

Medicinal importance of Spanish cherry: An ornamental tree in human welfare from Dibrugarh District (Assam) India

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Abstract

Mimusops elengi (Linn.) is small to a large ornamental evergreen tree of the family Sapotaceae that can reach a height of fifteen meters. It is mostly grown as an ornamental tree in gardens and is most usually referred to as Bakul, Maulsari, and Spanish cherry. Almost every component of this plant, including the leaf, fruit, seed, bark, and flowers, is utilized to treat a variety of ailments. Taking into consideration the medicinal importance of the plant, plant products in medicines is catching popularized because herbal medicines are uncostly, easily convenient, also are natural, with greater safety zones, fewer negative side effects, or even no. The bark of the plant has been utilized for a wide range of medicinal purposes, notably as a cardiogenic, stomachic, anthelmintic, tannic, and alexipharmic. This plant's fruit and bark are used to remedy diarrhea and dysentery, and the bark's decoction is utilized as a mouthwash to treat oral and throat infections. The fruit and seed of *Bakula* contained quercitol, dihydro quercetin, quercetin, -d glycosides of sitosterol, alpha-spinasterol, and ursolic acid. The intention of this review is to increase our understanding of the different pharmacological qualities of this attractive plant while also highlighting the need for more studies to explore unexplored pharmacological characteristics.

Keywords: *Mimusops elengi*, Sapotaceae, Spanish cherry, Maulsari, Alexipharmic activity.

INTRODUCTION

For many centuries, plants have been a reliable source of medicine. The aromatic plants, which are present among the vegetation in Hindu heaven, are appreciated by the Puranas. *Mimusops elengi* is viewed as a hallowed plant amongst Hindus and appreciates non-secular themes and also in Vedic Sanskrit calligraphy. According to folklore, Krisnais played his flute beneath a *Mimusops elengi* tree on Yamuna's banks to amuse the milkmaids of Brindaban, Kalidasa has additionally inclusion of his conventional Sanskrit publications. The *Mimusops elengi* plant is a symbol of love and beauty (Mitra, 1981). Due to its wide variety of therapeutic value, it has contributed significantly to technological knowledge both chronologically and in modern research (Sharma et al., 2000). It has built an essential contribution to the sphere of technology from historical instances, additionally to research studies because of its enormous number of therapeutic properties (Manjeshwar et al., 2011). It is observed that most people are using different parts of this plant for basic healthcare and the treatment of numerous disorders. This plant is used in landscaping projects for homes, roadways, train stations, cities, villages, factories, educational institutions, temples, and other palaces because of its ornamental value or because it is planted as a showy plant. Workers, villages, and even indigenous people still employ decorative in medicines today. This perennial tree is grown in the Andaman Islands and the Deccan Peninsula and is also grown in greenhouses for adornment (Nadkarni et al., 1996). Under the direction of the Municipal Corporation, Spanish cherry is planted during a plant inquiry in a private garden as well as in public gardens of Dibrugarh district in Assam state which has its own identity as a tea city of India.

Review methodology

This review article was done by exploiting numerous review articles, original articles, and related books from reputable databases, such as Web of Science, PubMed, and Scopus between 1990 and 2022, the literature inquiry approach was used, and it was done in English. The words that were combined to form the keywords for literature searches were: *M. elengi*, Sapotaceae, Spanish cherry, Maulsari, and phytopharmaceuticals. In this review, the chemical composition and biological characteristics of *M. elengi*, are thoroughly examined to investigate their pharmacological activity. In addition, through an oral interview on the traditional applications of *M. elengi* the medics, we have acquired some crucial facts.

Taxonomical classification

Kingdom	:	Plantae
Order	:	Ericales
Clade	:	Tracheophytes
Clade	:	<u>Angiosperms</u>
Clade	:	<u>Eudicots</u>
Clade	:	<u>Asterids</u>
Family	:	Sapotaceae
Genus	:	<i>Mimusops</i>
Species	:	<i>M. elengi</i> L

Vernacular names

Other common names for the plant include some of those listed below:

