

THERAPEUTIC IMPORTANCE OF ERANDA (*Ricinus communis* Linn.) IN AYURVEDA - A REVIEW

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Abstract

Ayurveda delineates the use of Eranda (*Ricinus communis* Linn., Euphorbiaceae) for the management of different disease conditions in Classical texts. In this article, an attempt has been made to compile as critically and its informations related to Eranda from six samhitas, seven samgraha granthas, nine nighantus and seven other published texts. It is observed that root, root bark, leaves, seed, oil of Eranda are used as an ingredient in 357 formulations, which are effective in more than 45 disease conditions. The main indications include vatavyadhi (diseases of joints), aamavata (rheumatoid artharitis), vrana (wound), agnimandya (loss of appetite), jvara (fever), grahani (Irritable bowel syndrome), shiroroga (disease of head), Shotha (inflammation), gandamala (lymphadenitis), hikka (hiccough), kushtha (skin disease), visarpa (erysipelas), arsha (piles) etc. Different parts of Eranda are used in about 16 dosage forms; such as svarasa (juice), kvatha (decoction), lepa (paste), varti (suppository), avaleha (semi-solid preparations), taila (oil), rasa (mineral preparation), rasakriya (water extract), vati (pills), kshara (alkaline preparations), modaka (solid dosage form), ghrita (fat soluble preparations), churna (powder), dhupa (fumigating preparation), nasya (nasal preparations) and aschyotana (eye drops).

Key words: Eranda; *Ricinus communis* Linn.; Ayurveda; Castor oil plant.

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INTRODUCTION

Ayurveda deals with drugs of plant, animal, metal and mineral origin, where maximum drugs are of plant origin.^[1] Information pertaining these drugs are available in the classical texts of Ayurveda named as Vedas (6000 BC), Samhitas (1500 BC – 600 AD), Nighantu and Samgraha granthas (800AD – 1900AD).^[2] Eranda, one of the classical drugs of herbal origin, botanically identified as *Ricinus communis* Linn, has been used by the Ayurvedic physicians, for the management of different disease conditions.

R. communis Linn., an annual or perennial bush or occasionally a soft wooded small tree up to 6 m. or more, found nearly throughout India, mostly under cultivation up to an elevation of 2000 m. It is widely cultivated in the tropics and warm regions for its seeds, which yield the well known castor oil. The castor is one of the major oilseed crops of India and in fact, India is the second largest producer of castor seed (c. 110,000 tons per annum) in the world.^[3]

Texts of Ayurveda, systematically recorded the varieties, synonyms, part used, pharmacological properties, actions and indications of Eranda in the respective texts, in their style of presentation. Its use, as an ingredient of compound formulations is recorded in samhitas (treatise) as well as in samgraha granthas (compendia of Ayurveda). On review it is observed that no single hand information is available regarding the uses and indications of Eranda as delineated in classical texts of Ayurveda. Hence, in this article, an attempt has been made to present the same.

MATERIAL AND METHODS

Various available samhitas (classical texts), nighantus (lexicons), samgraha granthas (compendia) and some other texts related to prayoga were referred; the synonyms,

properties, actions and various formulations with their adhikara (prime indication) were compiled, critically analyzed and arranged in a systematic manner.

RESULTS AND DISCUSSION

Ayurvedic lexicon describes the plant drug through paryaya (synonyms). On the basis of reported synonyms, it is observed that Eranda is of two varieties i.e. Sweta (white) and Rakta (red). Sweta Eranda and Rakta Eranda were attributed 49 and 40 synonyms respectively, for describing its morphological and pharmacological characters, in various texts. (Table 1 and 2)

Synonyms attributed to Sweta Eranda indicate that it is very renowned plant, a soft shrub like small tree, with hollow cavity, grows vigorously. Leaves resemble to five fingers with five lobed, like hand of Gandharva (demigod), spreading in upward direction and have long petiole. Its inflorescence seems to be dancing and look alike the tail of a Tiger. Flower with less attraction. Fruits contain three compartments, with three numbers of seeds, which are variegated, distinguished, bright colored, spotted with oily matter. It has root without pith. (Table 1)

Synonyms of Rakta Eranda indicate it as a renowned plant, red in color with hanging down trunk. Leaves are broad, facing upward, resembles to ear of an elephant and are having five lobbed. Inflorescence, red in color with resemble to the tail of a Tiger. Fruit bears three numbers of variegated oil yielding seeds. Eranda increases digestion, acts on Vatavyadhis (diseases of joints) and its action lasts for long time. (Table 2) One more variety, Sthula Eranda is delineated in Raja Nighantu. The synonyms attributed to Sthula Eranda are maha Eranda, maha panhcangula, which literally means bigger in size. Pharmacologically Sthula Eranda is more potential one.^[4]

Table 1: Synonyms attributed to Sweta Eranda in different Nighantus (laxicons) and their probable interpretations

	Synonyms ^[5-14]	Probable Interpretation ^[15-17]
Morphological		
Colour	Shukla, Siteranda, Sweta Eranda	White variety of Eranda
Nature	Taruna	Progressive, tender, young, juvenile
Habit	Tuchhadru Vardhaman Eranda, Erandaka	It is a hollow plant. Vigorous or quick growth. Small tree with a scanty number of leaves.
Flowers	Aamanda, Aamando, Amanda	Without decoration or ornaments / The inflorescence is adorn with flowers.
Inflorescence	Vyadambaka, Vyadambana, Vyadamvyaka, Vyadatwaka Vyaghrapuchha, Vyagrapushpa	Inflorescence looks as if it is dancing. Inflorescences resembles to tail of a Tiger.
Fruits	Triputi, Triputipala	Fruits have three compartments / Fruits bear three seeds.
Seeds	Chitra, Chitrabija, Chitraka, Chitro Manda	Having variegated, distinguished, bright colored, spotted seeds. Thick oily matter or scum forming on the surface of any liquid by seed oil.
Petiole	Snehaprada	Seeds yield oil. / giving oiliness
Leaves	Dirghadanda, Dirghadandaka, Dirghadantaka Dirghapatraka Gandharva, Gandharvahastaka	Stalk / petiole of leaves are very long. It has very lofty leaves The form of the leaves resemble to that of a Gandharva (musician) hand.
Root	Panchaangula	Resembling palmately digitates leaves
Spiritual belief	Uttanpatraka Yakshahastaka	Leaves are spreading over the surface in upward direction. The form of the leaves resemble to that of a Yaksha hand.
Public awareness	Nihasarah	It has root without pith.
Pharmacological actions	Amangala	Inauspiciousness
Pain	Ishta	It is regarded as God
Sore	Kanta	It provides happiness
Effect on vata	Chanchuka	A very renowned plant.
Comparison with Voice of Animal	Kashtahara Shulasatru	It removes pain It is enemy of pain
	Vranahaa	Destroying or removing sores
	Ruvaka, Ruvu, Ruvuka	That which pacifies vitiated vata
	Urubaka	It destroys increased vayu.
	Vaatari, Vaatsatru	Enemy of vata disease.
	Buka	The roaring of a lion, Cry of any animal

