

MEDICINAL USES OF FICUS RELIGIOSA: A REVIEW

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ABSTRACT

Numerous plants and herbs hold their renowned situation in the field of medication one of the oldest valuable among which *Ficus religiosa* having a place with the family Moraceae is the essential one. It is a large perennial tree found all over India and revered by Hindus, which protected the Buddha as he divined the "Truths." *F. religiosa* is used traditionally in the ailments of different disorders also demonstrated a wide range of pharmacological activities.

KEYWORDS: *Ficus religiosa*, Common Name, pharmacological activities, Traditional uses, Taxonomy.

INTRODUCTION

Various plants synthesize substances that are helpful in the support of wellbeing in Animals and people. *Ficus religiosa* (L.) is a huge enduring tree generally planted as a side of the road tree. Particularly, in Southeast Asia this tree is usually planted in the sanctuary zones. The normal name of *F. religiosa* (Moraceae) is Bodhi tree and is considered as a holy tree for the two Buddhists just as Hindus.^[1]

It is a glabrous when youthful, found all through the fields of India up to 170m height in the Himalayas, generally planted as a road and side of the road tree particularly close temples.^[2] *Ficus* is one of the most adored bonsai. It is a great tree for apprentices, as most types of *Ficus* are quick producers, lenient toward most any dirt and light conditions. About portion of the types of *Ficus* are monoecious, and the rest are practically dioecious. Numerous *Ficus* species are regularly utilized in conventional medication to fix different diseases.^[3]

Common Names^[4]

Gujrati: Jari, Piparo, Pipalo, Piplo.

Hindi: Pipal, Pipali

Oriya: Aswatha.

Punjabi: Pipal, Pippal

Sanskrit: Ashvattha, Bodhidruma, Pippala, Shuchidruma,

Vrikshraj, yajnika.

Malayalam: Arayal

Taxonomy Classification^[5]

Domain: Eukaryota

Kingdom: Plantae

Subkingdom: Viridiaeplantae
 Phylum: Tracheophyta
 Subphylum: Spermatophytina
 Infraphylum: Angiospermae
 Class: Magnoliopsida
 Subclass: Dilleniidae.
 Super order: Urticales
 Order: Urticales
 Family: Moraceae
 Division: Magnoliophyta
 Tribe: Ficeae
 Genus: *Ficus* (FY-kus) L.
 Specific epithet: *religiosa* L.

