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A Critical Review of *Phalatrikadi Ghana Vati* in the Management of *Kamala w.s.r to (Jaundice)*

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ABSTRACT:

In Ayurvedic Classics a number of single drugs and formulations have been mentioned for treatment of liver disorders. *Phalatrikadi Ghana vati* is one of the important and prestigious formulation, which is successfully used from the ancient period. AIM: The main aim of this review study to know the pharmacological action of this formula on the level of *dosha* (physiological entity of our body), *bhutagni* as we know that liver is the main seat of the *bhutagni* and positive role of *Phalatrikadi ghana vati* in treatment or avoiding harmful effects of so many agents as drugs, chemicals, toxins and alcohol. Due to the properties like - *Pitta, Kapha-shamaka, Yakriduttejaka, Shothahara, Pandurogahar, Rechan, Deepan etc. Ghana vati* of *Triphala (Hareetaki, Vibheetaki and Amalaki), Amrita, Nimba, Tikta (Katuki), Vasa, and Kiratattikta (Bhunimb)* taken with honey or warm water pacify the *koshthashrit kamala and shakhashrita kamala*. Jaundice is a common disorder. The clinical features of jaundice go hand in hand with that of kamala. *Phalatrikadi Ghana vati*, is being utilized for the management of kamala from ancient time.

Keywords: *Phalatrikadi Ghana vati, koshtashrit kamala, bhutwagni, tikta ras, cirrhosis and dosha.*

INTRODUCTION

Drug is a part of *Chatuspada* of the treatment, which has been placed next to the physician according to *Acharya Vagbhata*. The comprehensive knowledge of the drug is very important to the physician because without the knowledge of the drug the patients cannot be treated properly. *Ayurvedic* literatures has been explained the actions of Drugs on the basis of theory of *Rasa, Guna, Virya, Vipaka and Prabhava*. It is an accepted fact that success of treatment depends upon the drug and its administration. It is an art based on science and technology,

which is the gift to mankind *Phalatrikadi Ghana vati*, this formulation had been mentioned in the context of *Pandu* and *Kamala* in *Chakradatta* (8/8), *Sharangdhar Samhita* (2/75), *Yoga Ratnakar* (5th sloka) *pandu rog* and *Bhaisajya Ratnavali* (12/22).

Phalatrikadi Ghana vati contains eight drugs which are predominately useful in the treatment of *koshthashrit kamala / Hepatocellular jaundice, Cirrhosis, Alcoholic hepatitis, Fatty liver* and more likewise condition of liver. First described in *Chakradutta* written by *Chakrapanidutta*



in 11th century and later on many texts, is the most popular and effective preparation contains the eight herbs namely *Hareetiki, Vibhitiki, Amalki, Amrita, Katuki, Nimba, Kirattika and Vasa*. In the present review study I had tried to understand and explain the properties, mode of action on dosa (physiological entities of human body), mechanism of action on modern medicine parameters and research works conducted in different universities. The description of each herbs explained on all the above parameters.

AIM AND OBJECTIVE OF STUDY

1. To co-relate *Jaundice* with *Kamala* according to *doshic* involvement and critical evaluation of the disease through various examination methods like *Trividha, Sadvidha* and *Dasabidha pariksha*.
2. To find out the effective treatment of *kamala* in Ayurveda.
3. To evaluate the effect of *Phalatrikadi Ghana And Vasadi Ghana Vati on Kamla (JAUNDICE)*.

Study design & grouping

a) Method of collection of patients

The total 30 patients of *Kamala* (Jaundice) were taken for the present study. 15 patients each in Group-A (Trial Group-1) and Group-B (Trial Group-2). They were screened by a special proforma which included details history taking, physical sign and symptoms and pathological investigation mentioned in classics and modern science. The patient examination proforma is placed in the appendix of this dissertation.

b) METHODOLOGY: - Clinico-Pathological Study (Single blind Study).

Group-A (Trial Group-1): 15 patients were treated with *PHALATRIKADI GHANA VATI* 500mg thrice daily with honey for 15 days in empty stomach.

