



Review Article

A COMPREHENSIVE REVIEW ON *ERANDA THAILA* (*RICINUS COMMUNIS* LINN.)

K. Anumol^{1*}, C. Murali Krishna¹, B. Venkateshwarlu¹, G. Sivaram², G. Babu³

¹Research Officer (Ayu.), ²Senior Research Fellow (Ayu.), ³Assistant Director Incharge, Regional Ayurveda Research Institute For Skin Disorders, Vijayawada.

Article info

Article History:

Received: 15-03-2018

Accepted: 01-04-2018

KEYWORDS: *Eranda thaila*,
Srotovisodhana, *Anupana*,
Ricinus Communis.

ABSTRACT

Ayurveda is the oldest of all remedial sciences in the world. *Eranda* (*Ricinus Communis* Linn.) commonly known as Castor plant is widespread throughout Tropical region. It is one of the important *Ayurvedic* herb used for centuries and oil has wide range of therapeutic properties. Castor oil has a multitude of uses in both the health and industrial sectors. *Eranda thaila* is one of the main drugs used for *Virechana karma* (purgative therapy) and *Snehana karma* (Oleation therapy) under *Panchakarma* therapy. It pacifies *Vata*, the aggravation of which is the root cause of all diseases. Among *Chatusnehas* (four types of unctuous materials), *Thaila* (oil) is the best for the management of *Vatavyadhi* (diseases of *Vata*) as it possess opposite *Gunas* (properties) of *Vata*. In *Vatika vikaras* (disorders caused by *Vata*) *Sneha virechana* (purgation by oil) is advised, as it clears obstruction in the *Srotas* (body channels) and relieves *Vata* vitiation subsequently. *Eranda thaila* (Castor oil) is one of widely used oil in Ayurvedic disease management both internally and externally. In *Samhitas* it is mentioned to be *Vata Kaphahara* and *Adhobhaga doshahara* (disorders of lower parts of the body) and has been praised for its *Amvathahara* (rheumatoid arthritis) property. It is also administered as adjuvant for various formulations. *Eranda thaila* (Castor oil) is a wonderful drug which can also rejuvenate the body and can be administered in many ways. Even though it has various medicinal properties, inappropriate usage causes adverse effects such as dizziness, abdominal cramps, diarrhoea; etc. Castor oil mainly consists of Ricinoleic acid.

*Address for correspondence

Dr K. Anumol

Research Officer (Ayu.),
Regional Ayurveda Research
Institute For Skin Disorders,
Vijayawada, A.P., India.
Cell: 9497264955
Email: dranumolk@gmail.com

INTRODUCTION

Thailas are used in *Ayurveda* for enema therapy, drinking in oleation therapy, nasal medication, filling the ears and along with foods and drinks for the purpose of mitigating aggravation of *Vata*. *Eranda thaila* obtained from the seed of castor plant is widely used traditionally and herb ally as a medicine. Based on origin *Eranda thaila* comes under *Sthavara sneha* (vegetable origin) which can be used both *Abhyantara* and *Bahya*. It is one of the widely used medicines in *Snehana* and *Virechana* therapy of *Panchakarma*. It can also be administered as vehicle for various Ayurvedic formulations. *Eranda thaila* is widely used in traditional medicine for chronic backache, sciatica, constipation, abdominal disorders, muscle aches, arthritis, bilharziasis, chronic headache, expulsion

of placenta, gallbladder pain, menstrual cramps, rheumatism and insomnia.^[1] It is used in the management for scrotocele, lumbago, coxalgia, intermittent fever, colonitis, coxitis, ^[2] occupational eczema and skin disorders. ^[3]

Description

Castor plants, belonging to Euphorbiaceae family has great industrial importance besides used in medicine. *Ricinus communis* is said to be very variable species.^[4] Castor plants are soft wooded, bushy and perennial. Leaves are palmately lobed, with seven or more serrate lobes. Flowers are monoecious in terminal paniculate racemes. Fruits when young is green and covered with fleshy prickles and are globose, explosively dehiscent, 3 seeded capsules. Seeds oblong with smooth, hard

mottled crustaceous testa, enclosing oily and fleshy endosperm.^[5]

Two varieties of castor plants are known: A perennial bushy plant with large fruits and large red seeds which yield about 40% of oil. A much smaller annual shrub with small grey (white) seeds having brown spots and yielding 37% of oil.^[6]

Parts used

Moola, Twak, Patra, Beeja, Thaila.^[7]

Seeds are best collected from May to August.^[8]

Dosage of Thaila

20 g to 40 g.^[9]

10-15ml oil from seeds along with warm water in empty stomach in the morning for purgation.^[10] For acute constipation or as a laxative against worms, at least 5 (x2g) or 10 (x1g) capsules must be taken.^[11]

In Ayurvedic literatures

Two varieties of *Eranda* are described in *Samhitas*. *Sweta eranda* and *Rakta eranda*.

Synonyms

Sweta eranda

Synonyms: *Gandharvahasthaka, Panchangula, Amanda, Citra, Vardhamana, Dirghadanda, Vyadambaka, Vatari, Taruna* and *Rubuka*.

Rakta rubuka (red variety)

Synonyms: *Urubuka, Rubu, Cancu* and *Uttanapatraka*^[12] *Vyaghrapuccha vatari*^[13]

Sthulairanda

Synonyms: *Mahairanda, Mahapancangula*. It is better in *Rasa, Virya* and *Vipaka*.^[14]

Table 1. Types of Eranda mentioned in Samhitas

Types	Reference
1. Sveta eranda	Raj nighantu ^[15]
2. Rakta eranda	
3. Sthulairanda	
1. Sukla eranda	Bhava prakasha ^[16]
2. Rakta eranda	

Table 2. Pharmacological Classification

Classification	Ayurvedic text
<i>Madhya-panchamulaka</i>	Raj nighantu ^[18]
<i>Vidarigandhadi gana</i>	Susrutha Samhita ^[19]

Table 3. Pharmacological properties mentioned in Samhitas

	Madhura	Tikta	Katu	Kashaya	Madhura vipaka	As Vatahara	As Pittahara	As Pittaprakopa	On Kapha
A. H	√	√	-	-	-	√ (VK hara)	-	-	√ (VK hara)
B. P	√ (ET)	√ (ET)	√ (in seeds) √ (ET)	√ (ET) Anurasa	√ (ET)	√ (Eranda patra and seeds)	-	-	√
Ra. Ni	√ (ET)	√ (SE)	√ (SE)	-	-	√ (ET)		√ (ET)	√

