

**MEDICINAL IMPORTANCE OF *Moringa oleifera*: DRUMSTICK PLANT****SANJIVE KUMAR<sup>1</sup>**

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**ABSTRACT**

*Moringa oleifera* is a small or medium sized tree found in almost every part of India. It is used as a food material, cosmetic, medicinal plant and almost every part of this plant can be used. It was an important medicinal plant in traditional method of treatment. It has several medicinal properties like Anti Oxidant, Anti Microbial, Anti Cancer, Anti Diabetic, Hepatoprotective, Anti Inflammatory, Anti Pyretic, Analgesic activity, Hypocholesterolemic effect, Cardio protective property, Anti Asthmatic, Water Purification properties.

*Moringa oleifera* is a small or medium sized tree found in almost every part of India. It is commonly known as *Moringa* or Drumstick or Horseradish in English and Sahjan in Hindi. It is a plant having multipurpose uses. It is used as a food material, cosmetic, medicinal plant and almost every part of this plant can be used. It is a source of

several important nutritional compounds. Its leaves have four time more calcium than that of milk, seven time Vitamin C than that of oranges, while it has three times potassium that of bananas, three times iron than spinach, four times vitamin A than carrots, and two times protein than milk (Kamal, 2008).

**CLASSIFICATION**

Kingdom	Plantae
Division	Magnoliophyta
Class	Magnoliopsida
Order	Brassicales
Family	Moringaceae
Genus	<i>Moringa</i>
Species	<i>M. oleifera</i>

**Common Names**

Botanical Name	<i>Moringa oleifera</i>
English	Moringa or Drumstick or Horseradish
Hindi	Sahjan
Sanskrit	Shobanjana
Tamil	Murungai
Telugu	Mulaga
Marathi	Sujna
Gujarati	Suragavo
Malayalam	Sigru
Urdu	Sahajana
Bangla	Mangnai

**METHODOLOGY**

In this study first medicinal properties of drumstick were recognized. In the next step the literature related to these medicinal properties are collected with the help of organized search. The searches were performed using various data base including

PubMed (<http://www.ncbi.nlm.nih.gov/pubmed>), Scopus (<http://www.scopus.com>), Scirus (<http://www.scirus.com>), Science Direct (<http://www.sciencedirect.com>), Google Scholar (<http://www.scholar.google.com>).

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## MEDICINAL PROPERTIES OF DRUMSTICK

### Antioxidant Property

Antioxidants are those substances which removes free radicals from body. These free radicals can cause several problems like liver cirrhosis, atherosclerosis, cancer etc. Drumstick is found to be very good natural source of antioxidants. A study showed that the water and alcoholic extracts of its leaves are found to be very good antioxidant (Siddhuraj et al. 2003). Another study proved that drum stick showed protective effect and increase antioxidant level during antitubercular drug induced toxicity in rats (Kumar et al. 2004).

### Anti Microbial Property

*Moringa Oleifera* also has antimicrobial properties. A study proved that its fresh leaves juice and seed extract have antimicrobial property (Caceres et al. 1991). Another study proved that *Moringa oleifera* seeds are natural absorbent and environment friendly antimicrobial agent for purification of ground water for drinking purpose (Mangale et al. 2012).

### Anticancer Property

Cancer is a very dangerous disease and it is growing very rapidly among human being. *Moringa* is found to be beneficial in the treatment of it. A study showed that intake of fruit and leaves extract can delay the tumour growth in mice (Purwal et al. 2010).

### Anti Diabetic Property

Diabetes is also a very common disease related to the lifestyle. A study showed that moringa leaves extract can decrease the blood glucose level in rat (Jaiswal et al. 2009). Another study showed that moringa leaves extract showed antidiabetic effect in streptozotocin-induced diabetic albino rats (Yassa et al. 2014).

### Hepatoprotective

*Moringa* is found to be useful in protective action against liver damage. A study showed that its leaves extract enhanced the recovery from hepatic damage induced by antitubercular drugs (Pari et al. 2005). Another study showed that methanoic and chloroform extract of moringa leaves showed protective action against carbon

tetrachloride induced hepatotoxicity in albino rat by reducing bilirubin, SGOT and SGPT level (Selvakumar et al. 2008).

