WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 18, 490-510. Review Article ISSN 2277–7105

A COMPREHENSIVE REVIEW OF BHALLATAKADI CHURNA IN THE MANAGEMENT OF AMAVATA (RHEUMATOID ARTHRITIS): PHARMACOLOGICAL, THERAPEUTIC, AND CLINICAL PERSPECTIVE

Dr. Vinesh Kirade[1*], Dr. Urmila Shukla[2], Dr. Sharad Rathi[3], Dr. Ashish Kag[4], Dr. Pooja Patel[5], Dr. Akanksha Chourasia[6]

[1]MD Scholar Department of Agadtantra Evum Vidhi Vaidyaka Pt. Khushilal Sharma Govt. Ayurvedic College & Institute, Bhopal (M.P.)
[2]Professor MD, Ph.D, HOD Department of Agadtantra Evum Vidhi Vaidyaka Pt. Khushilal Sharma Govt. Ayurvedic College & Institute, Bhopal (M.P.)
[3]I/C Reader, MD, Department of Agadtantra Evum Vidhi Vaidyaka Pt. Khushilal Sharma Govt. Ayurvedic College & Institute, Bhopal (M.P.)
[4]MD Scholar Department of Agadtantra Evum Vidhi Vaidyaka Pt. Khushilal Sharma Govt. Ayurvedic College & Institute, Bhopal (M.P.)
[5]MD Scholar Department of Agadtantra Evum Vidhi Vaidyaka Pt. Khushilal Sharma Govt. Ayurvedic College & Institute, Bhopal (M.P.)
[6]MD Scholar Department of Agadtantra Evum Vidhi Vaidyaka Pt. Khushilal Sharma Govt. Ayurvedic College & Institute, Bhopal (M.P.)

Article Received on 15 August 2026,
Article Revised on 05 Sept. 2026,
Article Published on 16 Sept. 2026,

https://doi.org/10.5281/zenodo.22769062

***Corresponding Author**

Dr. Vinesh Kirade

MD Scholar Department of Agadtantra Evum Vidhi Vaidyaka Pt. Khushilal Sharma Govt. Ayurvedic College & Institute, Bhopal (M.P.)

How to cite this Article: Dr. Vinesh Kirade1*, Dr. Urmila Shukla2, Dr. Sharad Rathi3, Dr. Ashish Kag4, Dr. Pooja Patel5, Dr. Akanksha Chourasia6 (2026). A Comprehensive Review Of Bhallatakadi Churna In The Management Of Amavata (Rheumatoid Arthritis): Pharmacological, Therapeutic, And Clinical Perspective. World Journal of Pharmaceutical Research, 15(18), 490–510.

ABSTRACT

Amavata is a disorder caused by the accumulation of Ama due to impaired Agni and the aggravation of Vata Dosha. In Madhava Nidana (25/6–10), the characteristic symptoms of Amavata include Angamarda (body ache), Aruchi (loss of appetite), Trishna (excessive thirst), Alasya (lassitude), Gaurava (heaviness), Jwara (fever), Apaka (indigestion), and Shunata Anganam (swelling of body parts). The disease predominantly affects joints such as the hands, feet, ankles, knees, hips, and shoulders, producing severe pain, swelling, stiffness, and restricted movement. Associated features include excessive salivation, anorexia, fatigue, burning sensation, polyuria, abdominal distension, constipation, sleep disturbances, nausea, giddiness, and generalized weakness. Clinically, Amavata closely resembles Rheumatoid Arthritis, a chronic systemic autoimmune disease characterized by symmetrical polyarthritis, synovial inflammation, and

progressive joint destruction. Ayurvedic treatment aims to perform Deepana, Pachana, Ama Shoshana, and Vata-Kapha Shamana. Bhallatakadi Churna possesses Katu-Tikta Rasa, Ushna Virya, and Katu Vipaka, which help digest Ama, stimulate Agni, reduce inflammation, and alleviate pain and stiffness. Modern studies have demonstrated that Semecarpus anacardium exhibits anti-inflammatory, analgesic, antioxidant, and immunomodulatory properties, supporting its utility in inflammatory and autoimmune disorders. This review article aims to critically evaluate classical references, pharmacodynamic properties, and available scientific evidence regarding Bhallatakadi Churna in the management of Amavata (Rheumatoid Arthritis). Based on Ayurvedic principles and contemporary pharmacological data, Bhallatakadi Churna appears to be a promising and rational therapeutic option for reducing disease activity and improving quality of life in patients with Amavata.

KEYWORDS: Bhallatakadi Churna (Bhallataka, Harad, Tila), Amavata, Rheumatoid Arthritis.

INTRODUCTION

In Ayurveda Amavata is a disease described, as a separate clinical entity for the first time in 7th century by Acharya Madhavakar resembles with Rheumatoid Arthritis (RA) is a disease of the connective tissue mainly involving the joints and characterized by pain, swelling, morning stiffness and loss of movements.

In yogaratnakarn Amavata chikitsha Acharya Yog Ratnakar indicate the use of bhallatakadi churna in the management of Amavata (Rheumatoid Arthritis).[1]

Rheumatoid Arthritis (RA) is a chronic, progressive autoimmune disorder characterized by persistent synovial inflammation, symmetrical polyarthritis, and gradual destruction of cartilage and bone. It affects approximately 0.5–1% of the global population.[2]

It predominantly affects females, with a male-to-female ratio of 1: 2 to 1: 3, and can manifest at any age, peaking around 60 years.[3][4]

The incidence of RA displays both temporal and geographical variability, likely influenced by genetic and environmental factors.[5] Among these, smoking is a well-established environmental risk factor.[6]

DRUG REVIEW

[illegible]

[illegible]

Bhallatakadi Churna consists of 3 drug Bhallatak, harada and tilla.

1. Bhallataka

Botanical Name - Semicarpus anacardium Linn·

Family Name: - Anacardiaceae.

Varnacular Name of Bhallataka

Language	Varnacular Name
Sansktita	Bhallataka, Agnimukha, Arushkara, Tapan, Dhanurbeeja.
Hindi	Bhilawa, Bhela
English	Marking Nut Tree, Oriental Cashew

Table 1: Synonyms of Bhallataka as per different Acharyas.