<i>Vidaryadi gana</i>	<i>Ashtanga Hridaya</i> ^[20]
<i>Anga marda prasamana daseimani, Swedopagaani daseimani</i>	<i>Caraka Samhita</i> ^[21]
<i>Virechana (adhobhagahara) dravya</i>	<i>Susrutha Samhita</i> ^[22]
<i>Guducyadi varga Taila varga</i>	<i>Bhava prakasha</i> ^[23, 24]
<i>Salmalyadi varga</i>	<i>Raj nighantu</i> ^[25]
<i>Thaila rasayana</i>	<i>Yoga ratnakara</i> ^[26]

Eranda thaila murchana

Murchana is the process which removes *Ama dosa* of *Thaila/Ghrta* and provides good color and fragrance. *Murchana* process is to be followed before any *Sneha* preparation^[27]. Following drugs are used for *Erandathaila murchana*: *Bikasaa (Manjishta), Musthaka, Dhanya, Triphala, Vaijayantika (Agnimantha), Hrivera, Vanakarjura, Vata sringa, Haridra, Daruharidra, Nalika, Bhesajam (Sunthi), Kethaki, Dadhi* and *Kanchikam*^[28]. Take the ingredients (*Kalka dravyas*) in the composition (each 12 g), dry, powder and pass through sieve number 85. Transfer the powdered ingredients to wet grinder, grind with sufficient quantity of water to prepare *Kalka*. Take *Eranda thaila* (768ml) in a stainless steel vessel and heat it mildly. Add ingredients of *Kalka*. Add *Dadhi* (1. 536ml) and *Kanji* (1. 536ml) in the specified ratio and stir thoroughly. Continue heating till the mixture becomes moisture free. Filter while hot through a muslin cloth and allow it to cool.^[29]

As Shodhana dravya

In *Rasashatra*, *Eranda thaila* along with *Matulangambu* is used for *Swarna makshika Shodhana*.^[30]

Properties of Eranda phala majja

Its marrow /pulp (*Majja*) is similar in properties causes purgation (*Vidbhedi*) cures abdominal enlargement caused by *Vata* and *Kapha* (*Vata sleshma udarapaha*)^[31]. As per *Dhanwanthari nighantu*, seeds have *Madhura, Ksharayuktha rasa, Laghu guna, Ushnaveerya, Mala bhedana* property and pacifies *Vata*.^[32] Its *Majja* is *Vidbhedi*, pacifies *Vata* and *Kapha* and cures *Udara*.^[33, 34]

Dha. Ni	√ (in seeds also along with <i>Kshara rasa</i>)	√	-	-	-	√	√ (<i>Eranda yugalam pittavatah ara</i>)	-	-
K. N	√ (ET)	√ (ET)	√ (ET)	√ (ET) <i>Anurasa</i>	<i>Madhura (ET)</i>	√ (ET) (<i>Vk hara</i>)	-	-	(ET) (<i>Kurute kevala kapha</i>)
Su. Sa	√	-	√ (<i>Anurasa</i>)	√ (<i>Anurasa</i>)	√	-	-	-	√ (<i>Vata kaphahara</i>)
Sali. Ni	-	-	-	-	-	√	-	√	-

Table 4. Pharmacological properties mentioned in Samhitas

	Saram	Guru	Laghu	Teekhsna	Ushna
A. H	√	√	-	√ (more in RE)	√ (more in RE)
B. P	√ (ET)	√√ (ET)	-	√ (ET)	√ (more in <i>Eranda phala</i>) √ (ET)
Ra. Ni	-	-	√ (RE)	-	√ (SE)
Dha. Ni	-	√	√ (seeds)	-	√ (seeds also)
K. N	√ (ET)	√ (ET)	-	√ (ET) more in RE	√ (ET) more in RE
Su. Sa	-	-	-	√	√

Table 5. Pharmacological properties mentioned in Samhitas

	Pichila	Visram	Sookshma	Sroto-visodhanam	Vaya-sthanam	Twachyam	Yonisukla visodhanam	Medha kanti bala arogya smriti sukla vivardhanam
A. H	√ (more in RE)	√ (more in RE)	-	-	-	-	-	-
B. P	√ (ET)	√ (ET)	√ (ET)	-	√ (ET)	√ (ET)	√ (ET)	√ (ET)
Ra. Ni	-	-	-	-	-	-	-	-
Dha. Ni	-	-	-	-	-	-	-	-
K. N	√ (ET) more in RE	√ (ET)	√ (ET)	√ (ET)	√ (ET)	√ (ET)	√ (ET)	√ (ET)
Sar. Sa	-	-	√ (ET)	-	-	-	-	-
Su. Sa	-	-	√	√	√	√	√	-

Table 6. Pharmacological properties mentioned in Samhitas.

	Visra	Deepanam	Vidbhedi	Sonithavikarahara	Vrishya	Rasayana	Rasarh (useful in process of mercury)
A. H	-	-	-	-	-	-	-
B. P	√ (ET)	√ (seeds)√ (ET)	√ (<i>Phalamajja</i>) √ (ET)	-	√ (ET)	-	-
Ra. Ni	-	√ (ET)	-	√ (RE)	-	√ (ET)	√ (ET)
Dha. Ni	-	-	√ (<i>Phala</i>)	√	√	-	-
K. N	√ (ET)	√ (ET)	√ (ET) (<i>Vibandhahara</i>)	-	-	-	-
Sali. Ni	-	-	-	-	-	√	-
	-	-	-	-	-	-	-

Table 7. Therapeutic Indications of Eranda

	Vridhi	Gulma	Udaram	Jwara	Kate guhya kosta prishta ruk and sophra
A. H	√	√	√	√ (<i>Visama</i>)	√
B. P	√√ (ET)	√ (seeds also) √ (ET)	√ (seeds esp. in <i>Yakrit pleehodara</i>) <i>Phalamajja</i> in <i>Vata sleshmodara</i> √ (ET) in <i>Vatodaram</i>	√ √ (ET) in <i>Visama jwara</i>	√ (<i>Vastisirapida</i> also) √ (ET)
Ra. Ni	-	-	-	√	-
Dha. Ni	√ (<i>Andhravridhi</i>)	√	√ (<i>Pliha hara</i>)	-	√ (<i>Vastisulahara</i>)
K. N	√ (ET)	√ (ET)	√ (ET) (<i>Pliha hara</i>)	√ (ET) (<i>Visama</i>)	√ (ET)