Group-B (Trial Group-2): 15 patients were treated with *VASADI GHANA VATI* 500mg thrice daily with honey for 30 days in empty stomach.

Duration-30 days

Double Group Design Table 2

Dose And Administration Procedure

Dose of *Phalatrikadi Ghana Vati*:- 2 tab (500mg) thrice daily for 15 days,

Children-Half of the adult dose.

Anupana:- Madhu

Dose of *Vasadi Ghana Vati* :- 2 tab (500mg) thrice daily for 15 days.

Children-Half of the adult dose.

Anupana:-Madhu

Dietic Regimen

Ahara - Take normal oil and fat free diet, avoid spicy food and non-vegetarian items

Vihara – Exercise and Yoga

Detail Review On *Phalatrikadi Ghanavati*

Table No- 03: Ingredients of *Phalatrikadi Ghanavati*

Method of Preparation –

All the above drugs were taken in 1 part each and made them into *Yavakuta* form. After *Yavakuta*, *Kwatha* had been prepared. The *Kwatha* had been converted to *Ghanavati* and 500 mg tablet was made for easy medication.

Selection of *Anupana – Madhu*

Anupana is the vehicle which helps the absorption, assimilation and to increase the efficiency of drug. *Madhu* is also having *Deepana, Rochana, Shrotovishodhana, Yogavahi, Lekhana gunas* which may help in *Samprapti vighatana in Panduroga*.

VASA ¹

Latin name – *Adhatoda vasica Nees*

Family - *Acanthaceae*

Rasa Panchaka

Rasa - Tikta, Kasaya, Guna - Rukshya, Laghu, Veerya – Sheeta, Vipaka –Katu, Doshakarmata - Kaphapittasamaka

Parts used – Leaves, Root, Flower

Chemical constituents:- Vasicine, Vasicinone, B-Sitosterol, Kaempferol, 1Peganine, Adhatodine, Vasicolinine.

Actions²:- *Swasahara, Kasahara, Swarya, Hrudyta, Raktapittahara, Tushnasamaka, Jwaraghna, Chardighna, Medohara, Kusthaghna, Ruchya, Varnya.*

Therapeutic indications³:- *Jwara, Raktapitta, Swasa, Kasa, Swarabheda, Hrudroga, Chardi, Prameha, Kustha, Aruchi, Kamala, Vaivarnya, Trushna.*

Pharmacological actions:- Bronchodilator, Expectorant, Abortifacient. It also has antitussive property. A leaf extract was investigated for antibacterial activity against

Gram +ve bacteria. Adhatoda's alkaloid, vasicino I, to have an antifertility effect against several insect species by causing blockage of the oviduct.

Pharmacological studies

1. Leaves shoots in liver enlargement (Nagarjun, 1980-81).
2. Leaves used in fever and jaundice (Bull Bot Soc Bengal, 1972).
3. Leaves and roots have a hypoglycemic and antiviral against Ranikhet disease virus (Indian J. Exp. Biol., 1968). Antibacterial effect (with India IA'79)

GUDUCHI⁴

Latin name – *Tinospora cordifolia* (Wild) Miers ex Hook. F. & Thoms.

Family - Menispermaceae

Rasa Panchaka⁵ *Rasa* - Tikta, *Kasaya*, *Guna* - Guru, *Snigdha*, *Veerya* – *Usna*, *Vipaka* -*Madhura*, *Doshakarmata* - *Tridoshasamaka*

Parts used – Stem

Chemical constituents : - Tinosporide, cordifolide, unosporin, tinosporon, tinosporic acid, cordifol, hepatocosanol β -sitosterol and tinosporidine.

Actions⁸:- *Rasayana*, *Jwarahara*, *Sangrahi*, *Deepana*, *Amahara*, *Trushnahara*, *Dahahara*, *Pramehaghna*, *Kasahara*, *Kusthaghna*, *Balya*, *Krimighna*, *Chardighna*, *Arshaghna*, *Medhya*, *Hrudya*, *Chakshusya*, *Vayastapana*.

