhibitor activity was determined by using the fruit peel methanol extract.
5. The terminalia bellirica showed significant activity against both gram positive and Gram Negative bacteria. In addition it showed antifungal activity also.
6. A significant hepatoprotective effect was observed as evidence from shortened hexobarbitone. "**Sleep time**" and zaxoOlqmine "paralysis time" when compared with ccl4 alone. pre and post treatment with the fraction from the fruits of terminalia bellerica

reduced, Indian dose dependent manner, the elevated levels of serum transaminase and bilirubin in rats does demonstrating its effects both as a prophylactic and curative. Its protective effects on microsomal lipid peroxidation and Tags in liver suggest restorative effect in the process of ccl4 induced liver damage. "TB5 did not show any sign of toxicity up to oral doses of 3. 2 gram per kg in mices.

7. Terminalia belerica seed oil may become the Olive of the east and his family abundant in the tropical Indian subcontinent. The refresh of the fruit can be converted into fodder. the seed oil content appears very promising as a vegetable oil for edible purpose and can be originated or used for soap preparation.

Therapeutic Uses

The bark is beneficial in asthma and leucoderma. The fruit is digestible, laxative and antihelminthic and is employed for bronchitis, sore throat, biliousness, inflammation and in diseases of eye, nose, heart and urinary bladder. The oil is a good application for the hair. On the fresh cuts and wounds, the fine powder is dusted to arrest bleeding as an astringent and styptics agent. The fruit of the *Beleric myrobalan* forms an ingredient of an important group of three myrobalans (viz. embelic, beleric and chebulic myrobalans) popularly known as Triphala.

Amalaki[6]

Latin name - *Emblica officinalis*.

Family - Euphorbiaceae

Classical name - Amalaki, Dhatri

Sanskrit synonyns - Amalaki, Dhatri, Vyastha

English name - Indian gooseberry

Swaroopa (Habit) - A medium sized tree

Habitat - Found throughout India; often planted in gardens and cultivated also in small and large scale

Rasa panchaka (Ayurvedic pharmacodynamics)

Rasa- madhura, katu, thikta, kashaya and predominantly amla

Guna - Laghu, Ruksha, Sita

Virya - Sita

Vipaka - Madhura

Prabhava - Rasayan

Dosha karma - Tridoshhara, Pittasamaka (mainly)

Parts used – Fruits

Chemical Composition

Root- ellagic acid, lupeol, oleanolic aldehyde.

Bark- luecodelphinidin, procyanadine, tannin etc.

Fruit- vit. C, phyllembelin, linoleic, indole a cetic acid and ayxubsm trigaloylglucose, terchebin, corilagin ellagi acid, phyllemblic acid and salts.

Therapeutic Uses

Fruits are the most useful part of the plant and are used medicinally in various diseases adopting different forms. Fruits are used for supplementing Vitamin C and other contents also. It is one of the most popular, common and highly reputed drugs of indigenous system of medicine. It is used in anemia, hyperacidity, peptic ulcer, dyspepsia, anorexia, diarrhoea, dysentery, hemorrhage, eye inflammations, irritability of bladder, leucorrhoea, spermatorrhoea, epitaxis', menorrhagia, jaundice, weak memory condition, nervine debility, oedema and liver condition. The juice of fresh fruit is given as tonic, refrigerant and antiscorbutic, diuretic, laxative and anti- bilious remedy.

Internal uses[7]

Nervous system: strengthens bone marrow, incipient blindness and any weakness of sense organs.

Digestive system: it acts in loss of taste, loss of appetite, anorexia, constipation, liver disorders, acid peptic diseases, eructations, ascites and piles through its properties of digestion, lactation and rasayan. Its juice is given in hematemesis and epistaxis. Best of Chandan + amalaki is best in pittaja chardhi. Leaf juice useful in hemorrhagic dysentery.

Circulatory system: useful in heart diseases, hemorrhagic diseases. Louhq bhasma + amalaki Kalka is best in anemia.

Respiratory system: Used in diseases like cough, asthma, tuberculosis etc. Being a rejuvenating agent. Amalaki is a good brain tonic. It improves memory and pacifies vitiated sadhak Pitta.

Reproductive system: it is useful in spermatozoa, menorrhagia, uterine debility.

Urinary system: fresh Amla juice is used in dysuria and pittaja prameha. Bark and leaves are also useful.

Skin: useful in skin diseases (manibhadrayog) and erysipelas, it is given internally for long period.