Table 8. Therapeutic Indications of Eranda

	<i>Amavata</i>	<i>Arsas</i>	<i>Udavartam</i>	<i>Sopha/swayathu</i>	<i>Pandu</i>	<i>Arochaka</i>	<i>Ashtila</i>	<i>Hridroga</i>
A. H	-	-	-	-	-	-	-	-
B. P	√√ (ET)	√ (seeds)	-	√ (ET)	-	-	√ (ET)	√ (ET)
Ra. Ni	-	-	-	√ (RE)	√ (RE)	√ (RE)	-	-
Dha. Ni	-	-	√	-	-	-	-	-
K. N	-	-	-	√ (ET)	-	-	√ (ET)	√ (ET)

Table 9. Therapeutic Indications of eranda

	<i>Vidradhi</i>	<i>Vatasonitam</i>	<i>Swasa</i>	<i>Anaha</i>	<i>Kasa</i>	<i>Kushta</i>	<i>Krimidosha</i>
A. H	-	-	-	-	-	-	-
B. H	√ (ET) In <i>Ama</i> stage	√ (ET)	√	√ √ (ET)	√	√	-
Ra. Ni	-	-	√ (RE)	-	√ (SE)	√ (ET)	√ (ET)
Dha. Ni	-	-	-	-	-	-	-
K. N	√ (ET)	√ (ET)	-	√ (ET)	-	-	-
Sal. Ni	-	-	-	-	-	√	-

Note

B. P	-	<i>Bhavaprakasha</i> ^[35, 36]
A. H	-	<i>Ashtanga Hrdaya</i> ^[37]
Su. Sa	-	<i>Susrutha Samhita</i> ^[38]
Dha. Ni	-	<i>Dhanwantari Nighantu</i> ^[39]
Sal. Ni	-	<i>Saligrama Nighantu</i> ^[40]
Ra. Ni	-	<i>Raja Nighantu</i> ^[41]
K. N	-	<i>Kayyadeva Nighantu</i> ^[42]
√	-	Present in <i>Eranda</i>
√ (ET)	-	Present in <i>Eranda Thaila</i>
√ (SE)	-	Present in <i>Sweta Eranda</i>
√ (RE)	-	Present in <i>Raktha Eranda</i>

Classification of Indications.**In Neurological and Musculoskeletal Disorders**

In *Yogaratanakara*, in the management of *Gridhrasi*, extensive use of *Vasthi* and *Pana* by medicated *Eranda thaila* with *Vajeegandhadi* drugs is recommended.^[43] It is also advised to take *Eranda thaila* with *Gomutra* for one month for *Gridhrasi*.^[44] In *Katisula*, of different origin *Eranda thaila* should be taken along with *Dasamoolee kashaya* or *Nagara ambu*.^[45] *Haritaki* together with *Eranda thaila* should be consumed daily by the patient of *Amavatha*, *Gridhrasi*, *Vrdhhi* etc adhering to the proper procedure. To win over the mighty elephant called *Amavatha* roaming all over the body; only one lion called *Eranda thaila* is enough (*Aamavatha gajendrasya sarira vana charina, Eka eka nihantyashu eranda thaila kesari*).^[46]

In GastroIntestinal Disorders

While describing management of *Vata gulma*, there is description stating that *Eranda thaila* can be administered orally along with *Varunimanda*, or with milk.^[47] In *Vata udara*, *Eranda thaila* can be used orally along with *Dasamoola* or *Gomutra* or with *Triphala churna*.^[48] In *Udara roga samanya vidhi*, there is description suggesting that *Eranda thaila* should be taken along with *Ksheera* or with *mutra*.^[49] *Eranda thaila* is advised as *Pathya* for *Udara roga*.^[50] In *Vatodara*

chikitsa, decoction of *Dasamula* added with *Eranda thaila* consumed daily cure abdominal enlargement due to *Vata*, dropsy and colic.^[51] In *Udara roga* management, *Eranda thaila* should be consumed either with milk or cows urine frequently for purification.^[52] In *Susrutha samhita*, it is described that hot water taken after licking a compound consisting of *Eranda* oil saturated with powdered *Kushta* and *Trikatus*, acts as a good purgative. Castor oil taken with a decoction of *Triphalas* double/trice its own measure, or with milk or extract of meat (*Rasa*), acts as a good purgative, which should be prescribed for infants, old men, or persons debilitated from the effects of ulcer, cachexia, or of delicate constitution.^[53]

In Genito Urinary Disorders

Eranda thaila added with *Yavakshara* and consumed relieves dysuria; in case of pain in the waist in (*Eranda thaila*) should be consumed either with decoction of *Dasamula* or of *Nagara*.^[54] In scrotal enlargement due to *Vata* the patient should be administered oleation therapy first, followed by purgation, drink *Eranda thaila* mixed with milk for one month. *Guggulu* and *Eranda thaila* consumed along with *Gomutra*; this cures scrotal enlargement of *Vata* origin quickly, though persisting for a long time.^[55] *Eranda thaila* cooked with decoction of *Bala*

and consumed suitably cures *Antra vridhhi* (scrotal hernia) associated with flatulence and pain in the abdomen.^[56] Paste of *Abhaya* is fried in *Eranda thaila* and then added with powder of *Krsna* and *Saindhava* and consumed daily is best to cure *Bradhna roga*.^[57]

In Vector Borne Disorders

The patient of *Slipada* (Filariasis) who consumes *Haritaki*, fried in *Gandharva hasta thaila* (*Eranda thaila*) along with *Gomutra*, everyday gets cured of *Slipada* within seven days.^[58] It is regarded as *Pathya* for *Vridhhi vardhma roga*.^[59] It is regarded as *Pathya* for *Slipada*.^[60]

In *Saligrama nighantu*, it is described as *Anala shodhana*.^[61] *Eranda taila* and *Nimba taila* are *Rasyanas* and prevent diseases.^[62] *Eranda taila* cooked with the juice of *Prasarini* and consumed mitigates all the *Dosas* and best to cure diseases arising from *Kapha*.^[63]

Eranda taila as Anupana

Cakradutta indicates it in back ache with *nagara* and *Sunthi*.^[64]

