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A Review - Concept of Ayurveda and Oral Hygiene

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Abstract: ***Oral diseases continue to be a major health problem throughout world. In developing countries it is the cause of increasing incidence of oral cancer and other disorders. Now a days in this modern world, some foods like junk foods, beverages, chocolates etc and habits like smoking can also result in poor oral hygiene. For prevention and the treatment of oral diseases, modern medicine has several chemical agents being commercially available, these can alter oral micro biota and have undesirable side-effects such as vomiting, diarrhea tooth staining and various orodental diseases. Ayurveda emphasis upon the maintenance and promotion of positive health which is its primary objective. For this purpose various regimens should be followed every day known as Dinacharya which includes oral hygiene, food hygiene, personal hygiene etc. For the cure of various oral diseases Ayurveda recommends treatments with specific herbs and minerals along with some daily use therapeutic procedures for the prevention and maintenance of oral health. Various Ayurvedic herbs and natural products have been used for their pharmacological activities like antiulcer, wound healing, anti inflammatory, antimicrobial and antioxidant properties and have been proven to be safe and effective for oral disease and hygiene. In this paper, an attempt has been made to reveal the scientific evidence based review for the prevention and maintenance of oral health and hygiene mentioned in Ayurveda.***

Keywords: *Ayurveda*, Oral health and hygiene, *Dantadhavan*, *Kavala*, *Gandoosha*

1. Introduction

Oral diseases are one of the most important problems in public health and are on the rise in developing countries. Oral health also reflects the body health. There is evidence that oral biofilm associated diseases may affect systemic health by mechanisms such as spreading infections to adjacent tissues and spaces, hematogenous dissemination of oral biofilm organisms or inflammatory mechanisms Further, evidence suggests that oral biofilm associated chronic periodontitis enhances the risk of coronary heart disease and cerebrovascular disease and that poor glycaemic control in diabetic patients with periodontitis is a concern for clinicians.[1-4]

Hence the prevention and treatment of oral diseases is not only important for maintenance of good oral health but also for general health. *Ayurveda* is good alternative for that and may lead to the development of novel preventive or therapeutic strategies for oral health. Bacterial infections are considered as causative factors in most of the dental diseases and it has been well documented that *Ayurvedic* medicament produce considerable antibacterial activity against microorganisms, including bacteria responsible for periodontitis and dental caries.[5]

According to World health Organization (WHO) 75% of the world's population uses herbs for basic health care needs. WHO has recommended for the incorporation of the traditional systems of medicine like *Ayurveda* into the primary health care system, for those communities where it is accepted. All the *Ayurvedic* medicines and local remedies are easily available in the rural areas where socioeconomic condition of the people is not good enough to buy costly toothpaste or curative medicines. *Ayurveda* must be reinterpreted in the light of our new knowledge and it must be incorporated in modern medicine along with other forms of traditional medicine. [6]

2. Aims and Objective

1) To assess the importance of oral hygiene in oral diseases.
2) To maintaining oral hygiene as per *Ayurveda* aspect.
3) To spread the awareness in society about the importance of oral hygiene.
4) To prevent oral diseases.

3. Materials and Methods

In this review of the literature, we only considered those studies that include individual plants or mixtures of plants consistent with the philosophy of *Ayurveda* literature like *Charak* and *Susruta samhita*. Then search for the recent literatures. A systemic review of the articles had been done using the phrase dentistry and *Ayurved*, The databases searched for the current review were Medline, Ayush Research Portal, National Library of Ayurveda Medicine, Systematic Reviews in Ayurveda, Ayurveda Database and Web of Science; by using advance and backward reference chaining techniques; and by tracking recent activities in the field of Ayurveda, which is primarily concerned with prevention and management of oral disorders through maintain oral hygiene.

Ayurveda and Oral Hygiene

Oral hygiene is not described as a separate chapter in *Ayurveda* but it comes under the different chapters of *Ayurvedic* literature. *AcharyaCharak* described it under the topic "*Swasthavritta*" which means personal hygiene in "*Mattrashitiyaadhyaye*". Acharya Sushruta had told about oral hygiene in the "*Anagatabhadapratished*" chapter, while *AcharyaVagbhatta* described it in "*Dincharya*" chapter. All the authors have given emphasis on personal hygiene which should be followed by each individual strictly.[7]Under the *Dinacharya* (daily routines) various procedures for maintaining oral hygiene are well explained in all classical texts of *Ayurveda*. These include procedures like *Dantadhavana*(brushing of tooth),*pratisarana* (massaging of

teeth and gums), *Jivhanirlekhana* (tongue cleaning), *Gandoosha* and *Kavala* (gargling) etc.