Synonyms	C.Sa[7]	Ad.Ni[8]	Mp.Ni[9]	Kd.Ni[10]	R.Ni[11]	Bp.Ni[12]
Bhallataka	+	+	+	+	+	+
Veeravriksha	-	+	+	-	-	+
Aarushkara	-	+	+	+	+	+
Agnimukhi	-	+	+	+	-	+
Shophahetu	-	+	-	-	-	-
Shailabeeja	-	-	-	-	-	-
Tail beeja	-	-	-	-	+	-
Prithakbeeja	-	-	-	-	+	-
Dhanurbeeja	-	-	-	+	+	-
Veerataru	-	-	-	-	+	-
Nabovalli	-	-	+	-	+	-
Ruksha	-	-	+	-	-	-
Tapana	-	-	+	-	+	-
Dhanusha	-	-	+	-	-	+
Agnika	-	-	-	-	+	+
Bhalli	-	-	-	+	-	+
Shophakruth	-	-	-	-	-	+
Anala	-	-	-	+	+	-
Vranakrith	-	-	-	+	-	-
Dahana	-	-	-	-	+	-
Krimighana	-	-	-	-	+	-
Vatari	-	-	-	-	+	-
Sphotbeejaka	-	-	-	+	+	-
Bhallata	-	-	-	-	+	-
Vijayatapah	-	-	-	-	+	-
Vahni	-	-	-	-	+	-
Dhanu	-	-	-	+	-	-

Ranchaka	-	-	-	-	-	-
Raktaphala	-	-	-	-	-	-
Bhutanashana	-	-	-	-	-	-
Bhallataki	-	-	-	-	-	-
Antasatva	-	-	-	-	-	-

Table 3: Varga/ganas in which Bhallataka is mentioned.

Vargas/Ganas	C.Sa.[7]	Ad.Ni.[8]	Mp.Ni.[9]	Kd.Ni.[10]	R.Ni.[11]	Bp.Ni.[12]
Bhallatakadi	-	+	-	-	-	-
Hareetakyadi	-	-	+	-	-	+
Chandanaadi	-	-	-	-	-	-
Oshadi	-	-	-	+	-	-
Ashtavarga	-	-	-	-	-	-
Amradi	-	-	-	-	+	-
Kushtagna	+	-	-	-	-	-
Deepaniya	+	-	-	-	-	-
Mutrasangrahaniya	+	-	-	-	-	-
Bhedaniya	+	-	-	-	-	-
Nyagrodadi	-	-	-	-	-	-
Mustadi	-	-	-	-	-	-

Ayurvedic Properties of Bhallataka (Semecarpus anacardium)[13]

Ayurveda Parameter	Description
Dravya (Drug)	Bhallataka
Rasa (Taste)	Katu (pungent), Tikta(Bitter), Kashaya(Astringent)
Guna (Qualities)	Laghu(Light), Ruksha(Dry), Tikshna(sharp), Sara
Virya (Potency)	Usna (Hot)
Vipaka (Post-digestive effect)	Katu
Dosha Karma	Kapha-Vata Shamana, may aggravate pitta if misused.
Prabhava (Specific Action)	Lekhana (Scrubing), Deepana (Enhance Digestion) Bhedana .

USEFUL PARTS: Fruits and flowers.

DOSAGE: 1.2 g of the drug in Ksheerapaka form (According to API).

Therapeutic Indications of Bhallataka (Semecarpus anacardium) According to Ayurveda.

S.NO.	Ayurvedic Indication	Modern Correlation	Basis of Action
1.	Arsha	Haemorrhoid	Lekhan, Deepan, Bhedana
2.	Kushtha	Skin disease (eczema, psoriasis, leprosy)	Kushthaghana, Shothahara
3.	Gulma	Abdominal lump tumor-like condition	Tikshana, Lekhana
4.	Grahini	IBS, malabsorption syndrome	Agnideepan, Aampachana
5.	Prameha	Diabetes, polyuria	Medoghna, Kaphahara
6.	Krimi	Helminthic infestations	Krimighna

7.	Vataroga	Arthritis neurological disorder	Uahna, Vedanasthapana
8.	Shotha	Inflammatory condition	Shothahara
9.	Amavata	Rheumatoid arthritis	Aampachana, Vata-Kapha shamak
10.	Kasa	Cough	Kapha Vilayana
11.	Shwasa	Bronchial Asthma	Ushna, Kapha shoshana
12.	Udara Roga	Ascites, abdominal disorders	Bhedana, Deepana
13.	Vrana	Chronic ulcer (external use)	Shodhana, Ropana
14.	Shopha	Edema	Lekhana, Ushna
15.	Arbuda	Tumor (as per classical view)	Lekhana, Tikshana

Chemical Composition of Bhallataka (Semecarpus anacardium), Pharmacological Action and Therapeutic Uses.[14]

Chemical Constituent	Chemical Nature	Pharmacological Action	Therapeutic Uses Indicated Diseases
Bhilawanol	Phenolic compound (catrchol derivative)	Anti-inflammatory, antimicrobial, cytotoxic, vesicant(irritant)	Skin disease (Kushtha), chronic ulcers rheumatism, caution due to irritant nature
Semecarpol	Monohydroxy phenol	Anti-inflammatory, analgesics, anti-cancer, antioxidant	Tumors (Arbuda), inflammatory, pain, chronic skin disorder
Anacardiac acids	Salicylic acid derivatives	Antimicrobial, Anti-inflammatory, antioxidant	Infection, skin disease, inflammatory conditions
Cardol	Phenolic lipid	Immunomodulatory, Anti-inflammatory, antioxidant	Autoimmune disorders, skin diseases, chronic inflammatory conditions
Cardanol	Phenolic Compound	Antioxidant, anti-cancer, neuroprotective	Degenerative diseases, cancer, oxidative, stress-related disorder
Flavonoid	Polyphenolic Compound	Anti-inflammatory, antioxidant, hepatoprotective	Liver disorder, inflammatory diseases, metabolic disorders
Tannis	Polyphenolic Compound	Astringent, antimicrobial, wound healing	Diarrhea, bleeding disorder, wound, ulcers
Fixed oils	Fatty acids	Emollient, Anti-inflammatory	External application in skin diseases and joint pain
Glycosides	Secondary metabolites	Digestive stimulant, anti-helminthic	Helminthic infestation (Krimi), digestive disoders
Steroids (phytosteroid)	Plant sterols	Anti-inflammatory, Immunomodulatory	Arthritis, autoimmune and inflammatory disorders