Table 2: Synonyms attributed to Rakta Eranda in different Nighantus (lexicons) and their probable interpretations

	Synonyms ^[5-14]	Probable Interpretation ^[15-17]
Morphological		
Colour	Hrusvaeranda, Lohitashirshaka, Rakta Eranda, Raktaka	Small size in comparison to other variety. Red variety of Eranda.
Nature	Vyaalamba	It has hanging down branches.
Petiole	Dinda Dindika	Petioles of leaves are long.
Flowers	Amanda Vyaghrapuchha, Triputri	Without decoration or ornaments / The inflorescence is adorn with flowers. Inflorescences are similar to tail of a tiger Fruit bears three seeds / having three septa
Fruits	Tribijam	Bears three seeds.
Seeds	Snigdha Chitrabija Hastaparna Hastikarna, Hastikarni	This gives oiliness / The seeds yield oil. Having variegated seeds or paintailed seeds. Which have 5-lobed leaves similar to palm. Leaves resembles like ear of elephant / having big size in comparison to others (an elephant is big among all the animals).
Leaves	Karaparna, Karaparni Utaanpatraka	Leaves are very useful or leaves resemble a palm (palmetly distinct). The leaves are broad and facing upward
Public Awareness	Chanchu Chorubuka	A very renowned plant.
Pharmacological actions		
Effect on digetion	Pachana	Increases digestion.
Effect on vata	Ribu, Rubuka, Rubaka, Rubu, Urubaka, Tatcara Vyaghra, Vyaghrakara, Vyaghrakaro, Vyaghradala, Vyaghro, Vyaghrabala, Naagakarna	That which pacifies vitiated vata Action like tiger / which act on vata disorder like tiger
Comparison with Animal	Buka, Boka Vyaghrataru	The roaring of lion. It grows very speedy. / It acts speedy like tiger.
Strength	Chirvirya	Strength is lasting for long time.
Spritual Belief	Yaachanaka	It is believed to be auspious

Classification

Classical texts of Ayurveda mentions Eranda under different categories by keeping the drug under various vargas (groups of drugs) like Bhedaniya (purgatives),^[18] Angamarda prashamana (restorative),^[19] Swedopaga (helping in perspiration),^[20]

Madhuraskandha (sweet taste),^[21] Adhobhaghara (removes doshas from lower parts of body),^[23] Vatashamsaman (pacifying vata),^[24] Vidarigandhadi (begin with Vidarigandha i.e *Desmodium gangeticum* DC).^[22, 25]

Table 3: Pharmacological properties attributed to both the Eranda by different Nighantus^[26-34]

Rasa	Guna	Virya	Vipaka	Doshkarma	Karma	Rogahnata
Madhura, Katu, Kashaya	Guru, snigdha, tikshna, suksma	Ushna	Madhura	Kaphavata shamaka	Sulahara, shothara, rechana, vrushya, twachya, vedanasthapan, kriminihsarak, hridyashoth, kaphaghna, mutravishodhna, stanyajanana, sukrashodhana, kusthaghna, jwarahara, svedajanana, balya, garbhashayashodhan, visaghna, vayahsthapan	Shula, shoth, gulma, arsha, jwara, vatakaphaodara, yakritpleehavruddhi, krimi, amavat, katishulaa, sirashulaa, bastishulaa, kasa, swasa, kustha, mutrakriccha, carmavikara, vridhhi, kustha, vatavyadhis, sukravikara

Pharmacological properties of Eranda

Eranda has been attributed with madhura-katu-kashaya rasa, madhura vipaka and ushna virya; has guru, snigdha, tikshana and sukshma gunas. It pacifies kapha-vata doshas. (Table 3)

It is being recommended to alleviate various disease conditions like Shula (pain), shoth (inflammation), gulma (abdominal lump), arsha (piles), jwara (fever), vatakaphaodara (distention of abdomen due to vata and kapha dosas), yakritpleehavruddhi (hepatosplenomegaly), krimi (worms), amavata (rheumatoid artharitis), katishula (lower backache), sirashula (headache), bastishula (pain in urinary bladder), kasa (cough), swasa (asthma), mutrakriccha (dysuria), carmavikara (skin disorders), vridhhi (enlargement of scrotum), kustha (skin diseases), vatavyadhis (diseases of joints), sukravikara (disorders of semen etc. (Table 3)

Eranda in classical text

The plant is being quoted 14 times, under different context, in Charaka samhita (CS). As an ingredient in angamardaprashaman mahakashaya gana, bhedaniya gana, krumighna mahakashaya gana, swedopaga mahakashaya gana, formulations like agni

rasa, agurvadi taila, amrutadi taila, bramha rasayana, ikswaku taila, jeevaneeya ghrita, kanakkshira taila, pathyadi modaka, panda taila and trivrutadi mishraka sneha (Table 4).

In Shusruta samhita, Eranda quated 04 times under vidarigandhadigana, as an ingredient of erandadi yoga, ksharagada and patralavanam.

Eranda is used as an ingredient in many formulations during samhita period. It is used as a drug in various formulations of Charakasamhita (14 – times), Sushrutasamhita (04 – times), Ashtangahrudaya (09 - times), Sharngadhara samhita (13 - times) and Bhavaprakasha (21 - times) (Table 4).

