

LITERARY REVIEW ON *ERANDA - RICINUS COMMUNIS* LINN.Anoosha Adiga^{*1} and Pradeep²¹PG Scholar, Department of Dravyaguna, SDM College of Ayurveda and Hospital, Hassan.²Associate professor, Department of Dravyaguna, SDM College of Ayurveda and Hospital, Hassan.Article Received on
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Corresponding Author*Anoosha Adiga**PG Scholar, Department of
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Hassan.**ABSTRACT**

Ayurveda, Indian system of medicine mainly aims at maintenance of health and prevention of the disease. *Dravyaguna* is a unique branch in it which mainly deals with different types of herbal drugs with its applications in different conditions. *Eranda (Ricinus communis* Linn.) commonly called as Haraluberu in kannada is one such widely grown and used shrub in *Vatavyadhis*. The root is considered as best *Vrishya* (Aphrodisiac) and *vatahara dravya*. *Ricinus communis* Linn. is considered as the source for *Eranda* where root, seed and the leaves are the useful parts. The present work tries to compile various references for *Eranda* from classical texts and other online sources and its maximum utilization in different pathological conditions.

KEYWORDS: *Ayurveda, Dravyaguna, Eranda, Ricinus, Haraluberu.***INTRODUCTION**

Ayurveda, Indian system of medicine deals with eight branches called *Astanga ayurveda*. It deals with the application of different varieties of *dravyas* not only for treatment purposes but also for *dinacharya, rtucharya*, etc. *Dravyaguna* is a fundamental branch dealing with different types of herbals, minerals and animal origin drugs with their *sapta padarthas*. *Eranda (Ricinus communis* Linn.) is one among the herbal drugs commonly found all over India which is used mainly in *Vatavyadhis* as both external and internal medications. It is available in abundance and hence used by most of the pharmacists for medicinal preparations. Best action of this drug is stated as *Vrishya vatahara*.^[1] The present review is an attempt to compile all the literature available on the drug *Eranda* from *Vedakala* till date.

Historical view

Vedic literature- *Eranda mani Dharana* is mentioned in the Vedic literature.^[2]

Samhita literature – Almost all the Samhitas have mentioned it in numerous contexts including single drug therapy and the formulations.

Yogaratanakara mentioned a method of purification of the seed of *eranda* for therapeutic use.^[3]

Nighantu literature- *Nighantus* had explained it in detail with its synonyms, varieties, *rasapanchaka* and *karma* along with different indications.

Nirukti (Derivation)^[4]

Eranda - It is mainly helpful in *Vatashamana* and helps in relieving from Sthabdhatta.

Vernacular names^[5,6]

Kannada- Haralu, English-Castor, Hindi- Erand, Telugu- Amundamu, Tamil-Amanakku,

Gujarati- Diviligo, Malayalam- Avanakku, Punjabi-Erand.

Table 1 – Paryaya (Synonyms) by different authors.

	B.P. N ^[7]	D.N ^[8]	R. N ^[9]	KN ^[10]	MA.PA ^[11]	A. K ^[12]	SOU.N ^[13]	SH. N. ^[14]
<i>Amanda</i>	+	+	+	-	-	+	+	-
<i>Chitra</i>	+	+	+		+		+	
<i>Chitrabeeja</i>			+					+
<i>Chitraka</i>				+		+		
<i>Vardhamana</i>	+	+	+	+	+	+	+	
<i>Panchangula</i>	+	+	+	+	+	+	+	
<i>Gandharva hasta</i>	+	+			+	+	+	
<i>Deerghadanda</i>	+	+	+	+				+
<i>Rubooka</i>	+	+	+	+				+
<i>Vatari</i>	+		+					+
<i>Uttanapatraka</i>	+	+	+	+	+			+
<i>Vyaghrapuccha</i>	+			+	+	+		
<i>Urubaka</i>	+			+	+	+	+	+
<i>Chanchula</i>					+			
<i>Vatavairi</i>								
<i>Hastikarni</i>		+	+		+			
<i>Hastiparni</i>		+						+
<i>Nagakarna</i>			+					
<i>Chanchu</i>			+			+		+
<i>Vyadambaka</i>						+		
<i>Vyaghradala</i>			+					
<i>Triputri</i>								+
<i>Karaparna</i>			+					
<i>Yachanaka</i>			+					