2. Harada

Botanical Name: - Terminalia chebula

Family Name: - Combretaceae

Varnacular Name of Harada

Language	Name
Sanskrit	Abhaya
Asamese	Asamese
Bengali	Haritaki
English	Myrobalan
Gujrati	Hirdo
Kannada	Alalekai
Kashmiri	Halela
Malayalam	Katukka
Marathi	Hirda
Oriya	Harida
Punjabi	Halela
Tamil	Kadukkai
Telugu	Karakkai
Hindi	Harre

Synonyms of Harada

Synonyms	D.N.	A.N.	R.N.	B.P.	K.N.
Haritaki	+	+	+	+	+
Vijaya	+	+	+	+	+
Rohini	+	+	+	+	+
Amrita	+	+	+	+	+
Shaklasreshta	-	-	-	-	-
Abhaya	+	+	+	+	+
Airytha	-	-	-	-	-
Pramatha	-	-	-	-	-
Amogh	-	-	-	-	
Kayastha	+	+	+	+	+
Prapathya	-	-	+	-	+
Divya	-	-	+	-	-
Pranada	+	-	+	+	+
Jiva	-	-	+	-	-
Putana	+	+	+	+	+
Shreyasi	+	+	+	+	+
Chetki	+	+	-	+	+
Balyi	-	-	-	-	+
Pathya	+	+	+	+	+
Jivya Priya	-	-	+	+	-
Bhisak Priya	-	+	+	-	-
Pachani	-	+	-	-	-

Table 3: Varga/ganas in which Harad is mentioned.

S.No.	AsperAcharyas	Ghana/Varga
1	Charaka	Prajasthapana, Jwaragna, Kasagna, Arshogna ghana.
2	Sushruta	Triphala, Amlakyadi, Parushakadighana.
3	Ashtanga Hriday	Haritakyadi Varga, Triphala.

4	Ashtanga Sangraha	Arshogna, Kusthagna, Hidhma, Nigraha, Kasagna, Garbhasthapan, Vayasthapana, VarunadiGana
5	Bhavaprakasha Nighantu	Haritakyadi Varga
6	Adarsh Nighantu	Haritakyadi Varga
7	Raj Nighantu	Amradi Varga
8	Kaidev Nighantu	Aushadhi Varga
9	Dhanvantari Nighantu	Guduchyadi Varga

Ayurvedic Properties of Harada (Teminalia chebula)[15]

Samhita/Nighantu	Rasa	Guna	Veerya	Vipaka
Charak Samhita	Kashay Pradhan panchras	Laghu, Ruksha	Ushna	Madhura
Sushruta Samhita	Kashay Pradhan panchras	Laghu, Ruksha	Ushna	Madhura
Astanga Hridaya	Kashay Pradhan panchras	Laghu, Ruksha	Ushna	Madhura
Adarsha Nighantu	Kashay Pradhan panchras	Laghu, Ruksha	Ushna	Madhura
Bhavapraksha Nighantu	Kashay Pradhan panchras	Ushna	Ushna	Madhura
Raja Nighantu	Lavanarahita pancharasa	-	-	-
Kaidev Nighantu	Kashay Pradhan panchras	Ruksha, Laghuta	Ushna	Madhura
Madanaphala Nighantu	Lavanarahita pancharasa	Ushna, Ruksha	-	Madhura
Dhanvantari Nighantu	Lavana rahita pancharasa	Ruksha	-	-

USEFUL PARTS: Fruits

DOSAGE: 3 – 6 gm of the drug in powder form.

(According to API).

Important Formulation TriphaladiTaila, Triphalachurna, Abhayarista, Agastya Haritaki Rasayana, ChitrakaHaritaki, DantiHaritaki, DashamulaHaritaki, DantiHaritali, Rasayana, AbhayaLavanaa, Pathyadilepa.

Chemical composition: A number of glycosides have been isolated from Terminalia chebula, including the triterpenes, arjunglucoside I, arjungenin & the chebulosides I & II. Other constituents include a coumarin conjugated with gallic acid called Chebulin as well as other phenolic compound including ellagic acid, chebulinic acid, gallic acid, ethyl gallate, punicalagin, terflavin A, terchebin, luteolin and tannic acid.[16][17] Chebulic acid is a phenolic acid compound isolated from the ripe fruits.[18][19] Luteic acid can be isolated from the bark.[20] T. chebula also contain terflavin B, a type of tannin, while chebulinic acid is found in the fruits.[21] The major bio-active constituent of the fruits are tannins, anthraquinones, chebulinic acids, chebulagic acid, chebulic acid, ellagic acid and gallic acid. The other minor compounds include corilegin, glucose & sorbitol. Polyphenolic compounds, triterpene glycosides. A flavonoids, reducing sugars & starch are other constituent of the fruits.

