Review Article

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AYURVEDIC MEDICINE AND ORAL HEALTH - A REVIEW

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ABSTRACT

Plants have been the major source of medicine since the time immemorial. Medicinal plants have been used as a traditional treatment agent for numerous human diseases since ages in many parts of the world. In rural areas of the developing countries, they continue to be used as the primary source of medicine. About 80% of the people in developing countries use traditional medicines for their health care. Ayurvedic medicine is a system of traditional Hindu medicine. The aim of this review is to provide a contemporary overview and introduction to medicinal practices in ayurvedic system and its utilization for various oral diseases. Several unconventional medicinal herbs are described to familiarize dental practitioners and researchers with a variety of theories that are specifically applicable to dentistry.

KEYWORDS: Aloe vera; Ayurveda; curcumin; traditional medicine

INTRODUCTION

Traditional medicine is the sum total of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve or treat physical and mental illnesses. India is known for its traditional medicinal systems - Ayurveda, Siddha, and Unani. Medical systems are found mentioned even in the ancient Vedas and other scriptures. Traditional medicine that has been adopted by other populations (outside its indigenous culture) is often termed complementary or alternative medicine. Ayurvedic medicine is a system of traditional Hindu medicine[1] native to the Indian subcontinent. Contemporary practices derived from Ayurvedic traditions are a type of alternative medicine.[2] The literal meaning of Ayurveda is "science of life," because ancient Indian system of health care focused on views of man and his illness. Ayurvedic treatment is aimed at patient as an organic whole and treatment consists of salubrious use of drugs, diets and certain practices.[3] According to the Shalyatantra and Shalakyatantra (one of the braches of Ayurveda), 65 varieties of oral disease can arises in seven anatomic locations-eight on the lips, 15 on the alveolar margin, eight in connection with the teeth, five on the tongue, nine on the palate, 17 in the oropharynx and three in a generalized form.[4]

Ayurveda and the Concept of Health

Sushruta Samhita, the surgical compendium of Ayurveda, defines health as "the equilibrium of the three biological humors (doshas), the seven body tissues (dhatus), proper digestion and a state of pleasure or happiness of the soul, senses and the mind".[5] A balance among the three doshas is necessary for health. Together, the three doshas govern all metabolic activities. When their actions in our mind-body constitution are balanced, we experience psychological and physical wellness. When they go slightly out of balance, we may feel uneasy. When they are more obviously unbalanced, symptoms of sickness can be observed and experienced.[4,6] Ayurveda recommends some daily use therapeutic procedures for the prevention of and maintenance of oral health. These include: Dant Dhavani

(Brushing), Jivha Lekhana (Tongue scrapping) and Gandoosha (gargling) or oil pulling and tissue regeneration therapies.

Various Ayurvedic Medicines used in Dentistry

Aloe Vera

Aloe Vera called as the ayurvedic miracle plant comes from the family "Asphodelaceae" genus 'Aloe'. The most common and usefully among all in that species is Aloe Vera Barbadensis in which the species name 'vera' means true.[7] It is a native plant of Africa which is found in Africa, Northern America, India, Egypt and Sudan.

There are eight main uses of aloe vera in dental practice:[8]

1. Periodontal surgery.
2. Applications to the gum tissues when they have been traumatized or scratched by toothbrush-dentifrice abrasion, sharp foods, dental floss, and toothpick injuries.
3. Chemical burns from accidents with aspirin.
4. Extraction sockets
5. Acute mouth lesions such as herpetic viral lesions, aphthous ulcers, canker sores & cracks occurring at the corners of our lips. Gum abscesses are soothed by the applications as well.
6. Chronic oral diseases Lichen Planus and Benign Pemphigus, gum problems associated with AIDS and Leukemia. Migratory glossititis, geographic tongue and Burning Mouth Syndrome.
7. Denture patients with sore ridges and ill-fitting dentures & partials
8. Dental implants

Aloe vera can be used in root canals as sedative dressing & as file lubricant. Aloe Vera greatly helps to lessen its sensitivity. This gel can be placed inside the pulp chambers while broaching to make aloe work in the pulp canals. Aloe can also be used as canal lubricant. During closed dressings cotton pellet with CMCP drops could be added with a drop of aloe vera gel and then sealed with temporary restorations.[9] Aloe vera gel placed around dental implants is found effective to reduce inflammation. Aloe vera reduces inflammation by its antimicrobial & anti-inflammatory effects.[10]

