

A REVIEW ON KHADIR (ACACIA CATECHU) AS BEST RASAYANA (IMMUNE-MODULATOR) FOR SKIN

*¹Dr. Vaishali Shamrao Meshram, ²Dr. Shweta Vitthaldas Dongre and ³Dr. Nirmala Sawarkar

¹Assistant Professor, Dept. of Kayachikitsa, Jupiter Ayurved College, Nagpur, Maharashtra.

²Assistant Professor, Dept. of Kriya Sharir, Sanskruti Ayurved College and Hospital, Mathura, UP.

³Associate Professor, Dept. of Shalya, LNAyurved Medical College, Bhopal, Madhyapradesh.

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Corresponding Author: Dr. Vaishali Shamrao Meshram

Assistant Professor, Dept. of Kayachikitsa, Jupiter Ayurved College, Nagpur, Maharashtra.

ABSTRACT

Rasayana is one of the comprehensive disciplines of Ayurveda, which comprises herbs, herbomineral drugs, food articles, a specific way of consuming these drugs with specific way of lifestyle with social etiquette to ultimately achieve the maximum state of equilibrium of dhatus (tissues) and doshas with balance of agni. In other words Rasayana is the path to achieve homeostasis thus retarding the process of aging and giving maximum nutritional quality to fight the odds in form of infections. Rasayana, being practised effectively and extensively since ages, is a group of medicinal preparations which are immune stimulants and capable of preventing the causation of many ailments and untimely ageing. The herb, Khadir (Acacia catechu) is important historically because of its medicinal properties. Various studies have shown that A. catechu is an excellent source of catechins and epicatechins as well as flavonoids, which is having many beneficial properties such as anti-bacterial, anticancer, anti-diarrhoeal, anti-inflammatory, antimicrobial, antifungal, antioxidant, hypoglycaemic etc. The ayurvedic principle when it says about 'swasthasya swasthya rakshnam' actually speaks about the protection of immunity of an individual. The practice of Ayurvedic immune modulating drugs proved the potency of various rasayanas in combating the immune system. This article gives a view point of exploring many such data in support of Khadir (Acacia catechu) as a best immune-modulator for skin as told by Ayurveda. Large scale studies are needed to prove its clinical efficacy in skin disorders to prove it as a best immune-modulator.

KEYWORDS: Rasayana, Immune-modulator, Ageing, Khadir, Acacia catechu.

INTRODUCTION

Out of three basic pursuits (trividha eshna)^[1] of life namely desire to live, desire to earn, desire to have superior position after death, the desire of longevity steals the prime position. Rasayana Tantra is one from eight folds of Ashtang Ayurveda which deals with delaying of ageing process, increasing of intellect and strength, prolongation of life and curing of disorders.^[2] Acarya Charaka simply defined Rasayana as the means by which an individual gets the excellence of Rasa, etc. Dhatus. According to Chakrapani, along with physical excellence, psychic excellence like sharp memory etc. are also endowed by this.

On the definition laid down by Charak, Gangadhar comments that Rasayana is that treatment which produces excellent Dhatus and thereby promotes longevity, memory, etc. An overview of Gangadhar commentary on, "Labhopayo Hi Shastanam Rasadinam

Rasayanam", reveals that, the word Shastanam is interpreted as persistent youthfulness and the word Rasadi is taken as those originated from Rasa. Charak starts Chikitsa Sthana with Rasayan and Vajikaran giving still more priority to Rasayan. The reason to which given by Chakrapani is that, as they are Mahaphaldayi and among them Rasayana is the one which endows strength and immunity resulting in 100/1000 years of long and disease free life.

Types of Rasayana

A) Two types have been mentioned in Charaka^[3]

i) Kutipravesika

ii) Vatatapika

This classification is based on the mode of administration. Kutipravesika is an indoor administration while Vatatapika is an outdoor administration of Rasayana.

B) Two types as mentioned by Dalhana based on their mode of action.

- 1) Samshodhana -
- 2) Samshamana -

Samsodhana and Samsamana, both are curative in nature. Samshodhana type of Rasayana expels the aggravated dosas whereas Samshamana type pacifies the accumulated ones.

C) Three types as per Dalhana based on the utility

- 1) Kamyā
- 2) Naimittika
- 3) Ajasrika

This classification is probably based on the utility of Rasayana. Kamyā Rasayana to increase the life span, to prolong the life span and to increase the cognitive abilities of mind. Naimittikam Rasayana is specific to a disease. And Ajasrikam deals with daily intake of milk, ghee etc so as to promote the body immunity.

