



HERBOSOMES: HERBAL MEDICINAL SYSTEM FOR THE MANAGEMENT OF PERIODONTAL DISEASE

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ABSTRACT

The effectiveness of any flavor medication is depends on the delivery of effective level of the therapeutically active compounds. Herbosomes square measure recently introduced seasoning formulations that square measure higher absorbed and as a result produce higher bioavailability and actions than the conventional botanical extracts. Herbal excipients are non-toxic and compatible they need a serious role to play in pharmaceutical formulation. Herbal medicines are wide used everywhere the globe since ancient times and are recognized by physicians and patients for his or her higher therapeutic value as they need fewer adverse effects as compared to fashionable medicines. However, phototherapeutics needs a scientific approach to deliver the components in a sustained manner to increase patient's compliance and avoid repeated administration. This can be achieved by designing novel drug delivery systems for herbal constituents. Over the last decade, herbal and ayurvedic drugs has become a subject of world importance, with both medicinal and economic implications. There are number of traditional herbal remedies for the treatment and management of diseases related to teeth, gum and oral hygiene. The aim of the present study is to present overall view of the current strategies adopted for the formulation and application of traditional herbal remedies. This review article summarizes the current data on the effect of natural products like Acacia catechu, Aloe Vera, Chamomile, Azadirachata indica, and Glycyrrhizin glabra on management of various periodontal diseases together with their biological activities.

KEYWORDS: Herbosome, herbal medication, Pathogenesis, Biomarker.

1. INTRODUCTION

The expression "Herbo" proposes that plant though "a few" recommends that cell. Over the previous hundreds of years phytochemical and phyto-pharmacological sciences set up the pieces, organic exercises and wellbeing advancing helpful of different science stock. A large portion of the organically dynamic constituents of plants are polar or water solvent particles. Notwithstanding, water dissolvable phytoconstituents (flavonoids, tannins, glycosides) are less retained either on account of their gigantic sub-atomic size that can't assimilate by uninvolved dispersion or because of their less super particle dissolvability, seriously restricting their capacity to ignore the super atom affluent organic film, following promptly bioavailability.^[1] Phytomedicines, confounded synthetic blends prepared from plants are utilized for wellbeing upkeep since Old's occasions' period. Anyway extraordinary phytomedicines are limited in their viability because of they're inadequately consumed once taken orally. The phytosome technologies, developed by Indene S.P.A. Italy, markedly increase the bioavailability of pick-out phytomedicines, by subsume phospholipids into standardized bring out and vastly ameliorate their

absorption and utilization.^[2] periodontal disease occurs when bacteria in plaque infect gums and bones that anchor the teeth. Periodontitis and dental decay are the primary source of adult tooth loss. Periodontal disease is marked by bacterial overgrowth. However, a persistent immune response to chronic infections in the mouth is trust to play a considerable role in gum demolition. Researchers establish Actinobacillus mycetemcomitans and Porphyromonas gingivalis, these bacteria sapper to cause belligerent periodontal disease which causes numerous deep pockets in the gum, correlated with resistance to standard treatments for gum disease. P. gingivalis produce an enzymes called as arginine specific cysteine proteinase that may disrupt the immune system and conduct to subsequent periodontal connective tissue destruction.^[3]

2. Herbal Drugs used for the management of periodontal disease

2.1 Acacia Catechu wild: *Acacia catechu* Wild. (Fam. Mimosae, Hindi- Khair, English- Citch tree, Sanskrit- Khadira) is widely used in Ayurveda for many diseases and mainly for skin diseases. A. *catechu* commonly known as Black khair and commercially used to obtain

Kattha in North India. It found widely distributed in Jammu, Punjab, Himachal Pradesh, U.P., M.P., Bihar, A.P. and Maharashtra. *A. catechu* is used as mouthwash for mouth, gum and throat disease like gingivitis,

stomatitis. Kattha is cooling, digestive, astringent, bleeding piles, uterine hemorrhages, leucorrhoea, atonics dyspepsia, chronic bronchitis, etc. the decoction of bark mixed with milk is taken to cure and cough.^[4,5]



Acacia catechu fig.