Samgraha granthas (different pharmacopoeia) of Ayurveda reports about 357 formulations having Eranda as an ingredient (Table 4). It is used, both internally (279) as well as externally (78), in various dosage forms such as svarasa (expressed juice), kvatha (decoction), kshira (milk preparation), churna (powder), taila (oil), ghruta (ghee), avaleha (confectionaries), dhupa (fumigation), lepa (paste), varti (suppositories), rasa, vati (tablet), kshara (alkali), modaka (solid dosage forms), rasakriya (water extract) and nasya (nasal drops) (Table 4).

Table 4: Formulations of Eranda as noted in classical text of Ayurved

Sr. No.	Formulations	I/E	Dosage form	Adhikara	Part used	References
1.	Aamvatari	I	Gutika	Vatavyadhi	Root	RCM
2.	Aamvatari-Rasa	I	Rasa	Aamvat	Oil	BR
3.	Aamvateshwaro Rasa	I	Rasa	Aamvat	Leaves juice	BR
4.	Abhayamlaki Rasayanam	I	Avaleha	Rasayan	Root	CS
5.	Agni Ras – 2	I	Rasa	Kasa	Leaves	RPS
6.	Agurvadi Tailam	E	Taila	Jwara	Root	CS
7.	Akallakadi Kwath	I	Kwath	Ashmari	Root	BNR
8.	Amlikanjanam	E	Anjana	Netraroga	Leaves	BYT
9.	Amrutadi Tailam	E	Taila	Vatavyadhi	Root	CS
10.	Amrutadi Ghrutam	I	Ghruta	Vatarakta	Root	RR
11.	Amrutadi Ghrutam	I	Ghruta	Vatarakta	Root	BNR
12.	Amrutadi Guggula	I	Guggula	Kushtha	Root	BR
13.	Amrutadi Kwath	I	Kwath	Vatavyadhi	Root	BNR, YR
14.	Amrutadi Kwath	I	Kwath	Vatarakta	Root & Oil	SS
15.	Anandbhairav Ghrutam	E	Ghruta	Vatavyadhi	Oil	RRSm
16.	Angamardaprashamana- Mahakashaya	I	Kwath	-	Root	CS
17.	Anilari Rasa	I	Rasa	Vatavyadhi	Leaves	RRSu
18.	Ankollakadi Yoga	E	Lepa	Kushtha	Leaves	GN
19.	Apar Aamvatari Vatika	I	Gutika	Amavat	Oil	BBR-1
20.	Ashwacholi Rasanupanam	I	Rasa	Hikka- Schwasa	Oil	RRSu
21.	Baladi Kwath	I	Kwath	Jwara	Root	VS
22.	Baladi Kwath	I	Kwath	Shula	Root	BYT, VS
23.	Baladi manduram	I	Gutika	Amlapitta	Root	RKD
24.	Baladi Tailam	I	Taila	Vatavyadhi	Oil	HS
25.	Balarishta	I	Arishta	Vatavyadhi	Root bark	BR
26.	Bashpa-swed	E	Misra	Netraroga	Root	BBR-3
27.	Bhadrotkatadyam Ghrutam	I	Ghruta	Stiroga	Root	BR, RR, VS
28.	Bhallatak Ghrutam	I	Ghruta	Gulma	Root	AH
29.	Bhallatakadi lepa - 2	E	Lepa	Shiroroga	Oil	BBR-3
30.	Bhallatakagud	I	Avaleha	Arsha	Oil	CD, VM
31.	Bhargishatpalakam Ghrutam	I	Ghruta	Gulma	Root	CD, VS
32.	Bhedaniya-kashayadashak	I	Kwath	Malavrodh	Root & Oil	CS
33.	Bhudaro Rasa	I	Rasa	Shula	Leaves	RR
34.	Bijpuradyam Ghrutam	I	Ghruta	Shula	Root	BR, RR, VS
35.	Bilwadi Churnam	I	Churna	Shula	Root	BNR, VS
36.	Bilwadi Gutika	I	Gutika	Shula	Root	BNR, VS
37.	Bilwadi Kwath	I	Kwath	Shula	Root	HS
38.	Bilwadi-kshiram	I	Kshir	Jwara	Root	VS
39.	Bilwadi-swed	I	Kwath	Karnaroga	Root	VS
40.	Bilwadyashchotanam	E	Kwath	Netrabhishyandha	Root	YR
41.	Bramhyarasayanam	I	Avaleha	Rasayan	Root	CS
42.	Bruhadyadi Kwath	I	Kwath	Mukhroga	Root	BNR, VS
43.	Bruhadyadi Kwath	I	Kwath	Shula	Root	VM, YR
44.	Bruhadyadi Varti	E	Varti	Netraroga	Rootbark	GN
45.	Chaitas Ghrutam	I	Ghruta	Unmad	Root	BYT, CD
46.	Chakramardadi Lepa	E	Lepa	Kushtha	Oil	RSS, RseCM
47.	Chaturbhuj Rasa	I	Rasa	Unmad	Leaves	RSS, RRSu
48.	Chaturmukho Rasa	I	Rasa	Vatavyadhi	Leaves	RCM, RRSu