Pharmacological Action

1. Anti-inflammatory & anti-arthritic activity

I. Aqueous extract of dried fruit of T. chebula showed anti-inflammatory activity by inhibiting inducible nitric oxide synthesis.[22]

II. Chebulic acid from immature seeds of T. chebula significantly suppressed the onset and progression of collagen induced mice.[23]

III. Terminalia chebula in polyherbal formulation (Aller-7) exhibited a dose dependant anti inflammatory effect against Freund's adjuvant induced arthritis in rats.[24]

2. Antioxidant & free radical scavenging activity

I. Six extract and four compound of Terminalia chebula fruit exhibited antioxidant activity & phenolic compound were found to be responsible for this activity.[25]

II. The leaves, bark & fruit of Terminalia chebula possessed high antioxidant activity and phenolic were found to be responsible for this activity.[26]

III. Terminalia chebula in polyherbal formulation (Aller-7/NR-A2) inhibited free radical induced haemolysis and also significantly inhibited nitric oxide release from lipopolysaccharide stimulated murine macrophages.[27]

IV. Strong antioxidant activity of aqueous extract of Terminalia chebula was observed by studying the inhibition of radiation induced lipid peroxidation in rat liver microsomesat different doses.[28]

3. Cardioprotective activity

Terminalia chebula extract pretreatment was found to ameliorate the effect of isoproterenol on lipid peroxide formation and retained the activities of the diagnostic marker enzymes in isoproterenol induced myocardial damage in rats. Its pericarp has also been reported to have cardioprotective activity in isolated frog heart model.[29]

4. Hepato protectiveactivity

T.chebulaextractmayreportedlys urpassthe2-acetylaminofluoreneinstigated drug resistance and oxidative stress in the hepatic tissue and nullify the probable neoplastic transformation resulting in hepatocarcinoma by inhibiting the expression of multi drug resistance 1viapreventionofcyclooxygenase-2(COX 2) expression and ROS generation through MAPK and Akt signalling (Nishanth, Prasad, Jyotsna, Reddy, & Reddanna, 2014). Furthermore, T. chebula averted the hepatotoxicity resulted by the application of isoniazid, pyrazinamideandrifampicin (in combination) inasub-chronicmodepossibly

viaitsnotablemembrane stabilizing and anti oxidative activities (Tasduq et al., 2006). Similarly, the water extractof T. chebula, attenuated the elevation of serum liver enzymes aspartate transaminase, alaninetrans-aminase and lactate dehydrogenase level exerting a hepatoprotective effect against t-BHP-inducedliver injuryin C57/BL6 mice.[30]

5. Anti hyperlipidaemic and hypocholesterolemic activity

It was reported that in hyperlipidaemic model of rats induced by atherogenic diet, the treatment with T. chebula on such ratmodels exhibited resulted into decline in triglycerides, total cholesterol, total protein and increase in high density lipoprotein cholesterol thus revealing its hypolipidemic activity(Maruthappan & Shree, 2010). Other reported that oral administration of T.chebulato mice on atherogenic diet had successfully alleviated the effects related to high cholesterol containing diet as; body weight, serum cholesterol, triglyceride, thickening of the walls of aorta and shrinkage in its lumen(Rathore, Soni, & Bhatnagar, 2004).[30]

6. Immunomodulatory activity

The immunosuppressive response of CA and gallic acid, isolated from T.chebula, were found to block the CTL mediated cytotoxicity via blocking granular exocytosis in response to anti-CD3 stimulation (García Sevillano et al., 2014). Aher and Wahi (2010) reported that T. chebula alcoholic extract shows immunomodulatory activity on male Wistar rats as evident by increased in neutrophils, lymphocytes and linear time dependent significant phagocytic activity with increase in the immunoglobulin level (Aher & Wahi, 2010). Aher and Wahi (2011) has explored the immunomodulatory of the dried ripe fruits of T. chebula at cellular level. The immunological effect was examined and the study reported that treatment with T.chebulaextract has elevated the level of glutathione, superoxide dis mutase and catalase(25.36, 252.22 and 273.32 units/mg protein, respectively), while the extract has decreased the level of LPOto 68.01 nmolMDA/gHb.[30]

7. Skin Disorders

It is useful in skin disorder with discharges like allergies, urticaria and other erythematous disorders.[31]

8. Antispasmodic activity

One of the numerous studies of Terminalia chebula demonstrated its ‘anti-vata’ or antispasmodic properties by the reduction of abnormal blood pressure as well as intestinal

spasms. This confirms its traditional usefulness for spastic colon and other intestinal disorders.[32]

9. Wound healing activity

Topical administration of an alcoholic extract of Terminalia chebula leaves on the healing of rat dermal wounds showed that Terminalia chebula treated wound healed faster as salivary bacterial for upto 90 min post rinsing.[33]

10. Purgative property

Purgative action of an oil fraction from Terminalia chebula has been documented.[34]

Concept of Ritu Haritaki[35]

Sr. No	Ritu	Dosha Avastha	Anupana	Guna Karma of Anupanadravya
1	Varsha (Rainyseason)	Vata Prakopa, Pitta Sanchay	Saindhav	Vrushya, Tridoshhara
2	Sharada (Autumn)	Pitta Prakopa, Vata Prasham	Sharkara	Vrushya, Vata pitta shamaka
3	Hemanta (winter)	Pitta Prasham	Shunthi	Vrushya, Vata Kapha shamak
4	Shishira (winter)	Kapha Sanchay	Pippali	Vrushya, Kapha pitta shamak
5	Vasanta (spring)	Kapha prakopa	Madhu	Vrushya, Tridosha shamak
6	Grishma (Summer)	Vata Sanchay, Kapha prasham	Guda	Vrushya, Tridosha shamaka

3. KRISHNA TILL

Botanical Name: - Sesamum indicum

Family Name: - Pedaliaceae

Varnacular Name of Krishna Till

Language	Name
English	Black Sesame
Sanskrit	Krishna Til
Hindi	Kala Til
Marathi	Kalo Tal
Gujarati	Kalo Tal
Tamil	Karuppu Ell
Telugu	Nalla Nuvvulu
Kannada	Kappu Ellu
Bengali	Kalo Til
Malayalam	Karimell
Punjabi	Kala Til

Synonyms with its meaning

a. **Tailphala –** The seeds from the fruit have oil in it. Has pooti(vishistagandh)in it.

b. **Vanodbhava-** Herb which is found in the forest.

c. **Krushnatailka-** The colour of the oil is dark brown to blackish.

d. **Snehaphala-** The seeds from the fruit have Sneha blackish in nature.

