

ROLE OF AYURVEDIC DRUGS ON PSOARISIS W.S.R. TO EKA-KUSHTHAS

Vd. Sandip B. Rupnawar*¹ and Dr. Sanjivani S. Shekokar²

¹PG Scholar, Dravyaguna Vigyana Department, Government Ayurved College, Nanded.

²Professor and Head of Department, Dravyaguna Vigyana Department, Government Ayurved College, Nanded.

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*Corresponding Author

Vd. Sandip B. Rupnawar

PG Scholar, Dravyaguna Vigyana
Department, Government
Ayurved College, Nanded.

ABSTRACT

Background: *Eka-Kushtha* is one of the *Kshudra Kushtha* which is mainly *Vata-Kapha* predominant, described in Ayurvedic texts with symptoms. The prevalence rate of psoriasis is 0.44- 2.8% in India. But Ayurvedic treatment provides long-lasting results and a better life for patient. The present review presents the role of some important plants used in traditional system of medicine in India for the management of *Ekkushtha*. **Material and Methods:** Ayurvedic texts, as well as the data bases web-based search engines, journal, were used to search for relevant literature and information. **Result:** Most of the herbal drugs were having *Kushthaghna* and *Kandgughna* properties directly acting on etiopathogenesis of *Eka-Kushtha*, by their *Tikta-Kashaya Rasa*, *Sheeta Veerya*, *Laghu Ruksha*. Pharmacological activity like anti-bacterial, anti-microbial, anti-fungal and anti-oxidant activities were

also reported for herbal drugs. **Conclusion:** Scientific evaluation through pharmacological using modern and ayurvedic system and all clinical studies to validate their efficacy can be useful for generation of huge data for further clinical trials.

KEYWORDS: *Amalaki, Eka-Kushtha, Haridra, Kadira*, Psoriasis.

1. INTRODUCTION

The skin is the body's external organ that defends against UV rays, infections, and physical and mechanical trauma. It also regulates body temperature, fluid retention and excretion, and sensory perception.^[1] Different skin diseases are referred to as *kushtha* (skin diseases). All skin conditions have been included under the *Vyadhi* (disease) *Kushtha* in Ayurveda. There

are seven, eleven, eighteen, and an infinite number of *Kushthas* (*Aparisankhyey*). Among 18 varieties of *Kushthas*, 7 are *Mahakushtha* (major variety of skin disorders) and 11 are *Kshudra Kushtha* (minor variety of skin disorders). One of the *Kshudra Kushtha*, i.e., *Eka-Kushtha* is primarily *Vata-Kapha* dominant as described by Charakacharya.^[2]

Aswedanam (anhidrosis/ lack of sweating), *Mahavastu* (broad-based), *Matsyashakalopamam* (looks like the scales of a fish), *Krishna Aruna Varna* (blackish reddish discoloration of the skin)^[3], *Mahashrayam*^[4], and it is constantly spreading in the body and some discharge, pain, *Krimi* are present in the lesion.^[5] The signs and symptoms of *Eka-kushtha* are similar to that of Psoriasis.

One of the most typical skin conditions encountered on a daily basis is psoriasis. Sharply defined erythematous-squamous lesions covered in dry, brittle, silvery or greyish white, loosely adherent micaceous scales are the hallmark of this chronic autoimmune disorder. These scales come in a range of sizes, from tiny plaques to large ones. The skin becomes inflamed and hyperproliferates at a rate that is roughly ten times higher than normal. It happens to everyone and has an equal impact on people of both sexes. There are two peaks in the age of onset. Early onset (ages 16 to 22) is more frequent and frequently linked to a favourable family history. Age 55 to 60 is when late-onset disease peaks.^[6]

The prevalence rate of psoriasis is 0.44- 2.8% in India.^[7] Treatment is concerned with control rather than cure. It includes topical agents, UVB, PUVA therapy, and systemic immunosuppressive/ immune-modulating agents.^[6] But Ayurvedic treatment provides long-lasting results and a better life for patient. The most common and effective medicinal herbs are *Amalaki*, *Haridra* and *Khadira*. The present review presents the role of some important plants used in traditional system of medicine in India for the management of *Ekkushtha*.