Rasayana therapy plays important role in Prevention of premature wears and tears of body tissues and promotion of total health content of an individual. Thus Rasayana Chikitsa has got importance from both the preventive and curative aspect of the disease

Benefits of Rasayana

Rasayana therapy improves quality of Dhatus thus enhances strength. It facilitates supply of nutrients and it provides nutrition therefore regularizes normal physiological function. It stimulates detoxification of body therefore cleans Srotas. It imparts disease resistance power by improving immunity. It has □ Immune-modulatory effect which prevents many disorders related to alter immune response. Also Antioxidant effects of these drugs prevent oxidative changes. It destroys ageing, senility and disorders by providing Vayasthapan property (Age sustainer) and imparts longevity, intellect. It is beneficial for eyes, increases body weight and also possesses aphrodisiac property.^[4,5]

In context of various health problems, due to stress, degenerative changes, ageing, leading to impairment of immune system it becomes the need of time to study the ancient concept of Rasayana to ameliorate the immunosystem. Use of Rasayanas specific to that disease, are mentioned in treatment of each disease, is mentioned in Samhitas. Application of this concept in practice of Ayurveda would only lead to perfect and precise treatment. No doubt, Rasayana is very important view point expressed in classical treatises and is boon to the world.

Acharya Vagbhata in the verses while discussing rasayan had beautifully explored the concept of “yuganurupi rasayana”^[6] that means the medicines which are easily available as per the time and gives instant benefits of health. The concept is actually practical to the

type of generation we deal with where easy availability of drugs and their compliance is important. And Khadir is one of such drug that is easily available with excellent results in skin diseases and so also called as Kushtaghna.

Khadir^[7] (Acacia catechu) is one of the best example to prove potent as a skin immune-modulator. Kerala as a land of tradition of Ayurveda, use decoction of khadir as best result during rainy season. Every restaurant in Kerala serve a red water decoction to all their customers. Even at home this decoction of bark of khadir is used traditionally. Acharya sushrut has beautifully explained its role as rasayana for skin also in various skin ailments.

The ayurvedic principle when it says about ‘swasthasya swasthya rakshnam’ actually speaks about the protection of immunity of an individual. The practice of Ayurvedic immune modulating drugs proved the potency of various rasayanas in combating the immune system.

This article gives a view point of exploring many such data in support of Khadir as a best immune-modulator for skin as told by Ayurveda.

Drug Review: Khadira

The herb, Khadir (Acacia catechu) is important historically because of its medicinal properties. It attains its genus name ‘Acacia’, from the Greek word ‘akis’, meaning a point. The species name originates from the word ‘cutch’, which means a tanning extract which is separated from its heartwood. There are many synonyms in Ayurveda for this plant like balapatra (tiny leaved) vakrakanta (due to hooked spines), dantadhavana (useful for cleaning teeth), kanthi (helpful for throat), kusthaghna (anti dermatosis) etc.^[8] Meaning of Khadir in Sanskrit means that which stabilizes the body and diseases. It is also known as Katha which is a common ingredient of pan (betel leaf mixture) chewed in India after meals.^[9]

“Khadiraha sheetalo dantyaaha kandu kasa aruchi pranut |
Tiktaha kashayo medoghna krumimehajwaravranam ||
Shwitra shothaampittasrapandu kushtha kaphanaharet ||”
Bha pra vatadi varga 31-32

Family- Fabaceae

Subfamily- Mimosoideae

Rasa-Tikta, Kashaya

Guna- Ruksha, Laghu

Veerya-Sheeta

Vipak- katu

Dosha karma- Kapha-pitta

Karma- Ruchivardhaka, Stambhana, Shonitasthapanam, Mutrasangrahana, Kusthaghna, Kandughna, Varnya, Ropaka

Rogagnata- Aruchi, Atisara, Kaphaja Kasa, Prameha, Kustha, Twak Roga, Jirna Jwara, Raktapitta, Krimi
Pharmacology-Antiviral, spasmolytic, antifungal, hypoglycemic.^[10]

In the search of the drugs specified in kuṣṭha, Khadir (Acacia catechu) is found to be the best drug to alleviate skin ailments.^[11] It is advised to use in the form of snana (external use), pana-ahar (internal use), prasechana (local application) and dhupan (inhalation).^[12] Khadir helps in skin tightening by contracting skin cells or other body tissues due to its astringent property. Khadir is widely used in cases of oral disorders such as mouth ulcers, gingivitis, cuts when its paste is applied on the affected area. It has strong healing activity due to its anti-inflammatory, antioxidant and antimicrobial properties.