### Anti Inflammatory Property

*Moringa* also have anti inflammatory property. A study showed that methanol extract of its roots may be useful in the treatment of both acute and chronic inflammatory conditions (Ezeamuzie et al. 2008). Another study proved that its leaves extract is useful in the treatment of pain and inflammation (Sulaiman et al. 2008).

### Antipyretic Property

*Moringa* also have antipyretic property. A study showed that ethanol and ethyl acetate extract of its seeds showed antipyretic activity in Rats (Hukkeri et al. 2006). Another study told that moringa is an important part of an herbal formulation called JU-RU-01 which is used as antipyretic agent (Chandra et al. 2010).

### Analgesic Activity

The different parts of moringa tree have analgesic activity. A study showed that the seed and leaves extract of moringa have analgesic activity (Sutar et al. 2008). Another study proved that methanoic extract of its roots shows analgesic activity in mice (Gupta et al. 1999).

### Hypocholesterolemic Effect

*Moringa* is also useful to decrease the cholesterol level. It is proved by a study showed that crude leaf extract of its leaves show Hypocholesterolemic effect in high fat diet fed wistar rat (Ghasi et al. 2000).

### CardioProtective Property

*Moringa* also possessed cardioprotective property. A study showed that its leaves extract have cardioprotective effect which may be due to its antioxidant, antiperoxidative and myocardial preservative effect (Nandave et al. 2009). Another study showed that the *N*, $\alpha$ -L-rhamnopyranosyl vincosamide (VR) isolated from *Moringa oleifera* leaves have cardioprotective potential (Panda et al. 2013).

### Anti Asthmatic Activity

*Moringa* is traditionally used in the treatment of asthma. A study showed that dried powdered seeds of *Moringa* are useful in the

treatment of bronchial asthma (Agarwal et al. 2008). Another study showed that n- Butanol extract of its seeds also have anti asthmatic property (Mahajan et al. 2009).

#### Water Purification

*Moringa* is used in water purification in ancient time. Several scientific studies also proved

that. A study showed that waste husk of *Moringa* tree can be used to make high quality activated carbon which may be use for water purification (Pollard et al. 1995). Another study showed that its seeds are also used in water purification (Ndabigengesere et al. 1998).

S. No.	Medicinal Property	References
1.	Anti Oxidant	Siddhuraj et al. 2003 Kumar et al. 2004
2.	Anti Microbial	Caceres et al. 1991 Mangale et al. 2012
3.	Anti Cancer	Purwal et al. 2010
4.	Anti Diabetic	Jaiswal et al. 2009 Yassa et al. 2014
5.	Hepatoprotective	Pari et al. 2005 Selvakumar et al. 2008
6.	Anti Inflammatory	Ezeamuzie et al. 2008 Sulaiman et al. 2008
7.	Anti Pyretic	Hukkeri et al. 2006 Chandra et al. 2010
8.	Analgesic activity	Sutar et al. 2008 Gupta et al. 1999
9.	Hypocholesterolemic effect	Ghasi et al. 2000
10.	Cardio protective property	Nandave et al. 2009 Panda et al. 2013
11.	Anti Asthmatic	Agarwal et al. 2008 Mahajan et al. 2009
12.	Water Purification	Pollard et al. 1995 Ndabigengesere et al. 1998

#### CONCLUSION

We can understand from above study that *Moringa oleifera* is an important medicinal plant in ayurvedic system. It can be proved by several scientific studies also. It has several medicinal properties like Anti Oxidant, Anti Microbial, Anti Cancer, Anti Diabetic, Hepatoprotective, Anti Inflammatory, Anti Pyretic, Analgesic activity, Hypocholesterolemic effect, Cardio protective property, Anti Asthmatic, Water Purification properties. In this study we tried to find out medicinal importance and the mechanism of the action of *Moringa oleifera*. However there are several other aspects we can be studied further.

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