Amavatari rasa – *Erandathaila* as *Anupana* indicated for *Amavatha*.^[65]

Rasnadi choornam- application mixed with *erandathaila* indicated for *Sirasthoda*.^[66]

Vijaya choornam- *Eranda thaila* as *Anupana* indicated for *Kasa*.^[67]

Madhyama rasnadi kwatha- as *Anupana eranda thaila*.^[68]

Maharasnadi kashayam II- *Anupana erandathaila* indicated for *Sarvangakampa*.^[69]

Rasnadi pancha dasa kwatha- *Eranda thaila* as *Anupana* indicated for *Amavatha*.^[70]

Satavaryadi kashaya- *Anupana eranda thaila*, indicated for *Vata asheeti vinashananam*.^[71]

Erandadi kashaya- *Anupana eranda thaila*, indicated for *Ashteela*.^[72]

Table 10: Formulations of Eranda thaila

Sl. No.	Formulations
1	<i>Vataghnalep</i> ^[73]
2	<i>Gudabhallatak</i> ^[74]
3	<i>Brhat saindhavadi thaila</i> ^[75]
4	<i>Hingutriguna thaila</i> ^[76]
5	<i>Misraka sneha</i> ^[77]
6	<i>Sukumara ghrita</i> ^[78]
7	<i>Swasarithailam</i> ^[79]
8	<i>Sarivadi thailam</i> ^[80]
9	<i>Erandadi kashaya</i> ^[81]

10	<i>Punernavadighrtm</i> ^[82]
11	<i>Punarnava guggulu</i> ^[83]
12	<i>Vatari guggulu</i> ^[84]

Methods of oil extraction

Oil from the perennial types is used for illumination and lubrication while that from the annual types is preferred for medicinal use. ^[84] Purification of the oil is by treating the oil with animal charcoal in the proportion of four to one by weight. Impurities are absorbed by the charcoal and on filtering, refined oil is obtained. ^[86]

Chief constituents of Eranda thaila (castor oil)

Castor oil consists of up to 90% ricinoleic. Linoleic, Oleic, Stearic, and Dihydroxystearic acids are also present. ^[87]

Toxic principles in castor beans

The principal toxic substance is the albumin, ricin.

Fatal dose

Fatal dose of seeds -2.5 – 6. ^[88]

Ricin

Ricin toxin (RT) is a water-soluble glycoprotein that does not partition into the oil extract on phase separation. ^[89]

Pharmacokinetics

Eranda thaila is an Irritant/stimulant laxative.^[90] In the small intestine ricinoleic acid causes increased water secretion. ^[91]

Onset of purgation: 2-6 hr ^[92]

Pharmacological study of castor oil

Wound healing activity

The comparison study of two different concentrations (5%w/w and 10%w/w) of castor oil was resulted that the 10 % w/w Castor oil ointment possesses better wound-healing property. The study resulted that the Castor oil reduced the epithelisation time in excision wound model and reduced the scar area showing wound healing activity. ^[93]

Larvicidal and adult emergence inhibition activity

In the present communication, the *R. communis* extract caused 100% mortality against *An. stephensi* and *Ae. albopictus* mosquitoes at 64 µg/mL, and against *Cx. quinquefasciatus* at 32 µg/mL. The seed extract, in the present communication, demonstrated excellent larvicidal and adult emergence inhibition activity against *An. stephensi*, *Cx. quinquefasciatus* and *Ae. albopictus* mosquitoes; has been found to possess no toxicity to fish, *O. niloticus*, and such activity may be due to the synergistic activity of the mixture of bioactive constituents present in the extract. ^[94]

Antioxidant activity

Ricinus communis seed at low concentration shows high antioxidant activity that it could be very useful for the treatment of disease resulting from oxidative stress. The responsible chemical constituents are methyl ricinoleate, ricinoleic acid, 12-octadecadienoic acid and methyl ester, which produce antioxidant activity. [95]

Antiulcer activity

The castor oil at a dose of 500 mg/kg and 1000 mg/kg possess significant antiulcer properties, but at the dose 1000 mg/kg was more potent against the ulceration caused by pylorus ligation, aspirin and ethanol in rats. The antiulcer activity is due to the cytoprotective action of the drug or strengthening of gastric mucosa and thus enhancing the mucosal defence. [96]

Clinical studies

Castor oil induces laxation and uterus contraction: Ricinoleic acid is a selective agonist of EP3 and EP4 receptors. Normal intestinal transit time is shown by mice lacking either EP3 (*Ptger3*^{-/-}; EP3^{-/-}) or EP4 (*Ptger4*^{-/-}; EP4^{-/-}). Wild type mice responded with strong diarrhoea when given castor oil, starting about 30 min after application and for about 2 h the laxative effect lasted. [97]

Identification test of castor oil

About 5 ml of light petroleum (50° to 60°) when mixed with 10 ml of castor oil 15. 5° shows a clear solution, but the mixture becomes turbid, if the amount of light petroleum is increased to 15 ml. This test is not shown by other oils. [98]

Adverse effect of castor oil (frequency not defined)

Adverse effect includes dizziness, abdominal cramps, diarrhoea, nausea, electrolyte disturbance, hypotension and pelvic congestion. [99]

Contraindications of castor oil

Hypersensitivity, GI obstruction or perforation, severe impaction, symptoms of appendicitis or acute surgical abdomen, ulcerative colitis, rectal fissures. [100]

DISCUSSION

Eranda is highly useful in the treatment of a variety of common and chronic disorders. Moreover, the plant is very common and can be seen wildy growing in forests. *Eranda thaila* being a simple harmless purgative can be prescribed after considering the strength of the disease, digestive fire and strength of the body of the patient. *Eranda* due its *Teekshna* and *Ushna guna* possess *Agneya* property (predominant of qualities of *Tejas bhuta*).

Ushna and *Snigdha guna* mitigates *Vata*. whereas *Teekshna*, *Ruksha*, and *Ushna guna* mitigates *Kapha*. Due to its *Sookshma guna* it can enter into minute pores, and *Srotovishodhana* property enables it to cleanse the channels. It enhances *Medha kanti bala arogya smriti sukla* (improve cognitive and memory functions and augment general health and heartiness). *Eranda thaila* possess *rasayana* property also.

