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# *MORINGA OLEIFERA* BENEFICIAL FOR HUMAN HEALTH

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**ABSTRACT**
The flower of *Moringa oleifera* Lam are vital role in improving health of people. It is various traditional medical systems. In that many pharmacological studies such as analgesic, anti- inflammatory, antipyretic, anti-cancer, antioxidant, nootropic, gastro- protective, antiulcer, cardiovascular, antiepileptic, anti- asthmatic, anti- diabetic, diuretic, local anaesthetic, wound healing, immuno- modulatory properties.

## INTRODUCTION

*Moringa oleifera* is also known as "drumstick tree" or "horseradish tree". *M. Oleifera* generally found in Himalayas, India, Pakistan, Asia, Africa, Arabia. In other countries also located in Central America, North and South America, West Indies, Philippines and Cambodia. *M. oleifera* Lam is a monogenous tree. The tree ranges in height from 5 – 12 m. Almost all the part of plant like leaf, root, bark, gum, fruit, flower, seeds and seed oil used for various ailments in the medicine.[1,2]

It is short, easy to cultivate, grows quickly. The leaves are highly nutritious and good source of Beta – carotene, Amino acids, Iron, Vitamin C, Vitamin B and also antioxidant.[3,4,5]

This was mentioned 5000 years ago in *Charaka samhita* and well known in Africa folk medicine.[6]

This tree is used for treatment of inflammation, infectious disease and cardiovascular, gastro-intestinal diseases. In case of headache, the leaves of *M. Oleifera* are used to treat the headache. The leaves also have no. of CNS activity.[3]

**Moringa oleifera Lam**

**Synonyms**
Drumstick tree
Horseradish tree
Latin: Moringa oleifera
Sanskrit: Subhanjana
Hindi: Saguna
Gujarati: Suragavo
Panjabi: Sainja, Soanjna

**Taxonomical classification**
Kingdom: plantae
Division: Magnoliophyta
Class: Magnoliopsida
Order: Capparales
Family: Moringaceae
Genus: Moringa
Species: M. oleifera

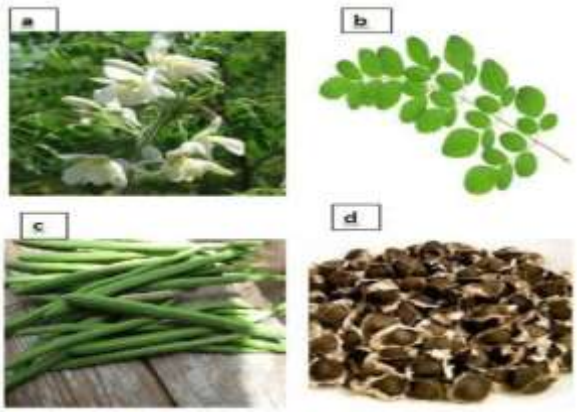
- Binominal name: *Moringa oleifera* Lam

**Morphological Characteristics**

- Colour: Green
- Odour: Characteristics
- Taste: Characteristics
- Shape: Long, Slender
- Size: Height is 10 – 12 m and

Diameter is 45 Cm

*M. oleifera* a perennial tree growing up to 10-12m in height. The leaves are tripinnately compound up to length 45m, leaflets 4-6 in pairs. The colour of leaves are upper side dark green, lower side light green, ovate and elliptic shape. Flowers are fragnant, bisexual; sepal 5, creamy white and greenish marking on outside at base, 0.4- 1.4 cm length; another 5, stamens hairy; stigma hairy, style slender, ovary superior. Fruit capsule with three lobes, green – pale yellow colour; seeds are triangular, slimy, olive green to brown colour.[7]




**Geographical source**

*M.oleifera* is native to tropical and subtropical regions of South Asia, North of India, Pakistan and Nepal of which all its components (leaves, seeds, flowers and bark) are considered medicinal.

**Chemical constituents**

Each part of *M.oleifera* consist of phytochemicals.

The flowers contains flavonoids, alkaloids, sucrose, amino acids such as moringin, moringinine, Beta-sitosterol, octocosanoic acid. The contains 4- (alpha- l – rhamnosyloxy) phenylacetonitrile, O- ethyl-4- (alpha -l-rhamnosyloxy) benzyl while fruit contains cytokines.[8]

**Pharmacological Action**

- **Analgesic, Anti-inflammatory and Antipyretic activities**

Analgesic activity: Extract of leaves, seeds and bark show analgesic activity in both central and peripheral models, and exhibited analgesic potency similar to indomethacin and anti- migrain properties in dose-dependent manner.[9,10]

Anti- inflammatory activity: The extract of leaves of *M.oleifera* showed in carrageenan induced paw edema model. The extract of bark of *M.oleifera* show the anti-inflammatory activity comparable to diclofenac in carrageenan induced paw model.[11]

Antipyretic activity: The leaf of extract showed significant activity in a Brewer's yeast – induced pyrexia model. Ethanol and ethyl acetate extracts of seeds also showed anti- pyretic activity.[12]

- **Neuropharmacological activity**

Aqueous extract of leaves shown protection against Alzheimer disease. Leaves extract showed potent nootropic activity. Leaf extract contains vitamin C and vitamin E to improve memory in patients with Alzheimer's disease.[13]

- **Anti- Cancer**

Alcoholic extract of leaves and fruits showed a growth delay in tumor kinetics in mouse melanoma tumor model studies.