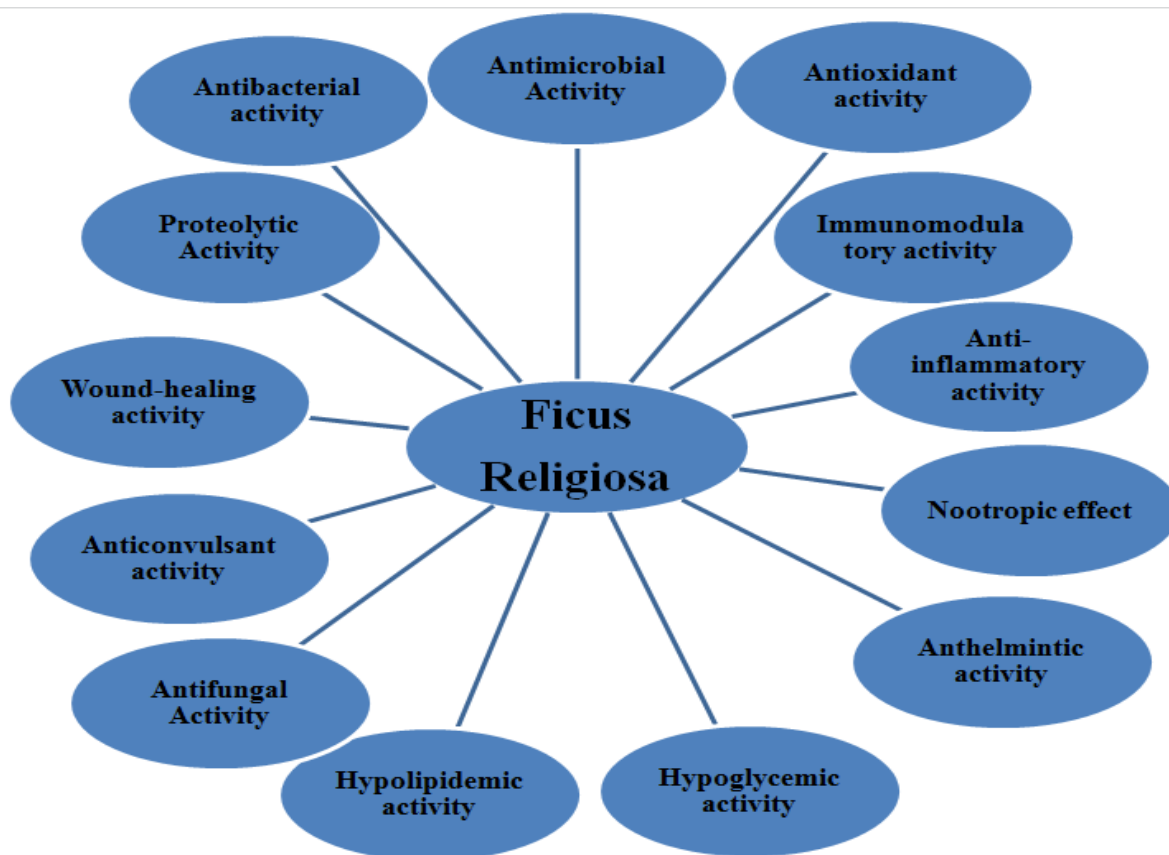


Figure 1: Pharmacological activities of *Ficus religiosa*.

Pharmacological activities

Pharmacological activities are discussed in details following are.

Antibacterial activity

Various concentrates/extracts of the bark of *F. religiosa* has inhibitory impact on the development of three enterotoxigenic *E. coli*, separated from the patients experiencing diarrhea.^[6]

Ethanol extracts of *F. religiosa* leaves appeared antibacterial impact against *Staphylococcus aureus*, *Salmonella paratyphi*, *Shigella dysenteriae*, *S. typhimurium*, *Pseudomonas aeruginosa*, *Bacillus subtilis*, *S. aureus*, *Escherichia coli*, *S. typhi*.^[7]

chloroform extract of organic products indicated antimicrobial impact against *Azobacter chroococcum*, *Bacillus cereus*, *B. megaterium*, *Streptococcus faecalis*, *Streptomycin lactis*, and *Klebsiella pneumonia*.^[8]

Antimicrobial Activity

The antimicrobial activity of ethanolic concentrates of *F. religiosa* (leaves) was analyzed utilizing the agar well dissemination strategy. The test was performed against four microorganisms: *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa* and against two parasites: *Candida albicans* and *Aspergillus niger*.^[9]

Antioxidant activity

Concentrate of *F. religiosa* products of the soil were finished utilizing extraordinary solvents. They were assessed based on oil steadiness file along with their revolutionary searching capacity against 1,1-diphenyl-2-picrylhydrazyl (DPPH).^[10]

The aqueous extract/ of *F. religiosa* decreases oxidative pressure in tentatively actuated sort 2 diabetes in rats. Type 2 diabetic rat put on generally less weight during the course of advancement when contrasted with typical rats. It is improved the body weight of diabetic rats.^[11]

The methanolic concentrate of *F. religiosa* leaf hinders the creation of nitric oxide and proinflammatory cytokines in lipopolysaccharide (LPS) invigorated microglia by means of mitogen enactment protein kinase (MAPK) pathway by utilizing cell practicality measure, nitric oxide test, and chemical connected immunosorbent test (ELISA). The concentrate applies solid calming properties in microglial enactment.^[12]

Proteolytic Activity

A correlation of the proteolytic movement of the activity of 46 types of *Ficus* has been finished by electrophoretic and chromatographic properties of the protein parts, and *F. religiosa* has demonstrated a critical proteolytic action.^[13]

Wound-healing activity

The impact of hydroalcoholic concentrate of *F. religiosa* leaves on tentatively incited wounds in rodents utilizing unique wound models brings about portion subordinate injury mending action in extraction wound, cut injury, and consume wound. A definition of leaves extricate was set up in emulsifying salve at a convergence of 5% and 10% and applied to the injuries.^[14]

Anticonvulsant activity

Methanolic concentrate of *F. religiosa* had anticonvulsant movement against most extreme electroshock (MES) and picrotoxininduced spasms, with no neurotoxic impact, in a dose dependent way. *F. religiosa* separate demonstrated a critical assurance in MES.^[15]

Antifungal Activity

The benzene concentrate of *Ficus religiosa* Linn was measured against its microorganisms *Staphylococcus aureus*, *E. scherichia coli*, *Penicillium gluacum*, and *Paramecium* at a centralization of 0.2% for watery bark removes and 1×10^{-2} M for the segregated mixes. The outcomes show bacterial movement against *S. aureus* and *E. coli*.^[16]