Ayurvedic Properties[36][37]

Rasa	Madhura (sweet), Tikta (bitter)
Guna	Guru (heavy), Snigdha (unctuous)
Veerya	Ushna (hot)
Vipaka	Madhura
Dosha effect	Pacifies Vāta, increases Kapha mildly, and supports Pitta when used moderately.

Flowering and fruiting – August to November

Substitutes and Adulterants: Sesamum oil used as substitutes and adulterant Olive oil and Almond oil.

Important Formulation- Tila Taila, Jatyadi Taila, Mahanarayana Taila, Ksheerabala Taila, Bhringaraja Taila.

Therapeutic Uses- Udavarta, Yonishula, Gulma, Udara, Anaha, Shira shula, Parasava shula, Amashula, Raktarsha, Gudabhrmsha, Kasa, swasa, Pravahika, Visarpa, Hikka, Pinasa, Vatarakta, Pradara, Ashmari, Nadi Vrana, Kushtha, svitra, Granthi, Upadamsha, Vidaraka, Alasa, Khalitya, Palitya, Akshiroga, Pratishyaya, sankhaka, shakuni Graha, Kumara, Kshaya, Krumi, Mutraghata, Dantaroga, Dantaharsha, Vatika Mukharoga, Atidagdha, Trusna, Pliharoga, Galaganda, Karnapali shotha.[38]

Medicinal Uses

External Applications (Bāhya Prayoga)[39]

a. Abhyanga (Oil Massage)

Sesame oil (Tila Taila) is the most recommended base oil for Abhyanga (daily massage).

- Strengthens muscles, joints, and bones.
- Reduces Vāta and stiffness.
- Improves sleep and relieves fatigue.
- Nourishes the skin and delays wrinkling.

b. Nasya (Nasal Therapy)

Tila Taila is used for nasal instillation in Vāta disorders of the head, promoting mental clarity and lubricating nasal passages.

c. Karna Purana (Ear Drops)

Warm sesame oil instilled in the ears helps relieve Vātika ear pain and tinnitus.

d. Murdhni Taila (Head Oil Application)

Applied to scalp for promoting hair growth, preventing dandruff, and maintaining black, strong hair.

e. Wound Healing

Sesame oil, due to its vrana-ropaka (wound healing) property, is applied externally in chronic ulcers and wounds, often as part of medicated oil formulations like Jatyadi Taila.

Internal Uses (Antar Prayoga)

As Food and Medicine

- Used as an essential oil in cooking and medicinal preparations.
- Taken with jaggery or milk for nourishment and as a general tonic.
- Seeds are roasted or ground into paste for internal use.

b. In Digestive Disorders

- Acts as a mild laxative and digestive stimulant.
- Helps balance Vāta in intestines.

in Vāta-vyadhi (degenerative and neurological conditions.)

c. In Bone and Joint Disorders

- Useful such as arthritis, sciatica, and joint stiffness.

d. In Reproductive and Sexual Health

- Acts as an aphrodisiac (Vṛṣya).
- Enhances semen quality and libido.
- Used in formulations for male and female infertility.

e. In Dental and Oral Care

- Gandusha (oil pulling) with sesame oil strengthens gums, prevents dental caries, and maintains oral hygiene.

f. In Skin and Hair Care

- Regular use of sesame oil improves skin luster, prevents dryness, and delays aging.
- Internally, black sesame supports pigmentation and prevents premature graying of hair.

Modern Correlation

Scientific studies correlate traditional uses with antioxidant, anti-inflammatory, and rejuvenative properties attributed to lignans (sesamin, sesamol) and essential fatty acids. These compounds contribute to cellular protection, lipid regulation, and skin-nervous system support, paralleling the classical rasāyana and Vātahara actions of Tila.[40]

Pharmacological activities[41][42][43][44][45]

A growing body of preclinical and clinical literature reports multiple effects relevant to both Ayurveda and modern medicine.

- **Antioxidant & anti-inflammatory:** In vitro and in vivo, lignans (sesamol, sesamin) exhibit potent free-radical scavenging and inflammatory mediator suppression. Sesame extracts and oils exhibit strong antioxidant properties in a number of in vitro and in vivo investigations, which are mostly ascribed to lignans (sesamol, sesamin) and tocopherols. In liver and brain tissues, antioxidant assays and animal research consistently demonstrate a decrease in lipid peroxidation, scavenging of free radicals, and defense against oxidative stress. Antioxidant potential in seed, oil, and roasted preparations is confirmed by systematic reviews.

- **Anti-inflammatory effects-** According to preclinical models, sesame oil and extracted lignans lower inflammatory indicators (such as COX-2 regulation and cytokine suppression); mechanistic and molecular docking investigations show a direct contact with inflammatory pathways. Small clinical trials and human supplementation studies that demonstrate reductions in systemic inflammatory markers provide credence to the clinical significance.

- **Cardiometabolic benefits:** Sesame seed/oil or lignan supplementation has been shown to reduce cholesterol, improve dyslipidemia, and have mild glycemic advantages; these effects

are probably mediated by lignans, unsaturated fats, and antioxidant activity. Numerous studies on humans and animals are synthesized in thorough and methodical evaluations.

- **Hepatoprotective & nephroprotective:** Hepatoprotective and nephroprotective effects are demonstrated by preclinical animals through anti-inflammatory and antioxidant pathways. Positive lipid modulation, endothelial enhancement, and antioxidative stabilization of LDL are the sources of cardiovascular protection. Improvements in surrogate cardiovascular risk indicators are supported by human interventional trials.

- **Neuroprotective & anti-aging claims:** Although human research is still in its infancy, antioxidant and micronutrient content are in line with neuroprotection theories. Antioxidant and neuroprotective evidence provide a partial molecular basis for traditional rasāyana applications (rejuvenation, hair, and cognitive support); animal studies demonstrate improved memory and protection against neurotoxicity. Strong human clinical trials that particularly address cognitive aging are still scarce, nevertheless.

- **Wound-healing and topical uses:** Sesame oil has both traditional and contemporary support for topical applications. Its lubricating, anti-inflammatory, and mildly antimicrobial qualities make it a valuable ingredient for dermal formulations, massage oil (abhyanga), and adjuncts for wound dressings. Larger studies are required to examine clinical outcomes in trauma or topical diseases.