2.2 Aloe Vera Miller: Aloe vera is *Aloe barbadensis* Miller. (Fam. Liliaceae). It is shrubby or arborescent, perennial, xerophytic, pea-green color plant. It develops mainly in the moisture free region of Africa, Asia, Europe and America. In India it is establish in Rajasthan, A.P., Gujarat, Maharashtra and Tamilnadu. The species is habitually used in herbal remedies and cosmetics.

Numerous scientific studies for the use of extracts of Aloe vera have been tackling.^[6-7] consistently, Aloe was used newsworthy to heal wounds, skin diseases and orally as a luxative. It is also used in circumstances including diabetes, asthma, epilepsy and osteoarthritis. Aloe vera gel used in lotions and sunblock. FDA has approved as a natural food flavoring agent.^[8]



Aloe Vera fig.

1. Azadirachata indica (Neem): *Azadirachata indica* A. Juss. Is popular in India and neighboring countries as the most multifaceted medicinal plant having wide spectrum of biological occupation. From antiquity, every part of tree has been used as ancient time period medicine for household remedy in opposition to various human ailments.^[9-11] Neem oil, bark and leaf extract have been therapeutically used as folk medicine to control leprosy, intestinal helmenthesis, respiratory disorders, constipation and as health promoter.^[12] Studies indicate that neem

leaf extract possess antiarrhythmic, antiarthritis, antiviral, antioxidant, hepatoprotective and antidiabetic activity.^[13-15]



Azadirachata indica fig.

2. **Glycyrrhiza Glabra (Licorice):** *Glycyrrhiza glabra*, frequently known as licorice and sweet root and native to the Mediterranean and unquestionable areas of Asia. Historically, the dried rhizome and root were working medicinally by Egyptian,

Chinese, Greek Indian and Roman civilization as an expectorant and carminative. Licorice is used for nurse upper respiratory ailments including cough, sore throat and bronchitis.



Glycyrrhiza glabra fig.

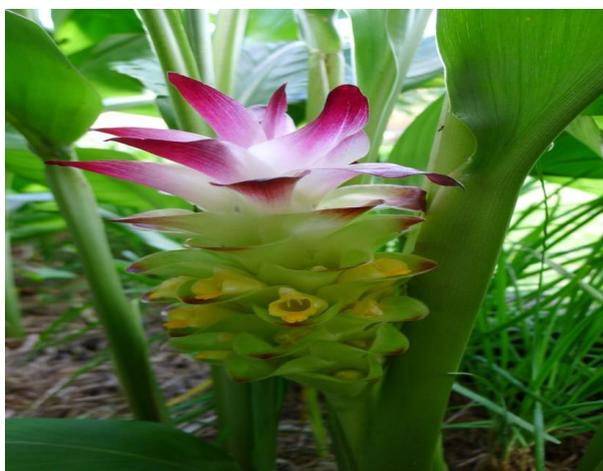
3. **Ocimum Sanctum L. (Tulsi):** In Ayurveda, *Tulsi (Ocimum sanctum L.)* has been well documented for its therapeutic potentials and described as Dashemani Shwasaharni (antiasthmatic) and antikaphic drugs (Kaphaghna). Although, the traditional medical practitioners in India have been widely using this medicinal plant for management of various disease conditions from ancient time.^[16] *Tulsi* is used to control diabetes.^[17] Paste of leaves is

found effective in the treatment of ringworm and other skin diseases 18. It is recommended as antidote for dog bite, scorpion bite and insect bite in traditional system of medicine. The seed are mucilaginous and demulcent and given in disorders of the genitourinary system. The leaves have also been shown to possess good anti-stress and analgesic activity.



Ocimum sanctum fig.