Sanskrit	:	Anangaka, Bakula, Chirapushpa, Gudhpushpa, Kantha, Madhupushpa.
Gujarati	:	Babhuli, Bolsari, Varsoli, Vovoli
Hindi	:	Bakul, Bolsari, Maulsarau, Maulser, Maulsari
Oriya	:	Kira kauli, baula
Marathi	:	Bakhor, Bakula, Barsoli, Ovalli
Punjabi	:	Maulsari, Maulsiri
Bengali	:	Bakal, Bakul, Bohl, Bukal
Unani	:	Moolsari
French	:	Karanicum
English	:	Bullet wood, Indian Medlar, Spanish cherry (Nadkarni et al., and Raghunathan <i>et al.</i> ,1996)

Distribution

The *Mimusops elengi* tree is a western peninsula endemic. The tree grows in moist evergreen forests all along the western coast, moist evergreen forests across the lower Ghats, 20-meter-deep ravines inside of hills, and dry evergreen forests from the Krishna southward. In addition to the Western Ghats, the Andaman Islands, Martaban, Tenasserim, Burma, and the Eastern Ghats, it is also found there. It is mainly found in arid areas, typically on laterite, and in tiny groups inside the Eastern Ghats (Kirthikar et al., 2012). The Northwestern Himalayas, East Coast, West Coast, Indo-Gangetic Plain, Eastern Ghats, Western Ghats, Central Deccan Plateau, and Outlying Islands are the most common places where it grows (Singh et al., 2003).

Applications of conventional medicine

The plant's bark is used as an anthelmintic, an aerobic tonic, an alexipharmic, a cooling tonic, an astringent, and a febrifuge to treat biliousness and gum and tooth diseases (Govil et al., 1993). The flower is used to treat biliousness, blood illnesses, liver issues, migraines, and biliousness since it is calming and astringent to the bowels. The fruit of the plant is used as a gastrointestinal stimulant, accurate, allergies, and flatulent astringent. The plant seed can repair broken enamel and is used to treat disorders of the head. The plant's root can be gargled to ease gum tension, has gonorrhoea-treating efficacy, and has diuretic and aphrodisiac qualities. The plant blooms twice a year and has a very strong perfume. They collect odoriferous water that the natives distill. The Bakul fruit is safe to consume (Kirthikar et al., 2012). The seeds produce excess oil, which is in high demand among painters. When the leaves are placed near a candle flame, they generate a clever crackling sound (Govi et al., 1993).

Morphological characters of different components of the plant

They are ornamental trees that may grow up to fifteen meters tall and range in size from small to huge. The tree has simple features like a wide spreading, a short, dark, and extremely rough trunk, and ends that tend to push forward and generate a thick, spherical head. The bark grows in parts that are 15–25 cm long and 10-15 cm wide, and it has a dark grey color. Because of the existence of vertical lenticels, fractures, and longitudinal fissures. it is externally hard. The quills of dry bark are thin and appear as quills (Govil et al., 1993). The berry is ovoid in shape and measures 2.5 centimeters in length. It becomes yellow and has astringent properties, a candy-like



Fig.1 *Mimusops elengi* Tree (A); Twig (B); Leaf (C); Flowers (D-E); Fruits (F-G).

flavor. The fruit is ripe during the wet season with fruit that sometimes contains two seeds. The blackish-brown seeds are single, oval, compressed, and shiny (Gopalkrishnan et al., 2010). The leaves are smooth and dark green when harvested, measuring six to ten centimeters in length and three to five centimeters in width (Mitra et al., 1980). In most cases, new leaves sprout in February, and the bushes frequently appear beautiful brilliant inexperienced (Mishra et al., 2009). Variable leaves with elliptic, elongate, or oblanceolate shapes, short or long acuminate sides, and apparent but faint veining Petioles range in length from 1.2 to 2.5 cm (Jahann et al., 2001)

PHYTOCHEMICAL CONSTITUENTS

Stem and bark

They include taraxerone, taraxerol, betulinic acid, and spinasterol, as well as sodium salts of betulinic acid and urosolic acid and fatty acid esters of alpha-spinasterol (Ruikar et al., 2009 and Akhtar et al., 2010). The bark was used to make sodium salts of betulinic acid, urosolic acid, and fatty acid esters of alpha-spinasterol (Akhtar et al., 2009). Along with the well-known triterpenoids farnan-3-one, olean-18-en-2-one-3-ol, and lup-20 (29)-en-3 beta-ol, a novel farnane-type pentacyclic triterpene called farnan-2-one-3 beta-olimusofarnanol was also discovered (Jahann et al., 2001). Beta amyirin, lupeo, farnan-2- 3-hydroxy-lup-20(29)-ene-23, and 28-dioic acid are new farnane-type pentacyclic triterpenes (Ruikar et al., 2009). All unique triterpenes identified in the bark sample had a volatile natural count of zero (Akhtar et al., 2010).