Therapeutic indications: - *Jwara*, *Vatarakta*, *Amlapitta*, *Prameha*, *Trushna*.

Pharmacological actions: - Antipyretic, Diuretic, Alterative

Pharmacological studies

1. Antioxidant activity of *Tinospora cordifolia* roots in experimental diabetes. (Prince PS et al., Department of Biochemistry, Annamalai University, Tamil Nadu; J Ethnopharmacol, 1999 June; 65 (3).
2. Adaptogenic properties of six Rasayana herbs (Including *T. cardifolia*) used in Ayurvedic medicine (It may induce genotypic adaptation). Rege NN et al., Ayurveda Research Centre, Department of Pharmacology and Therapeutics, Seth GS Medical College, Mumbai, 1999).
3. Immunotherapy with *Tinospora cordifolia* : a new lead in the management of obstructive jaundice. R Rege N et al., Gastroenterol, 1993 Jan; 12 (1).
4. Antioxidant activity of *Tinospora cordifolia* and its usefulness in the amelioration of cyclophosphamide induced toxicity. Mathew S et al., Amala Cancer Research Centre, Amla Nagar, Thrissur, Kerala, 1997.
5. Immuno-potentiating compounds from *T. cordifolia*

(with anti-complimentary an 102ypogl-modulatory activities). Kapil A et al., Pharmacology Division, Regional Research Laboratory, Jammu, 1997.

KATUKI⁶

Latin name – *Picrorhiza kurroa* Royle ex Benth.

Family – Scrophulariaceae

Rasa Panchaka⁷

Rasa – *Katu*, *Guna* - *Rukshya*, *Laghu*, *Veerya* – *Sheeta*, *Vipaka* – *Katu*, *Doshakarmata*-*Kaphapitta samaka*.

Parts used – Rhizome

Chemical constituents: - Iridoid bitter substances, Picroside I, Picroside-II, Kutkoside, Kutkin, Picrorhizin are present in rhizome. Root contains Kutkin, Kurrin, Vanillic Acid, Kutkiol, Kutkistrol, D-Mannitol, Picroside I, Picroside II Kutkoside.

Actions¹¹: - *Bhedana*, *Deepana*, *Hrudya*, *Jwarghna*, *Pramehahara*, *Swasahara*, *Kasahara*, *Dahahara*, *Kusthghna*, *Krimighna*, *Visamajwaraghna*, *Arsaghna*.

Therapeutic indications: - *Kamala*, *Yakrut Vikara*, *Vibandha*, *Hrudroga*, *Agnimandya*, *Jwara*, *Visamajwaraghna*, *Prameha*, *Swasa*, *Kasa*, *Daha*, *Kustha*, *Krimi*, *Arsa*, *Raktavikara*.

Pharmacological actions: - Liver stimulant, Cholagogue, Purgative, Anthelmintic, Expectorant.

Pharmacological studies: *Katuki* contains *Kutkin* the bitter active principle. Experimental studies confirm the known efficacy of *Kutkin* in viral hepatitis as well as in hepatic abnormalities caused by alcohol or other hepatotoxic agents.

1. Effect of different extracts of *Kutki* on experimentally induced abnormalities in the liver. (Pandey V.N. et al., Indian J. Med Res., 1969, March: 57/3).
2. *Picroliv* protects against alcohol induced chronic hepatotoxicity in rats. (Rastogi R et al., Planta Med., 1996, June: 62/6, Biochemistry Division, C.D.R.I., Lucknow, India)
3. *Picroliv*, the iridoid glycoside fraction of *Picrorhiza kurroa*, selectively augments human J cell response to mycobacterial protein antigens. Sinha S et al., Immuno. Pharmacol. Immunotoxicol, 1998, Nov.: 20(4).
4. Prevention of Paracetamol induced hepatic damage in Rats by *Picroliv*- the standardized traction from *Picrorhiza kurroa* (Dwivedi Y et al., Phytoether Res., 1991, 5-115).
5. A review of Plants used (*Picrorhiza kurroa*, *Silybum marianum*) in the treatment of liver disease: Par One. (South West College of Naturopathic Medicine: 2140 East Broad Way Rd. Tempe, Az 85282, USA, Altern. Med. Rev., 1998, Dec: 3(6).