2. MATERIALS AND METHODS

2.1. Method of review

All the information regarding the properties of herbal plants were compiled from various Ayurvedic texts, as well as the data bases Google scholar, PubMed, Medline, AYUSH Research Portal, and Digital Helpline for Ayurveda Research Articles (DHARA), dissertation works from Ayurveda colleges, studies available on Research Gate web-based search engines, journal, were used to search for relevant literature and presented in systematic manner.

2.2. Materials

Description of Herbal plants, Botanical / Latin name and Part used are as given in Table 1:

Table 1: Description of Herbal plants drugs.

Sr. No	Name of herbal plants	Botanical / Latin name	Family	Part used
1.	Amalaki	<i>Embelica officinalis</i> Gaertn	<i>Euphorbiaceae</i>	Fruit
2.	Haridra	<i>Curcuma longa</i> Linn	<i>Zingiberaceae</i>	Rhizome
3.	Khadira	<i>Acacia catechu</i> Willd.	<i>Mimosoideae</i>	Heartwood
4.	Haritki	<i>Terminalia chebula</i> Retz.	<i>Combretaceae</i>	Fruit
5.	Aragvadh	<i>Cassia fistula</i> Linn.	<i>Leguminosae</i>	Fruit

3. RESULT

The pharmacological properties of the herbal drugs can be explained on the basis of the individual drug properties as mentioned below:

Table 2: The pharmacological properties of the herbal drugs

1. AMALAKI^[8]

Latin Name	<i>Embelica officinalis</i> Gaertn.
Family	Euphorbiaceae.
Part Used	Fruit
Classical Names	Sanskrit: Dhatri, Amrita, Vayastha, Tisyaphala, Sheetaphala Hindi: Aanvala English: Emblic myrobalan
Rasapanchaka	Rasa: Amlapradhana, Pancharasa (Lavanavarjita) Guna: Laghu, Sara, Mrudu, Ruksha Virya: Sheeta Vipaka: Madhura Doshakarma: Tridoshashamaka
Karma	Tridoshashamaka, Vranashodhana, Vranaropana
Therapeutic uses	Krimiroga, Kushtha, Twakdosha
Chemical constituents	Hydrolysable Tannins- Emblicanin A and B, Punigluconin, Pedunculagin, Chebulinic acid (Ellagitannin), Chebulagic acid (Benzopyran tannin), Corilagin (Ellagitannin), Geraniin (Dehydroellagitannin), Ellagotannin Alkaloids- Phyllantine, Phyllembein, Phyllantidine Phenolic compounds- Gallic acid, Methyl gallate, Ellagic acid, Trigallayl glucose Amino acids- Glutamic acid, Proline, Aspartic acid, Alanine, Cystine, Lysine Carbohydrates- Pectin, Vitamins- Ascorbic acid, Flavonoids- Quercetin, Kaempferol Organic acids- Citric acid
Action & uses	Useful in vitiated conditions of <i>tridosha</i> , skin diseases, leprosy
Pharmacological actions	Amla is reported to possess free radical scavenging, antioxidant, activities.

	Antimicrobial activity: Emblica fruit found to have very potent anti-bacterial activity (Vinayaga morthy, 1982). Activity against fungi: Emb. officinalis has been shown to have antifungal properties against <i>Aspergillus</i> (Satish et al., 2007).
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2. HARIDRA^[9, 10]