CONCLUSION

Eranda is found throughout India and it has been used since ages as medicine. *Ricinus communis* or castor plant is a widely traditionally used and potent medicinal plant amongst all the thousands of medicinal plants. More scientifically based studies on its property and various ways of administration has to carry out. A systematic review of *Eranda thaila* provides information about its usage, dosage, adverse reactions etc. *Srotorodha* is a main cause for disease generation. It has wide range of indications and is an ingredient in various potent formulations. It is a conventional laxative with less adverse effect and is inexpensive. It pacifies *Vata* and *Kapha dosa*, is *Sookshma*, *Srotosodhsana* and *Rasayana* in property. The therapeutic value of *Eranda thaila* is much more and can be given in various conditions.

REFERENCES

1. Sarfaraz Khan Marwat, Fazal-ur-Rehman, Ejaz Ahmad Khan, Mohammad Safdar Baloch, Muhammad Sadiq, Imdad Ullah, Sadaf Javaria and Salma Shaheen (2017). *Ricinus communis*: Ethnomedicinal uses and pharmacological activities, Pakistan journal of pharmaceutical sciences, Vol. 30, No. 5, pp. 1815-1827. [Accessed on Feb 14. 02. 2018].
2. P.K.Warrier, V P K Nambiar, and C Ramankutty, Indian medicinal plants, a compendium of 500 species, Vol 5, Orient Longman Private limited, Chennai, Reprinted on 2004, pg no: 3.
3. Hand book of medicinal plants (Revised and enlarged), Central council for Research in Ayurveda and Siddha, New Delhi, 1979, pgno. 69.
4. Y.R.Chadha, The wealth of India A Dictionary of Indian raw materials & Industrial Products. Raw Materials, Vol. IX:Rh-So, Reprinted by National Institute of Science Communicating (CSIR), 1999, p. 26.
5. P.K.Warrier, V P K Nambiar, and C Ramankutty, Indian medicinal plants, a compendium of 500 species, Vol 5, Orient Longman Private limited, Chennai, Reprinted on 2004, pg no: 1.
6. Dr.K.M.Nadkarni, Indian material medica with Ayurvedic, Unani-Tibbi, Siddha, Allopathic, Homeopathic, Naturopathic and Home remedies,

- Appendices and indexes, Vol 1, 3rd edition, Popular Prakashan Bombay, 1982, pg 1065-1066.
7. Sri Narahari Pandit, Raj Nighantu, 8th edition, Chapter 8, Salmalyadi varga, Text with Dravyaguna prakashika Hindi Commentary by Dr.Indradeva Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2008, p. 243.
 8. Manik Sharma, Mohd Yousf, Abrar Hussain, Showkat Hussain, Malik Romana and, Sumeerah Nazir (2013) Phyto and Pharmacological value of Ricinus Communis I: A Review, IJPRD, Vol 5(02), April 2013 (014-023). Retrieved from <https://www.ijprd.com/PHYTO%20AND%20pharmacological%20value%20OF%20RICINUS%20COMMUNIS%20L.pdf>. [Accessed on 27. 03. 2018], (p. 14).
 9. Sri Narahari Pandit, Raj Nighantu, 8th edition, Chapter 8, Salmalyadi varga., Text with Dravyagunaprakashika Hindi Commentary by Dr.Indradeva Tripathi, Varanasi: Chaukhambha Krishnadas Academy;2008, p. 243.
 10. Hand book of medicinal plants (Revised and enlarged), Central council for Research in Ayurveda and Siddha, New Delhi, 1979, pgno. 69.
 11. Joerg Gruenwald, Thomas Brendler, and Christof Jaenicke, PDR for Herbal medicines, 4th edition, Published by Thomson Healthcare Inc., Montvale, (2007), pg no:167.
 12. Sri Narahari Pandit, Raj Nighantu, 1st edition, Salmalyadi varga, sl. no 55, Text with English translation and Critical Commentary by Dr. Satish Chandra Sankhyadhar, Dr. Deepika Sankhyadar and Prof. KC. Chunekar, Chaukhambha Orientalia, Varanasi, 2012, p. 378-379.
 13. Bhavamisra, Bhavaprakasha, Vol-1, Purvakhanda, Chapter 6, Guducyadi varga, sl. 60-66. Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, 2004, p. 236.
 14. Sri Narahari Pandit, Raj Nighantu, 1st edition, Salmalyadi varga, sl. 59, Text with English translation and Critical Commentary by Dr. Satish Chandra Sankhyadhar, Dr. Deepika Sankhyadar and Prof. KC. Chunekar, Chaukhambha Orientalia, Varanasi, 2012, p. 378-379.
 15. Sri Narahari Pandit, Raj Nighantu, 1st edition, Salmalyadi varga, sl. 55-59, Text with English translation and Critical Commentary by Dr. Satish Chandra Sankhyadhar, Dr. Deepika Sankhyadar and Prof. KC. Chunekar, Chaukhambha Orientalia, Varanasi, 2012, p. 378-379.
 16. Bhavamisra, Bhavaprakasha, Vol-1, Purvakhanda, Guducyadi varga, Chapter 6, 60-66. Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, 2004, p. 236.
 17. Vaghbata, Ashtanga hridaya, a compendium of Ayurvedic system with commentaries Sarvanga sundara of Arunadutta and Ayurvedarasayana of Hemadri, Sutrasthana, Dravadravya vijnaneeya adhyaya, sl. no:57-58, edited by Pt. Bhisagacharya Harishastri Paradkar Vaidya, Akola=Berar, Choukhamba krishnadas academy, Varanasi, 2006, pg no 78 -79.
 18. Sri Narahari Pandit, Raj Nighantu, 1st edition, Chapter 22, Misrakadivarga adhyaya, Sl no. 29. Text with English translation and Critical Commentary by Dr. Satish Chandra Sankhyadhar, Dr. Deepika Sankhyadar and Prof. KC.Chunekar, Chaukhambha Orientalia, Varanasi, 2012, p. 1067 - 1068.
 19. Kaviraj Kunjalal Bhisagratna. Susruthasamhita, Vol 1, 4th edition, Sutrasthana,, Dravyasangraheeya adhyaya, slo. no 2. Text with English translation, Edited by Dr. Jyotir Mitra, Varanasi: Chowkhamba Prakashan, 2012, pgno 326.
 20. Ashtanga hridaya, a compendium of Ayurvedic system with commentaries Sarvanga sundara of Arunadutta and Ayurvedarasayana of Hemadri, Sutrasthana, Sodhanadigana adhyaya sl. 9-10. Edited by Pt. Bhisagacharya Harishastri Paradkar Vaidya, Akola=Berar, Choukhamba krishnadas academy, Varanasi, 2006, pg no 234.
 21. Agnivesha, Caraka Samhita, Sutrasthana, Vol 1, Shadvirechanashatashrita adhyaya, slno 12-18, Text with English translation and critical explosion based on Cakrapani datta's Ayurveda Dipika, By Ram karan Sharma and Vaidya Bhagawan Dash,, Chowkhambha Sanskrit series office, Varanasi, Reprinted on 2018, p-93-99.
 22. Kaviraj Kunjalal Bhisagratna. Susrutha Samhita, Sutrasthana, Vol1, 4th edition, Samsodhana Samshamaneeya adhyaya, slo. no 3. Text with English translation, Edited by Dr. Jyotir Mitra, Varanasi: Chowkhamba Prakashan, 2012, pgno 342, p. 236.
 23. Bhavamisra, Bhavaprakasha, Vol-1, Purvakhanda, Chapter 6, Guducyadi varga, sl: 60-66. Text with English translation by Prof. K.R.Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, 2004.
 24. Bhavaprakasha Bhavamisra, Bhavaprakasha, Vol-1, Purvakhanda, Chapter 6, Taila varga, Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, 2004, p. 475.
 25. Sri Narahari Pandit, Raj Nighantu, 1st edition, Salmalyadi varga, Text with English translation and Critical Commentary by Dr. Satish Chandra Sankhyadhar, Dr. Deepika Sankhyadar and Prof. KC. Chunekar, Chaukhambha Orientalia, Varanasi, 2012, p. 378-379.