Other Practical Applications of sesamum oil[46]

Recommended pragmatic uses aligned with classical rasāyana practice and modern evidence:

1. A daily small-dose of black sesame seeds (e.g., 5–15 g, depending on digestive capacity and individual constitution) as a nutritional rasāyana.
2. Preparations of medicated sesame oil (such as tila taila, specific kashayas, or herbalized oils) for external abhyanga, nasya, and keshya treatments to promote local nourishment and hair health.
3. Adjunct dietary substitution: to maximize metabolic advantages while keeping calorie intake under control, replace less healthful fats in the diet with sesame oil.
4. Standardization: Practitioners should refrain from endorsing high-dose purified extracts in the absence of safety data and instead favor products that are well-characterized, indicating seed color, cultivar, roasting, and extraction method.

Rasāyana (Rejuvenative and Nutritional) Use[47]

As a rasāyana Dravya, Krishna Tila is regarded as a revitalizing and tissue-nourishing agent. strengthens and prolongs life (Bala vardhaka). improved fertility and reproductive health (Vṛṣya). nourishes all of the body's tissues, or Dhātus, but particularly the bones (Asthi) and reproductive tissue (Shukra). improves vigor, voice, and complexion. prevents hair graying and premature aging. used in formulations of Rasāyana to encourage vitality in general.

Clinical evidence & human studies

Although impact sizes and quality vary, and some trials are small or heterogeneous, recent meta-analyses/reviews and clinical trials suggest positive effects of sesame supplementation on lipid profiles, inflammatory markers, and glycemic indices in adults. Sesame supplementation improves glycemic management and inflammatory indicators, according to a 2025 clinical-evidence summary, but it also urges larger, better RCTs. Overall: encouraging clinical signs that require additional testing using standardized dosages and formulations.

Gaps, limitations & future research directions.

1. **Standardization:** need standardized extracts (sesamin/sesamolin content) and clear reporting of seed type (black vs white), processing (roasted/raw), and oil extraction method.
2. **High-quality RCTs:** larger, placebo-controlled RCTs with clinically relevant endpoints (cardiometabolic outcomes, bone density, cognitive function) and longer follow-up.
3. **Mechanistic human studies:** pharmacokinetics of lignans in diverse populations, interaction with gut microbiota (conversion to enterolignans), and gene–nutrient interactions.
4. **Safety & population studies:** evaluation in vulnerable groups (pregnancy, children, severe hepatic/renal disease) and allergy surveillance (sesame is a recognized food allergen in many countries).

DISCUSSION

Amavata is a complex disease in Ayurveda resulting from the simultaneous involvement of Ama and vitiated Vata Dosha**.** Impairment of Jatharagni leads to the formation of Ama, which circulates through the body and localizes in the joints under the influence of aggravated Vata. This results in pain, swelling, stiffness, tenderness, and restriction of joint movements. The Ayurvedic line of treatment therefore emphasizes Deepana (enhancement of Jatharagni), Pachana (digestion of Ama), Ama Shoshana (elimination of toxic metabolites), Vata-Kapha Shamana, and Shothahara (anti-inflammatory) therapy**.** Bhallatakadi Churna is formulated

according to these principles and has been traditionally recommended in Yogaratnakara for the management of Amavata.

The ingredients of Bhallatakadi Churna—Bhallataka (Semecarpus anacardium), Harada (Terminalia chebula), and Tila (Sesamum indicum) act synergistically to address the underlying pathogenesis of Amavata. Bhallataka possesses Katu-Tikta Rasa, Ushna Virya, and Katu Vipaka**,** which promote Agni, digest Ama, and pacify aggravated Vata and Kapha Dosha. Harada acts as a mild laxative, Deepana-Pachana, and Rasayana drug, helping to eliminate accumulated Ama and regulate bowel function, while Tila provides nourishment to the Asthi and Sandhi, supports joint strength, and enhances the bioavailability of the formulation.

From a pharmacological perspective, modern scientific studies have demonstrated that Semecarpus anacardium exhibits significant anti-inflammatory, analgesic, antioxidant, immunomodulatory, and anti-arthritic activities. Experimental studies suggest that its bioactive constituents inhibit inflammatory mediators such as TNF-α, IL-1β, IL-6, COX-2, and prostaglandins, thereby reducing synovial inflammation and preventing progressive cartilage damage. Its antioxidant activity further minimizes oxidative stress, which plays a crucial role in the pathogenesis of Rheumatoid Arthritis. The immunomodulatory effect may also contribute to regulating abnormal immune responses responsible for autoimmune joint destruction.

Haritaki contributes additional anti-inflammatory and antioxidant effects while improving gastrointestinal function, thereby reducing Ama formation. Tila contains essential fatty acids, lignans, vitamin E, and minerals that exhibit antioxidant activity and help maintain joint lubrication and tissue repair. The combined pharmacological properties of these ingredients provide a scientific rationale for the traditional use of Bhallatakadi Churna in inflammatory joint disorders.

Rheumatoid Arthritis is currently managed with NSAIDs, corticosteroids, DMARDs, and biological agents, which effectively control disease activity but are frequently associated with adverse effects during prolonged therapy. Ayurvedic formulations such as Bhallatakadi Churna may offer a complementary therapeutic approach by addressing both the systemic pathology and symptomatic manifestations of the disease. By improving digestion, reducing inflammatory mediators, modulating immune responses, and relieving pain and stiffness,

Bhallatakadi Churna may improve functional capacity and quality of life in patients with Amavata.

However, despite encouraging experimental and traditional evidence, the available clinical studies on Bhallatakadi Churna remain limited in number and sample size. Most published studies are observational or involve small patient populations. Large-scale randomized controlled clinical trials with standardized formulations, validated outcome measures, and long-term safety assessments are still required to establish its efficacy and safety conclusively. Furthermore, since Bhallataka is included under Schedule E(1) drugs of the Ayurvedic Pharmacopoeia, proper purification **(**Shodhana**)** and judicious therapeutic administration are essential to minimize adverse reactions and ensure patient safety.