49.	Chintamani Rasa	I	Rasa	Gulma	Oil	RRSm
50.	Chitrakadi Kwath	I	Kwath	Shula	Root	AH
51.	Chitrakadi Kwath	I	Kwath	Amlapitta	Root	BNR
52.	Chitrakadi Lepa	E	Lepa	Twacharoga	Seed	BNR
53.	Dadhikam Ghrutam	I	Ghruta	Vatavyadhi	Root	AH, GN
54.	Dadimadyam Ghrutam	I	Ghruta	Kasa	Root	GN
55.	Dantyadi Churnam	I	Churna	Shula	Oil	VS
56.	Dantyadi Kwath	I	Kwath	Jwara	Root	VS
57.	Dantyadi Lepa	E	Lepa	Kushtharoga	Seed	RM
58.	Dashang Tailam	E	Taila	Vatavyadhi	Oil	GN
59.	Dashmuladi Kwath-4	I	Kshir	Stiroga	Root	BBR-3
60.	Dashmuladi Kwath	I	Kwath	Vatavyadhi	Oil	CD, VM
61.	Dashmuladi Tailam	I	Taila	Gulma	Oil	BNR
62.	Dashmuladyam Tailam	E	Taila	Vatavyadhi	Root	VS
63.	Dhatturadi Lepa	E	Lepa	Shlipada	Root	BNR, VS
64.	Dravantinig vati	I	Gutika	Gulma	Panchang	BYT, YR
65.	Duralabhadi Kwath	I	Kwath	Hikka – Swasa	Root	BNR
66.	Dvipanchamuladyam Ghrutam	I	Ghruta	Udar roga	Root	GN
67.	Dvipanchamuli Tailam	I	Taila	Vidradhi	Oil	VS
68.	Eladi Kashaya	I	Kwath	Mutrakruchchha	Root	GN
69.	Eladi Kwath	I	Kwath	Shula	Oil	BNR
70.	Eladi Kwath	I	Kwath	Ashmari	Root	SS, YR
71.	Eranda Swaras	I	Swarasa	Kamala	Root	BNR
72.	Erandadi Bhasma Yoga	I	Churna	Shula	Root	GN, VM, YR
73.	Erandadi Dhoom	I	Churna	Kasa	Root	YR
74.	Erandadi Guggula	I	Guggulu	Vatavyadhi	Root	VS
75.	Erandadi Guti	I	Gutika	Aamvat	Seed pulp	BNR, BYT
76.	Erandadi Kalka	I	Kalka	Ashmari	Root	YR
77.	Erandadi Kwath	I	Kwath	Stiroga	Root	RR
78.	Erandadi Kwath	I	Kwath	Vatavyadhi	Root	YR
79.	Erandadi Kwath	I	Kwath	Vatarakta	Root bark	BP
80.	Erandadi Lepa-1	E	Lepa	Visharoga	Root	BBR-1
81.	Erandadi Lepa	E	Lepa	Shotha	Root	GN
82.	Erandadi Nasyam	I	Taila	Urdhvajatru roga	Root	AH
83.	Erandadi Tailam	E	Taila	Visarpa	Seed	BNR
84.	Erandadi Yoga	I	Kwath	Gulma	Seed, Root	Su.Sm.
85.	Erandadi Tailam	I	Taila	Karnaroga	Oil	VS
86.	Erandadwadashakam	I	Kwath	Shula	Root, Seed	BYT
87.	Erandadyam Ghrutam	I	Ghruta	Shula	Root	VS
88.	Erandasaptakam	I	Kwath	Shula	Root	HS
89.	Erandbhasma Yoga	I	Churna	Udar roga	Root, Leaves	BNR
90.	Erandbija-payas	I	Misra	Aamvat	Seed	BP
91.	Erandmuladi Churnam	I	Churna	Shula	Root	BNR
92.	Erandmuladi Kwath	I	Kwath	Shula	Root	BNR
93.	Erandmuladya-Aschotanam	E	Kshir	Netraroga	Leaves & Root bark	GN
94.	Erandmuladyam Churnum	I	Churna	Kasa	Root	GN
95.	Erandapaka	I	Rasa	Vrudhi	Seed pulp	BBR-1
96.	Erand-Pak	I	Avaleha	Vatavyadhi	Seed Pulp	BNR
97.	Erand-Pak	I	Avaleha	Vatavyadhi	Seed Pulp	YR
98.	Erandpatradi Tailam	I	Taila	Karnaroga	Leaves	VS
99.	Erandtaila Haritaki	I	Taila	Aamvat	Oil	BP, VS
100.	Erandtaila Haritaki	I	Taila	Shlipada	Oil	BNR
101.	Erandtaila Yoga	E	Taila	Stiroga	Oil	BBR – 1
102.	Erandtaila Yoga - 1	I	Taila	Vatavyadhi	Oil	BNR, VS

103.	Erandtaila Yoga - 2	E	Taila	Vatavyadhi	Oil	BNR
104.	Erandtaila Yoga - 3	I	Taila	Vatavyadhi	Oil	BNR
105.	Erandtaila Yoga - 4	I	Taila	Vrudhi	Oil	BNR
106.	Erandtailadi Yoga	I	Taila	Shula	Oil	YR
107.	Erandtailadi Yoga - 1	I	Taila	Gulma	Oil	YR
108.	Erandtailadi Yoga - 2	I	Taila	Vrudhi	Oil	GN, YR
109.	Erandtaila-Yoga - 1	I	Taila	Shula	Oil	BBR - 1
110.	Erandtaila-Yoga - 2	I	Taila	Udar roga	Oil	VM, YR
111.	Erandtaila-Yoga - 3	I	Taila	Aamvat	Oil	BYT
112.	Erandtaila-Yoga - 4	I	Taila	Arsha	Oil	GN
113.	Erandtaila-Yoga - 5	I	Taila	Vrana	Oil	BBR - 1
114.	Gandhakadi lepa	E	Lepa	Gandamala	Leaves	BNR, YR
115.	Gandharvahast Tailam	I	Taila	Vrudhi	Root bark	BR
116.	Garbhinishulaha ropaya	I	Kwath	Stiroga	Root	BR
117.	Garudanjanam	E	Churna	Visha	Seed	YR
118.	Grahanikapat Rasa	I	Rasa	Grahani	Oil	RSS
119.	Granthikadi Kwath	I	Kwath	Jwara	Oil	BNR
120.	Guduchi kalp	I	Misra	Vatarakta	Oil	GN
121.	Guduchi Tailam	E	Taila	Vatavyadhi	Root	VS
122.	Guduchyanupanam	I	Misra	Vatarakta	Oil	BP
123.	Guggula Kalpa - 1	I	Guggula	Aamvat	Root	HS
124.	Harenwadi lepa	E	Lepa	Shirovedana	Root Bark	SS
125.	Haritaki-kalp	I	Mira	Shoatha, Shula	Oil	BBR-5
126.	Haritakyadi Churnam	I	Churna	Vrudhi	Oil	GN, YR
127.	Haritakyadi Churnam	I	Churna	Shlipada	Oil	YR
128.	Haritakyadi Guggula	I	Guggula	Aamvat	Oil	BNR
129.	Haritakyadi-yoga -1	I	Kwath	Shoatha	Oil	BBR - 5
130.	Hingvadi Churnam	I	Churna	Shula	Root	HS
131.	Hingvadi-yog	I	Misra	Gulm	Oil	AH
132.	Hrudrogahar Rasa	I	Rasa	Hrudroga	Root	RKD
133.	Ikshwaku Tailam	E	Taila	Kustha	Root	CS
134.	Indrabrahma vati	I	Gutika	Apasmar	Leaves	RSS
135.	Indrani Mulayoga	I	Kwath	Vrudhi	Oil	BNR
136.	Indraravanimula-Yoga	I	Kwath	Vrudhi	Oil	BNR
137.	Jeevaneeya Ghruta	I	Ghruta	Vatarakta	Root	CS
138.	Kakubhadyam Churnam -1	I	Churna	Kshaya	Seed	BNR
139.	Kamalavilas Rasa	I	Rasa	Rasayan	Leaves	RRSm
140.	Kamdhenu Rasa	I	Rasa	Kustha	Oil	RRSu
141.	Kanadi Kwath - 4	I	Kwath	Jwara	Root	BNR
142.	Kanakshir Tailam	E	Taila	Kustha	Root	CS
143.	Kantkaryadi-Kwath	I	Kwath	Shula	Root	BYT, YR
144.	Kapikachhvadi Kwath	I	Kwath	Vatavyadhi	Root	BNR
145.	Karanjbijadi Lepa	E	Lepa	Visphotaka	Seed	GN
146.	Karpooradyam Tailam	E	Taila	Shula	Root	GN
147.	Karanyadi Kwath	I	Kwath	Jwara	Root	VS, BR
148.	Kaserwadi-kshiram	I	Kshir	Stiroga	Root	YT
149.	Ketakikshar Yoga	I	Kshar	Gulma	Oil	YR
150.	Krumighna Mahakashaya	I	Kwath	Krumi	Root	CS
151.	Krutamaladi Kalka	E	Kalka	Kushtha	Oil	BP
152.	Ksharagad	I	Misra	Gulma	Root	Su.Sm.
153.	Kshudhavati Gutika	I	Rasa	Amlapitta	Leaves	CD
154.	Kumari Tailam	E	Taila	Shiroroga	Root	BP
155.	Kushadi Kshiram	I	Kshir	Stiroga	Root	VS, VM, YR
156.	Kushthadi lepa-1	E	Lepa	Shiroroga	Root	BBR-1
157.	Kushthadi-lepa	E	Lepa	Shiroroga	Root	BNR
158.	Kushthadi-lepa	E	Lepa	Shiroroga	Root	BNR