26. Yogaratnakara, 2nd edition, Rasayanadhikar, sl. 36, Text with Vaidyaprabha Hindi commentary by Indra dev Tripathi and Daya Shankar Tripathi, Choukhamba krishnadas academy, Varanasi, 2007, pgno. 893.
27. The Ayurvedic Pharmacopoeia of India, Part II (Formulations), Vol I, 1st edition, Government of India Dept. Of Ayush, New Delhi, effective from 2008, pg no: 257.
28. Kaviraj vinod lal sen, Bhaiasajya ratnavali a well Sanskrit treatise on practical therapeutics with a Sanskrit commentary Vinodini, Jwaradhikara, sl: 178. A well known Sanskrit treatise on practical therapeutics with a Sanskrit commentary Vinodini. Krishna Das Ayurveda series no. 71, Varanasi, 2001, p. 64.
29. The Ayurvedic Pharmacopoeia of India, Part II (Formulations), Vol I, 1st edition, Government of India Dept. of Ayush, New Delhi, effective from 2008, pg no: 258.
30. Yogaratnakara, 2nd edition, Swarnamakshikam, Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 112-113.
31. Bhavaprakasha Bhavamisra, Bhavaprakasha, Purvakhandha, Vol-1, Chapter 6, Guducyadi varga, sl. 64-66. Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, 2004, p. 237.
32. Dr. B. K. Dwivedhi, Dhanwanthari nighantu, 1st edition, Hari hindi vyakhya sahit, Guducyadi prathama sarga, sl no:285-288, edited by P. Harihara Prasad Tripathi, Chaukhambha prakashan, Varanasi, 2008, pg no:70-71.
33. Saligrama vaishya, Saligrama nighantu, Saptama ashtama bhago Brhat nighantu ratnakara antargatau, Thailavarga. Choukhamba Prakashan, Varanasi. 2011, pg no 220.
34. Acharya Priyavrta Sharma, Dr. Guruprasad Sharma, Kayya Deva Nighantu[Pathya apathya vibhodhakah], Oshadi varga, sl. no 120, Chowkambha prakashan, Varanasi Reprint edition on 2017, pgno:25.
35. Bhavaprakasha Bhavamisra, Bhavaprakasha, Vol-1, Purvakhandha, Chapter 6, Taila varga, sl. 22-25. Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, 2004, p. 477-478.
36. Bhavaprakasha Bhavamisra, Bhavaprakasha, Vol-1, Purvakhandha, Chapter 6, Guducyadi varga, sl. 64-66. Text with English translation by Prof. K. R. Srikantha murthy,.. Chaukhambha Krishnadas Academy, Varanasi, 2004, p 237.
37. Vaghbata, Ashtanga hridaya, Text with Commentaries of Sarvanga sundara of Arunadatta and Ayurvedarasayana of Hemadri, Collated by Dr. Anna Moreswar Kunte, Sootrasthana, Chapter 5, Dravadravya vijnaneeya, slo: 57-58, Chowkambha krishnadas Academy, Varanasi, 2006, pg no:78.
38. Vaidya Jadavji Trikamji Acharya, Susrutha Samhitha, Text with Nibandhasangraha commentary and Nyaya Chandrika Panjika, Sootrasthana, Chapter 45, Taila varga, sl. 114, Chowkambha Orientalia, Varanasi. Reprint edition on 2014, pg no: 205.
39. Dr. B. K. Dwivedhi, Dhanwanthari nighantu, 1st edition, Guducyadi prathama sarga, sl no:285-288, edited by P. Harihara Prasad Tripathi, Chaukhambha prakashan, Varanasi, 2008, pg no:70-71.
40. Saligrama vaishya, Saligrama nighantu, Saptama ashtama bhago Brhat nighantu ratnakara antargatau, Guducyadi varga, Choukhamba Prakashan, Varanasi. 2011, pg no 221.
41. Sri Narahari Pandit, Raj Nighantu, Chapter 8, Salmalyadi varga, Text with Dravyaguna prakashika Hindi Commentary by Dr. Indradeva Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2006, p. 243.
42. Acharya Priyavrta Sharma, Dr. Guruprasad Sharma, Kayya Deva Nighantu[Pathya apathya vibhodhakah], Oshadi varga, sl. no 115-120, Chowkambha prakashan, Varanasi Reprint edition on 2017, pgno:25.
43. Yogratnakara, 2nd edition, Aseethivathaja roganam samkshipta chikitsa, sl 154, Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 415-416.
44. Yogratnakara, 2nd edition, Aseethivathaja roganam samkshipta chikitsa, sl 163Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 416-417.
45. Yogratnakara, 2nd edition, Aseethivathaja roganam samkshipta chikitsa, sl 164, Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 417.
46. Bhavamisra, Bhavaprakasha, Vol 2, Third edition, Madhyamakhandha, amavathaadhikara, shad vimso adhyaya, sl. 50, Text with English Translation, Translated by Prof. K. R. Srikantha Murthy,. Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 372.
47. Yogratnakara, 2nd edition, vata gulma chikitsa, sl 35Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi,

- Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 485.
48. Yogratnakara, 2nd edition. udara roga chikitsa, sl45Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr.Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 550.
49. Yogratnakara, 2nd edition, sarvodareshu samanya vidhi, sl 120-121 Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr.Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 557.
50. Yogratnakara, 2nd edition. udara roga chikitsa, sl170-172Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr.Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 562.
51. Bhavamisra, Bhavaprakasha, vol2, Third edition, Madhyamakhanda, udararoga aadhikara, chatwarimshattama adhyaya, sl. 31, Text with English Translation. Translated by Prof.K.R.Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 519.
52. Bhavamisra, Bhavaprakasha, vol 2, Third edition, Madhyamakhanda, Udara roga aadhikara, Chatwarimshattama adhyaya, sl. 46 Text with English Translation. Translated by Prof. K. R. Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 521.
53. Kaviraj Kunjalal Bhishagratna. Susrutha samhita, Vol 1, 4th edition, Sutrasthana, Virechanadravyavikalpa vijnaneeya adhyaya, slo. no72-74. Text with English translation, Edited by Dr.Jyotir Mitra, Chowkhamba Prakashan, Varanasi, 2012, pgno 394-395.
54. Bhavamisra, Bhavaprakasha, Vol 2, Third edition, Madhyamakhanda, amavathaadhikara, shad vimso adhyaya, sl. 55 Text with English Translation Translated by Prof. K. R. Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 372.
55. Bhavamisra, Bhavaprakasha, Vol 2, Third edition, Madhyamakhanda, Vridhhi Bradhna adhikara, Trichatwarimshattama adhyaya, sl. 14-15 Text with English Translation. Translated by Prof. K. R. Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 532.
56. Bhavamisra, Bhavaprakasha, Vol 2, Third edition, Madhyamakhanda, Vridhhi Bradhna adhikara, trichatwarimshattama adhyaya, sl. 25Text with English Translation. Translated by Prof.K.R.Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 533-534.
57. Bhavamisra, Bhavaprakasha, Vol 2, Third edition, Madhyamakhanda, Vridhhi Bradhna adhikara, Trichatwarimshattama adhyaya, sl. 34Text with English Translation Translated by Prof.K.R.Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 535.
58. Bhavamisra, Bhavaprakasha, vol 2, Third edition, Madhyamakhanda, Slipada adhikara, panchatwarimshattama adhyaya, sl. 15, Text with English Translation Translated by Prof. K.R.SrikanthaMurthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 547.
59. Yogaratnakara, 2nd edition, Kurandachikitsa, sl. 61-63, Text with vaidyaprabha hindi commentary by Indra dev Tripathi and Daya Shankar Tripathi, Choukhamba krishnadas academy, Varanasi, 2007, pgno. 581.
60. Yogaratnakara, 2nd edition, Slipadachikitsa, sl. 42-43, Text with vaidyaprabha hindi commentary by Indra dev Tripathi and Daya Shankar Tripathi, Choukhamba krishnadas academy, Varanasi. 2007, pgno. 598.
61. Saligrama vaishya, Saligrama nighantu, Saptama ashtama bhago Brhat nighantu ratnakara antargatau, Tailavarga, Choukhamba Prakashan, Varanasi. 2011, pg no 778.
62. Yogaratnakara, 2nd edition, Rasayanadhikar, sl. 36, Text with Vaidyaprabha Hindi commentary by Indra dev Tripathi and Daya Shankar Tripathi, Choukhamba Krishnadas Academy, Varanasi, 2007, pgno. 893.
63. Bhavamisra, Bhavaprakasha, vol 2, Third edition, Madhyamakhanda, amavathaadhikara, shadvimso adhyaya, sl. 113Text with English Translation, Translated by Prof. K. R. Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 379.
64. Sri Narahari Pandit, Raj Nighantu, 6th edition, Chapter 8, Salmalyadi varga adhyaya, Text with English translation and Critical Commentary by Dr. Satish Chandra Sankhyadhar, Dr. Deepika Sankhyadar and Prof. KC. Chunekar, Chaukhambha Orientalia, Varanasi, 2012, p. 379.
65. Sahasrayoga, Dwiteeya Prakarana gutika yoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 122.
66. Sahasrayoga, Triteeya Prakarana churna yoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 200.
67. Sahasrayoga, Triteeya Prakarana churna yoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 202-203.