Seeds

Mimusops elengi seeds yielded two unique triterpenoid saponins, mimusopin and mimusopsin, as well as the minor triterpenoid saponin mimusin and two known triterpenoid saponins (Sahu et al., 1997). Mi-saponin A and sixteen alpha-hydroxy compounds (Sahu et al., 1996). Mi-saponin A Mi-glycoside 1, taxifolin, alpha-spinasterol glucoside and two novel triterpenoid saponins, mimusopside A and B (Lavaud et al., 1996), were also discovered. From the seed kernel (Nazarudeen et al., 2010), six new saponins were identified (Saxena et al., 1988).

Heartwood, leaves, and roots

Hentriacontane, carotenoid, and lupeol were extracted from the leaves, heartwood, and roots (Mishra et al., 1968). Five alpha-stigmast-nine (11) en-three-o-beta-D-glucopyranosyl (1-5)-o-beta-D-xylofuranoside was isolated from the roots of *M. elengi* (Kadam et al., 2012)

PHARMACOLOGY

Immunostimulatory Activity

Methanolic extracts (10, 20, 40 mg/kg body weight) of *M. elengi* bark were tested for immunostimulatory activity in mice using the Carbon Clearance Test (CCT), Hemagglutinations Antibody Titre (HA), and Delayed Type Hypersensitized utilizing sing Sheep R.B.C. as antigen. In all experiments, distilled water served as a control, with Vitamin E (150 mg/kg) serving as a reference. The extract of *M. elengi* increased immunostimulatory response in a dose-dependent manner (Kadam et al., 2012).

Anti-anxiety activity

This study looks at the anti-anxiety properties of methanolic, aqueous, and n-butanol extracts of bark in a swiss albino mouse version at different dosages. When compared to water and butanol extracts, methanolic extract at 200 mg/kg showed superior anxiolytic activity (Ganu et al., 2011).

Antihyperlipidemic activity

On Wistar rats have been tested with a methanolic extract of bark to see if it has antihyperlipidemic properties. After 7 and 24 hours of induction, when compared to the Hyperlipidemic group, the groups treated with methanolic extract had significantly decreased triglyceride & total LDL cholesterol levels, indicating that it has antihyperlipidemic potential (Ghaisas et al., 2008).

Antiulcer activity

In rats, the effects of *M. elengi* bark alcoholic and petroleum ether extracts were studied. When compared to petroleum ether extracts of bark, the alcoholic extract has significant antiulcer activity. The alcoholic extract of *M. elengi* bark and its fractions, including ethyl acetate, N-butanol, and methanol, as well as aqueous, were evaluated against numerous ulcer models, with the ethyl acetate fraction demonstrating anti-ulcer activity against experimental stomach ulcers (Prakash et al., 2011).

Anti-inflammatory, analgesic, and antipyretic activities

The use of acetic acid to evaluate a methanolic extract of the leaf for analgesic interest resulted in white albino mice writhing and a heated plate examination. In the roasting rack experiment, the extract caused a general extension of the latency time response to heat stimulation (Purnima et al., 2010). The ethanol extract of Bark turned into tested for anti-inflammatory, analgesic & antipyretic effects in animals. The paw oedema caused by carrageenan was greatly reduced by the ethanol extract of bark at the third and fourth hours, and the transudative weight and granuloma weight was reduced to a lesser extent in the cotton pellet form. Additionally, using analgesic models, ethanolic extracts lower acetic acid-induced writhing as well as rectal temperature in Brewer's yeast-induced pyrexia. The hot plate test, on the other hand, showed no increase in latency time. These data indicate that ethanol extract from the bark has anti-inflammatory, analgesic, and antipyretic properties (Purnima et al., 2010). Cotton pellets and carrageenan-induced paw oedema were utilized in the distant fraction -amyrincaprylate and ethanolic extract of bark were used to assess anti-inflammatory interest. In comparison to the chosen medicine, Indomethacin, the effect

became. The results demonstrated that ethanolic extract and amyriacaprylate help *Mimusops elengi* bark's anti-inflammatory activity.