159.	Kushthahar Churnam	I	Churna	Kushtha	Root	RseCM
160.	Kutajadi Sweda	E	Kwath	Shotha	Leaves	BNR
161.	Lankeshwar Rasa	I	Rasa	Kushtha	Oil	RR
162.	Lashun Tailam	I	Taila	Udar roga	Oil	VS
163.	Lashun yoga	I	Avaleha	Shula	Oil	YR
164.	Loknath Rasa	I	Rasa	Kshaya	Root	RRSm
165.	Madanakushatankan Rasa	I	Rasa	Swarabheda	Root	RKD
166.	Madhuharitaki-2	I	Avaleha	Atisar	Root	BBR-4
167.	Mahabala Tailam	E	Taila	Vatavyadhi	Root	VS
168.	Mahachaitasam Ghurutam	I	Ghruta	Apasmar	Root	BR, CD, VS
169.	Mahamartand Tailam	E	Taila	Kushtha	Seed pulp	RRSm
170.	Mahamash Tailam	E	Taila	Vatavyadhi	Root	VS
171.	Mahashalvan yoga	E	Misra	Vatavyadhi	Root	SS, YR
172.	Mahatripurbhairav Rasa	I	Rasa	Shula	Oil	RKD
173.	Mahavahni Rasa	I	Rasa	Mudhvat	Oil	RPS
174.	Mahavahni Rasa	I	Rasa	Udar roga	Oil	RRSm, RSS
175.	Mahavahni Rasa	I	Rasa	Udar roga	Oil	SS
176.	Majuphaladi lepa	E	Lepa	Palitya	Leaves	YT
177.	Manjisthadi kwath	I	Kwath	Twacharoga	Root	YC, BNR
178.	Mansyadi Ghurutam	I	Ghruta	Vrudhi	Root	BNR, YR
179.	Manthanbhairav Rasa	I	Rasa	Sannipat	Root	RRSu
180.	Mash Tailam	I	Taila	Vatavyadhi	Root	CD
181.	Mash Tailam	I	Taila	Karnabadhira	Root	GN
182.	Mashadi kwath	I	Kwath	Vatavyadhi	Root	BP, BYT
183.	Mashbaladi yog	E	Kwath	Vatavyadhi	Root	CD, GN, RR
184.	Matulungadi kwath	I	Kwath	Jwara	Root	BNR, VS
185.	Mihirodaya vati	I	Rasa	Shiroroga	Root	BBR-4
186.	Mustadi kwath	I	Kwath	Sannipat	Root	BP, BNR
187.	Nadeyikshar	I	Kshar	Rajyakshma	Panchang	BYT, GN
188.	Nagaradi Kwath	I	Kwath	Shula	Root	YR
189.	Nagaradiprayoga	I	Churna	Atisar	Root	VS
190.	Narayan Rasa	I	Rasa	Gulma	Oil	RRSm
191.	Narayan Tailam	I	Taila	Vatavyadhi	Root	CD, VM
192.	Nimbadi mahakashaya	I	Kwath	Kushtha	Root	VS
193.	Nimbadi pindi	E	Misra	Netraroga	Root	BNR, VS
194.	Nirgundyadi prayoga	E	Lepa	Rasayan	Root	VS
195.	Panchamuli Kashaya	I	Kwath	Vatavyadhi	Oil	VS, VM
196.	Panchamulyadyashchot nam	E	Kwath	Netrabhishyandha	Root	SS
197.	Panchanano Rasa	I	Rasa	Aamvat	Root	BR, RR
198.	Paradadi Rasa	I	Rasa	Hikka - Swasa	Leaves	RRSm
199.	Parijatatananam	I	Rasa	Swarabheda	Seed	RKD
200.	Pashanbhedadi Kashaya	I	Kwath	Mutrakruchcha	Root	GN
201.	Pashanbhedadi Kwath	I	Kwath	Mutrakruchcha	Root	BNR, BYT
202.	Pashupato Rasa	I	Rasa	Agnimandhya	Root	RRSu
203.	Pathyadi Modaka	I	Gutika	Virechanartha	Seed	CS
204.	Pathyadi Churnam	I	Churna	Vrudhi	Oil	VM
205.	Patralavanam	I	Churna	Vatavyadhi	Leaves	Su.Sm.
206.	Pilvasava	I	Asava	Gulma	Root	GN
207.	Pinda Tailam	E	Taila	Vatarakta	Oil	AH, CS
208.	Pippalimuladi prayoga	I	Churna	Shula	Root	GN
209.	Plihanako Rasa	I	Rasa	Yakruta - Pliha	Oil	BR
210.	Pranikalpdrumagol Ras	I	Rasa	Vatavyadhi	Oil	AP
211.	Prasarani Tailam - 2	I	Taila	Vatavyadhi	Oil	BP
212.	Prasarani Tailam	I	Taila	Vatavyadhi	Root paste	BP
213.	Prasarani Tailam - 5	I	Taila	Vatavyadhi	Root paste	BNR, YC