<i>Yakshahasta</i>				+				
<i>Ruchaka</i>						+		
<i>Vyaghra</i>					+			
<i>Vyaghrathara</i>					+			

Table 2: Showing the Nirukti and exposition and synonyms of *Eranda*.^[15]

आमाण्ड	आ समन्तान् मण्डयति भूषयति पुष्पैरिति	It is embellished with flowers
गन्धर्वहस्तः	गन्धर्वस्य हस्त इव पत्रमस्य ।	Leaves are palmately lobed
चित्रबीजः	चित्रितं बीजमस्य ।	Seeds are mottled
दीर्घदण्डः	दीर्घं दण्डं पत्रवृन्तमस्य	Leaves are with long petioles
पञ्चाङ्गुलः	पञ्चाङ्गुलिवद् विभक्तं पत्रमस्य	Palmately lobed leaves
वर्धमानः	आशु वर्धते	It is a fast-growing plant
वातारिः	वातविकाराणामरिः शत्रुनाशक इत्यर्थः	Useful in Vataja Vikaras
व्यडम्बकः	विडम्बयति नटमङ्गभङ्गैर्वयुवेगेन संचालितः	It seems as it is dancing
व्याघ्रपुच्छः	व्याघ्रस्य पुच्छ इव पुष्पदण्डोऽस्य	Flowers are arranged in beautiful racemes like Tiger's tail
शूलशत्रुः	शूलनाशकः	It is good remedy for pain
स्नेहप्रदः	स्नेहं तैलं ददातीति	The seeds will yield will yield oil
हस्तिपर्णकः	बृहत् पत्रमस्य	The leaves are large in size.

Table 3: Classification of *Dravya*.

<i>Charaka Samhita</i> ^[16]	<i>Bhedaneeya varga, Swedopaga varga</i> <i>Angamarda Prashamana varga</i>
<i>Sushruta Samhita</i> ^[17]	<i>Vidarigandhadi gana</i>
<i>Astanga Hridaya</i> ^[18]	<i>Vidarigandhadi gana</i>
<i>Bhavaprakasha Nighantu</i> ^[17]	<i>Guduchyadi varga</i>
<i>Dhanvantari Nighantu</i> ^[18]	<i>Guduchyadi varga</i>
<i>Kaiyadeva Nighantu</i> ^[10]	<i>Aushadhi varga</i>
<i>Raja Nighantu</i> ^[9]	<i>Shalmalyadi varga</i>
<i>Priya Nighantu</i> ^[19]	<i>Shatapushpadi varga</i>
<i>Madhava Dravyaguna</i> ^[20]	<i>Vividhoushadhi Varga</i>
<i>Shodhala Nigahntu</i> ^[14]	<i>Guduchyadi Vaga</i>
<i>Madanapala Nighantu</i> ^[11]	<i>Abhayadi varga, Paneeyadi Varga</i>
<i>Nighantu Adarsha</i> ^[21]	<i>Amalakyadi Varga</i>
<i>Saushruta Nighantu</i> ^[13]	<i>Vidarigandhadi gana</i>
<i>Siddhamatra Nighantu</i> ^[22]	<i>Kapha vataghna Varga</i>
<i>Madanadi Nighantu</i> ^[23]	<i>Astama gana</i>
<i>Saraswati Nighantu</i> ^[24]	<i>Kshupa varga</i>

Habitat^[25]- It is found throughout India, mostly under cultivation up to an elevation of 2000m, in the areas of Upper Gangetic Plain, Bengal, Bihar, Orissa, Konkan, Deccan and South India.

Habit- A tall glabrous and glaucous annual, sometimes shrubby or tree like.

Root- Roots are light in weight and profusely branched, outer surface yellowish brown, rough due to the presence of longitudinal wrinkles.

Stem^[26]-The stem and the branches green when young but later turning grey and getting covered with the thin greyish brown bark. Conspicuous ring like scars on hollow stem.

Leaves^[25]- Leaves are alternate, long petiole, palmately veined, nearly orbicular, 7-10 or more lobed. A number of saucer shaped glands are present on the petiole and 2 prominent glands on the top of the petiole.

Inflorescence - Terminal sub paniculate racemes, stalks thick and branching.