Phytoconstituents such as niazimicin, carbonates' nitrile glycosides are responsible for anti-cancer activity of this plant.[14]

- **Cardiovascular Activity**

The extract of leaves of *M.oleifera* shows the cardiovascular activity in treatment of hypertension, hypotension, myocardial, infraction.[15]

- **Wound healing**

Aqueous extract of leaves of *M.oleifera* showed activity again wound healing at dose level 300 mg/kg body weight.[16]

**CONCLUSION**

The key objective of this plant possesses analgesic, anti-inflammatory, antipyretic, anticancer, antioxidant, nootropic, hepatoprotective, gastroprotective, anti-ulcer, cardiovascular, anti-obesity, antiepileptic, antiasthmatic, antidiabetic, diuretic, local anaesthetic, anti-allergic, anthelmintic, wound healing, antimicrobial, immunomodulatory, and antidiarrheal effects. These activities may be attributed to phytoconstituents present in its root, stem, bark, leaf, flower, pod, and seeds.

**REFERENCE**

1. Durgesh KD, Jyotsna D, Anil K, Ratan KG. A multipurpose tree—Moringa oleifera. Int J Pharm Chem Sci., 2013; 2: 415–23. [Google Scholar]
2. Anwar F, Latif S, Ashraf M, Gilani AH. Moringa oleifera: A food plant with multiple medicinal uses. Phytother Res., 2007; 21: 17–25. [PubMed] [Google Scholar]
3. Bhattacharya A, Naik MR, Agrawal D, Rath K, Kumar S, Mishra SS. Anti-pyretic, anti-inflammatory, and analgesic effects of leaf extract of drumstick tree. J Young Pharm, 2014; 6: 1–5. [Google Scholar]

4. Dilard CJ, German JB. Phytochemicals: nutraceuticals and human health: a Review. J Sci Food Agric, 2000; 80: 1744–56. [Google Scholar]
5. Awanish P, Rishabh DP, Poonam TP, Gupta JH, Saumya BA. Moringa oleifera Lam. (Sahijan)—a plant with a plethora of diverse. Therapeutic benefits: an updated retrospection. Med Arom Plants, 2012; 1: 1–8. [Google Scholar]
6. Ndiaye M, Dieye AM, Mariko F, Tall A, Sall Diallo A, Faye B. [Contribution to the study of the anti-inflammatory activity of Moringa oleifera (Moringaceae)] Dakar Med, 2002; 47: 210–2. [PubMed] [Google Scholar]
7. Singh M, Singh S, Verma D. Morphological and Pharmacognostical Evaluation of Moringa oleifera Lam. (Moringaceae): A Plant with High Medicinal Value in Tropical and Subtropical Part of World. Pharmacog Rev., 2020; 14(28): 138-145.
8. Khare GC, Singh V, Gupta PC. A new leucoanthocyanin from Moringa oleifera gum. J Indian Chem Soc., 1997; 74: 247–8. [Google Scholar]
9. Bhattacharya A, Agrawal D, Sahu PK, Kumar S, Mishra SS, Patnaik S. Analgesic effect of ethanolic leaf extract of Moringa oleifera on albino mice. Indian J Pain, 2014; 28: 89–94. [Google Scholar]
10. Kumbhare M, Sivakumar T. Anti-inflammatory and analgesic activity of stem bark of Moringa oleifera. Pharmacol Online, 2011; 3: 641–50. [Google Scholar]
11. Ezeamuzie IC, Ambakederemo AW, Shode FO, Ekwebelem SC. Anti-inflammatory effects of Moringa oleifera root extract. Int J Pharmacogn, 1996; 34: 207–12. [Google Scholar]
12. Bhattacharya A, Behera R, Agrawal D, Sahu PK, Kumar S, Mishra SS. Antipyretic effect of ethanolic extract of Moringa oleifera leaves on albino rats. Tanta Med J., 2014; 42: 74–8. [Google Scholar]
13. Akram M, Nawaz A. Effects of medicinal plants on Alzheimer's disease and memory deficits. Neural Regen Res., 2017; 12: 660–70. [PMC free article] [PubMed] [Google Scholar]
14. Purwal L, Shrivastava V, Jain UK. Anti-tumour activity of crude extracts of leaves of Moringa oleifera Indian Drugs, 2010; 47: 31–4. [Google Scholar]
15. Gilani AH, Aftab K, Suria A, Siddiqui S, Salem R, Siddique BS, et al. Pharmacological studies on hypotensive and spamolytic activities of pure compounds from Moringa oleifera. Phytother Res., 1994; 8: 87–91. [Google Scholar]
16. Rathi BS, Bodhankar SL, Baheti AM. Evaluation of aqueous leaves extract of Moringa oleifera Linn. for wound healing in albino rats. Indian J Exp Biol., 2006; 44: 898–901. [PubMed] [Google Scholar]