

## Krimighna property of Shigru (*Moringa Oleifera* Lam.) – A literary review

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### ABSTRACT

'Krimighna' implies that which destroys krimi. Krimi (Bahya and Abhyantar) is a broad-spectrum term used in Ayurveda, which denote very small living being. In modern, it is included under the definition of worms. In this section we are interested in the krimis related to Udar (gut) specially with roundworms. With the increased cases of Udar krimi and its complications in human beings particularly in children, it has become an area of concern to have a safe remedy. There are several medicinal plants mentioned in Ayurveda classics as Krimighna. In present study, Shigru (*Moringa oleifera* Lam.) has been taken into consideration. This detailed literary review will give an information about the properties, classification, botanical description, varieties, synonyms & therapeutic uses of Shigru according to Ayurveda as well as modern perspective. In this review, the author has also included the pictorial view of how shigru acts on krimiroga and efficiently works as krimighna dravya (anthelmintic drug).

**Keywords:** Shigru; *Moringa oleifera*, Krimiroga, worm; Ayurveda; Shahjana.

### INTRODUCTION

The Ayurvedic science has been taking care of mankind since ancient time and there is no doubt that Ayurveda is still potent as it was 5000 years back and it will remain forever due to its Anadi, Ananta, Shashwat Sutras. But the modern medical science is always hanging their concepts with advancement, it crossed all the limitations and the modern medical fraternity started to use extracts of medicinal plants for curing of the human ailments. Modern science has their own kind of division mainly in intestinal worms. (1) Hookworms (2) Roundworms (3) Pinworms (4) Flatworms (5) Whipworms. Herbal preparations & Ayurveda are gaining popularity day by day on world level due to its lesser side effects and higher efficacy. *Moringa oleifera*, a herb widely distributed throughout India, often in news currently, is believed to have many benefits and its uses range from health and beauty to helping prevent and cure diseases. The ayurvedic herb Shigru is used for treatment of a number of diseases, including Krimi (wormicidal), Kustha (skin problems), Kandu (itching), Vata vyadhi, Ashmari (stone), and Sopha (Inflammation). There are several Krimighna dravyas in Ayurveda. According to Charaka Samhita, Sutra Sthana, 4/15, ten krimighna dravyas are akshiva, maricha, gandira, kebuka, vidanga, nirgundi, kinihi, swadamstra, vrisaparnika and akhuparnika. Among them Akshiva or Shigru was mentioned first.

According to Rigveda (4500-1600BC), Shigru is a domestic plant which is applied in Krimirogas (Kousika sutra29/26). Shigru seed is mentioned under Sirovirechaniya dravya and effective in Ardhababhedaka and Sirogata krimiroga etc. (Cha/Su/2/3). It is very much effective in the treatment of Krimiroga (Cha/Si/8/10). Shigru is a plant that is often called the drumstick tree, the miracle tree, the ben oil tree, or the horseradish tree. Due to the high levels of polyphenols in its leaves and blossoms, it is crucial in defending the liver from harm, oxidation, and toxicity. The liver's protein content can be increased, oxidative stress may be reduced, and liver enzymes can be returned to normal levels.

### Taxonomical Classification:

Kingdom	:	Plantae
Division	:	Magnoliophyta
Order	:	Capparales
Family	:	Moringaceae
Genus	:	Moringa
Species	:	oleifera

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**Botanical Name** [1]: *Moringa oleifera* Lam.

**Etymology (Nirukti):**

▪ **Saubhanjanah**

सुष्ठुभनक्तमुखंसौभानजना

Due to its bitterness, it leaves nasty taste (Vikrit) in mouth i.e. distorted mouth after eating.

▪ **Shobhanjanah**

शोभामनक्ती

Due to its special properties and beautiful flowers, it flourishes its beauty. So, it is called Shobhanjan.

▪ **Shigru**

क्तशनोतीतैक्षण्यातक्तशगरा

It achieves “*Tikshnata*”. So, it is called Shigru.