6. Picroliv Protects against alfatoxin □1 acute hepato toxicity in rats. (Dwivedi and Rastogi *et al.*, Department of Pathology, King George's Medical College, Lucknow, India; Pharmacol. Res. 1993, Feb-Mar: 27(2).

NIMBA⁸

Latin name – *Azadirachta indica* A Juss.

Family - Meliaceae

Rasa Panchaka⁹

Rasa - Tikta, *Kasaya*, *Guna* - Laghu, *Rukshya*, *Veerya* – Sheeta, *Vipaka* – Katu, *Doshakarmata* - Pittakaphasamaka

Parts used – Leaf, Bark, Seed, Fruit, Flower, Resin

Chemical constituents: -

Leaves contain Nimbin, Nimbinene, Nimbandiol, Nimbolide, Quercitin, B-Sitosterol, Azadirone and Azadirachtin. Bark has Nimbin, Nimbinin, Nimbidin, Azadirachtin, Chlorogenic acid, Salanin and 4- Epinimbin. Flower possess Nimbosterol, Myritin and Kaempferol. Fruits yielded Gedunin, Azadiradione, Azadirone and Deacetyl Azadirachtinol.

Actions: -

Leaf- *Krimighna*, *Visaghna*, *Kusthaghna*, *Vranaghna*, *Netrya*, *Kasahara*, *Swasahara*. Bark- *Kusthaghna*, *Krimighna*, *Sramahara*, *Trushanhara*, *Jwaraghna*, *Chardighna*, *Kandughna*, *Pramehaghna*, *Ruchikara*, *Sothahara*, *Raktasodhaka*. Fruit- *Kusthaghna*, *Arsaghna*, *Krimighna*, *Bhedana*, *Mehahara*, *Gulmanasaka*. Flower- *Krimighna*, *Visaghna*. Seed- *Kusthaghna*, *Krimighna*

Therapeutic indications: -

Leaf- *Kustha*, *Krimi*, *Netra Roga*, *Aruchi*, *Kasa*, *Swasa*, *Vrana*, *Visaroga*. Bark- *Kustha*, *Krimi*, *Kandu*, *Prameha*, *Aruchi*, *Raktadusti*, *Trushna*, *Srama*, *Chardi*, *Sotha*. Fruit- *Kustha*, *Arsa*, *Krimi*, *Prameha*, *Gulma*. Flower- *Krimi*, *Visa*. Seed- *Krimi*, *Kustha*

Pharmacological actions: -

Leaf- Insect repellent, Blood purifier, Antidiabetic. Bark- Antiviral and Antibacterial. Flower- Insecticidal. Seed- Antiviral.

Pharmacological Studies

1. Effect of an aqueous extract of *Azadirachta indica* on the immune response on mice. Nijro SM *et al*, Department of Veterinary Pathology and Microbiology, University of Nairobi, Kebeta, Kenya and Erstepoort, J. Vet. Res. 1999, Mar. 66 (10).

2. Immunopotentiating effects of *Azadirachta indica*, dry leaves – powder in broilers, naturally infected with IBD (Infectious bursal disease) virus. Sadekar RD *et al*, Department of Pharmacology and Medicine, Dr. Panjabrao

Deshmukh Krishi Vidyapeeth, Akola, 1998.

3. Possible biochemical mode of anti-inflammatory action of *A. Indica* in Rats. Chattopadhyay RR, Biometry Research Unit, Indian Statistical Institute, Calcutta, 1998.

4. Antibacterial activity of East African Medicinal Plants (*A. Indica*). Fabry W *et al*, Institute fur Medizinische Mikrobiologie, Germany, 1998.

