



VITEXNEGUNDO: SCOPE FOR TREATMENT OF DENTAL DISEASES

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ABSTRACT

Mother Nature always stands out as an excellent representation to epitomize the outstanding marvel of symbiosis. Herbal plants have been known to have healing powers since ancient times. A lot of infectious and non-infectious diseases have been treated in the past using herbals. The world is now moving toward the herbal medicine or phytomedicines. VitexNegundo Linn. is a forested plant found chiefly in Indian subcontinent Almost all the sections of the plant own an enormous quantity of phytochemical secondary metabolites that pass on an beyond compare variety of medicinal uses of the plant. Point to note that a single plant species finds use for treatment of a large array of human health disorders in customary as well as folk medicines, lion part of which have been experimentally proved to be extremely true.

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INTRODUCTION

Medicinal plants play a significant role in the recent era for treatment of several disease. Mention of the use of such medicinal plants is cited as early as the late fifth century BC by Hippocrates. In the first century AD, Dioscorides wrote De Materia Medica, a medicinal plant catalog that became the prototype for modern pharmacopoeias. (1) The Bible offers descriptions of approximately 30 healing plants. (2)One quarter of all prescriptions made today are preparations based on substances obtained from plants or plant-derived synthetic analogs, and according to the WHO, 80% of the world's population, primarily those of developing countries, rely on plant-derived medicines for their health care. (3)Plant derived drugs came into use in the modern medicine through the uses of stuff as native cure in traditional knowledge or ancient systems of drugs. The world is now moving towards the herbal medicine or phytomedicines. Indian landmass could be a large repository of healthful plants that are utilized in ancient medical healings, that additionally type an upscale supply of data. The various native systems such as Siddha, Ayurveda, Unani and Allopathy use numerous plant species to treat diverse ailments. In Republic of India around 20,000 medicinal plant species have been recorded, but more than 500 traditional communities use about 800 plant species for curing different diseases.

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Role of Ayurveda in Oral health

Ayurveda is that the ancient Indian system of health-care and longevity.

It involves a holistic read of man, his health and illness. Ayurvedic treatment is aimed toward patient as associate organic whole and treatment consists of salubrious use of medication, diets and certain practices. There are approximately 1250 Indian medicinal plants that are used in formulating beneficial measures according to Ayurvedic or other ethnicity. (4)This 5000-year-old system of medicine recommends treatments with specific herbs and minerals to cure various diseases. The botanicals within the Ayurvedic material medica are tried to be safe and effective, through several hundred to several thousand years of use. The exploration of botanicals utilized in ancient medication, may lead to the development of novel preventive or therapeutic strategies for oral health. As most of the oral diseases are due to bacterial infections and it has been well-recognized that medicinal plants bestow considerable anti-bacterial activity against various microorganisms including bacteria's accountable for dental caries. (5) The doctor must be additional familiar concerning the utilization, safety and effectiveness of the various traditional medicines and over-the-counter products.(6)

Vitex Negundo Linn

VitexNegundo is associate degree erect woody plant or atiny low tree that grows from a pair of 8m tall. The bark is usually reddish brown. Its leaves are branched into 3 to 5 finger

like lance like leaflets. Each leaflet is around four to ten cm long, with the central leaflet being the longest and possess a stalk. The leaf edges are toothed or notched like saw and also the bottom surface is roofed with hair. The copious purple-white flowers are borne in panicles regarding 10 to 20 cm long.(7)

Taxonomical classification (8)

Kingdom-Plantae,
Subkingdom-Tracheobionta,
Superdivision-Spermatophyta,
Class-Magnoliopsida,
Subclass-Asteridae,
Order-Lamiales,
Family-Verbenaceae,
Genus-Vitex,
Species-negundo

Phytochemical constituents

The *VitexNegundo* plant is rich in metabolites. Metabolites like alkaloids, glycosides, tannins, flavonoids, steroids, carbohydrates, saponins etc. These metabolites can be isolated using various solvents like methanol, benzene, ethanol, chloroform, ether or aqueous extracts.(9,10)

Phytochemical constituents	Methanol	Ethanol	Chloroform
Alkaloids	-	+	-
Flavonoids	+	+	-
Glycosides	+	-	-
Carbohydrates	+	-	-
Phenolic compounds and tannins	+	+	+
Saponins	+	+	+

Medicinal importance

Ayurveda-Vitexnegundo is mentioned within the verses of the Charaka Samhita that is definitely the foremost ancient and authoritative textbook of Indian written material.(11)

Roots, Bark, Leaves and fruits are highly medicinal.