Antioxidant activity

The chloroform extract of bark was analyzed using the DPPH (1, 1-diphenyl-2-picrylhydrazyl) radical, nitric oxide, ABTS radical, and hydroxyl radical. This study's findings clearly show that *M. Elengi* has a strong potential for use as a natural anti-oxidant agent (Boonyuen et al., 2009). In DPPH free radical scavenging & Nitric oxide scavenging assays, the antioxidant activity of a crude methanolic extract of leaf was statistically significant (Rao et al., 2011). Leaf extract has a protective effect against lipid peroxidation & sports, both enzymatic & non-enzymatic. Antioxidants in plasma and tissues were studied. To measure oxidative stress, plasma and tissue lipid peroxidative markers, non-enzymatic antioxidants, and biochemical antioxidants were utilized. It revealed potential antioxidant effects by significantly reducing the degree of oxidative stress. Plasma and tissue Lipid Peroxidative indicators, Non-enzymatic antioxidants, and enzymatic antioxidants were used to assess the oxidative stress. It demonstrated potent antioxidant properties by significantly reducing lipid peroxidation levels and enhancing the antioxidant defense system in pancreas tissues (Shaik et al., 2011). Bark extracts were tested for their in-vivo antioxidant capacity using petroleum ether, chloroform, and alcohol. Lipid peroxidation (MDA), glutathione (GSH), superoxide dismutase (SOD), and catalase were all examined (CAT). It resulted in a notable reduction in MDA and a notable rise in GSH, SOD, & CAT. The alcoholic extract appears to be a more powerful antioxidant than petroleum ether and chloroform extract (Ganu et al., 2010).

The antioxidant properties of methanolic extract was evaluated in vitro using the reducing energy test, the DPPH assay, and the hydroxyl radical scavenging assay (Boonyuen et al., 2009), it demonstrated significant in vitro electrical lowering capability as well as significant radical scavenging activity. Investigated the antioxidant activity of phenolic constituents in *Mimusops elengi* fruits that were young green, adult immature, and ripe orange.

After being extracted as a crude extract from the final product using methanol-acetone the compounds were divided into three separate fractions: loose phenolic acids (F1), soluble phenolic esters (F2), and insoluble phenolic acid esters (F3) (F3). Radical scavenging (DPPH and ABTS) tests are performed to evaluate each fraction's antioxidant efficiency (Saha et al., 2008). The antioxidant capacity of crude extract from immature fruit was superior to that of mature or ripe fruit (Ashok et al., 2010). The DPPH scavenging assay was used to determine the intensity and overall antioxidant potential of the methanol extract of the leaves. In a dose-structured manner, the extract confirmed strong antioxidant activity in all antioxidant assays when compared to the reference antioxidant ascorbic acid (Saha et al., 2008).

Effect on urolithiasis

The antiurolithiatic effects of bark extracts in petroleum ether, chloroform, and alcohol were studied in male albino Wistar rats. He measured the amounts of oxalate, calcium, and phosphate in the urine and kidneys. Alcohol extract bark considerably lowers the amounts of oxalate, calcium, and phosphate in urine and renal as compared to Petroleum ether and chloroform extract (Ashok et al., 2010)

Activity against atherosclerosis

The methanol extract of the leaves was tested for HDL cholesterol, triglycerides, catalase, and superoxide dismutase using a commercially available assay. It confirmed substantial anti-atherosclerotic action (Satish et al., 2011).

Inhibition of microbial growth

Streptococcus mutants, which cause dental caries, were taken from individuals with inflamed caries, and it was tested against extracts of hexane, ethyl acetate, ethanol, and methanol. *Streptococcus* mutant was resistant to the antibacterial effects of all extracts (Jebashree et al., 2011). Using a good diffusion method, the antibacterial effects of bark extracts in petroleum ether, acetone, methanol, and water were evaluated against the bacteria that cause five types of dental infections: *Staphylococcus aureus*, *Streptococcus mutans*, *Streptococcus salivarius*, *Streptococcus sanguis*, *Lactobacillus acidophilus*, and *Candida albicans*. Methanolic and aqueous extracts confirmed more affinity than petroleum ether and acetone extracts investigated due to the fact that it leached out higher phytoconstituents (Prabhat et al., 2010). Using a 'paper disc diffusion' technique, the bark's acetone extract was tested for antibacterial interest against salivary micro plant life collected from siblings aged 6 to 12, and the acetone extract confirmed antimicrobial interest (Deshpande et al., 2010). The antibacterial effect of ethanolic extracts of

bark was investigated using the usual procedure (Lalitha et al., 2011). The lively extracts were diluted using the Minimum Inhibitory Concentration (MIC) agar dilution procedure in order to determine the extract's minimal inhibitory concentration (Shahwar and Raza, 2009).