Latin Name	<i>Curcuma longa</i> Linn.
Family	Zingiberaceae.
Part Used	Rhizome
Classical Names	Sanskrit: Rajani, Nisha, Kanchani Hindi: Haldi English: Turmeric
Rasapanchaka	Rasa: Tikta, Katu Guna: Laghu, Ruksha Virya: Ushna Vipaka: Katu Doshakarma: Kaphapittahara
Karma	Kaphapittahara, Krimighna, Kushthaghna, Kandughna
Therapeutic uses	Vishavikara, Kushtha, Vrana, Twakaroga
Chemical constituents	Essential oil and a colouring matter (curcumin)
Action & uses	Useful in vitiated conditions of <i>Kaphapitta</i> , skin diseases, leprosy
Pharmacological actions	Antioxidant: Curcuma longa rhizome extracts were discovered to be effective antioxidant agents. The methanol extract of the leaves essential oil demonstrated remarkable superoxide radical-scavenging activity. ^[11] Antifungal: The oil's in vitro studies revealed that it is a potent anti-dermatophytic agent. It is effective against three common dermatophytic fungi that cause ringworm infection in humans: <i>Epi. floccosum</i> , <i>Micro. gypseum</i> , and <i>T. rubrum</i> . It also validated rapid killing activity, a broad fungicidal spectrum, a long shelf life, and a competitive advantage over some synthetic antifungal compounds. ^[12]

3. KHADIRA^[13, 14]

Latin Name	<i>Acacia catechu</i> Willd.
Family	Mimosoideae.
Part Used	Heartwood
Classical Names	Sanskrit: Matsyapitta, Katuka, Kandaruha, Matsyashakala Hindi: Khaira English: Cutch tree
Rasapanchaka	Rasa: Tikta, Kashaya Guna: Laghu, Ruksha Virya: Sheeta Vipaka: Katu Doshakarma: Kaphapittahara
Karma	Kaphapittahara, Kushthaghna, Kandughna, Raktaprasadana
Therapeutic uses	Kushtha, Kandu, Krimi, Twakaroga
Chemical	Catechin, Catechu, tannic acid.

constituents	
Action & uses	Useful in vitiated conditions of <i>Kaphapitta</i> , skin diseases, leprosy
Pharmacological actions	<p>Anti- fungal and anti- microbial property: Acacia catechu Willd leaves extract was found to have broad-spectrum antimicrobial activity in a study.</p> <p>Anti- oxidant activity: A study of a 70% methanol extract of Acacia catechu heartwood extract revealed significant antioxidant activity, iron chelating activity, and DNA protective activity, which is due in part to the phenolic and flavonoid compounds found in it. Rutin, Catechin and isorhamnetin have been reported as free radical scavengers, and these compounds contribute significantly to Acacia catechu's biopotency.^[15, 16]</p>

4. HARITAKI^[18]

Latin Name	Terminalia(Proceeding from extremity to the end;) Chebula (distorted from of the word Kabul.)
Family	Combretaceae (After Butterfly)
Part Used	Fruits
Classical Names	Haritaki, Abhaya, Amruta, Haimamati, Shiva, Pathya, Pachani, Rohini, Kayastha, Shreyasi, Vijaya, etc.
Rasapanchaka	<p>Rasa:-Lavan virgit Pancharasatmaka. (Kashaya, Madhur, Amla, Katu, Tikta)</p> <p>Virya:- Ushana.</p> <p>Vipaka:- Madhura.</p> <p>Prabhava:- Tridosahara.</p> <p>Guna:- Laghu, Ruksha.</p>
Karma	Dosha:- By virtue of Madhur, Tikta, Kashaya Rasa acts as Pittaghna, By Katu, Tikta & Kashaya Rasa acts as Kaphaghna, & by its Amla, Madhur Rasa acts as Vataghna.
Therapeutic uses	Prajasthapana, Jwaraghna, Kushthaghana, Kasaghna, Arshoghna.
Chemical constituents	anthraquinone glycoside, chebulinic acid, tannic acid (20%–40%), and vitamin C in fruits.
Action & uses	Useful in loss of appetite, pain in abdomen, constipation, Gulma, Ascites, Hemorrhoids, Hepatomegaly, Splenomegaly, & parasitical infestation.
Pharmacological actions	<p>Digestive System:- Useful in loss of appetite, pain in abdomen, constipation, Gulma, Ascites, Hemorrhoids, Hepatomegaly, Splenomegaly, & parasitical infestation. It relieves constipation in chronic abdominal diseases, & also helps in digestion of Aama. The bark of Haritaki if eaten properly chewing in mouth, improves digestion. Powdered Haritaki reduces constipation. A fine powder of Haritaki is used as a tooth powder it strengthens the gums.</p> <p>Circulatory System:- As Haritaki is raktagami (exhibiting much action on Rakta Dhatu), it is used in weakness of Heart, Vatarakta & other disorders of the blood.</p> <p>Respiratory System:- Rhinitis(D/t constipation), Cough, Hoarseness of voice, Hiccups & Dyspnoea are relieved by Haritaki as it reduces congestion.</p> <p>Reproductive System:- Useful in Shukrameha, Leucorrhoea & acts</p>