68. Bhavamisra, Bhavaprakasha, vol 2, Third edition, Madhyamakhanda, Amavathaadhikara, Shadvimso adhyaya, sl. 131 Text with English Translation, Translated by Prof. K. R. Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 381.
69. Sahasrayoga, Prathama Prakarana kashaya yoga, Hindi translation by T.B.Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 80.
70. Yogratnakara, 2nd edition, Amavatha chikitsa, sl 27, Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 454.
71. Sahasrayoga, Prathama Prakarana kashaya yoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 105.
72. Sahasrayoga. Prathama Prakarana kashaya yoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 13.
73. Sahasrayoga, Triteeya Prakarana churna yoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 201-202.
74. Sahasrayoga, Chaturtha Prakarana leha yoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pgno 225.
75. Bhavamisra, Bhavaprakasha, vol 2, Third edition, Madhyamakhanda, amavathaadhikara, shadvimso adhyaya, sl. 116-121 Text with English Translation. Translated by Prof. K. R. Srikantha Murthy, Chaukhambha Krishnadas Academy, Varanasi, 2005, pg no. 380.
76. Vaghbata, Ashtanga hridaya, Vol II, Chikitsasthana, sl. 39, Gulma chikitsa, Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, Reprint 2008, p. 407.
77. Vaghbata, Ashtanga hridaya, Vol II, Chikitsasthana, Gulma chikitsa, sl. 89-90, Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, Reprint 2008, p. 416.
78. Vaghbata, Ashtanga hridaya, Vol II, Chikitsasthana, Vidradhi vrddhi chikitsa, sl. 41-47, Text with English translation by Prof. K. R. Srikantha murthy, Chaukhambha Krishnadas Academy, Varanasi, Reprint 2008, p399.
79. Sahasrayoga panchama prakaranam - artha tailayoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pg no 291.
80. Yogratnakara, 2nd edition, vatha rakthe tailani, ghrtm, sl 71. Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 445.
81. Yogratnakara, 2nd edition, aseethivathaja roganam samkshipta chikitsa, sl 193 Text with Vaidyaprabha Hindi Commentary by Indradev Tripathi and Dr. Daya Shankar Tripathi, Chaukhambha Krishnadas Academy, Varanasi, 2007, pg no. 419.
82. Sahasrayoga, Sashtamam prakaranam - artha ghrtayoga, Hindi translation by T. B Pandit rao, edited by Vaidya Mahendrapal Singh Arya. Kendriya Ayurveda Vijnan Anusandhan parishat. New Delhi, 2011, pg no 320.
83. The Ayurvedic Pharmacopoeia of India, Part II (Formulations), Vol II, First edition, Government of India Dept. Of Ayush, New Delhi, 2008, pg no: 124.
84. The Ayurvedic Pharmacopoeia of India, Part II (Formulations), Vol II, First edition, Government of India Dept. Of Ayush, New Delhi, 2008, pg no: 136.
85. Preeti KM, Verma AB, A Review on Ethnopharmacological Potential of *Ricinus Communis*, Pharma Tutor, 2 (3), 2014, 76-85 doi:10.4137/LPI.S40233. Retrieved from <https://www.pharmatutor.org/articles/review-ethno-pharmacological-potential-ricinus-communis-linn>. Accessed on 14. 02. 2018.
86. Dr. K. M. Nadkarni's, Indian material medica with Ayurvedic, Unani-Tibbi, Siddha, Allopathic, Homeopathic, Naturopathic & Home Remedies, *Ricinus Communis*, Linn. Vol 1, 3 rd edition, Popular Prakashan. Bombay, reprinted 1996, pg 1067.
87. Y. R. Chadha, The wealth of India A Dictionary of Indian raw materials & Industrial Products. Raw Materials, Vol. IX:Rh-So, Reprinted by National Institute of Science Communicating (CSIR), 1999, p. 37.
88. Y. R. Chadha, The wealth of India A Dictionary of Indian raw materials & Industrial Products. Raw Materials by, Vol. IX:Rh-So, Reprinted by National Institute of Science Communication (CSIR), 1999, p. 36-38.
89. Mohammad Moshiri, Fatemeh Hamid, and Leila Etemad (2015), *Ricin Toxicity: Clinical and*

- Molecular Aspects, Rep Biochem Mol Biol. 2016 April;4(2):60-65.PMCID:PMC4986263/. [Accessed on 26. 03. 2018].
90. Medscape, Drugs and diseases, Castor oil. Retrieved from <https://reference.medscape.com/drug/fleet-castor-oil-castor-oil-342010#10>. [Accessed on 20. 02. 2018].
91. Patricia M. Dowling, Western College of Veterinary Medicine, University of Saskatchewan, MSD Manual Veterinary Manual, Retrieved from <http://www.msdvvetmanual.com/pharmacology/systemic-pharmacotherapeutics-of-the-digestive-system/cathartic-and-laxative-drugs-monogastric>. [Accessed on 20. 02. 2018].
92. Medscape, Drugs and diseases, Castor oil. Retrieved from <https://reference.medscape.com/drug/fleet-castor-oil-castor-oil-342010#10>. [Accessed on 20. 02. 2018].
93. Jitendra Jena, Ashish kumar gupta. Ricinus Communis linn: A Phytopharmacological Review, Int J Pharm PharmSci, Vol4, Issue4, 25-29. Retrieved from https://www.researchgate.net/publication/235417877_Ricinus_communis_linn_A_phytopharmacological_review [Accessed on Feb 08. 2018].
94. Shyamapada Mandal. Exploration of larvicidal and adult emergence inhibition activities of Ricinus communis seed extract against three potential mosquito vectors in Kolkata, India. Department of Zoology, Gurudas College, Narkeldanga, Kolkata Vol 3, Issue 8, August 2010. Retrieved from <https://www.science-direct.com/science/article/pii/S1995764510601472> [Accessed on Feb 08. 2018].
95. Manoj Kumar. A Review on Phytochemical Constituents and Pharmacological Activities of Ricinus communis. L. Plant, Department of Botany, Govt. College, Haryana. Retrieved from <http://impactfactor.org/PDF/IJPPR/9/IJPPR,Vol9,Issue4,Article3.pdf>. [Accessed on Feb 08. 2018].
96. Jitendra Jena, Ashish kumar gupta. Ricinus Communis linn: A Phytopharmacological Review, Int J Pharm PharmSci, Vol4, Issue4, 25-29. Retrieved from https://www.researchgate.net/publication/235417877_Ricinus_communis_linn_A_phytopharmacological_review [Accessed on Feb 08. 2018].
97. Tunaru, Sorin et al. "Castor Oil Induces Laxation and Uterus Contraction via Ricinoleic Acid Activating Prostaglandin EP3 Receptors." Proceedings of the National Academy of Sciences of the United States of America 109. 23 (2012): 9179-9184. PMC. Web. 14 Mar. 2018.
98. Biren Shah and A. K. Seth, Text book of Pharmacognosy and Phytochemistry, Castor oil, 2010 Elsevier First Edition, Retrieved from-<https://www.scribd.com/document/363020100/Biren-Shah-Avinash-Seth-Textbook-of-Pharmacognosy-and-Phytochemistry-Elsevier-India-2012>. [Accessed on 30. 1. 2018].
99. Medscape, Drugs and diseases, Castor oil. Retrieved from <https://reference.medscape.com/drug/fleet-castor-oil-castor-oil-342010#4>. [Accessed on 20. 02. 2018].
100. Medscape, Drugs and diseases, Castor oil. Retrieved from <https://reference.medscape.com/drug/fleet-castor-oil-castor-oil-342010#5>. [Accessed on 20. 02. 2018].

Cite this article as:

K. Anumol, C. Murali Krishna, B. Venkateshwarlu, G. Sivaram, G. Babu. A Comprehensive Review On Eranda Thaila (Ricinus Communis Linn.). AYUSHDHARA, 2017;4(6):1384-1394.

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: AYUSHDHARA is solely owned by Mahadev Publications - dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. AYUSHDHARA cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of AYUSHDHARA editor or editorial board members.