Cloves

Cloves are the aromatic flower buds of a tree in the family Myrtaceae, *Syzygium aromaticum*. They are native to the Maluku Islands in Indonesia, and are commonly used as a spice. Cloves are commercially harvested primarily in Indonesia, India, Madagascar, Zanibar, Pakistan, Sri Lanka and Tanzania. Colves are used in Indian Ayurvedic medicine,Chinese medicine, and western herbalism and dentistry where the essential oil is used as an anodyne (painkiller) for dental emergencies. Cloves are used as a carminative, to increase hydrochloric acid in the stomach and to improve peristalsis. Cloves are also said to be a natural anthelmintic.[11] They yield a volatile oil used medicinally and in perfumes. Cloves have antiseptic, stimulant, and antiemetic (vomiting preventive) properties and are used to treat the mouth, stomach, intestines, circulation, and lungs. Oil of cloves can be used on sore gums and teeth to ease pain. Chew whole cloves to diminish bad breath. They are also used to flavour paan. Clove oil is used in the manufacture of perfumes, soaps, bath salts and as a flavouring agent in medicine and dentistry. Cloves help stimulate sluggish circulation and thereby promote digestion and metabolism. The use of a clove in toothache decreases pain. It also helps to decrease infection due to its antiseptic properties. Clove oil, applied to a cavity in a decayed tooth, also relieves toothache.

Eucalyptus

A tall tree native to Australia, the eucalyptus yields a powerfully antiseptic essential oil that has long been used medicinally. As its leaves have commonly been used to lower fevers, the eucalyptus is sometimes known as the "fever tree" Eucalyptus oil can be used on sore, inflamed gums for temporary relief.[12]

Peppermint

One of the oldest of household remedies, it has been used to treat the stomach, intestines, and muscles, and to improve circulation. The leaves and flowering tops are now used to treat colic, fever, convulsions, and especially nausea and diarrhea. Peppermint (Meutha piperita) this mint grows in moist, open areas to a height of three feet and has dark green, lance-shaped leaves and purple flowers. One of the oldest of household remedies, it has been used to treat the stomach, intestines, and muscles, and to improve circulation. The leaves and flowering tops are now used to treat colic, fever, convulsions, and

especially nausea and diarrhea. Peppermint contains menthol, methyl acetate, tannic acid, and vitamin C. Peppermint oil is used for toothache by soaking a cotton ball in the oil and placing it in the cavity or rub it on the tooth will relieve pain. Peppermint mouthwash can be used to relieve gum inflammation.[13]

Turmeric

Turmeric (*haldi*), a rhizome of *Curcuma longa*, is a flavourful yellow-orange spice. Its plant is 3 feet in height and has lance-shaped leaves and spikes of yellow flowers that grow in a fleshy rhizome or in underground stem. An orange pulp contained inside the rhizome constitutes the source of turmeric medicinal powder.[14] Components of tumeric are named curcuminoids, which include mainly curcumin (diferuloyl methane), demethoxycurcumin, and bisdemethoxycurcumin. Curcumin has been used extensively in ayurvedic medicine for centuries, as it is nontoxic and has a variety of therapeutic properties including antioxidant, analgesic, anti-inflammatory, antiseptic activity, and anticarcinogenic activity.[15]

Antibacterial activity of curcumin

A study conducted in dept of oral microbiology, wankwang university, south korea on antimicrobial activity of curcuma longa (turmeric) & its components curcumin & bisdemythyl curcumin have been isolated and identified. suggesting that curcumin and bisdemythyl curcumin have antibacterial activity against A.actinomycetemcomitans & MRSA.

Curcumin in Oral Cancer

Curcumin has demonstrated anti carcinogenic effect in numerous animal model studies and has demonstrated a variety of in vitro cancer inhibitory effects and induction of apoptosis. Results have shown that curcumin initiates AhR (aryl hydrocarbon receptor) nuclear transloction in human oral SCC cells. Data suggests that the chemopreventive effects of curcumin reflects its multiple mechanism of action that include scavenging of reactive species, nuclear transloction of AhR and inhibition of CY-P mediated carcinogen bioactivation.

Curcumin in Oral Mucositis

Curcumin is a known radio sensitizer and chemo preventive agent having antioxident and free radicle scavenging activity that have showed its radio protective potential in vitro studies.In a pilot study effects of curcumin on mucositis in HNCP undergoing radio-chemotherapy was evaluated. Results showed a remarkable adjuvant protective activity in radio-chemotherapy.[16]

CONCLUSION

Oral diseases are one of the most important problems in public health and are on the rise in developing countries. Most of the oral diseases are caused due to lack of oral hygiene and bacterial infections. The procedure and the drugs useful for oral health are very well described in Ayurvedic literature. The anti-bacterial activity of medicinal plants are due to the presence of potential bioactive compounds, which help to reduce bacterial load in the oral cavity and thus prevent the formation of plaque, dental caries and ulcers. Use of indigenous plants in oral health and hygiene has a long history in different parts of the world. Therefore, this knowledge has to be used in future studies to utilize the naturally available ayurvedic drugs for improvement of oral health and prevention of oral diseases.

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