5. Antiviral effect of leaves (*A. Indica*). Indian J. Med. Res., 1969.

6. Various plant parts used in inflammation and fever (Econ. Bot., 1970).

7. Nimbidin, form Neem oil – effective in acute and chronic inflammations (Pant Med., 1981).

8. Nimbidin acts as a analgesic and antipyretic in rats (Bull Med. Ethno. Bot. Res. 1980).

9. Possible mechanism of hepatoprotective activity of *A. Indica* leaf extract (Pub. Med. J. Ethon. Ph., 2003).

BHUNIMBA¹⁰

Latin name – *Andrographis paniculata* Nees.

Family - Acanthaceae

Rasa Panchaka¹¹

Rasa – Tikta, *Guna* - Laghu, *Rukshya*, *Veerya* – Ushna, *Vipaka* – Katu, *Doshakarmata* - Pittakaphasamaka

Parts used – Whole plant

Chemical constituents: -

Whole plant contains lactones – andrographolide, oxo andrographolide, deoxy didehydro –and rographolide, meandrographolide, iridoid glucoside, and hydroxyl – tetraanchoxyflavone, flavono, dinecthoxy flavone glucoside andrographolide. The roots contain andrographin, panicolin, apigenin, andrographolide, flavone andrographone, flavonoid glucoside.

Therapeutic indications: - *Kamala*, *Yakrut Vikara*, *Vibandha*, *Hrudroga*, *Agnimandya*, *Jwara*, *Visamajwaraghna*, *Prameha*, *Swasa*, *Kasa*, *Daha*, *Kustha*, *Krimi*, *Arsa*, *Raktavikara*.

Pharmacological actions: - Liver stimulant, Cholagogue, Purgative, Anthelmintic, Expectorant.

Pharmacological studies

1. It has laxative property, and used in different fevers.

2. It causes a free discharge of bile while promoting a more healthy action.

3. Hepatoprotective effect of *Swertia chirata* on rat. (Mukherjee S *et al.*, Department of Zoology, University of Calcutta, 1997).

4. Anti-inflammatory activity of *Mangifera indica* and *Swertia chirata* (Das P.C.; Mandal. S. *et al.*, CCRAS, Department of Chemistry, University College of Science,

Calcutta).

5. A source of bitter compounds for medical use in liver disorders (Datt. B. et al., Department of Forrest Products, Dr. Y.S. Parmar University of Horticulture and Forestry, Nauni Solan, H.P.).

6. Naturally occurring iridoids isolated from *S. chirata* with Pharmacological activity, Iridoids have encouraging biological activities including hepato-protective, anticancer, immuno-stimulant and anti-leishmanial (Mandal S. et al., Medicinal Chemistry Division, Indian Institute of Chemical Biology, Calcutta).

HARITAKI¹²

Latin name – *Terminalia chebula* Retz.

Family - Combretaceae

Rasa Panchaka¹³

Rasa - *Kasaya, Madhura, Amla, Tikta, Katu, Guna* - *Laghu, Rukshya, Veerya – Usna, Vipaka –Madhura, Doshakarmata - Tridosashamaka*

Parts used – Fruits

Actions¹⁴: - *Rasayana, Medhya, Chakhusya, Bruhmana, Anulomana, Swasahara, Kasahara, Pramehahara, Arsaghna, Kusthaghna, Sothahara, Krimighna, Vibandhahara, Trusnanigrahana, Chardighna, Kandughna, Hrudy, Sulahara, Lekhana, Deepana, Pachana, Vayasthapaka, Smritiprada, Jwarahara, Vranahara.*

Therapeutic indications: - *Vibandha, Swasa, Kasa, Prameha, Arsa, Kustha, Netraroga, Sotha, Krimi, Chardi, Sula, Agnimandya and as a Rasayana.*

Pharmacological actions: - Antimicrobial, Antifungal, Antibacterial, Antistress, Antispasmodic, Hypotensive, Hypolipidemic, Anthelmintic, Purgative, Cytoprotective, Cardiotonic.

