Journal of Ayurvedic and Herbal Medicine 2023; 9(4): 174-176

Review Article

ISSN: 2454-5023
J. Ayu. Herb. Med.
2023; 9(4): 174-176
Received: 26-09-2023
Accepted: 15-11-2023

www.ayurvedjournal.com
DOI: 10.31254/jahm.2023.9406

Herbs Used in Dentistry- A Brief Review

Revant H Chole[1], Swati Balsaraf[2]

[1] Department of Oral and Maxillofacial surgery and Diagnostic Sciences, Faculty of Dentistry, Najran University, Saudi Arabia

[2] Department of Public Health Dentistry, Ex- professor, College of Dental Sciences & Hospital, Rau, Indore, MP, India

ABSTRACT

The present century in medical sector is flooded with various allopathic options for treatment of diseases. It is indeed a boon but have introduced synthetic chemicals in human body. It has many side effects and microbes too are developing resistance to such drugs. The herbal medicines presents with enormous unexplored therapeutic potential as antimicrobials. The antimicrobial property of herbs is attributed to the various phytochemicals present in them. As Lazaoni, mimosa pudica root decoction is gargled for gum trouble and tooth ache by Rabha in West Bengal. In Orissa (kandhamal district) as Lajakulilata, the paste of root fried in ghee is applied on caries teeth for relief from toothache. Antimicrobial activity of clove oil is attributed by disturbing the cell wall and membrane cell lysis, leakage of cellular contents and inhibition of proton motive force. Miswak is an Arabic word it means tooth cleaning stick. Numerous plant species are used as Miswak to name a few- *Salvadora persica*, *Azardirachta indica* (Neem), babool.

Keywords: Herbs, Mimosa, Guava, Jamun, Miswak, Clove oil.

INTRODUCTION

AYURVEDA AND HERBS: The present century in medical sector is flooded with various allopathic options for treatment of diseases. It is indeed a boon but have introduced synthetic chemicals in human body. It has many side effects and microbes too are developing resistance to such drugs [1].

Allopathic medicines being the mainstream, the knowledge of Ayurveda originated in India and the Ayurvedic treatments were compiled in the form of Charaka Samhita and Sushruta Samhita.

Uses of herbs and traditional practices will continue to play a significant role in the socio-cultural life of village communities. The term "Herb" includes leaves, stems, flowers, fruits, seeds, roots, rhizomes and bark [2].

PHYTOCHEMICALS

The herbal medicines presents with enormous unexplored therapeutic potential as antimicrobials. The antimicrobial property of herbs is attributed to the various phytochemicals such as alkaloids, flavanoids, tannins, phenolic compounds, glycosides, terpenoids, quinines, saponins, and coumarins [3].

Alkaloids are phytochemicals commonly found in Angiosperm and rarely found in Gymnosperm. Caffeine, quinine, cineline, strychnine, brucine, emetine and narcotine are few examples of alkaloids that have known medicinal values.

VARIOUS HERBS AND THEIR USES

Mimosa pudica i.e touch me not plant is a creeping annual herb native to Brazil. It belongs to the family Mimosaceae. It grows in moist localities in India. *Mimosa pudica* has been reported to contain mimosine (an alkaloid), free amino acids, sitosterol, linoleic acid & oleic acid. Phytochemical analysis of these plants revealed presence of tannins, alkaloids, flavanoids, terpenoids and glycosides.

As Lazaoni, mimosa pudica root decoction is gargled for gum trouble and tooth ache by Rabha in West Bengal. In Orissa (kandhamal district) as Lajakulilata, the paste of root fried in ghee is applied on caries teeth for relief from toothache [3].

Antimicrobial activity of clove oil is attributed by disturbing the cell wall and membrane cell lysis, leakage of cellular contents and inhibition of proton motive force.

***Corresponding author:**
Dr. Swati Balsaraf
Department of Public Health Dentistry, Ex- professor, College of Dental Sciences & Hospital, Rau, Indore, MP, India
Email: smilecare123@rediffmail.com

Indian subcontinent, the Middle East & Africa marks the use of chewing sticks to clean oral cavity since ancient times and about 3500 BC by Babylonians. Neem contains the alkaloid margosine, resins, gum, chloride, fluoride, silica, sulfur, tannins, oils, saponins, fl avenoids, sterols, and calcium [4].

Miswak is an Arabic word it means tooth cleaning stick. Numerous plant species are used as Miswak to name a few- Salvadora persica, *Azardirachta indica* (Neem), babool. Neem Tree (*Azardirachta indica*) is a common evergreen tree with medicinal values. It belongs to family Meliaceae. It possess antibacterial, anti cariogenic, astringent and anti-inflammatory properties [5].

The phytochemical analysis shows presence of constituents such as nimbidin, nimbin, nimbolide, azadirachtin (most effective), gallic acid, epicatechin, catechin & margolone. All are potent antibacterials [6].

Guava (***Psidium guajava***)

The leaves of guava tree are also chewed or its decoction is used to cure oral ailments such as in dental pain and gingivitis. Guava leaves contain phenolic compounds, isoflavinoids, gallic acid, catechin, epicatechin and rutin, guaijaverin and quercetin. These important flavonoids in leaves are known for antimicrobial, anti-hyperglycemic and analgesic actions. The guaijaverin from leaves of guava has potential as an antiplaque agent due to its bacteriostatic property by inhibiting growth of oral microbes [7].