Useful parts^[25]- *Moola* (Root), *Beeja* (Seed), *Patra* (Leaf), *Pushpa* (Flower), *Beeja Taila* (Seed oil)

Bheda (Varieties)

According to Bhavaprakasha Nighantu - 1. *Shukla Eranda* 2. *Rakta Eranda*

According to Raja Nighantu, 1. *Shweta Eranda* 2. *Rakta Eranda* 3. *Sthula Eranda*

Chemical constituents^[26]

Leaf- Ricinine (1%), Quercetin 3-O-B- rutinoid (rutin)

Root- Contains alkaloid Ricinin, Root bark shows the presence of steroid and considerable amount of gallotannins along with many inorganic ions.

Seed- Contain fixed oil 40-53%, Ricinoleic acid (12-hydroxy oleic acid) comprise 89% of fatty acids of castor oil. Seeds have lipase and crystalline alkaloid, ricinine. The cake left after the expression of the oil, has a poisonous lectin and ricin.

Rasa panchaka

Table 4: Eranda root.

<i>Eranda</i>	<i>Rasa</i>	<i>Guna</i>	<i>Veerya</i>	<i>Vipaka</i>
B.P. N ⁷	<i>Madhura</i>	<i>Guru</i>	<i>Ushna</i>	<i>Madhura</i>
D.N ⁸	<i>Tikta, Madhura</i>	<i>Guru</i>	<i>Ushna</i>	<i>Madhura</i>
R. N ⁹	<i>Katu, tikta</i>	-	<i>Ushna</i>	<i>Madhura</i>
K. N ¹⁰	<i>Tikta, Kashaya</i>	-	-	<i>Madhura</i>

Table 5: Eranda Taila.

<i>Taila</i>	<i>Rasa</i>	<i>Guna</i>	<i>Veerya</i>	<i>Vipaka</i>
B.P.N ⁷	<i>Madhura, Kashaya</i>	<i>Teekshna, Picchila</i>	<i>Ushna</i>	<i>Madhura</i>
P. N ¹⁹	<i>Madhura, Tikta, Kashaya, Katu</i>	<i>Teekshna</i>	<i>Ushna</i>	<i>Madhura</i>

Doshaghna karma

Table 6: Moola (Root).

	<i>Vatahara</i>	<i>Kaphahara</i>
B.P. N ^[7]	+	
D.N ^[8]	+	

<i>K. N^[10]</i>	+	+
<i>PV Sharma^[27]</i>	+	+
<i>Priya Nighantu^[19]</i>	+	

2. Eranda Patra- *Vataghna by Dhanvantari and Kaiyadeva nighantu. Kaphahara by Bhavaprakasha Nighantu.*

Agrya Karma- *Erandamoolam Vrishya vataharanam'* Eranda moola is considered to be the best in *Vatavyadhi* and best *Vrishya dravya*.^[1]

Rogagnata (Indications)

Table 7: Patra (Leaf).

	<i>Krimighna</i>	<i>Mutrakrichrahara</i>
<i>B.P. N^[7]</i>	+	+
<i>D.N^[8]</i>	+	-
<i>K. N^[10]</i>	+	-

Table 8: Moola (Root).

	<i>B.P. N⁷</i>	<i>D.N⁸</i>	<i>K. N¹⁰</i>	<i>R. N⁹</i>
<i>Shoola</i>	+	-	+	-
<i>Shotha</i>	+	-	+	+(R)
<i>Shira peeda</i>	+	-	+	-
<i>Kati peeda</i>	+	-	+	-
<i>Basti shola</i>	+	+	+	-
<i>Kasa</i>	+	-	+	+
<i>Shwasa</i>	+	-	+	+(R)
<i>Anaha</i>	+	-	+	-
<i>Kusta</i>	+	-	-	-
<i>Amavata</i>	+	-	+	-
<i>Jwara</i>	+	-	+	+
<i>Bridhna</i>	+	-	-	-
<i>Udavarta</i>	-	+	-	-
<i>Gulma</i>	-	+	+	-
<i>Pleeha</i>	-	+	+	-
<i>Antravridhi</i>	-	+	-	-
<i>Rakthavikara</i>	-	+	+	+(R)
<i>Ashmari</i>	-	+	+	-
<i>Vardhma</i>	-	-	+	+
<i>Kampa</i>	-	-	+	-
<i>Arsha</i>	-	-	+	-
<i>Arochaka</i>	-	-	-	+(R)
<i>Bhranthi</i>	-	-	-	+(R)