▪ **Tikshnagandhaha**

तीक्ष्णोर्गंधोअस्य

Its smell is harsh i.e. Tikshna.

▪ **Mochakaha**

मुयनचक्ततरोगातमोचक

It relieves or cures many ailments. So, it is Mochak.

▪ **Madhu Shigru**

रासौमधुक्तशगरूक

Rakta Shobhanjan is called Madhu Shigru.

**Gana (Classical Categorization)** [2]:

**Charaka:** Krimighna, Svedopag, Shirovirechanopag, Katuka Skandha

**Krimighna:** Group of herbs used in treating worm infestation or used in destroying worms.

**Svedopaga:** Ayurvedic plants that are used in Svedana (preparatory procedure for Panchakarma)

**Shirovirechanopaga:** group of herbs that are used as nasal snuff in Nasya treatment

**Katuka Skandha:** group of herbs that have pungent taste.

**Sushruta and Vagbhata:** It is categorized in Varunadi Group of herbs which are effective in urinary system.

**Raj Nighantu:** Mulakadi varga

**Kaidev Nighantu:** Aushadhadi varga

**Rasapanchaka** [1]:

**Rasa:** Katu, Tikta

**Guna:** Laghu, Ruksha, Teekshana,

**Virya:** Ushna

**Vipaka:** Katu

**Doshaghanta:** Vata-Kapha Shamaka

**Vyadhikarma:** Deepana, Krimighna, Pachana, Anulomana, Kusthaghna, Shwashara, Rakta Shodhaka

**Part Used:** Roots, Bark, Fruits, Leaves, Seeds

**Dosage** [1]:

**Root Powder** - 25-30 g

**Stem bark powder** - 2-5 g

**Stem bark juice** - 10-20ml

**Synonyms** [3]:

**Haritashaka:** Green leaves of Shigru are used in diet as vegetables.

**Dirghaka:** Shigru has tripinnate, long, compound leaves.

**Laghupatraka:** Leaflets are small.

**Shobhanjana:** It is beautiful plant with flowers.

**Tikshanagandha:** Has sharp odour.

**Mukhabhanga:** Bitter taste gives bad facial expressions.

**Saubhanjana:** Bitter taste gives bad facial expressions.

**Shigru:** It is beautiful plant with flowers.

**Shigruka:** contains tikshna gandha.

**Ghnacchada:** full of leaves.

**Mochaka:** relieves many diseases.

**Vidradighna:** relieves vidradhi.

**Shweta Shigru:** flowers are white in colour.

**Sitahvaya:** madhura taste.

**Botanical Description** [4]: The plant Shigru is fairly large tree with a corky bark and soft, white and spongy wood. Leaves are about 30 to 75 cms long, tripinnate in structure with petiole sheathing at base. Pinnate are 4-6 in pairs in which the upper most pinnate are opposite to each other. Foliate, hairy glands are present between each pair of pinnae and pinnulate. Ultimate leaflets are opposite to each other, entirely obovate or elliptical in nature, membranous and pale from beneath. Flowers are about 2.5 cms in diameter, strongly honey scented, linear lanceolate in nature with sepals reflexed. Petals are about 1.7-2.5 cms long, linear sapulated, white in color with yellow dot near base. Whereas ovary is hairy in structure.

Fruits or drumsticks are trigonous with linear peduncle and longitudinally ribbed with slight constriction between seeds. Seeds are three cornered, winged, about 2 cms long and with corky testa, non-endospermic having straight embryo, convex cotyledons, superior radicle and many leaved plumule. Roots and bark are grayish brown in colour, reticulated marked with tumid projections of discontinuous transverse rows of transversely extended lenticles. Outer skin is corky and papery. Tissue inside is cream or rose in colour. Portion nearest to wood is whitish in colour. Wood is very soft, porous and yellow in colour.