214.	Punarnawa Guggula	I	Guggulu	Vatarakta	Root	BP
215.	Punarnawadi Kashaya	I	Kwath	Jwara	Root	GN
216.	Punarnawadi lepa	E	Misra	Vrudhi	Dry fruit	GN
217.	Punarnawadi-swed	E	Kwath	Shotha	Leaves	BNR
218.	Punarnawadi-swed	E	Kwath	Shula	Root	VS
219.	Punarnawasava	I	Asava	Shotha	Root	BR
220.	Purnachandro Rasa	I	Rasa	Rasayan	Leaves	BR, RC
221.	Pushkaradi Kwath	I	Kwath	Gulma	Root	AH
222.	Rajvallabh Gutika	I	Rasa	Virechaka	Seed	BBR-4
223.	Raktapitte-katipaya yoga	I	Misra	Raktapitta	Root	GN
224.	Rasna Tailam	I	Taila	Vatavyadhi	Root	GN
225.	Rasnadashmul Kwath	I	Kwath	Aamvat	Root	BNR,VS
226.	Rasnadi Churnam	I	Churna	Vatavyadhi	Root	YR
227.	Rasnadi kwath	I	Kwath	Aamvat	Root	VS
228.	Rasnadi kwath	I	Kwath	Vatarakta	Oil	VM
229.	Rasnadi kwath	I	Kwath	Vatavyadhi	Root	VM
230.	Rasnadi kwath	I	Kwath	Hikka-Swas	Oil	BNR
231.	Rasnadi kwath	I	Kwath	Hikka-Swas	Root	BNR
232.	Rasnadi kwath	I	Kwath	Aamvat	Root	BBR-4
233.	Rasnadi kwath	I	Kwath	Vatavyadhi	Root	VM
234.	Rasnadi kwath	I	Kwath	Vatavyadhi	Root	BNR,YR
235.	Rasnadi kwath	I	Kwath	Vrudhi	Root	BNR,CD,VM
236.	Rasnadi kwath	I	Kwath	Aamvat	Root	GN,VM,VS,
237.	Rasnadi kwath	I	Kwath	Vatavyadhi	Root	GN
238.	Rasnadi kwath	I	Kwath	Aamvat	Root	BNR
239.	Rasnadi kwath	I	Kwath	Jwara	Root	BNR,GN,YR
240.	Rasnadi kwath	I	Kwath	Vatavyadhi	Oil	BNR,BYT,SS
241.	Rasnadi kwath	I	Kwath	Vrudhi	Root	BNR,VS
242.	Rasnadidashmulam	I	Kwath	Aamvat	Root	BR,CD
243.	Rasnadvadashak Kashaya	I	Kwath	Aamvat	Root	BNR,YR
244.	Rasnadyam Ghrutam-Taila	I	Ghruta	Shula	Root	RR
245.	Rasnadyo Guggula	I	Guggulu	Vatavyadhi	Root	BYT,GN,YR,
246.	Rasnadyupanaha	E	Misra	Arsha	Root	GN
247.	Rasnapanchakam	I	Kwath	Aamvat	Root	GN, RR, SS
248.	Rasnaputik Tailam	E	Taila	Aamvat	Root	YR
249.	Rasnasaptakam	I	Kwath	Aamvat	Root	BR,BYT
250.	Rason kalk	I	Kalka	Vatavyadhi	Root	SS
251.	Rasonadyam Tailam	I	Taila	Aamvat	Oil	BNR
252.	Rasonsaptakam	I	Kwath	Vatavyadhi	Root	BYT,VS,YT
253.	Rasparpati	I	Rasa	Gulma, Shula	Root juice	RPS
254.	Rasparpatika	I	Rasa	Grahani	Leaves	BNR,BP
255.	Rasraj	I	Rasa	Kushtha	Root	RC
256.	Rechan-yoga	E	Misra	Balroga	Seed pulp	YR
257.	Rudraparpati	I	Rasa	Kasa	Root	BNR,RR
258.	Sahachar Tailam	I	Taila	Vatavyadhi	Root	GN
259.	Saindhwadyam Tailam	E	Taila	Vatavyadhi	Oil	BP, CD, BR
260.	Saindhwadyam Tailam	E	Taila	Aamvat	Oil	BP
261.	Saindhwadyam Tailam	E	Taila	Aamvat	Root	BR
262.	Sarjakadyo yoga	E	Misra	Balroga	Seed	VS
263.	Sarvangsunder Rasa	I	Rasa	Apasmar	Root	RRSu
264.	Sarvangsunder Rasa	I	Rasa	Shula	Root	RC, RRSu,
265.	Sarveshwar Ras	I	Rasa	Kushtha	Oil	RRSm
266.	Saubhagyasundertankan Rasa	I	Rasa	Swarabheda	Oil	RKD
267.	Shadang Guggula	I	Guggulu	Vatavyadhi	Root	RRSm
268.	Shadbindu Tailam	E	Taila	Shiroroga	Root	BP