Pharmacological Studies

1. According to Caius, Mhaskar and Isaac, the bark is endowed with both diuretics and cardiotonic properties. Adaptogenic properties of six Rasayana herbs used in Ayurvedic medicine (*T. chebula*) (Rege-NN et al. Ayurveda Research Center, Department of Pharmacology and Therapeutics, Seth GSF Medical College, Mumbai, 1999).
2. Immunosuppressive effects of gallic acid and chebulic acid on CTL- mediated toxicity. (Hamada S et al., Department of Bioengineering, Tokyo Institute of Technology, Yokohama, Japan, 1997).
3. Screening of some Indian medicinal plants for their antimicrobial properties (*T. chebula*). (Ahmad I et al., Department of Agriculture Microbiology, Institute of

Agriculture, Aligarh Muslim University, 1998).

BIBHITAKA¹⁵

Latin name – *Terminalia belerica* Roxb.

Family - Combretaceae

Rasa Panchaka¹⁶

Rasa – *Kasaya, Guna - Rukshya, Laghu, Veerya – Usna, Vipaka –Madhura, Doshakarmata - Tridosashamaka*

Parts used – Fruits

Actions: - *Kasahara, Netrya, Kesya, Krimighna, Swarya, Chardighna, Mukharoga.*

Majja: - *Madaka*

Therapeutic indications¹⁷: - *Kasa, Netra roga, Kesa vikara, Krimi, Swarabheda, Mukharoga, Sotha, Visarpa, Mutradosa and Asmari.*

Pharmacological actions: - Astringent, Tonic, Expectorant.

Pharmacological studies

1. Screening of some Indian medicinal plants for their antimicrobial properties (*T. belerica*) (Aligarh Muslim University, India, 1998. Antioxidant properties of the Ayurvedic formulation Triphala and its constituents; (Vani T. et al., Department of Phytochemistry and Pharmacology, L.M. College of Pharmacy, Ahmedabad, Gujarat).
2. Hepatoprotective studies of a fraction from the fruits of *T. bellerica* on experimental liver injury in rodents (Anand K.K. et al.; Division of Pharmacology, Regional Research Laboratory, Jammu).

AMALAKI¹⁸

Latin name – *Embelica officinalis* Garetn.

Family - Euphorbiaceae

Rasa Panchaka¹⁹

Rasa - *Kasaya, Madhura, Amla, Tikta, Katu, Guna - Guru, Rukshya, Sheeta, Veerya – Sheeta, Vipaka –Madhura, Doshakarmata - Tridosahara*

Parts used – Fruits

Actions²⁰: - *Rasayana, Pramehaghna, Jwaraghna, Vrusya, Dahahara, Chardighna, Sophaghna, Ruchya, Medohara, Bhagna, Sandhanakara, Kesya, Chakhusya, Kusthaghna.*

Therapeutic indications: - *Rasayana, Prameha, Jwara, Raktapitta, Panduroga, Kamala, Sukra Dourbalya, Daha, Chardi, Bhagna, Sopha, Kesa vikara.*

Pharmacological actions: - Immunomodulator, Antioxidant, Antiulcerogenic, Anticarcinogenic, Antihypercholesterolaemic, Pancreatoprotective, Antimicrobial.

ANUPANA- MADHU ²¹

Rasa - Kasaya, Madhura, Guna- Laghu, Rukshya, Veerya-Sheeta, Vipaka -Madhura

Doshakarmata - Tridosahara

Actions: - *Chedana, Deepana, Rochana, Sroto bisodhana, Grahi, Yogabahi, Lekhana, Rasayana, Pramehaghna, Jwaraghna, Vrusya, Dahahara, Chardighna, Sophaghna, Ruchya, Medohara, Bhagna, Sandhanakara, Kesya, Chakhusya.*

Chemical constituents: -Honey is a complex natural product made mainly of carbohydrates and water. It also contains inorganic salts, amino acids, Vitamins and some enzymes. Vitamins found in Honey- Vitamin B6, Vitamins B12, Vitamins A, Riboflavin, Niacin, Vitamins C