The extract was found to be active against three *Staphylococcus* isolates as well as *Staphylococcus aureus* (Rangama et al., 2009). Extracts of bark, fruit, and leaves in the best solvent were evaluated for their ability to fight off a range of pathogenic microbes (Hazra et al., 2007). Fruit extracts were less efficient than those made from bark and leaves against the majority of the species tested, including the fungus *Trichoderma viride*. While ineffective against *Helminthosporium sativum*, leaf extracts were effective against *Trichoderma viride* and *Bacillus subtilis* (Ali et al., 2008). Ethyl acetate was used to extract the two chemicals and evaluated using an agar diffusion method for antibacterial activity (Kulkarni et al., 2011). Two substances were found to have the same antibacterial activity (Shahwar and Raza, 2009). On sixteen clinical bacterial isolates sown on Mueller Hinton Agar, an ethanolic extract of peel was evaluated because of its antibiotic activity according to the right procedure. Using the MIC agar dilution technique, the Minimum Inhibitory Concentrations (MICs) of the antibiotics of interest were determined. Three *Staphylococcus* isolates, including *Staphylococcus aureus*, demonstrate significant activity against the ethanolic bark extract (Murudkar et al., 2007).

A Soxhlet extractor was used to extract the bark for 18 hours while using solvents like petroleum ether, benzene, chloroform, acetone, methanol, and water. Chloroform, methanol, and water were used to make individual bark extracts. Using the ditch plate technique, the extracts were evaluated for antibacterial effectiveness against Gram-positive, Gram-negative, and dental patient tartar-derived infections (Shahwar D and Raza, 2009). In preliminary testing, chloroform extract showed exceptional antibacterial activity (Nair et al., 2007). The bactericidal abilities of both aqueous and ethanolic leaf extracts were evaluated against therapeutically significant bacterial strains using both agar disc diffusion and agar well diffusion techniques. Aqueous extracts were less effective than ethanol extracts.

Antifungal properties

The effectiveness of *Candida albicans*, a dental caries fungus isolated from individuals with caries, was tested against extracts of hexane, ethyl alcohol, ethanol, and methanol. Against *Candida albicans*, the extracts showed little antifungal activity. *Sclerotinia sclerotiorum* (Lib.) de Bary sclerotia's in vitro radial boom, variety, and size were all reduced when Potato Dextrose Agar (PDA) medium was amended with each aqueous extract before or after sterilizing (Niranjan et al., 2009). In all cases of leaf and bark, the unsterilized aqueous extracts showed a marked decrease in radial increase and sclerotial features, indicating that the antifungal chemical is studied dependent on warmness. Several pathogenic fungi have been examined for their antifungal abilities using petroleum ether, ethyl acetate, methanol, and fluconazole solvent extracts of bark, culmination, and leaves. The majority of the examined fungal lines were revealed to be resistant to the bark extracts, and all extracted from the culmination showed susceptible activity against the majority of the fungi, whilst the leaf extracts showed a strong inhibitory impact against the majority of the fungus.

Activity that improves cognition

The effectiveness of an aqueous flower extract on congestive improvement was assessed using the raised plus maze and passive avoidance task procedures with mental, as well as the slow decrease and transfer latency parameters. The presence of an aqueous extract implies a significant effect (Tikare et al., 2010).

Inhibition of cytotoxicity

The cytotoxic potential of the methanolic bark extract used a brine shrimp lethality test to determine. The extract had a precise cytotoxic hobby with an LC50 of 40g/ml, whereas vincristine sulphate had an LC50 of 0.078g/ml (Nasrin et al., 2010). The methanol leaf extract changed into studied for cytotoxic interest which became finished by means of brine shrimp & lethality bioassay as a trademark of toxicity. The analysis strongly suggests that its methanol extracts contain cytotoxic elements. On meristematic cells of root tips of *Allium sativum*, the cytotoxic effects of different extracts of barks were examined using cyclophosphamide, a common cytotoxic agent, at varied dosages (2.5, 5, and 10 mg/ml), along with the ethanolic extract. In photomicrographs, chromosomal anomalies, stickiness, etc. observed as an increase in different extract concentration. According to the literature review, *Allium cepa* % mitotic index and root length significantly decrease with time and with increasing concentration (Bhujbal et al., 2011). Using the MTT test, the cytotoxic activity of the 95 percent ethanol floral extracts against malignant cell lines was compared to that of normal cell lines. At a dose of 50 g/ml, it demonstrated good action against the cholangitis carcinoma CL-6 cell line, with cell survival of less than 50%.

