

A Critical Review of *Phalatrikadi Ghan Vati*

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ABSTRACT

Phalatrikadi Ghan Vati contains eight Ayurvedic drugs i.e. *Amrita* (*Tinospora cordifolia*), *Vasa* (*Adhatoda vasica*), *Nimba* (*Azadirachta indica*), *Kirattikta* (*Swertia chirata*), *Katuki* (*Picrorhiza kurroa*), *Haritaki* (*Terminalia chebula*), *Vibhitaki* (*Terminalia bellerica*), *Amalki* (*Emblica officinalis*) as mentioned in *Sharangdhara samhita*. *Phalatrikadi Ghan Vati* has properties of *Tikta* (bitter), *Kashaya Rasa* (astringent), *Laghu* (easily digestible), *Ruksha Guna* (non-unctuousness), *Shita Virya* (cold) and *Katu Vipaka* (pungent). This formulation has been mentioned in the context of *Pandu* (Anaemia) and *Kamala* (Jaundice), in *Chakradatta*, *Yoga Ratanakara*, *Sharangadhara Samhita* and *Vrinda Madhava*. The drug has several properties as anti-viral, anti-bacterial, immunomodulatory, hepato protective due to its various components. These properties make it an effective drug for various general and liver diseases.

Key words: *Amrita*, *Ghan Vati*, Jaundice, *Kamala*, *Katuki*, *Nimba*, *Phalatrikadi*, *Vibhitaki*

INTRODUCTION

In *Ayurveda*, several drugs and their formulations have been mentioned for *Kamala roga chikitsa*. *Phalatrikadi Ghan vati* is one of the important formulations. *Phalatrikadi kwath* was mentioned in the “*Sharngadhar Samhita*” *Madhyam khand*.^[1] This formulation also has been mentioned in the context of *Pandu* (Anaemia) and *Kamala* (Jaundice), in *Cakradatta*, *Yoga Ratanakara* and *Vrinda Madhava*. *Ghan vati* is prepared from *Kwath* as mentioned in the Ayurvedic Formulary of India (AFI). *Phalatrikadi Ghan vati* has *Kapha-Pitta Shamak* property and *Tridoshahara*. *Tikta Rasa* and *Katu Vipaka* exert *Amapachana*, *Lekhana* (scrapping), and *Srotosodhaka* (cleaning of channels), *Rakta Sodhaka* (blood purifier) actions and enhance the faster detoxification of the vitiated *Rakta* and *Mamsa dhatus* by the aggravated *Sama Pitta* and promote its elimination. The *Shita Virya* of the drugs alleviates the *Daha* or inflammatory *guna of Pitta*. By virtue of *Bhedhana*, *Rechana* (purgative) and *Anulomona* (carminative) properties, *Phalatrikadi Ghan Vati* enhances and increases the stool volume by secreting water and decreasing the transit time for reabsorption of bile salts, increases the intestinal contractions and bile is excreted through stools. The drug has anti-viral, anti-bacterial, immunomodulatory,

hepato protective, anti-oxidant properties, due to its various components. These properties make it an effective drug for various liver diseases. This article focuses on brief knowledge on *Phalatrikadi Ghan Vati* with elaborate discussion on its various components.

Aim of study

1. To explore the different components of *Phalatrikadi Ghan Vati*.
2. To discuss mode of action of *Phalatrikadi Ghan vati*.
3. To elaborate different clinical uses of *Phalatrikadi Ghan Vati*.

MATERIALS AND METHODS

Different *Ayurvedic Samhitas*, researches and websites have been extensively referred to in preparation of this manuscript.

DISCUSSION

Phalatrikadi Ghan Vati contains eight Ayurvedic drugs i.e. *Amrita*, *Vasa*, *Nimba*, *Kirattikta*, *Katuki*, *Haritaki*, *Vibhitaki*, *Amalki* as mentioned in *Sharangdhara Samhita*.^[1] Each of these are being described from the *Ayurvedic* and modern point of view so as to elucidate their role in this formulation.