Hypolipidemic activity

Dietary fiber substance of food specifically peepalbanti (*F. religiosa*), cellulose, and lignin were prevailing constituents in peepalbanti, took care of at 10% dietary level to rodents, initiated a more noteworthy protection from hyperlipidemia than cellulose. The dietary fiber affected absolute lipids, cholesterol, fatty oils, and phospholipids of the liver to changing extents.^[17]

Hypoglycemic activity

β -Sitosterol-d-glycoside was separated from the root bark of *F. glomerata* and *F. religiosa*, which has a peroral hypoglycemic movement.^[18]

Anthelmintic activity

Methanolic extricate *F. religiosa* bark was 100% deadly for *Haemonchus contortus* worms. The stem and bark extricates of *F. religiosa* demonstrated deadly to *Ascaridia galli* in vitro. The pharmacological examinations have acknowledged that anthelmintic action is because of a proteolytic portion called ficin. It is apparent from over that methanolic concentrates of *F. religiosa* potentially applied anthelmintic impact due to ficin.^[19]

Anti-amnesic activity or Nootropic effect

Amnesia is a kind of psychological issue that alludes to a particular, procured trouble in learning new data (anterograde amnesia) or potentially recovering data from an earlier time (retrograde amnesia). To examine the anti-amnesic activity of *F. religiosa* methanol concentrate of figs of *F. religiosa* were utilized. Figs are known to contain a high serotonergic substance and balance of serotonergic neurotransmission which plays an essential part in the pathogenesis of amnesia. The

counter amnesic movement was researched utilizing methanolic concentrate of figs of *F. religiosa* on scopolamine-initiated anterograde and retrograde amnesia in mice. The outcome indicated against amnesic action against scopolamine actuated amnesia.^[20]

Alzheimer's sickness (AD) is a preminent reason for dementia in many developed nations. The most acknowledged procedure for the management of AD is the utilization of acetyl cholinesterase (AChE) inhibitors. These medications hinder the chemical AChE which is answerable for the breakdown of acetylcholine in the mind, henceforth improves.^[21]

Anti-inflammatory activity

The anti-inflammatory impact was assessed against intense (carrageenan incited rear paw oedema) also, persistent (cotton pellet implantation) models of aggravation. *F. religiosa* has discovered to be potential calming and pain relieving property. It was discovered that the leaf extricate of *F. religiosa* has expected calming action against carrageenan incited paw oedema.^[22]

Immunomodulatory activity

To examine the immunomodulatory impact of alcoholic extract of the bark of *F. religiosa* different hematological and serological tests were done in mice. Organization of concentrate surprisingly improved both cell and humoral immunizer reaction. It is presumed that the concentrate had promising insusceptible energizer properties.^[23]

Anti-inflammatory activity

Aqueous bark extricate was explored in intense and constant models of inflammation. Carrageenan- induced paw edema test filled in as intense, and cotton pellet-prompted granuloma test as ongoing aggravation model. Treatment with the extricate at 25, 50 and 100 mg/kg dosages diminished the paw volume in carrageenan test, and at 50, 100 and 200 mg/kg forestalled the increment in weight of granulomatous tissue in cotton pellet test.^[24]

Table 01: Traditional uses of *F. religiosa*.

Disordes	Part of extraction/concentrate used
Antiepileptic ^[25]	Adventitious root powder mixed with honey
Anticancer ^[26]	Powdered bark 1–3 g or its liquid extract 60–120mL
Antidiabetic ^[27]	Bark decoction
Antidiarrhoeal ^[28]	Leaf juice with honey bark
Burns ^[29]	Paste of powdered bark
Cardiac diseases ^[28]	Ripe fruits
Wound healing ^[29]	Leaves and tender shoots
Mouth sore	Various parts as a gargle
Antiulcer ^[30]	Bark decoction or infusion
Hiccup ^[31]	Freshly burnt bark soaked in water
Haematuria ^[28]	Leaf juice with honey
Hemorrhoids	Dried fruits
Laxative and Purgative ^[32]	Leaves and tender shoots
Elephantiasis	Root juice mixed with ginger applied externally
Nervine tonic	Stem-bark
Skin allergies ^[33]	Paste of bark applied externally on allergic parts, once daily

CONCLUSION

The current review discloses that *F. religiosa* are the neighborhood legacy with the worldwide significance. The world is supplied with a rich abundance of restorative plants. *F. religiosa* plant has been used for their different medicinal purpose like antibacterial, antifungal, anticonvulsant, immunomodulatory, cancer prevention agent, hypoglycemic, hypolipidemic, anthelmintics, and wound mending exercises, Anti-inflammatory activity. This plant is also a good source of traditional medicine.

Disclosure Statement

There are no conflicts of interest.

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