Anti-diabetic properties.

The leaves were evaluated for anti-diabetic activity using polar and nonpolar solvent extracts. The use of alloxan resulted in hypoglycemia rats on acute & long-term treatment (Mamatha et al., 2011). With each acute and chronic treatment study, alcoholic & aqueous extracts revealed significant anti-diabetic effects. Using an oral glucose tolerance test, the anti-hyperglycemic efficacy of a methanolic extract of stem bark was analyzed in diabetic and non-diabetic mice. The extract of barks resulted in a substantial decrease in better glucose levels in glucose-loaded non-diabetic animals as well as a reduction in accelerated glucose ranges. The use of alloxan on hypoglycemia rats caused the aqueous bark extract of to be investigated for antidiabetic properties. After 45 days of therapy, liver glycogen, blood sugar, insulin response, glycosylated hemoglobin as well as glucokinase, glucose-6-phosphatase & glucose-6-phosphate dehydrogenase, were measured. The bark extract caused a substantial change in the biochemical and enzymatic parameters tested, indicating that it had an effect (Jerline et al., 2009).

Diuretic effect

In the alcoholic extract, the diuretic and electrolyte excretion processes were studied. Urine from rodents was collected and the extent was recorded 5 hours after the extracts. Using the alcoholic extract increased the production of urine (Koti et al., 2010). It is investigated if ethyl acetate, ethanol, and water extract have diuretic effects. In a diuretic test, the urine volume in rats has measured after 1, 2, 4, 6, and 24 hrs. The Bakul extracts were found to have strong diuretic action when compared with different extracts (Katedeshmukh et al., 2010).

Hypotensive effect

It was revealed that methanolic extract has hypotensive effects on anesthetized rats in a dose-structured manner, iv administration in a dosage range of 2 to 16 mg/kg was obtained. In a 7 to 38 % reduction in blood arterial strain. The impact became Histaminergic, muscarinic, & adrenergic receptor-independent. Hypotension remained after autonomic ganglion either angiotensin-converting enzyme suppression, Calcium channel blockers, in combination with nifedipine (0.9 mg/kg) and verapamil (3.9 mg/kg), reduced extract-induced hypotension by 81 and 64 %, respectively. These records imply that *M. elengi* has a calcium-blocking property, which might account for its hypotensive effect (Behbahanian et al., 1999).

Effect on healing wounds

The healing wound characteristics of a methanol extract of *Mimusops elengi* bark in the form of an ointment were tested on mice in three different wound models: excision, Dead space wound, and incision. The extract of bark ointments confirmed a high response in all of the above-mentioned wound styles, which matched those of a popular medicine (Gupta & Jain, 2011).

Anthelmintic Activity

Adult Indian earthworms *Pheretima posthuma* were employed in the bioassay to test the methanolic extract and its fractions. The results showed that combined ethyl acetate and methanolic extract fraction of plant leave had valuable anthelmintic activity when compared to standard & manipulate. Albendazole is used to treat infections caused by worms (Jana et al., 2010).

Anticonvulsant activity

The anticonvulsant effects of methanolic, aqueous, and n-butanolic extracts of bark were investigated in rats by using the maximal electroshock test (MES) and isoniazid (INH), which causes convulsions. In mice, Prasad V. Kadam discovered that aqueous, methanolic, or n-butanolic extracts have strong anti-convulsion properties (Ganu et al., 2011).