Amrita

Botanical Name: *Tinospora cordifolia*

Family: *Menispermaceae*

Common names: *Tinospora*, Heart leaved moonseed, *Guduchi* and *Giloy*.

Parts Used: Root and stem

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Doses:

Kwatha: 50-100 ml.

Churna: 3-6 gm.

Swarasa: 10-20 ml.

Sattwa: 10-50 gm

Pharmacological properties according to Ayurveda:

Rasa : Tikta, Kashaya

Guna : Laghu

Virya : Ushna

Vipaka : Madhura

Karma: Balya, Deepana, Rasayana, Sangrahi,

Tridoshashamaka, Raktashodhaka, Jvaraghna

Pharmacological action and therapeutic uses of Guduchi:

1. Immunomodulatory activities: It contains large variety of compounds which are responsible for immunomodulatory and cytotoxic effects are 11- hydroxymuskatone, N-methyle-2-pyrrolidone, N-formylannonain, cordifolioside A, magnoflorine, tinocordioside and syringing. These natural compounds have been reported to improve the phagocytic activity of macrophages.
2. Anti-toxic activities: Alkaloids such as choline, tinosporine, isocolumbin, palmetine, tetrahydropalmatine and magnoflorine show protection against aflatoxin induced nephrotoxicity.
3. Anti-HIV activities: Root extract of this plant has been shown a decrease in the regular resistance against HIV.
4. Anti-Cancer activities: Root extract has been shown to have a radioprotective role due to extensively increase in body weight, tissue weight, tubular diameter.^[2,3]
5. Anti-Microbial activities
6. Anti-Oxidant activities: Methanolic extract of stem as been reported to anti-oxidant activity.
7. Hepatoprotective activities: Whole plant of *T.cordifolia* has hepatoprotective and immunomodulatory properties.^[4]

Neem

Botanical Name:^[5] *Azadirachta indica*

Family: *Meliaceae*

Common names: Margosa Tree

Parts used: Flowers, leaves, barks, seed and oil

Doses:

Bark powder: 4-10 gm,

Fresh juice: 15-30 ml,

Seed oil: 5-10 drops

Pharmacological properties according to Ayurveda:

Rasa : Tikta

Guna : Laghu, Ruksha

Virya : Shita

Vipaka : Katu

Dosha Karma : Kaphapitta Shamak, Jvara, Krimiroga, Kustha,

Netraroga, Prameha, Vrana, Amashotha, Visharoga

Pharmacological action and therapeutic uses of Nimba:

Flower is used to treat bile disorder, the bark used to prevent or treat CNS and paralysis disorder and the leaves used to treat ulcer.

1. Hepatoprotective action
2. Analgesic effect- Neem seed oil produces a better analgesic effect than morphine with 45 minute of interval.^[6]
3. Antipyretic effects- Methanol extract of *Neem* leaves shows antipyretic effect when administrated orally in rabbit and rats^[7].
4. Antifungal effects- The ethanolic extract of *A.indica* leaves is more effective against *Rhizopus* and *Aspergillus*. Aqueous and ethanolic extract of neem leaves were found effective against *Candida albicans*.^[8]
5. Anti-bacterial and anti-viral
6. Contraceptive- The addition of sodium nimbidinate salt in aqueous form to semen of rat and human results in death of sperm in different percentage.^[9]
7. Antihyperglycemic agent

Katuki

Botanical Name:^[10] *Picrorhiza kurroa royle ex benth,*

Family: *Scrophulariaceae*

Part used: Dried rhizome with root

Doses:

Churna: 500 mg to 1 gm (bitter tonic), 3 to 6 gm (laxative purpose).

Pharmacological Properties according to Ayurveda:

Rasa : Tikta

Guna: Ruksha, Laghu

Veerya: Sheeta

Vipaaka: Katu

Karma: Kapha Pitta hara

Pharmacological actions and therapeutic uses of Katuki

Picrorhiza kurroa is a powerful *Ayurvedic* herb used in treating mainly chronic fever, skin disorders and diabetes. It is also used in purgation (*Virechana*) procedure.