**Distribution:** It is native to northern India, Pakistan and Nepal. Drumstick tree is indigenous to the Himalayan foothills of South Asia from northeastern Pakistan (33 °N, 73 °E) to northern West Bengal State in India and northeastern Bangladesh. Plant is indigenous in sub-Himalayan tract. It is commonly cultivated throughout the country upto lower elevations in hilly region.

**Chemical Constituents:** The plant contains 4- hydroxymellein, vanillin, moringine, moringinine, bayrenol, indole acetic acid, indolr acetonitrile, benzylisothiocyanate, pterygospermin, cartotene, β-sitosterol knownflavanoids, polysaccharide, protein components, various essential amino acids, minerals andvitamins, fatty acids and spirochin, pterygospermin was found to be an antibiotic principle. The leaves of *Moringa oleifera* provides an excellent source of several essential vitamins, minerals and other nutrients including proteins, vitamin B6, riboflavin, vitamin C, and iron.

**Therapeutic Uses:** Moringa tree is used as a part of diet and also as traditional medicine in India since ages. People all over the world, including traditional healers have utilized different parts of the plant as traditional medicine. The medicinal uses are numerous and have been long recognized in the Ayurvedic and Unani systems of Medicine [5]. Almost all parts of this plant: root, bark, gum, leaf, fruit (pods), flowers, seed and seed oil have been used for treating various ailments such as skin infections, inflammation, swelling, anemia, bronchitis, asthma, diarrhoea, headache, gout, joint pain, rheumatism, hysteria, cholera, heart complaints, fevers, respiratory disorders, digestive disorders, intestinal worms, and diabetes in the indigenous system of medicine [6].

**External uses:** A paste of bark and leaves produce sburning sensation, is anti-inflammatory and acts on abscesses. It is applied topically on inflammation and abscess. Seed powder is the best shirovirechan nasya, seed powder is administered nasally in headache and heaviness of the head produced by kapha. Seed oil is analgesic hence utilized in rheumatoid arthritis and painful diseases.

**Kinds & Variety:** There are two kinds of *Shigru* in classical text of medicine on the bases of flower colour viz. white (*Sweta*) and red (*Rakta*) which are bitter and sweet in taste and they are specifically known as *Katu Shigru* (*Moringa oleifera*) and *Madhu Shigru* (*moringa concanensis*).

**Table 1: Types of *Moringa oleifera* according to different Samhita & Nighantus:**

Samhita	Types		
	1	2	3
Sushruta Samhita	Shigru	Madhu Shigru	-
Ashtang Hridayam	Madhu Shigru	Shigru	-
Dhanvantari Nighantu	Shweta	Rakta	-
Madanpal Nighantu	Shweta	Rakta	-

Raj Nighantu	Shweta	Rakta	Neela
Kaiyadeva Nighantu	Shweta	Rakta	-
Bhavaprakasha Nighantu	Shyama	Shweta	Rakta
Shaligram Nighantu	Shweta	Rakta	-
Nighantu Adarsha	Madhu Shigru	Katu Shigru	-

**Table 2: Showing different actions and uses of *Moringa oleifera* according to different Samhita:**

Karma/Diseases	Charaka	Sushruta	A.S.	A.H	Kashyap
Krimighna	+	+	+	+	+
Vishaghna				+	
Vidahi				+	
Dipan			+		
Vranahara		+			
Vidradhihara		+			
Medohara	+	+			
Hridya				+	+
Kaphhar	+	+	+	+	+
Shvayathuhara	+	+			
Jwarhara		+	+	+	+
sothahara			+	+	+
Gulmahara		+	+	+	
Plihodara			+	+	
Kusthaghna	+	+	+	+	+
Gandamala	+	+	+	+	
Sophahara	+	+	+	+	
Arshahara	+	+	+	+	

## METHODOLOGY

Literature review is conducted on Shigru and its references on krimi chikitsa from various Nighantu and classical textbooks of Ayurveda, and various textbooks on krimichikitsa has been collected. The medicinal value of Shigru is determined by its pharmacological properties. Charaka Samhita, Susruta Samhita, Astanga Sangraha, Bhavaprakasa Nighantu, Raja Nighantu etc. has been followed to know the pharmacological properties of Shigru.