Pharmacological studies

1. The alcoholic extract of the fruit was found to have antiviral effect (Dhar et al., 1968). Fruit, juice and its sediment and residue has antioxidant due to gallic acid (Pak J. Sci. Res., 1966).
2. Useful in acute viral hepatitis (Indian J. Med. Res., 1980). Fresh root as remedy for jaundice (Acta Phytotherapy, 1972). It has pronounced expectorant and cardiogenic activities (Husain, Aligarh Muslim University, 1975).
3. Levels of SGOT, SGPT, LDH, serum free fatty acids were significantly decreased, in groups treated with this. Amalaki Rasayan raised the total protein level and increased the body weight in rabbits. The dried fruit pulp powder reduced serum cholesterol ($p < 0.01$) an aortic cholesterol ($p < 0.001$) and hepatic cholesterol ($p < 0.001$) significantly in experimental study on rabbits.
4. Antioxidant activity of active tannoid principles of *E. Officinalis* (Bhattacharya et al., Department of Chemistry, Bose Institute, Calcutta, Indian J. Exp. Biol., 1999 Jul., 37 (7)).
5. Protection against cytotoxic effects of arsenic by dietary supplementation with crude extract of *Embilica officinalis* fruit (Bishwas et al., Vivekananda Institute of Medical Sciences, Calcutta; Phytother Res., 1999 Sep., 13 (6)).
6. Adaptogenic properties of six Rasayana herbs used in Ayurvedic medicine (including *E. Officinalis*) (Rege NN et al., Ayurveda Research center, department of Pharmacology and Therapeutics; Seth GS Medical College, Parel, Mumbai; Phytother Res. 1999 June 13 (4)).
7. Anti-inflammatory activities of *E. Officinalis*, Gaertn leaf extracts. (Aswani MZ, Department of Biomedical Sciences, University of Tampere, Finland; J. Pharm-Pharmacol. 1993 Jun : 45 (6)).
8. Screening of some Indian medicinal plants for their

antimicrobial properties (*E. Officinalis*) (Ahmad I et al., Department of Agricultural Microbiology, Institute of Agriculture, Aligarh Muslim University, 1998)

Table No- 4 shows *Rasa panchaka of Phalatrikadi Ghanavati* and Table No- 5 shows Different properties of *Vasadi Kwatha Ghanavati*

On the Ayurvedic Parameters these Drugs are *Tikta, kashaya ras predominant and madhur in Vipaka*. So these are most effective and efficient to pacify the *Pitta dosha*, the main cause of many liver disorders.

RESULT

Thirty-one articles were screened; Fifteen human trials met inclusion criteria. Ayurvedic treatment and *Panchakarma*-based procedures effectively relieve symptoms and normalize the liver function test in patients with *Kamala* (Jaundice). Nine studies were published as a case report, 3 were single-arm clinical studies, two were double studies, and one had three arms. 8 out of 15 clinical studies used *Panchkarma* as management of *Kamala*, 7 used *Virechana* in management. Almost all studies used Sr. bilirubin as an assessment of *Kamala* except one study. One study reported side effects of drugs were no such data reported in other studies reported no side effects during management.

DISCUSSION

So We can say on the basis of vivid description of all the eight herbal drugs, which is the constituents of well known decoction/*Kwath* namely *Phalatrikadi* is a most common and famous preparation for the treatment of *Koshthashrit Kamala/ Hepatocellular jaundice, pandu /Anaemia* and other liver disorders. Since its a purely herbal preparation hence very much safe and more effective than any other herbomineral preparation. In Short these Drugs have following properties i.e. Pittahar, *Pittarechak, Yakriduttejak, Deepan, Rechan, Pachak, Shothhara, Jwarahara, Kamala and Panduhara, Yakrit and Raktvikarhara, Tridoshar, Rashayan, Mutrajanana, Pittasarak, Anulomak, Shwedak, Dahaprashaman and Raktapittahara*. On the modern parameters we can say that the Herbal Hepato protective preparations have following properties Cholegogue and Cholertic action, Hepatocellular regeneration, Antiviral, Antioxidant, Enzymes and Metabolic correction, Digestive, Membrane stabilizing effect, Immuno modulating action, anti inflammatory action and Antipyretic.