1. Anti-asthmatic activity: The crude extract of *P.kurroa* roots reduced the frequency and severity of asthmatic attacks and the need for regular bronchodilators^[11].
2. Digestive activity: constipation
3. Anti-diabetic activity: Extract of *Picrorhiza* was found to lower blood glucose in the cases of Diabetes Mellitus. Extract of *Picrorhiza scrophulariiflora* improves diabetic nephropathy through inhibition of redox sensitive inflammation^[12].
4. Immunomodulatory activity
5. Anti-arthritis activity
6. Anti-inflammatory activity

Vibhitaki

Botanical Name:^[13] *Terminalia bellerica*

Family: *Combretaceae*

Useful part: Fruit and bark

Gana:

Charaka- Jwarahara, Virechanopaga

Sushruta- Triphala, Mustadi

Pharmacological properties according to Ayurveda:

Rasa : Kashaya

Guna : Ruksha, Laghu

Veerya: Ushna

Vipaka: Madhura

Chemical composition: [14] Tannin, Citosterol, Gallic acid, Chebulagic acid, Mannitol, Glucose, Ethyl glycate, Eolegic acid, Galactose, Fructose and Rhamanose.

Main actions: *Bedhanam, Deepanam* (appetizers), *Anulomana, Vedanastapan* (pain killer), *Raktastamban* (haemostatic), *Chakshushya, Dhaturvardhak*.

Main Indication: *Agnimandhya, Jwara* (fever), *Shotha* (edema), *Pleeharoga* (splenomegaly), *Kasa* (cough), *Swasa* (dysnoea), *Krimi* (anti-helmenthic), *Trishna* (thirst), *Chardi* (vomiting).

Pharmacological actions and therapeutic uses of Vibhitaki

1. Hypoglycemic and hypolipidemic Effect: *Terminalia bellirica* is extensively used in ayurvedic medicine in India and neighbouring countries and the fruit of this plant has been reported to have hypoglycemic, improves insulin resistance in diabetic patients. [15]
2. Hepato-protective
3. Antipyretic and analgesic
4. Antiviral, antifungal, antimalarial: A bioactivity-guided fractionation of an extract of *Terminalia bellerica* fruit rind led to the isolation of two new lignans named termilignan (1) and thannilignan (2), together with 7-hydroxy-3',4'- (methylenedioxy)flavan (3) and anolignan B (4). All four compounds possessed demonstrable anti-HIV-1, antimalarial, and antifungal activity in vitro. [16]

Vasa

Botanical Name: [5] *Adhatoda vasica*

Family: *Acanthaceae*

Pharmacological Properties as per Ayurveda:

Rasa : Tikta Kashaya

Guna: Laghu, Ruksha

Virya : Shita

Vipaka : Katu

Karma : Kaphapittahara, Raktapittaghna,

Therapeutic uses in Ayurveda:

Vasa is used in *Shwasa, Kasa, Jwara, Chhardi, Prameha* (diabetes), *Kushtha* (skin disorders), *Kshaya, Pandu, Kamala, Raktapitta, Arsha* (haemorrhoids), *Krimi, Swarabhanga* (sore throat) and *Medoroga* (obesity).

1. Anti-tubercular- Vasicine produces bromhexine and ambroxol – two widely-used mucolytics, which has inhibitory effect on *Mycobacterium tuberculosis*. [17]

2. Anti-bacterial activity- *Adhatoda*'s alkaloids have a strong activity against the bacteria *Pseudomonas aeruginosa*, *Streptococcus faecalis*, *Staphylococcus aureus*, *Staph epidermidis* and the gram-negative *E. coli*. [18]
3. Hepatoprotective Activity- *Adhatoda vasica Linn.* also has hepatoprotective effect. [19]
4. Anti-allergy activity- Vasicinone is a potent anti-allergic agent.
5. Cholagogue
6. Anti-asthmatic and bronchodilator activity

Kiratikta

Botanical Name: [5] *Swertia chirata Buch.Ham*

Family: *Gentianaceae*

Common names: Chiretta

Pharmacological properties according to Ayurveda:

Rasa : Tikta

Guna : Laghu, Ruksha

Virya : Shita

Vipaka : Katu

Karma : Jvaraghna, Kaphapittahara, Raktasodhaka,

Vranashodhana, Saraka, Trishnapaha

Pharmacological actions and therapeutic uses of Kiratikta:

1. **Anti hepatotoxic activity:** The methanol extract of *Swertia chirata* was evaluated for anti-hepatotoxic activity against carbon tetrachloride induced hepatotoxicity in rats. [20]
2. **Anti Hepatitis B activity:** Anti-hepatitis B virus activity of *S. chirayita* extracts was also studied on Hep G 2.2.15 cells line. Recently, *S. chirayita* extracts showed anti-hepatitis B virus (anti-HBV) activities. Traditionally, decoctions of this species are used for, hepatoprotective, antidiarrheal. [21]

Amalaki

Botanical Name: *Emblica officinalis*

Family Name: *Euphorbiaceae*

Chemical composition:

Primarily contains tannins, alkaloids, phenolic compounds, amino acids and carbohydrates. Its fruit juice contains the highest vitamin C (478.56 mg/100 ml).

Part used: Fruit

Doses:

Churna: 3-6 gm,

Swarasa: 10-20 ml

Clinical use:

Mutraavarodha, Netraroga, Khalitya, Palitya, Aruchi, Vibandha, Agnimandya, Amlapitta, Kasa, Shwasa, Prameha, Shoth, Kushta, Visarp, Raktapitta, Hridroga, Rajayakshama.

Pharmacological actions and therapeutic uses of Amalaki:

1. Antioxidant
2. Hepatoprotective: The hepatoprotective property of a 50% hydroalcoholic extract of the fruits of *E. officinalis* (fruit) (EO-50) against anti-tuberculosis drugs-induced hepatic injury. The

hepatoprotective activity of EO-50 was found to be due to its membrane stabilizing, antioxidative and Cytochrome (CYP) 2E1 inhibitory effects.

3. Antiinflammatory, Antipyretic, Antimicrobial
4. Gastroprotective: *Amla* extract possesses antisecretory, antiulcer, and cytoprotective properties.

Haritaki

Botanical Name: *Terminalia chebula*

Family Name: *Combretaceae*

Parts Used: Fruit

Clinical uses: *Prameha, Kustha, Vrana, Chhardi, Vatarakta, Mutrakrichha, Netra Roga, Krimi, Asmari, Klaibya, Kasa, Svasa.*

Doses:

As *Rasayana*: 1gm

Churna-3-6 gm for *Shodhana*

Pharmacological actions and therapeutic uses of Haritaki

Fruits are astringent, anti-inflammatory, alterant, stomachic, laxative, purgative, digestive, cardiogenic, antiseptic, diuretic and tonic. It is useful in vitiated conditions of *tridosha*, wounds, ulcers, inflammations, neuropathy and general debility. A decoction of fruit is good astringent wash. *T. chebula* is also used for the treatment of and hyperglycemia and associated hyperlipidemia.^[22]

CONCLUSION

Phalatrikadi ghan vati possess chologogue, cholecretic and laxative, purgative and immunomodulatory properties. Choleric and cholegogue action is more potent with *Katuki* (*Picrorhiza kurroa*). *Katuki* has also been reported of having anti-hepatitis B antigen activity.

Guduchi (*Tinospora cordifolia*) is well established as an immunomodulator, so it is useful in improving the immunity against various infections. *Kiratikta* is used mainly as hepatoprotective and hepatostimulative agent. *Guduchi* and *Katuki* which were also cited in old researches as hepato-cellular regenerative, capacity to suppress the Kupffer cells, membrane stabilizing and antioxidant effect. This antioxidant effect is may be due to action of *Amalaki, Vibhitaki, Haritaki and Nimba*.

So, *Phalatrikadi ghan vati* is an excellent drug with various properties which can be used in several diseases, mainly in liver disorders.

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