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Antimicrobial Property of *Ehretia laevis Plant leaves Extract against Oral Pathogens.*

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Introduction: Ayurveda is the science of life. Folklore Medicines are the major remedy in traditional medical systems, which have been used in medical practice form thousands of years, and have made a great contribution in maintaining human health. The widespread use of herbal remedies, and healthcare preparations, as those described in ancient texts such as the Vedas and the Bible, obtained from commonly used traditional herbs and medicinal plants certain products with medicinal properties. To promote the proper use of herbal medicine, and to determine their potential as sources for new drugs, it is essential to study medicinal plants, which have folklore reputation in a more intensified way.

Ehretia laevis is a medicinal plant used from ancient period of time. This is a small tree belonging to the family ***Boraginaceous*** *or Borage*, and is native to India, Pakistan, Laos, Myanmar, Vietnam, China, and Bhutan.

Ehretia laevis was identified by Taxonomist and Head of the Dravyaguna Department MGACH & RC Salod (H) Wardha. This is commonly known as: 3 ovate-leaved ivory wood, Gujarati: Vadhavaradi, Hindi: Bhairi, chamror, Konkani: kalo gamdo, Malayalam: Caranti, Marathi: Datrangi. In Ayurvedic literature, uses of this plant are for Prameha (Diabetics) and Vishaghna (Anti-venom). This plant is mainly used for wound healing, joint pain, and minor fractures by local peoples with promising results, and commonly known as *Khandu Chakka* in Maharashtra. The plants of this genus have significant medicinal importance and find uses in traditional medicine as a remedy for the treatment of diarrhea, cough, cachexia, syphilis, toothache, stomach and venereal diseases and as an antidote to vegetable poison (the wealth of India raw materials 1952). All parts of the *E. laevis* plant are used for different medicinal purposes. Decoction of the fresh root is used in the treatment of syphilis, and that of the stem bark for the treatment of diphtheria. The paste of tender leaves is used externally to cure eczema, and the powder of flowers with milk is employed as an aphrodisiac. The plant has many uses such as ornaments, pot herbs, dye for wood, stone, medicines, wines, cosmetics etc. The inner bark of the tree and fruit of are eaten in times of scarcity. The leaves are used as cattle fodder.

Material and Methods:

In the presence study, various oral pathogens (*Streptococcus species, S.aureus,*) were isolated & identified on the basis of morphological and biochemical characteristic. *Candida albicans* was procured from IGGMC, Nagpur.

Findings:

Herbal medicine represents one of the most important fields of traditional medicine all over the world. In this project work we used acetone and ethanol (95 %) to extract the components of *Ehretia laevis* (Khandu chakka) dried and fresh leaves. A known quantity of these extracts was evaporated, and the solute was dissolved in Dimethyl sulfoxide (DMSO) (50 mg/ml and 100 mg/ml). A broad spectrum antibiotic amoxicillin was also dissolved in DMSO (50 mg/ml and 100 mg/ml).

All these extracts were tested for antimicrobial activity against selected oral pathogens. The antimicrobial activity of test organisms was observed in the form of zone of inhibition measured in millimeter (mm).

Depending upon the active ingredient and diffusion capacity into agar media, all the extracts had shown the antimicrobial activity against the tested oral pathogens.

Conclusion:

The present study suggested that all the solvents extracts of *E. laevis* leaves have a great potential as antimicrobial agents against selected oral pathogens, and they can be used as an alternative medicines in the treatment or control of oral bacterial as well as fungal oral microflora which are mostly cause the dental infections . This study had shown the promising evidence for antimicrobial activity of *E. laevis* against the selected oral pathogens.

The results revealed the presence of medicinally important constituent in this extracts .Many evidences gathered in earlier studies which confirmed the bioactivity of *E.laevis* leaves extracts. Therefore it could be seen as a good source for pharmaceutical uses like drugs and ointments, mouthwash, toothpastes against dental pathogens etc.

References:

1. Chanda S, Rakholiya K, Dholakia K, Baravalia Y. (2013). Antimicrobial, antioxidant, and synergistic properties of two nutraceutical plants: TerminaliacatappaL. And ColocasiaesculentaL. Turk J Biol; 37: 81-91.
2. Baravalia Y, Kaneria M, Vaghasiya Y, Parekh J, Chanda S.(2009).Antioxidant and antibacterial activity of DiospyrosebenumRoxb. Leaf extracts. Turk J Biol2009; 33: 159-164.
3. Bender GR, Sutton SV, Marquis RE. Acid tolerance, proton permeabilities, and membrane ATPases of oral streptococci. Infect Immun. 1986; 53:331–338.

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