Table 9: Patra (Leaf)

<i>Patra</i>	<i>B.P. N⁷</i>	<i>K. N¹⁰</i>	<i>P. N¹⁹</i>
<i>Krimi</i>	+	+	-
<i>Mootrakrichra</i>	+	-	-
<i>Kaphavyadhi</i>	+	-	-
<i>Mootradosha</i>	-	+	-
<i>Shotha</i>	-	-	+

Table 10: Phala (Fruit)

<i>Phala</i>	<i>B. P. N⁷</i>	<i>K. N¹⁰</i>
<i>Gulma</i>	+	+
<i>Shoola</i>	+	+
<i>Yakradpleehodara</i>	+	+
<i>Arsha</i>	+	+

Table 11: Pallava/Agradala (Tender leaves)

<i>Pallava</i>	<i>B. P. N⁷</i>	<i>P. N¹⁹</i>	<i>K. N¹⁰</i>
<i>Gulma</i>	+	-	+
<i>Basti shola</i>	+	-	+
<i>Saptavidha vridhhi</i>	+	-	+
<i>Krimi</i>	+	-	+
<i>Vatakapha Vikara</i>	+	-	+
<i>Shoola</i>	-	+	-

Pharmacological actions^[25]

Roots are Purgative, anti-inflammatory, hepatoprotective, antifertility, immunizing, CNS depressant and spasmolytic.

Ethnomedicinal uses^[27]

The root is useful in inflammations, pains, ascites, fever, glands, asthma, eructation, bronchitis, leprosy, diseases of the rectum and the head. The leaf is applied to the head to relieve headache used as a poultice for boils. The leaves are galactagogue and good for burns. The leaf is useful as a local application in rheumatism. The local application of the leaf to the mammary gland is said to produce a powerful galactagogic action. The bruised leaves are used for caries of the teeth and given with water for colic. The flowers are useful in glandular tumors, vaginal pain. The fruit is an appetizer and useful in tumors, pains, piles, diseases of the liver and spleen. The seed is cathartic and aphrodisiac. The oil is expressed and used medicinally. It is applied as a paste of the root in toothache. The bark is used for stitching up wounds and as a dressing for wounds and sores.

Amayika prayoga of Eranda (*Ricinus communis* Linn.)**Table 12: Disease based application of Eranda plant.**

INDICATION	PRAYOGA	REFERENCE
<i>Jwara</i> (Fever)	<i>Eranda moola Ksheerapaka</i>	C.CHI.3.235
<i>Atisara</i> (Diarrhea)	Milk cooked with <i>Eranda</i> root is given internally	C.CHI.19.48
<i>Arshas</i> (Hemorrhoids)	<i>Eranda taila</i> with <i>Triphala kwatha</i> given internally.	GN.2.4.103
<i>Hritshoola</i> (Pain in the cardiac region)	<i>Eranda moola Kashaya</i> with <i>Yavakshara</i>	SG.2.2.101
<i>Gulma</i> (Tumour)	<i>Eranda taila</i> with <i>mamsarasa</i> or <i>ksheera</i>	SS.U.42.122
<i>Shoola</i> (Colicky pain)	<i>Eranda Kashaya</i> mixed with and <i>Guda</i>	SB 4.507
<i>Sthoulya</i> (Obesity)	<i>Eranda patra kshara</i> with <i>hingu</i>	BP.CHI.39.21
<i>Udara</i> (Ascitis)	<i>Eranda taila</i> mixed with <i>gomutra</i> or <i>ksheera</i>	AH.CHI.15.2
<i>Gridhrasi</i> (Sciatica)	<i>Eranda taila</i> mixed with <i>gomutra</i> for a month.	YR. vatavyadhi.163
<i>Vatarakta</i> (Gout arthritis)	In case of pain, paste of <i>eranda</i> seed is applied along with milk or <i>shatapushpa</i>	CS.CHI.29.140
<i>Amavata</i> (Rheumatoid arthritis)	Affected part should be sprinkled with the decoction of <i>eranda</i> .	BP.CHI.26.28
<i>Timira</i> (Cataract)	<i>Eranda taila</i> mixed with is taken internally.	SS.U.17.29
<i>Garbhotpatti</i> (Conception)	Seeds of <i>Eranda</i> and <i>matulunga</i> should be pounded with ghee and given internally.	GN.6.5.4