## DISCUSSION:

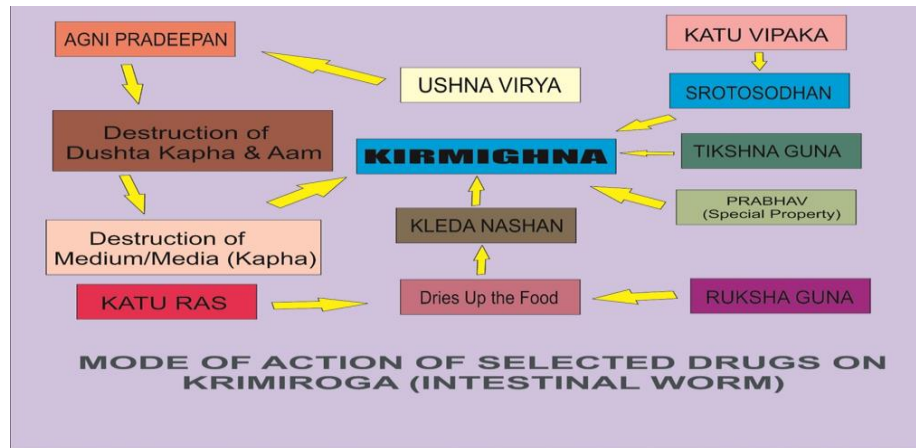
The Kosthagata krimis or Udar krimis are mainly generated in the kaphaja environment. According to Charak Samhita, Vimansthan, chapter 7, the chikitsa is described as follows;

### Line of treatment [7]:

1. Apakarshan (To expel out)
  - Sastra Yukta (By Hand)
  - Asastra Yukta
    - a) Sirovirechan
    - b) Vaman
    - c) Virechan
    - d) Asthapan (except Anuvasan)
2. Prakriti Vighata (change the media by administering Katu, Tikta, Kashaya, Ushna dravya)
3. Nidan Parivarjan (avoiding causes)

Katu and tikta rasa; laghu, ruksha and tikshna gunas are predominantly present in Shigru. It has Ushna virya and katu Vipaka. Its doshakarma is kaphavatahara. So, it can be used to destroy the medium or environment of genesis of krimis. Katu Ras does Deepan, Pachan & pacifies Kapha. Katu ras is mentioned as a Krimighna also. The Ushna Virya of the Drug again help in Agni Pradeepan, Correction of Dushta kapha and Ama. It also acts as Kaphvatahar. The presence of Katu Vipaka & Katu Ras also helps in Srotosodhan. Thus, in total the drug stimulates the Agni, relieves Agnimandya,

then the Aam Formation & thus relieves Srotorodha. All are opposite with the guna of kapha and thus works as kapha vata samaka. Katu ras is also mentioned By Acharya Charak in Sutra Sthan 26 as "krimin hinasti". Shigru has Krimighna, Kushthghna, Deepana, Pachana, Anulomana, vidahi, grahi guna. Shigru has anthelmintic, carminative, antibacterial, anti-inflammatory and Stimulant properties. All these together subside and cure the Krimi Rog.



## CONCLUSION

Shigru has an impressive range of medicinal uses with high nutritional value. Traditional and ethnobotanical uses of plants receive much attention as they are believed that it is safer for human use. Shigru is one of the most used herbs in Ayurveda. Thorough screening of the literatures depicted that Shigru is having krimihara property. Different clinical assessment has also proved it to be highly effective and it is a potent krimighna (anthelmintic agent) dravya. Shigru in prescribed doses could be helpful to kill Krimi and also may show the additional beneficial effects like deepana (enhances enzymatic action), pachana (digestive), rochana (appetizer), srotosodhana (channel clearing), etc.

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