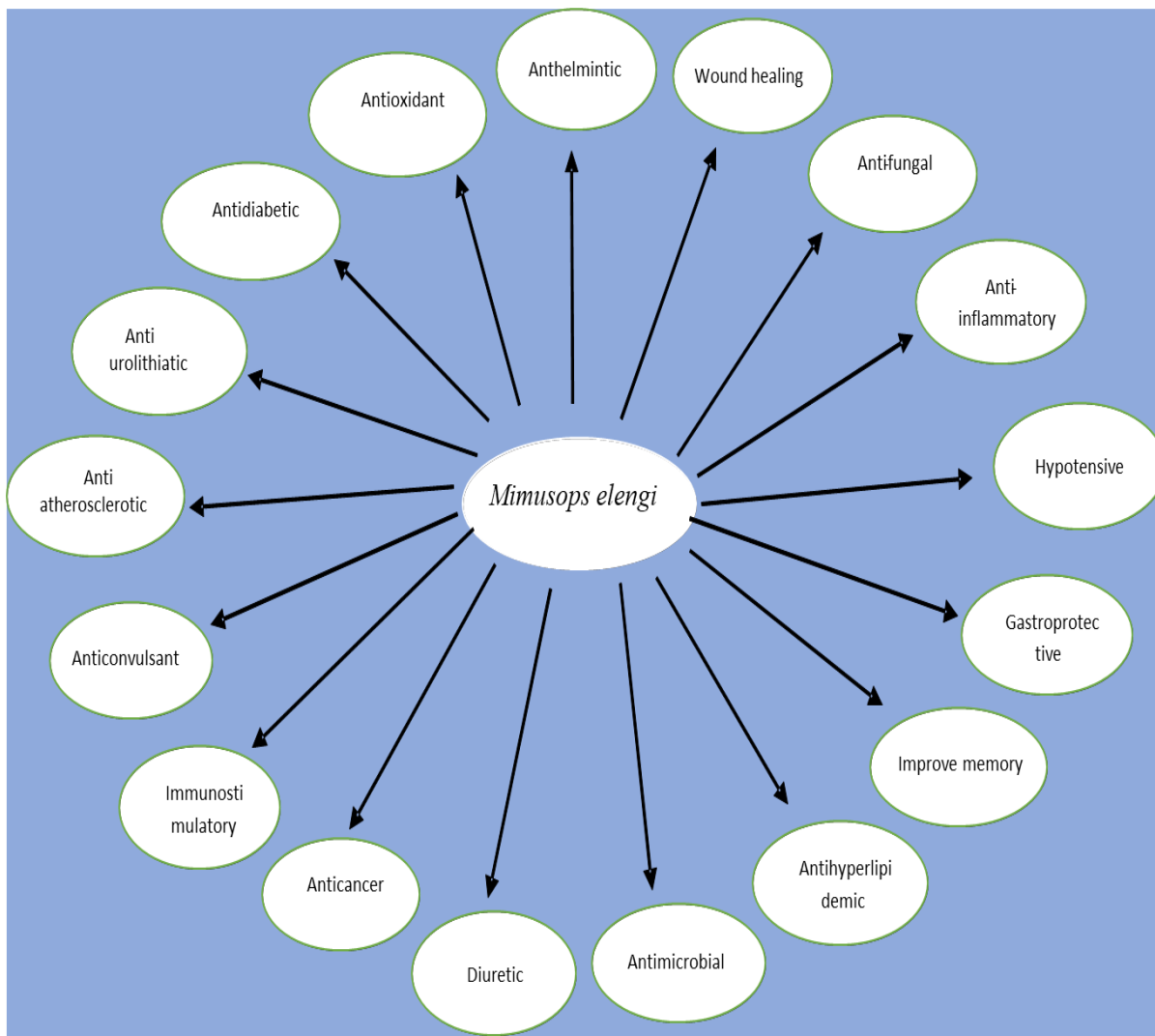


Fig.4 Pharmacological activity of *Mimusops elengi*

While pharmacologists are working to produce new capsules from herbal sources, the development of present *M. elengi* medications for the treatment of a variety of illnesses should be prioritized. The *M. elengi* extract has been shown a dose-dependent increased immunostimulatory response, investigations focusing on the fruit for immunostimulatory effects will be feasible. *M. elengi* is a valuable medicinal plant and considerably all sorts of therapeutic systems, as evidenced by this assessment. It has a variety of phytoconstituents., which may be the most essential components in this plant's medicinal value. Almost every component of the Bakul plant, including the leaf, fruit, seed, bark, and plant life, is utilized to treat different s of ailments. It inspires ideas about every feature of herbs and draws attention to the work of researchers in the field of the development of new formulations that are ultimately beneficial to men and women.

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