Research works

1. **Antidiabetic property and hypoglycemic activity** - emblica fruit powder reduced blood sugar level in normal rabbits as well as in hyperglycemic rabbits proving the hypoglycemic activity.
2. **Anti peptic ulcer activity**- 30 cases of ulcer and non ulcer dyspepsia showed equal improvement in subjective and objective parameters with conventional antacids and emblica fruits.
3. **Hypolipidemic and anti atherosclerotic activity-** five groups of rabbits their studied for 16 weeks to determine the effect of emblica fruit and Vitamin C and cholesterol induced hypercholesterolemia and atherosclerosis. Both reduced the serum cholesterol.
4. **Antimicrobial activity-** emblica fruit found to have very important antibacterial activity. isolation of antimicrobial substance phyllemblin from the stem callus is reported.
5. **Antiemetic activity-** the crude alcoholic extract of emblica fruits administered orally was found effective in controlling centrally induced emesis by apomorphine in dogs.
6. **Anti inflammatory activity-** the water fraction of methanol extract of leaves was effective in rat paw inflammation.
7. **Antioxidant activity-** the long lived belief that therapeutic effects of Amla is due to its rich Vitamin C (L ascorbic acid) content has this been dispelled. The patent Vitamin C like activity (antioxidative effective against reactive O2 species, Ros) ab Amla fruit has now been located in low Mr(mol.wt. less than 1000) hydrolysable tannins. Forces compounds, emblicanin -A(1), emblicanin B (2), puniglucomin and pendukulagin, have been isolated from the fruit pericarp.
8. **Hepatoprotective activity-**drive powdered Pulp of fruits (1.0g/kg) reduced the levels of serum protein and hepatic cholesterol significantly in rabbits.
9. **Rasayana activity-** amalaki rasayana is said to have growth promoting effect (growth and longivity). the drug has no significant effect on the level of serum protein fraction, yet it raises the total protein level and increases the body weight. The study also indicates that the increase in body weight is due to a positive nitrogen balance.

10. **CNS activity-** Phyllembilin (ethyl gallate), has been found to potentiate some of the pharmacological actions of adrenaline in vitro and in Vivo. besides it shows your mind depressant action on CNS and has spasmolytic activity. Phyllembilin antagonised the spasmo genic effect of acetyl choline, bradykenin, and serotonin on the Guinea-Bissau pig ileum.

Formulation- Chyavanaprash, Brahmarasayan, Dhatriloha, Amrutprash, Amalaki Rasayan, chanda Amalaki Charan (best in vomiting due to activity).

Actions as per chemical constituents of Triphala

Anthraquinones

A number of plant purgatives contain anthraquinone glucosides also called emodins. The glyco sites are not active as such. An observed in the small intestine they are possible to the colon where bacteria liberate the active anthrol form, which either act locally or is observed into circulation- excreted in bile to act on small intestine. Does they take 6to7 hours to produce action. amount secreted in milk is sufficient to cause purgation in the suckling Infant. The purgative action and uses of anthraquinones are quite similar to diphenylmethane. Tekken 8 bit in a single, soft but formed evacuation generally occurs in the morning. Cramps and excessive Parging occur in some cases. The active principle is believed to act on their myentric plexus to increase peristalsis and decrease segmentation. They also in a bit salt and water absorption in the colon.

Regular use for 4 to 12 months courses Colonic atony and mucosal pigmentation (melanosis).

Tannins and tannic acid

Tannic acid is present in many plants. They denature proteins forming protein tanate. Uses are, bleeding gums- glycerine of tannic acid

Bleeding piles- as tannic acid suppository

Alkaloidal poisoning- precipitates in digested alkaloids as tannates.

As phytomedicine

Mixed types of response were observed with different preparations of Triphala both on bowel movement and wellbeing. It has been observed that the amount, frequency and

consistency of stool in triphala treated groups have improved significantly, when compared with the normal group. From this study it is clear that the mucous of stool and flatulence in group II, III and IV has also improved significantly, compared to the normal group, in case of other parameters no significant changes were observed. No toxicity or adverse drug reactions (ADRs) were observed in the patients and hence triphala was found to be safe and effective during the clinical trials.

CONCLUSION

In Ayurveda Triphala plays a very important role as a medicine, anupana (catalyst to increase the potency and action of the medicine) and is also used in the shodhana (purification) ie.in the purification process of the metals and minerals like Abhraka etc. and it plays a very good role in the treatment and in maintaining the health by its anti-bacterial and anti-inflammatory properties, immunomodulary effect, anti-emitic effect and it exhibits systemic effects also.

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