Overall, the available classical evidence and modern pharmacological research indicate that Bhallatakadi Churna possesses a rational therapeutic basis for the management of Amavata (Rheumatoid Arthritis). Its multidimensional mechanism of action aligns well with both Ayurvedic concepts and the contemporary understanding of autoimmune inflammatory disorders.

CONCLUSION

Amavata is a chronic inflammatory disorder resulting from the formation of Ama due to impaired Agni along with the aggravation of Vata Dosha, and it closely resembles Rheumatoid Arthritis in terms of clinical presentation. Effective management requires elimination of Ama, restoration of Agni, pacification of Vata-Kapha Dosha, and reduction of inflammation. Bhallatakadi Churna, as described in Yogaratnakara, fulfills these therapeutic objectives through its Deepana, Pachana, Ama Shoshana, Vata-Kapha Shamana, Shothahara, and Rasayana properties.

The formulation combines the therapeutic potential of Bhallataka, Haritaki, and Tila, which collectively exhibit anti-inflammatory, analgesic, antioxidant, immunomodulatory, and anti-arthritic activities. Contemporary pharmacological studies support many of these traditional claims by demonstrating inhibition of inflammatory cytokines, reduction of oxidative stress, and modulation of immune responses involved in Rheumatoid Arthritis. These findings provide scientific validation for the classical Ayurvedic use of Bhallatakadi Churna in Amavata.

Although existing experimental and preliminary clinical evidence is promising, further well-designed multicentric randomized controlled trials are necessary to establish standardized dosage, long-term safety, and clinical efficacy. Considering appropriate Shodhana of Bhallataka and careful patient selection, Bhallatakadi Churna can be regarded as a promising, evidence-supported, and rational Ayurvedic therapeutic option for the management of Amavata (Rheumatoid Arthritis), with the potential to reduce disease activity, improve joint function, and enhance patients' quality of life.

REFERENCE

1. Shasrti Kashinath, Chaturvedi Gorakhnath, edited Charak Samhita of Agnivesh, revised by Charaka and Dridhbala, part-1, Chaukhambha Bharati Academy, Varanasi, 2019: Sutra Sthan Chapter 01. p5(verse 7).
2. Aletaha, D. & Smolen, J. S. Diagnosis and management of rheumatoid arthritis. Jama, 2018; **320**(13): 1360.
3. Okada, Y. et al. Genetics of rheumatoid arthritis: 2018 status. Ann Rheum Dis, 2019; **78**(4): 446–453.
4. Serhal, L. et al. Rheumatoid arthritis in the elderly: Characteristics and treatment considerations. Autoimmun. Rev, 2020; **19**(6): 102528.
5. Myasoedova, E. et al. Is the epidemiology of rheumatoid arthritis changing? Results from a population-based incidence study, 1985–2014. Ann Rheum Dis, 2020; **79**(4): 440–444.
6. Ishikawa, Y. & Terao, C. The impact of cigarette smoking on risk of rheumatoid arthritis: A narrative review. Cells, 2020; **9**(2): 2020.
7. Agnivesha. CharakaSamhitha. Text with English translation and critical exposition based on CakrapaniDattas Ayurveda dipika, by R.K Sharma, Bhagwan Dash. Varanasi chaukhamba Sanskrit series office; volume-3, chikitsa sthana, 1st chapter, 2015; 13: 34.
8. GaVaidhyaBapalal. AdarshaNighantu. V. Ayurveda series, Varanasi: Chaukhamba Bharathi Academy publication. Volume-1, Bhallatakadivarga, 2005; 314.
9. Madanapala Nripa. Madanapalanighantu. Mumbai: Khema raja srikrishnadasa Prakasana; hareetakyadi varga, 80th, 2004; 51.
10. Sharma Priyamvatha, Sharma Kaiyadevanighantu. Varanasi: guru Prasad. Chaukhamba Orientalia. oshadhivarga, 1979; 465: 60.
11. TripatiIndradeva. Raja Dravyagunaprakashika Hindi Nighantu, vyakyopethana, krishnadasa Ayurveda series no: 5, 3rdedition, Varanasi: Chaukhamba krishnadas academy, 2003; 66-67: 352.

12. Bhavaprakasha. BhavaprakashaNighantu. Indian material medica, by Prof. Krishna chand Chunekar, forwarded by Dr. Ganga sahayapandya, Varanasi: Chaukhamba Bharathi Academy; hareetakyadivarga, 1998; 228: 196.
13. S. Patil, K.Gumna, Md. Mateenuddin, Aqueous extract of S. anacardium fruit showed significant anti inflammatory effect, IJCRR, 2013; 5(20): 101-104.
14. K. Raghunathan & Miss.RomaMitra, Pharmacognosy of Indigenous Drugs, CCRAS, New Delhi, 2nd reprint, 2005; I: 184-194.
15. Dr Sonali Kad. A Review Article on Haritaki (Terminalia Chebula Retz.), IJPRA 2023; 8(3): 2876-2887.
16. Govt. of India. The Ayurvedic pharmacopoeia of India. New Delhi; Government of India Ministry of Health an d Family Welfare Department of Indian System of Medicine and Homeopathy, 2001; p47.
17. Gupta AK, Tandon N, Sharma M, Quality standard of Indian medicinal plant. New Delhi: Indian Council of Medical Research, 2003; pp.207-209.
18. Sukhdev SH, Deepak M, Joseph GVR, Joseph S, Nagar G. Indian herbal pharmacopoeia. Vol II. Jammu Tawi: IDM, Mumbai and RRL, CSIR, 1999; pp.154.
19. AslokarLV, Kakkar KK, Chakre OJ. New Delhi: Publications and Information's Directorate, CSIR; 1992. Glossary of Indian Medicinal plants with active priciples.
20. Kumar A, Lakshman K, Jayaveera K, Satish K, Tripathi SM. Estimation of rutin and quercetin Terminalia chebula by HPLC. Int J AesthAntiag Med, 2009; 2(1): 3.
21. Jayantkumar K, Effect of geographical variation on the content of tannic acid, gallic acid, chebulinic acid and ethyl gallate in Terminalia chebula fruits. Nat Prod, 2006; 2(3-4): 170-175.
22. Bagavan A, Rahuman AI, Kamaraj C, Kaushik NK, Mohankrishnan D, Sahal D, Antiplasmodial activity of botanical extract against Plasmodium falciparum. Parasitol Res, 2011; 108(5): 1099-1109.
23. Moeslinger T, Friedl R, Volf I, Burner M, Koller E, Spieckermann PG. Inhibition of inducible nitric oxide synthesis by the herbal preparation Padma in 28 macrophage cell line. Can J PhysiolPharmacol, 2000; 78(11): 861-866.
24. Nair V, Singh S, Gupta YK. Anti-arthritic & disease modifying activity of Terminalia chebula Retz. in experimental models. J Pharm Pharmacol, 2010; 62(12): 1801-1806.
25. Hazra B, Sarkar R, Biswas S, Mandal N. Comparative study of antioxidant and reactive oxygen species scavenging properties in the extracts of the fruits of Terminalia chebula, Terminalia belerica and Emblica officinalis. BMC Comp Alter Med, 2010; 10: 20.