Matra^[28,25]**Table 13: Dose of different dosage forms.**

Dosage form	Dose
<i>Mula kwatha</i>	10 -50 ml
<i>Taila</i>	20-40 ml
<i>Moola churna</i>	20-30g
<i>Patra churna</i>	2-5g
<i>Bija churna</i>	0.5-3 g

Yoga (Formulations)^[25]

Erandapaka, Erandamooladi kvatha, Eranda saptaka kwatha, Amavatari rasa, Vatari guggulu, Brihat yogaraja guggulu, Saindhavadya taila, Shoolagajendra taila, Rasnasaptaka kvatha churna, Gandharvahasta taila.

Adulterants and substitutes

Castor oil is sometimes adulterated with rosin oil, blown oils, or other unheated oils like groundnut, coconut, sesame, cotton seed and poppy seed oil.

Toxicology- Castor seed contains toxic albumin, ricin causing vomiting, colic, hemorrhagic gastroenteritis, convulsions, edema and circulatory collapse. Castor seed if swallowed without chewing, poisoning is less likely because the impermeable seed coat remains intact.

Long term use of castor oil must be avoided because of its strong purgative action which can cause colic as well as dehydration with electrolyte imbalance and also reduction of absorption of nutrients. It can cause uterine contraction, avoid use during pregnancy and lactation. It is contraindicated in intestinal obstruction, acute inflammatory intestinal diseases, appendicitis, abdominal pain of unknown origin. The drug should not be administered to children under 12 years of age.

Treatment for poisoning consists of gastric lavage, saline cathartics, maintenance of fluid and electrolyte equilibrium and symptomatic measures.^[26]

Shodhana (Method of purification)^[3]

Eranda beeja is tied in a *pottali* and *dolayantra swedana* is given with *Narikela jala* (Tender coconut) for about 1 *yama* (3 hours) will help in purification of *Eranda* seeds.

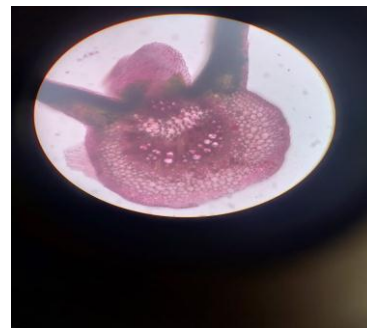
DISCUSSION

Eranda (*Ricinus communis* Linn.) is a shrub widely available throughout India and is the drug of choice in case of *Vatavyadhis*. The reference of *Eranda* is available since Vedic period which shows that it has been in use since ancient times. There is no controversy on the botanical identity of the drug as it is clear that *Ricinus communis* Linn. The root is the main useful part having the best *Vrishya* (Aphrodisiac) *Vatahara karma*.^[1] The seeds and the leaves are also used in different forms in different diseases. As it is available in abundance, it has been mentioned and used in India since ancient time. The root is having *Madhura*, *Tikta* and *Kashaya rasa* with *Guru*, *snigdha* and *Teekshna guna*, *Ushna veerya* and *Madhura vipaka* and hence acts as a potent *vatashamaka dravya* and useful in *Vatarogas*. The oil prepared from the seed is considered as the best purgative.^[29] The leaf is mainly *Krimighna*^[7,10] and *Kaphavatahara*^[10,27] and also useful in *Swedana karma*. The root was

proved for its central analgesic, anti-inflammatory activities. The seeds are considered to be toxic and hence used after purification with *Narikela jala*.

CONCLUSION

Through different classical references, *Eranda* (*Ricinus communis* Linn.) is considered to be a widely available plant and used not only ayurveda but also in folklore practice. Root of *Eranda* is considered to be useful under different conditions like *Gradhrasi*, *Amavata*, *Shoola*, *Atisara*, etc. Seed oil is used as a best purgative. As this drug is available in abundance with numerous properties, further studies can be done on different actions of the drug.



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