Jamun (*Syzygium cumini*)

Antibacterial activity of Jambul (*Syzygium cumini*) is contained in the jambul leaves which is used to strengthen the teeth and gums. The decoction of dry leaves has also shown hypoglycemic effect. The leaves are rich in acylated flavonols glycosides, quercetin, myricetin, triterpenoids and tannins. Thus it can be used as an antimicrobial agent in oral diseases [8].

Babool (*Acacia arabica*)

Tender leaves crushed into a pulp are used as a gargle in spongy gums, sore throat. Decoction of bark is largely used as a gargle and mouth wash. The bark is prosperous in phenolics, condensed tannins and phlobatannin, gallic acid, catachin, epicatachin. Leaves contains apigenin, 6-8 –bis-D-Glucose, rutin and 32% tannin [9].

Mango leaves (*M. indica*)

The natural C-glucoside xanthone mangiferin, a phenolic compound has been reported in various parts of mango leaves, fruits, stem, bark and roots. Mangiferin is a pharmacologically active compound and has shown effective on four organisms causing dental caries [10].

CONCLUSION

Plant extract hence can be used as an ingredient in mouthwashes as a bacteriostatic agent which will help reduce inflammation and progress of gingival, periodontal disease and carious lesions. But the other compounds which may affect the biocompatibility with oral mucosa should be checked. *M. pudica* root powder along with other herbs such as guava leaf, jamun leaf powder can be added along with neem extract which can shown antibacterial effectivity.

Conflict of Interest

The authors declare no conflicts of interest.

Acknowledgement

Authors propose thanks towards Faculty of Dentistry, Najran University, Saudi Arabia for providing with literature required in the making of this article.

ORCID ID

Revant H Chole: https://orcid.org/0000-0002-6134-8858

Swati Balsaraf: https://orcid.org/0000-0002-4894-5033

REFERENCES

1. Jose M, Sharma BB, Shantaram M, Ahmed SA. Ethnomedicinal herbs used in oral health and hygiene in coastal Dakshina Kannada. J Oral Health Comm Dent. 2011 Sep;5(3):119-23.
2. Gandhiraja N, Sriram S, Meenaa V, Srilakshmi JK, Sasikumar C, Rajeswari R. Phytochemical screening and antimicrobial activity of the plant extracts of *Mimosa pudica* L. against selected microbes. Ethnobotanical leaflets. 2009;2009(5):8.
3. Arokiyaraj S, Sripriya N, Bhagya R, Radhika B, Prameela L, Udayaprakash NK. Phytochemical screening, antibacterial and free radical scavenging effects of *Artemisia nilagirica*, *Mimosa pudica* and *Clerodendrum siphonanthus*–An in–vitro study. Asian Pacific Journal of Tropical Biomedicine. 2012 Feb 1;2(2):S601-4.
4. Biswas K, Chattopadhyay I, Banerjee RK, Bandyopadhyay U. Biological activities and medicinal properties of neem (*Azadirachta indica*) Curr Sci Bangalore. 2002;82:1336–45.
5. Raut RR, Sawant AR, Jamge BB. Antimicrobial activity of *Azadirachta indica* (Neem) against pathogenic microorganisms. Journal of Academia and industrial Research. 2014 Dec;3(7):327-9.
6. Srivastava SK, Agrawal B, Kumar A, Pandey A. Phytochemicals of *Azadirachta indica* source of active medicinal constituent used for cure of various diseases: A Review. Journal of Scientific Research. 2020;64(1):385-90.
7. Ravi K, Divyashree P. Psidium guajava: A review on its potential as an adjunct in treating periodontal disease. Pharmacognosy reviews. 2014 Jul;8(16):96.
8. Jananippriya V, Elanchezhiyan S, Daniel RG, Vennila K, Gayathri E. Evaluation of antimicrobial activity of *Syzygium cumini* (Jamun) in vitro- A pilot study. Journal of Indian Academy of Dental Specialist researcher. 2019; 11-13.
9. Roqaiya M, Begum W, Jahufer R. *Acacia arabica* (Babool)-a review on ethnobotanical and Unani traditional uses as well as phytochemical and pharmacological properties. Int J Pharm Phytopharmacol Res. 2015 May 1;4:315-21.
10. Prashant GM, Chandu GN, Murulikrishna KS, Shafiulla MD. The effect of mango and neem extract on four organisms causing dental caries: *Streptococcus mutans, Streptococcus salivavius, Streptococcus mitis*:, and: *Streptococcus sanguis*:: An: in vitro: study. Indian journal of dental research. 2007 Oct 1;18(4):148-51.

HOW TO CITE THIS ARTICLE

Bhagat M, Sangral M, Anand R, Sharma P, Mahato M, Bala K, Raj S, Singh A. The genus Viburnum: A review on ethnopharmacology, phytochemistry and pharmacology. J Ayu Herb Med 2023;9(4):174-176. DOI: 10.31254/jahm.2023.9406