CONCLUSION

One should avoid over medication and Pseudo medication while treating a patient of liver disorders. Different awareness programme should be performed about avoiding self medications by the patients of liver diseases. Patient In the management of these patients herbal preparations are very much effective. Ayurvedic herbal preparations have many advantages like Shortening of disease period, Early regeneration of liver parenchymal cells, Avoid post hepatitis residual symptoms and avoid complications such as Cirrhosis, Hepato cellular Carcinoma and Hepatic Encephalopathy. So Many research works had been conducted all over the Country on different diseases and parameters, as described above. However further work can be continued on different parameters.

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Table 1 Single group design

(Gr= Group, BT=Before Treatment, AT=After Treatment)

Gr A (BT).....Vs.....Gr A (AT)	Effectiveness of treatment-1(Trial groupA)will be assessed.
Gr B (BT).....Vs.....Gr B (AT)	Effectiveness of treatment-2(Trial group B)will be assessed.

(Gr= Group, BT=Before Treatment, AT=After Treatment)

Table 2 Double Group Design

Gr A (AT).....Vs.....Gr B (AT)	Effectiveness of treatment of both(Trial group)will be assessed.
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Table No- 03: Ingredients of *Phalatrikadi Ghanavati*

Sl. No.	Name of Drug	Proportion
1.	<i>Vasa</i>	1 Part
2.	<i>Guduchi</i>	1 Part
3.	<i>Katuki</i>	1 Part
4.	<i>Nimba</i>	1 Part
5.	<i>Bhunimba</i>	1 Part
6.	<i>Haritaki</i>	1 Part
7.	<i>Bibhitaki</i>	1 Part
8.	<i>Amalaki</i>	1 Part

Table No- 4: Rasa panchaka of Phalatrikadi Ghanavati

S.no	Name	Rasa	Guna	Virya	Vipaka	Doshagnata
1.	<i>Vasa</i>	<i>Tikta Kasaya</i>	<i>Laghu</i> <i>Sheeta</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kapha Pitta samaka</i>
2.	<i>Guduchi</i>	<i>Katu, Tikta</i>	<i>Laghu</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridoshasamaka</i>
3.	<i>Katuki</i>	<i>Tikta</i>	<i>Ruksha</i> <i>Laghu</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kapha Pitta samaka</i>
4.	<i>Nimba</i>	<i>Tikta</i>	<i>Laghu Sheeta</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Tridoshasamaka</i>
5.	<i>Bhunimba</i>	<i>Tikta</i>	<i>Laghu</i> <i>Yogavahi</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Kapha Pitta samaka</i>
6.	<i>Haritaki</i>	<i>Pancharasa</i> <i>(Alavana)</i>	<i>Ruksha,</i> <i>Laghu</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridoshasamaka</i>
7.	<i>Bibhitaki</i>	<i>Kasaya Pradhan</i>	<i>Sheeta</i> <i>Ruksha</i> <i>Laghu</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Tridoshasamaka</i>
8.	<i>Amalaki</i>	<i>Pancharasa</i>	<i>Ruksha</i> <i>Laghu</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Tridoshasamaka</i>

Table No- 5: Different properties of *Vasadi Kwatha Ghanavati*

Property	No. of total drugs	Percentage
<i>RASA</i>		
<i>Tikta</i>	3/8	37.5%
<i>Pancha rasa (alavana)</i>	2/8	25%
<i>Kashaya- Tikta</i>	1/8	12.5%
<i>Tikta –Katu</i>	1/8	12.5%
<i>Kashaya</i>	1/8	12.5%
<i>GUNA</i>		
<i>Laghu</i>	8/8	100%
<i>Rukshya</i>	4/8	50%
<i>Sheeta</i>	3/8	37.5%
<i>Yogavahi</i>	1/8	12.5%
<i>VEERYA</i>		
<i>Sheeta</i>	5/8	62.5%
<i>Ushna</i>	3/8	37.5%
<i>VIPAKA</i>		
<i>Madhura</i>	4/8	50%
<i>Katu</i>	4/8	50%
<i>DOSHAGHNATA</i>		
<i>Tridosha samaka</i>	5/8	62.5%
<i>Pitta – Kapha samaka</i>	2/8	25%