4. **Curcuma Longa (Turmeric):** Turmeric ordinarily known as Haldi and has been utilized for millennia as a color, a seasoning and a therapeutic spice. It is a rhizomatous herbaceous enduring plant of family Zingiberaceae. It is local to tropical South Asia and requirements temperatures between 20°C and 30°C. Haldi is a lasting plant with orange, elongated tubers 2 or 3 creeps long and one inch in measurement, pointed or tightening toward one side. At the point when dried, it is made into a yellow powder with an



Curcuma longa fig.

unpleasant, marginally harsh, yet sweet taste. In India, it has been utilized generally as a solution for stomach and liver sicknesses, just as topically to mend bruises. Antiquated Indian medication has promoted turmeric as a spice with the capacity to give gleam and radiance to the skin just as life and imperativeness to the whole body. Since turmeric has antimicrobial, cell reinforcement, astringent, and other valuable properties, it is very helpful in Dentistry moreover.^[19,20]



5. **Matricaria Chamomile (Camomile):** Chamomile or camomile is a typical name for a few daisy-like plants of the family Asteraceae. Wild Chamomile is a yearly spice initially from Europe The stretched stem is erect, round, empty, and develops to around 20 inches tall. The leaves are bipinnate, finely separated, light green and padded. Chamomile has been demonstrated to be anxiolytic, ant stress, unfavorably susceptible responses and atopic dermatitis. Chamomile is perhaps the most broadly

utilized blossoms for natural tea. It is utilized as a mellow soothing and is useful for a sleeping disorder just as numerous other anxious conditions. Chamomile blossoms are likewise utilized as calming and antispasmodic. The blossoms are here and there added to beauty care products as an enemy of allergenic specialist or made into an ointment for use on hemorrhoids and wounds. The dried spice is made into blend and spice pads, and is singed for fragrant healing.^[21,22]



Matricaria chamomile fig.

CONCLUSION

Periodontal sickness is a constant fiery illness influencing gingival, periodontal tendon, cementum and alveolar bone. Major etiological factor for period

substances is microorganisms particularly microbes. The microbes are ordinary tartar and produce poisons that incite the body's safe reaction. When permitted to advance, the infection annihilates the supporting

construction of teeth, which ultimately prompts tooth misfortune. The foundation of fruitful periodontal treatment begins with setting up brilliant oral cleanliness. Certain periodontal microbes like *Actinobacillus actinomycetemcomitans* and *Porphyromonas gum* disease can colonize sub gingival region and dwell in the tissues. Thus mechanical plaque expulsion alongside the utilization of antimicrobial specialists ends up being important guide in controlling microbial colonization. Utilization of natural concentrates as dentifrice, sedated gel, neighborhood drug conveyance frameworks end up being proficient in forestalling and treating periodontal infection. To reestablish the shimmering grin teeth as well as vital. Subsequently in this survey, pharmacologically dynamic natural plants like *Acacia catechu*, *Aloe vera*, *Chammomile*, *Azadirachata indica* and *Glycerrhiza glabra* are discovered to be valuable in the counteraction, treatment and support of periodontal illnesses. The synthetic constituents present altogether these spices like tannins, catechins, taxifolin, terpenoids, flavonoids, and alkaloids are liable for antimicrobial action, hence, they are valuable in controlling periodontal infections. Exploration is expected to convey these natural concentrates in more suitable structure like miniature circles, chip which can be embedded profound into the pocket. Normalization and quality confirmation of these natural items plays a key territory which is to be engaged in future and endeavors have been introduced towards this objective. There are substantially more freedoms for additional examination in the utility of natural solutions for periodontal infections. Subsequently, further exploration on nanoparticles, Nano-emulsion methods, which can convey these concentrates in more viable manner is to be done in future for the administration of periodontal infection in a characteristic manner.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest

AUTHOR CONTRIBUTIONS

Dr. Arpita Singh (faculty of pharmaceutics department from goel institute of pharmacy & sciences) she guided me how to write this article.

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