A. catechu extract is having many beneficial properties such as anti-bacterial, anticancer, anti-diarrhoeal, anti-inflammatory, antimicrobial, antifungal, antioxidant, antipyretic, anti-ulcer, antisecretory, hepatoprotective, hypoglycaemic etc. The chemical fractions of catechu mainly are flavanoids (catechin, epicatechin, epigallocatechin, epicatechin gallate, epigallocatechin gallate, rocatechin, phloroglucinol, procatechuic acid, catecutannic acid, quercetin, quercitrin), alkaloids (kaempferol, dihydrokaempferol, taxifolin, afzelchin gum), glycosides (poriferasterol, poriferasterol acylglucosides), tannins (gallic acid, phlobatannins), and sugars (d-galactose, d-rhamnose and larabinose).^[13]

Traditionally, A. catechu has been used as an antimicrobial, anti-inflammatory and antifungal, coagulant, vermifuge, antidiarrheal, and astringent, and has also been employed to heal wounds, treat obesity and diabetes, and maintain oral hygiene, (Chauhan et al., 2011).

It contains Catechin and fisetin which are hepatoprotective compounds. Catechin is immunomodulator and it yields T-cell mediated immune response by regulating cytotoxic T-cells. Epicatechin with other medicinal values inhibits immunologically induced inflammation. The skin is a potential target for oxidative injury, as it is continuously exposed to UV radiation and other environmental stresses generating reactive oxygen species (ROS). Inadequate antioxidant protection or excess ROS production creates a condition known as an oxidative stress, contributing to the progression of cutaneous disease disorders.^[14]

The presence of high amounts of gallic acid- derived compounds is primarily responsible for the astringent, tanning, and antioxidant properties of the extracts. Various studies have examined the antimicrobial activity of A. catechu extracts, and demonstrated good- to- excellent activity depending on the organism involved. (Rani and Khullar, 2004)^[15]

Monga et al. (2011) have conducted a series of studies clearly demonstrating the chemoprotective and cancer- preventive activities of the A. catechu heartwood extract, and providing much information on the antioxidant activity associated therewith.^[15] A. catechu extracts have been shown to

exhibit antineoplastic and antiproliferative activities (Nadumane, 2011).^[15]

DISCUSSION

Rasayana means the pathway for essence of foodstuffs towards all body tissue elements so as to nourish and replenish them. V. S. Apte, famous grammarian, in his Sanskrit English Dictionary, states that Rasayana is - an elixir of life. Principles in ayurveda are clear in the vision of protecting the best(health) and eradicating the worst(disease). And in order to achieve the goal of “health for all”, the global wellbeing of each living being ayurveda has much to offer. For seeking longevity with disease free body the holistic as well as curative approach of ayurvedic principles can serve as elixir of life.

While discussing the benefits of rasayanas in ayurvedic literature consumption of rasayan at right age and with prior purification procedures(panchkarma) it will shed various health benefits. Rasayana are thought to be give longevity(dheergha ayu), memory enhancer(smriti), intellect(medha), youthness(taruna vaya), it enhances complexion and strength of body(bala).^[16] These verses give us the importance of rasayanas as immunity booster medicines. It also is helpful in increasing the verbal command and has aphrodisiac and rejuvenating effects(vrishya). In short in order to keep balance of richness of each element of body (rasa dhatu to shukra dhatu) rasayan serves as exilir to life.^[17]

In context of various health problems, due to stress, degenerative changes, ageing, leading to impairment of immune system it becomes the need of time to study the ancient concept of Rasayana to ameliorate the immunesystem. Use of Rasayanas specific to that disease, are mentioned in treatment of each disease, is mentioned in Samhitas. Application of this concept in practice of Ayurveda would only lead to perfect and precise treatment. No doubt, Rasayana is very important view point expressed in classical treatises and is boon to the world.

Khadir (A. catechu) is having Tikta, Kashaya rasa, Sita virya which alleviates Pitta kapha. Acharya Charaka mentioned it as best Kustahara dravya in Agryaprakarana. It has also the properties of Switraghna. Kandugna, Kustagna, Krimihara. The decoction has the important ingredients like catecnin (flavonoid), catechu tannic acid. There by Khadira helps for better absorption. Kashay rasa of khadir holds twakprasadak and raktashodhak properties which ultimately leads to raktaprasadan and reduction of vaivarnyata of skin thus proved best immune-modulatory drug for skin diseases.^[18,19] Acacia catechu extract is having many beneficial properties such as anti-bacterial, anticancer, anti-diarrhoeal, anti-inflammatory, antimicrobial, antifungal, antioxidant, antipyretic, anti-ulcer, antisecretory, hepatoprotective, hypoglycaemic etc.