269.	Shampakadi kwath	I	Kwath	Vatarakta	Oil	BR
270.	Shampakadi-gana	I	Misra	Prameha	Root	RKD
271.	Shankarswed	E	Misra	Aamvat	Root	BR, DN
272.	Shanmukho Rasa	I	Rasa	Shula	Oil	RR
273.	Shatarhyadi Tailam	I	Taila	Shiroroga	Root	CD
274.	Shatavari Tailam	I	Taila	Vatavyadhi	Root	SS
275.	Shatavari Tailam	I	Taila	Vatavyadhi	Root	VS
276.	Shatavaryadi Tailam	I	Taila	Karnaroga	Seed	BYT
277.	Shatpushpadyam Ghurutam	I	Ghruta	Vrudhi	Root	BR, RR, VS
278.	Shigrvadi lepa	E	Lepa	vidradhi	Root	SS
279.	Shilobhadwadi Tailam	I	Taila	Mutrakruchcha	Root	BP
280.	Shiva Guggula	I	Guggulu	Aamvat	Oil	RRSu, RSS
281.	Shulebhsinhini Gutika	I	Rasa	Shula	Leaves juice	RKD
282.	Shulgajendra Tailam	I	Taila	Shula	Root	BR
283.	Shulvasunder Rasa	I	Rasa	Shula	Root	RKD
284.	Shunthadi putpak	I	Putpak	Shula	Root	SS
285.	Shunthyadi kwath	I	Kwath	Shotha	Root	BNR, VM, YR
286.	Shunthyadi lepa	E	Lepa	Striroga	Root	BBR-5
287.	Shunthyadi-payas	I	Ahariya	Vatavyadhi	Seed	GN, VS, VM
288.	Shwadanshradi kwath	I	Kwath	Ashmari	Leaves	BR
289.	Shwadanshradi-loham	I	Rasa	Prameha	Root	GN, RR, VS
290.	Siddharthak Tailam	E	Taila	Vatavyadhi	Root	BR, DN
291.	Sinhanad Guggula	I	Guggulu	Aamvat	Oil	BP
292.	Siskadi yoga -1	E	Lepa	Palitya	Leaves	BBR-5
293.	Snukshar yoga	E	Lepa	Kandu, Kustha	Oil	BBR-5
294.	Sompani Rasa	I	Rasa	Sannipat	Root	RRSu
295.	Sukumarkumarak Ghurutam	I	Ghruta	Vatarakta	Root	AH
296.	Surabhyadi kashaya	I	Kwath	Jwara	Root	BNR, YR
297.	Suvarnadi lepa	E	Misra	Jwara	Root	BNR
298.	Swaymagni Rasa -2	I	Rasa	Kasa	Leaves	SS
299.	Swedopag Dashako mahakashaya	I	-	-	-	CS
300.	Taaleshwar Rasa	I	Rasa	Kustha	Oil	RRSm
301.	Taal-marnam	I	Rasa	Vatvyadhi	Root	BBR-2
302.	Tamra-parpati - 2	I	Rasa	Kasa	Oil	BNR
303.	Tiladi Kshar	I	Kshar	Udar roga	Kshar	VS
304.	Tiladi Lepa - 3	E	Misra	Bhagandar	Root	GN, VS
305.	Tiladi-sweda	E	Misra	Gulma	Seed	YR
306.	Tilwak Ghurutam	I	Ghruta	Vatavyadhi	Root	VS
307.	Tilwakadyam Ghurutam	I	Ghruta	Kustha, Krumi	Root	BBR-2
308.	Trayantyadi Kwath	I	Kwath	Jwara	Root	BNR, GN
309.	Trikantakadi-siddhapa ya	I	Kshir	Mutrakruchcha	Root	CD
310.	Trikantakadyam Ghurutam	I	Ghruta	Mutrakruchcha	Root	BP
311.	Trineta Rasa	I	Rasa	Shula	Oil	RRSm
312.	Trinetrakhyo Rasa	I	Rasa	Shoth	Root	BR
313.	Triphaladi virechanam	E	Kwath	Netraroga	Oil	VS
314.	Tripurbhairavo Rasa	I	Rasa	Shula	Oil	BNR
315.	Trivrutadi-mishrak-sneha	I	Ghruta	Gulma	Oil	CS
316.	Tumbuvaradi Churnam-2	I	Churna	Shula	Root	HS
317.	Tutthadik-jwarankush	I	Rasa	Jwara	Leaves	RRSu
318.	Twagadya Gutika	I	Rasa	Vatavyadhi	Oil	GN
319.	Ushiradi Churnam	I	Churna	Shula	Root	BNR
320.	Vachadi Kwath	I	Kwath	Sannipat	Root	BP, BNR
321.	Vaishwanari vati	I	Gutika	Udar	Root juice	RRSu,
322.	Vajigandhadi Tailam	I	Taila	Vatavyadhi	Oil	GN, VM, YR
323.	Vajrakam Tailam	E	Taila	Arsha	Root	AH