	<p>as a uterine tonic.</p> <p>Urinary System:- Useful in Dysurea, retention of urine, Calculus (Haritakyadi sidha Dugdha) & kaphaj-Prameha.</p> <p>Nervous System:- Useful in weakness of the nerves & the brain, as well as in Vata disorders & diminished vision.</p> <p>Skin:- Useful in Erysipelas & other skin disorders, Haritaki prevents accumulation of pus in skin diseases & acts as a Rasayana. Haritaki + oil is extremely helpful in healing of wounds especially in burns.</p> <p>Rasayana:- Haritaki acts as a Rejuvenation (by clearing the Mala present in the body). But for producing its Rasayana effects, it need various supportive Dravyas in different seasons (Rutu-Haritaki).</p> <p>Purgation induced by Haritaki is relieved by its own. Bala Haritaki is useful in hemorrhoids. It helps in clearing the bowel.</p>
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5. ARAGVADH^[19]

Latin Name	<i>Cassia fistula</i> Linn
Family	Caesalpinaceae
Part Used	Fruit and Stem Bark
Classical Names	Chaturangul, Amaltas
<i>Rasapanchaka</i>	Ras –Madhur Guna –Guru, Mridu, Snigdha Virya –Sheet Vipaka -Madhur
<i>Karma</i>	Rechana
Therapeutic uses	antipyretic, anti-inflammatory, antioxidant, antidiabetic, hypolipidemic, hepato-protective, antimicrobial, antitumor, antiulcer
Chemical constituents	anthraquinones, flavonoids, flavon-3-ol derivatives, alkaloid, glycosides, tannin, saponin, terpenoids, reducing sugar and steroids
Action & uses	In traditional medicine, Cassia fistula is one of the most commonly used plants in Unani and Ayurvedic medicines, this plant has been described to be useful against skin diseases, liver troubles, tuberculous glands and its use in the treatment of haematemesis, pruritus, leucoderm and diabetes has been suggested
Pharmacological actions	<p>Antidiabetic Activity: The antidiabetic potential of the total alcoholic extract & its ethyl acetate fraction of the bark of Cassia fistula was studied in alloxan induced diabetic rats. The ethyl acetate fraction exhibited significant reduction in blood glucose levels than alcoholic extract. The activity was found comparable with standard drug glibenclamide.^[16] The mechanism of hypoglycemic and antidiabetic action of hydroalcoholic extract of Cassia fistula Linn in rats was reported.^[17] The ethanolic extract of Cassia fistula Linn Stem bark were investigated for their antihyperglycemic activity.^[18] Aqueous extract of Cassia fistula (Linn.) flowers (ACF) was screened for its antioxidant effect in alloxan induced diabetic rats. The seeds of Cassia fistula were investigated for their hypoglycemic activity. They were found to have marked hypoglycemic activity on normal albino rats but not on alloxan produced diabetic albino rats.</p> <p>Hypolipidemic Activity: The effect of 50% ethanolic extract of Cassia fistula Linn. Legume was assessed on serum lipid metabolism</p>

	<p>in cholesterol fed rats. The effect of 50% ethanolic extract of Cassia fistula legume was assessed on serum lipid metabolism in cholesterol fed rats.</p> <p>Hepatoprotective Activity: Protective effects of cassia seed ethanol extract against carbon tetrachloride-induced liver injury in mice.</p>
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4. DISCUSSION

Eka-Kushtha is one of the *Kshudra Kushtha* which is mainly *Vata-Kapha* predominant² described in Ayurvedic texts. So, for disintegrating the *Samprapti*, herbal drugs working at the level of *Dhatwagni* and counteracting *KaphaDosha* of *Eka-kushtha*.