CONCLUSION

Khadir(*Acacia catechu*) is one of the best example to prove potent as a skin immunomodulator. Kerala as a land of tradition of Ayurveda use decoction of khadir as best result during rainy season. Every restaurant in Kerala serve a red water decoction to all their customers. Even at home this decoction of bark of khadir is used traditionally. Acharya sushrut has beautifully explained its role in various skin ailments. Khadirashtha as best potent drug of choice for skin and khadiradi vati used in shushka kaas. *Acacia catechu* heartwood extract has been studied. Its heartwood extract is rich source of catechin and epicatechin which when studied on mice proved to show anti-inflammatory and immunomodulatory effects. It also concluded that the alcoholic extract of *Acacia catechu* proved more potent than aqueous extract. This proves khadirashtha an example of alcoholic formulation serves best in skin ailments.

REFERENCES

1. Shukla Vidyadhar, Charak Samhita Vol 1, sutrasthan11/3, Chaukhamba Sanskrit Pratishtan, Varanasi, Reprint, 2007; pp-161.
2. Sushruta, Sushruta samhita, edited by Ambikadatta Shastri, Sutrasthana 1/15, Chowkambha Sanskrit Samsthan, Varanasi, reprint, 2007; pp-4.
3. Agnivesa, Charaka Samhitha, with Charaka Chandrika hindi commentary Edited by Dr Brahmanand Tripathi and dr Gangasahay pandey, Chikitsa sthana 1/1/16, Chaukhamba Orientalia, Varanasi, Reprint – 2009; pp-9.
4. Sushruta, Sushruta samhita, edited by Ambikadatta Shastri, Sutrasthana 1/15, Chowkambha Sanskrit Samsthan, Varanasi, reprint, 2007; pp-4.
5. Agnivesa, Charaka Samhitha, Edited by Vaidya Jadavaji Trikamaji Acharya, Chaukhamba Orientalia, Varanasi, Reprint – 2009; pp-738; 143, 144.
6. Vagbhata, Ashtang Hridaya with Vidyotini hindi commentary of Dr Kaviraj Atridev Gupta, uttarsthanam 39/177, Chaukhamba Prakashan, Varanasi, 2009; pp-812.
7. M. A. Sunil et al. /journal of Ayurveda and Integrative Medicine, 2019; 10: 185-191
8. Karnam Chandra Shekhar, Essentials of Dravyaguna, Chowkambha Orientalia, Varanasi, pp-405-406.
9. Khandekar SB, Pansare TA, Satpudke SS. Phytopharmacology of *Acacia catechu* willd: a review. Eur J Pharm Med Res, 2019; 6: 216-23.
10. Sharma PV, Dravyaguna Vigyan, Chowkambha Sanskrit Samsthan, Varanasi, pp-159-162
11. Shukla V, Tripathi RV, editors, Charak Samhita, Sutrasthan, Chapter 25/ 40, Chaukhamba Sanskrit Pratishtan, Delhi, 2009; p- 339.
12. Shukla V, Tripathi RV, editors, Charak Samhita, Chikitsa sthana, chapter 7/ 159, Chaukhamba Sanskrit Pratishtan, Delhi, 2010; p- 200
13. Khandekar SB, Pansare TA, Satpudke SS. Phytopharmacology of *Acacia catechu* willd: a review. Eur J Pharm Med Res, 2019; 6: 216-23.
14. Yogesh Jakhotiya and Vaishali Kuchewar / Int. J. Res. Ayurveda Pharm, 2019; 10(5).
15. Sidney J et al., Antioxidant, Anti-inflammatory, and Chemoprotective properties of *Acacia catechu* Heartwood extract, ncbi. nlm. nih. Gov Shukla V, Charak Samhita Vol 2, chikitsa sthan 1/1/7, Chaukhamba Sanskrit Pratishtan, Varanasi, Reprint, 2007; pp-5.
16. Vagbhata, Ashtang Hridaya with Vidyotini hindi commentary of Dr Kaviraj Atridev Gupta, uttarsthanam 39/177, Chaukhamba Prakashan, Varanasi, 2009; pp-812.
17. Snehal S Sherikar et al: Role Of Khadir –Amalki Kashay Panarth And Bakuchi Lep In Shwitra – A Case Study ;IAMJ: Volume 6, Issue 5, May, 2018; pp-1179.
18. Bhav prakash of Bhavamishra, volume 1, commentary by Dr Bulusu Sitaram, foreworded by Prof k. C. Chunekar, Chaukhamba orientalia, Varanasi shloka no 31-32, vatadi varga.