Roots area unit one amongst the ingredients of the drug Dasmula arista; employed in inflammatory bowel disease, dysentery, diarrhea, flatulence, fever, emesis and intestinal colic.

Roots and Barks: Used for relieving thirst, pain in body and myalgia with intermittent type of fever.

Leaves: Used for treating pinkeye, deafness, indigestion, piles and Jaundice, leaf juices are used in curing catarrh and fever.

Tender fruits area unit bitter astringent, antilaxatives, digestion, promote digestion and strength, as well as overcome diarrhea and dysentery.

Ripe Fruits: alimantal, cooling, used in treating indigestion and to improve vision.(8)

Commercial products

The pharmacological potential of *VitexNegundo* has been used greatly in formulating commercial products for management of oral and general health conditions. A number of products are available commercially in the market in the form of creams, gels, tablets, oils and solutions. Leading pharmaceutical companies have marketed a lot of products for the treatment of conditions like osteoarthritis, joint pain, spondylitis, gout,

sprain, burns, erectile dysfunction, wounds, fungal infections, for stiff back and joints, for the treatment of frozen shoulder, for curing toothache and bleeding gums.(12)

Potential uses in dentistry

Literature has suggested multiple potentials of *VitexNegundo* owing to its antibacterial activity against a number of organisms.(13)

Anticariogenic agent

Despite many anti-plaque agents out there within the market, the search for an effective agent still continues. Several undesirable side-effects related to these agents stirred up the rummage around for alternate agents.

Plants or plant merchandise employed in people dental practices or prescribed in Unani, homeopathic, or Ayurvedic remedies are now gaining attention in view of their acclaimed medicinal properties. (14)The extract may with success forestall plaque formation on the surface of the tooth, because it reserved the sucrose-induced adherence and also the glucan-induced aggregation, the two processes that foster the settlement of the organism on the surface of the tooth. Thus, the extract of *V. Negundo* may be an effective agent in the treatment of carious teeth, owing to its ability to inhibit the growth and accumulation of *S. mutans* on the surface of the tooth. This would forestall the build up of acids on the surface of the tooth, and so the any demineralization and also the breakdown of the solid body substance.(14)

Toothache

Leaves are crushed together with common salt and placed on painful tooth to get relief from toothache.(15)

Vitex as a root canal irrigant

Primary dentistry infections area unit caused by oral microorganisms, which are usually opportunistic pathogens that may invade a root canal containing necrotic tissue and establish an infectious process.(16) The number of facultative anaerobic bacterium will increase once the basis canal remains infected for long periods. *Enterococcus faecalis*, a facultative anaerobic gram-positive coccus, is the most common *Enterococcus* sp. cultured from non-healing endodontic cases. Sodium hypochlorite (NaOCl) is an economical irrigant employed in eliminating *E. Faecalis* biofilms in vitro, however its main disadvantages could be its unpleasant style, high toxicity, and its inability to get rid of the smear layer.(17) *VitexNegundo* has shown significant anti-bacterial activity against three and six week biofilms. The use of seasoner alternatives as a passage irrigant may convince be advantageous considering the many undesirable characteristics of NaOCl

As an obturating material Essential oil of *vitexnegundo* can be used along with Zinc oxide and calcium hydroxide powder as an obturating material for primary teeth.

As intracanal medicament Owing to its role against various root canal microoragansims and its ability to make the root canal free of microbes makes *vitexnegundo* one of the potentially ideal and good obturating material. (18)

Vitex as a mouth rinse

Ayurvedic drugs have been used since ancient times. Oral rinses made of these area unit employed in dental

medicine medical aid. Vitex is one of these with wide spectrum of activity. (19) According to the Sushruta Samhita, Vitex can be used as a gargling agent in dental diseases. Owing to its activity against majority of periodontal pathogens it can be used as mouthwash.(20)

CONCLUSION

The usage of herbal medicines continues to enlarge swiftly through the world. Herbal extracts of various known and newly discovered plants have been used in dentistry for treatment of various oral diseases and conditions. They have been used as agents which decrease inflammation and pain, promotes remineralisation, as antimicrobial agent against a lot of microorganisms known to cause diseases, antifungal agent, antiviral agent and as antioxidants.(21) Vitex is a unique herbal medicine with a wide range of therapeutic gifted by Ayurveda to the world. It has potential to treat a diversity of ailments. Dentists are still in search of a drug for diseases affecting the oral cavity. Hence, additional research in discovering numerous other therapeutic actions of Vitex should be encouraged in dentistry. (22) A popular quote of the Western Himalayas says that a man can not die of disease in a region where Vitexnegundo, Adhatodavasica and Acoruscalamus are found, obviously, if he is aware of applicable usage of the plants.(23)

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