Most of the herbal drugs were having *Kushthaghna* and *Kandughna* property directly acting on etiopathogenesis of *Eka-Kushtha*, by their *Tikta-Kashaya Rasa*, *Sheeta Veerya*, *Laghu Ruksha*. *Tikta Rasa* mainly acts as *Kapha Shamaka*, useful as *Raktashodhaka* and *Kushthaghana*, *Kandughana*, and *Twakvikaar*. *Sheetaveerya* drugs act as *Pitta Shamaka*. They also act on *DoshaVishesha* i.e. *Bahudravya Sleshma*, *Dushya Vishesha* i.e. *Kleda*. The alleviation of *Kapha- Pitta* leads to removal of obstruction to path of *Vata* and *Tridosha Shamaka* drug also alleviates *VataDushti*, thus cause normal functioning of *Doshas* and *Dhatus*. Thus *Samprapti Vighatan* occurs and normal functioning of *Doshas* and *Dhatus* achieved which relieves the symptoms of *Eka-Kushtha*^[17](Table 1, 2).

Effect on Cardinal Symptoms of *Eka-kushtha* i.e. *Aswedanam* symptom is due to the obstruction in *Swedavaha-Srotasa*. Vasoconstriction is due to the *Shoshaka* property of *Vata* & obstruction is due to the *Snigdha & Manda Guna* of *Kapha*. *Haridra Ushna Veerya* and *Kaphahara* properties removes the blockages and thus removes *Srotorodha* and increases perspiration especially at affected areas. *Mahavastu* is a spread of disease in extended form. Mainly *Vata Dosha* is involved here with *Kapha Dosha* and *Rasa, Rakta, Mamsa Dhatu* involvement. *Amalaki, Haridra* and *Kadira* with its *Ushna, Laghu, Ruksha Guna* and *Kaphahara* properties, clarifies *Kaphadosha* and purifies *Rakta* and *Mamsa Dhatu* that relieves *Dosha-Dushya Sammurchhana* and reduced lesion on affected areas. *Matsyashakalopama* (Scaling) is mainly due to *Vata Dosha* because of its *Vibhajana* property. *Haridra* and *Khadira* remove remaining *Kaphadosha* from *Srotasa* and maintains the proper functioning of *Vatadosha (Anuloman)*. Itching is mainly due to *Kapha Dosha* and *Rasa, Rakta Dhatu*. *Amalaki, Haridra* and *Khadira* is more effective in *Kapha Dosha* by its *Laghu, Ruksha, Ushna* and *Tikta Kashaya* properties. Activity of the above drugs on various systems like respiratory system, urinary system is accomplished through *mutravaha strotas* by

removing kleda through the mutra.^[20] It also enhances potency of the organs like Lungs, Heart by purifying blood (Raktaprasadan).^[21] According to modern pharmacology active principle of, *Amalaki*, *Haridra* and *Khadira* reported to possess anti-bacterial, anti-microbial, anti-fungal and anti-oxidant activities.^[15, 16](Table 2).

5. CONCLUSION

Eka-Kushtha is a *Vata-Kapha Janya Rakta Pradoshaja Vyadhi* and one among the 11 types of *Kshudra Kushthas* and resembles Psoriasis. In today's world of ever-changing diet and work patterns, lifestyle disorders are on a sharp rising pattern. Hence it is the need of time to find out safe and effective treatment for Psoriasis (*Eka-Kushtha*) and here Ayurveda is a ray of hope in such a health condition. The principles of allopathic medicine are often limited in efficacy, risk of adverse effects and too costly, particularly for the developing countries. The above-mentioned herbal plants have been considered for their *Kushthaghna* & *Kandughna* property and reported to possess anti-bacterial, anti-microbial, anti-fungal and anti-oxidant activities which can prove as a potent and safe medicine for such complex diseases.

CONSENT

It is not applicable.

COMPETING INTEREST

Authors have declared that no competing interest exist.

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