26. Chang CL, Lin CS. Development of antioxidant activity and pattern recognition of Terminalia chebula Retz. extracts and its fermented product. HungKuang J., 2010; 61: 115-129.
27. Mahesh R, Bhuvan S, Biswas S, Begum VM. Effect of Terminalia chebula aqueous extract on oxidative stress and antioxidant status in the liver and kidney of young and aged rats. Cell Biochem Funct, 2009; 27(6): 358-363.
28. Lees HS, Won NH, Kim KH, Lee H, Jun W, Lee KW. Antioxidant effects of aqueous extracts of the Terminalia chebula in vitro and in vivo. Biol Pharm Bull, 2005; 28(9): 1639-1644.
29. Suchalatha S, Shyamadevi CS. Protective effect of Terminalia chebula against experimental myocardial injury induced by isoproterenol. Indain J Exp Biol, 2004; 18: 737-7421.
30. Nigametal., Fruits of Terminaliachebula Retz.: Areviewontraditionaluses, bioactivechemical constituentsandpharmacologicalactivities, Ph ytotherapy Research, 2020; 1: 16. DOI: 10.1002/ptr.6702
31. Jimtta BK, Rahman I, Das TK, Terminaliachebula(myroblan) and its effect on dermatophytes, Geobios, 1999; 26(1): 43-45.
32. Seyyed AM, Ali V, Mohammad KGN, Peyman M. Spasmogenic activity of the seeds of Terminalia chebula Retz in small intestine; In vitro and in vivo studies. Malays J Med Sci, 2011; 18(3): 18-26.
33. Li K, Diao Y, Zhang H, Wang S, Zhang Z, Yu B, et al, . Tannin extracts from immature fruits of Terminalia chebulafructus Retz. promote cutaneous wound healingin rats. BMC Comp Alter Med, 2011; 11: 1-9.
34. Miglani BD, Sen P, sanyal PK, Purgative action of oil obtained from Terminalia chebula, Indian J.Med.Res., 1971; 52(2): 281-283.
35. Gupta Atrideva, AsthangaHrudaya of Vaghabhatta, Vidhyatini Hindi commentary, 11th ed., Varanasi: Chaukhambha Sanskrit Bhavana, 1993.
36. Chunekar K. Bhavaprakasha Nighantu. Rev. ed. Varanasi: Chaukhambha Bharti Academy, 2010; 338–9.
37. Sharma P. Kaiyadeva Nighantu [Internet]. Varanasi: Chowkhamba Orientalia; 2013. Available from: https: //niimh.nic.in/ebooks/e-Nighantu/kaiyadevanighantu/?mod=read
38. Shivdas S. Dravyaguna Sangraha [Internet]. [cited 2024 Jul 12]. Available from: https: //niimh.nic.in/ebooks/e-Nighantu/dravyagunasangraha/?mod=read

39. Madhava Dravyaguna [Internet]. [cited 2024 Jul 12]. Available from: https: //niimh.nic.in/ebooks/e-Nighantu/madhavadravyaguna/?mod=read
40. Hadipour E, Emami SA, Tayarani Najaran N, Tayarani-Najaran Z. Effects of sesame (Sesamum indicum L.) and bioactive compounds (sesamin and sesamolin) on inflammation and atherosclerosis: A review. Food Sci Nutr, 2023; 11(7): 3729–57.
41. Watson RR, Preedy VR, editors. Dietary Interventions in Liver Disease. Chapter 28 – Beneficial effects of natural compounds on heavy metal–induced hepatotoxicity. Academic Press, p. 345–55.
42. Guimarães RCA, Macedo MLR, Munhoz CL, Silva MCBL, Viana LH, Filiu W. Assessment of nutritional properties of sesame and flaxseed oil using quality indexes. Acta Hortic, 2018; 1198: 115–24.
43. Katayama S, Sugiyama H, Kushimoto S, Uchiyama Y, Hirano M, Nakamura S. Effects of sesaminol feeding on brain Aβ accumulation in a senescence-accelerated mouse-prone strain. J Agric Food Chem, 2016; 64: 4908–13.
44. Myint D, Gilani SA, Kawase M, Watanabe KN. Sustainable sesame (Sesamum indicum L.) production through improved technology: An overview of production, challenges, and opportunities in Myanmar. Sustainability, 2020; 12: 3515.
45. Sesamin ameliorates oxidative liver injury induced by carbon tetrachloride in rat. Int J Clin Exp Pathol, 2015; 8(5): 5733–8.
46. Bhavamisra. Bhavaprakash Nighantu. In: Dr GS P, editor. Taila Varga. Vol. 1. Varanasi: Chaukhamba Vishvabharati, 2017; p. 549.
47. Gogate VM. Ayurvedic Material Medica Dravyaguna Vijnana. English translation. Mumbai: Vidya Bhavan’s Swami Prakasanand Research Centre (SARC), Bhavan’s Book Edition, 2002.