324.	Vanshatwagadi Kwath	I	Kwath	Raktsrava	Root	BBR-4
325.	Varunadi swed	E	Kwath	Vatavyadhi	Bark	GN
326.	Varunasava	I	Asava	Vidradhi	Root	GN
327.	Vatanashak lepa	E	Misra	Vatavyadhi	Root	VM
328.	Vatapittari Rasa	I	Rasa	Amlapitta	Root	RR
329.	Vatari Guggulu	I	Guggulu	Aamvat	Oil	BR,RR
330.	Vatari Rasa	I	Rasa	Vrudhi	Oil	BR
331.	Vatari Tailam	I	Taila	Vatavyadhi	Root	GN
332.	Vataripatra yoga	E	Misra	Netraroga	Leaves	YT
333.	Vatavidhwansan Rasa	I	Rasa	Vatavyadhi	Oil	RC, RRSu
334.	Vidangadi loham	I	Rasa	Aamvat	Root	BR
335.	Vidarigandhadi-gana	-	-	-	-	Su.Sm.
336.	Vindusaradyam Ghrutam	I	Ghruta	Vatavyadhi	Oil	GN
337.	Virtarwadi Tailam	I	Taila	Ashmari	Root	BP, VS
338.	Visarpahar Tailam	E	Taila	Visarpa	Seed	RRSm
339.	Visarpanashan Tailam	E	Taila	Visarpa	Seed	RRSm
340.	Vishaladi-yoga	I	Churna	Vrudhi	Oil	VS
341.	Vishgarbh Tailam	E	Taila	Vatavyadhi	Root	BNR, YR
342.	Vishgarbh Tailam	E	Taila	Vatavyadhi	Root	YC
343.	Vishgarbh Tailam	E	Taila	Vatavyadhi	Oil	YC
344.	Vishgarbh Tailam	E	Taila	Kushtha	Root	BYT, YR
345.	Vishnu Tailam	I	Taila	Vatavyadhi	Root	BR
346.	Vishwadi Guggula	I	Guggulu	Vatavyadhi	Root	BNR
347.	Vishwadi Kashaya	I	Kwath	Shula	Root	CD, RR, VM,
348.	Vishwadi Kashaya	I	Kwath	Shula	Root	VS
349.	Vishwadi Kashaya	I	Kwath	Shula	Root	BR, BNR, VS
350.	Vruddhinashan Ras	I	Rasa	Vrudhi	Oil	BBR-4
351.	Vruhagokshuradyavale ha	I	Avaleha	Mutrakruchcha	Root	BNR
352.	Vrushchivadyoarishtha	I	Arishtha	Gulma	Root	CD, GN, VM
353.	Vyaghradi Kashaya	I	Kwath	Shula	Root	VS,
354.	Yavadi kwath	I	Kwath	Mutrakruchcha	Root	BNR, YR
355.	Yavadi lepa	E	Misra	Vrudhi	Seed	BBR-4
356.	Yavanyadi Churnam	I	Churna	Shula	Root	BNR
357.	Yograj Guggula	I	Guggulu	Aamvata	Root	BR

CS – Charakasamhita,^[36] Su.Sm. – Sushrutasamhita,^[37] AH – Ashtangahrudaya,^[38] HS – Haritasamhita,^[39] SS – Sharngadharasamhita,^[40] BP – Bhavaprakasha,^[41] CD – Chakradutta,^[42] VS – Vangasena,^[43] GN – Gadanigraha,^[44] VM – Vrundamadhava,^[45] RRSm – Rasaratnasamuchchaya,^[46] YR – Yogaratnakara,^[47] BR – Bhaishajyaratnavali,^[48] BBR – Bharatbhaishajyaratnakara,^[49] RR – Rasaratnakara,^[50] RKD – Rasakamadhenu,^[51] RChM – Rasendrachintamani,^[52] RseSS – Rasendrasarasangraha,^[53] BNR – Bruhannighanturatnakara,^[54] Rasachintamani – RCM,^[55] Rasarajasundara – RRSu,^[56] Rasaprakashsudhakar – RPS,^[57] Bruhadayogatarangini - BYT,^[58] Yoga chintamani – YC.^[59]

It is observed that Eranda has been used as an ingredient of 357 formulations comprising of 279 internal and 78 external formulations. It is also one of the dravya of vidarigandhadi gana in Sushrutasamhita. In external application, the formulations are indicated for arsha (piles), bhagandara (fistula), netraroga (eye diseases), jwara (fever), karnapurana

(pouring liquid in ear), palitya (early graying of hair), krumi (worms), kushtha (skin diseases), shiroroga (disease of head), Shotha (inflammation), gandamala (lymphadenitis), vatavyadhi (diseases of joints), shlipada (filariasis), vrudhi (enlargement of scrotum), shula (pain), amavata (rheumatoid arthritis), visphotaka (blisterious eruption), vishroga (disorder

due to poison), vatarakta (gout), balaroga (disease of children), striroga (gynecological disorder), gulma (abdominal lump), visarpa (erysepales) and vrana (wound).

Formulations indicated for internal administration disease condition like sannipata (vitiation of all Dosas), arsha (piles), grahani (intestinal disorders), hikka (hiccough), kasa (cough), jwara (fever), kshaya (pulmonary tuberculosis), kushtha (skin diseases), mukharoga (oral diseases), shula (pain), sarpavisha (snake bite), striroga (gynecological disorders), vatarakta (gout), rasayana (rejuvenating agent), ashmari (kidney stone), aamvata (rheumatoid artharitis), amlapitta (acidity), gulma (abdominal tumor), karnaroga (disease of ear), mutrakruchcha (dysuria), kamla (jaundice), shlipada (filariasis), vrana (wound), unmad (insanity), malavrodha (constipation), vidradhi (abscess), udararoga (disease of stomach), hrudroga (heart disease), apasmar (epilepsy), krumi (worms), swarbheda (change of voice), atisara (diarrhoea), rajyakshama (tuberculosis), agnimadhya (loss of appetite), raktapitta (bleeding disorder), raktsrava (haemorrhage), visarpa (erysepales), vruddhi (enlargement of scrotum) and vatavyadhi (diseases of joints).

Highest number of formulations was found in vatavyadhi (64), followed by shula (42), aamavata (28), gulma (15), jwara (14) and vatarakta (11) (Table 4).

It is also observed that root of Eranda is being used in highest number of formulations (212), followed by oil (90), Leaves (26), seed (25), panchanga (02) and fruits (01).

Dose

Root bark paste – 3g to 6g; Root decoction – 50ml to 100ml; Juice – 10ml to 20ml; Leave juice – 10ml to 20ml; Leave powder – 1g to 6g; Seed – 2 to 6 in numbers; Oil – 20ml to 40ml. [35]

Formulations of Eranda

Various sangraha granthas (compendias) were scrutinized for the formulations containing Eranda as an ingredient and mentioned in Table 4.

CONCLUSION

Eranda (*Ricinus communis* Linn.) is found throughout India and its description can be traced since Samhita period. Mainly two varieties of Eranda are found in various nighantus i.e. sweta eranda and rakta eranda. Eranda is attributed with pharmacological properties i.e madhura, katu, kashaya rasa; madhura vipaka and ushna virya; and useful to combat various disease conditions such as vatavyadhis (mainly various joint diseases and rheumatoid arthritis), inflammation, gout, fever, pain and skin diseases etc. It is used in more than 357 classical formulations, more than 16 dosage forms, used in about 45 diseased conditions, 78 external and 279 internally used.

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