DantDhavani (brushing) *Avurveda* recommends chewing sticks in the morning as well as after every meal to prevent diseases. According to *AcharyaSushruta*, *Dantapavan* should be fresh and straight. Its length should be 9 inches, while thickness should be equal to little finger.[8] The stems used for *Dantapavan* should be healthy, soft, without leaves and knots. These herb sticks should be either "*kashaya*" (astringent), "*katu*" (acrid) or "*tikta*" (bitter) in taste. The method of use is to crush one end, chew it slowly. One should brush in the vertical direction from bottom to top [9]. *Nimba* (neem) is best among bitter ones, *khadir* (acasia) is the best among astringent drugs, *madhuka* is the best among sweet drugs and *karanj* is the best among pungent drugs.[10] Chewing on these stems is believed to cause attrition and leveling of biting surfaces, facilitate salivary secretion, brings freshness, takes away bad odor, creates desire for food, help in plaque control while some stems have an anti-bacterial action[11]

JivhaLekhana (tongue scrapping): It is ideal to use gold, silver, copper, stainless steel for the scrapping of the tongue. Tongue scrapping stimulates the reflex points of the tongue. Removes bad odour (halitosis). Improves the sense of taste,cures edema and stiffness of tongue, stimulate the secretion of digestive enzymes.[12] Removes millions of bacteria growth (approximately 500 varieties)[13]

Gandusha (gargling) or oil pulling

The difference between the two is only in the dosage and procedure of using the drug. In *Gandoosha*, the oral cavity is filled completely with liquid medicine, held for specific period until there is lacrimation and nasal discharge and then spit out. Normally it is about 3-5 minutes. In *KavalaGraha*, a comfortable amount (three-fourths filled) of medicated fluid is retained with the mouth closed for a specific time (about 3 minutes), gargled and then spit out[14].It is mentioned in the *Avurvedic* text *CharakaSamhita* where it is called *Kavala* or *Gandusha* and is claimed to cure about 30 systemic diseases ranging from headache, migraine to diabetes and asthma. Practice of *gandusa* enhances strength of mandible, resonance of voice, nourishment of face, taste sensation and gives good taste. It prevent decay, oral malodor, bleeding gums, dryness of throat, cracked lips and for strengthening teeth, gums and the jaw.[15,16] Oil pulling therapy is very effective against plaque induced gingivitis both in the clinical and microbiological assessment [17].Proper *kavala* and *gandusa*alleviates diseases, provide nourishment, clarity and lightness of sense organ.[18]

Pratisarana (Massaging the teeth and gums)

Pratisarana is done with paste or powder of herbs or by honey/oil with herbal powder. It can be apply with fingers and rubbed gently on teeth and gums. This process removes the food debris and plaque and helps to maintain the periodontal health.

Tissue regeneration therapies

In *Avurveda*, the well known herb, Amla (Phyllanthus emblica) is considered a general rebuilder of oral health. *Amla* works well as a mouth rinse as a decoction. One to two grams per day can be taken orally in capsules for the long term benefit to the teeth and gums. *Amla* supports the healing and development of connective tissue when taken internally.[19]

Plants with their Oral Health Related Indications

S.No.	Name Of The Herbal Product	Medicinal Value	Others
1.	Amra/Mango *(Magniferaindica)* [20]	anti-bacterial properties against anaerobic dental microflora and helps to maintain oral hygiene	contains ascorbic and phenolic acids
2.	Mukhjali*(Droserapeltata)*[21]	used for the treatment of dental caries, broad spectrum activity against numerous bacteria of the oral cavity,	plumbagin, chloroform extracts
3.	Amala*(Emblicaofficinalis)*[22]	antioxidant as well as astringent property effective for toothache, mouth ulcers, gingival inflammations, apthous stomatitis	
4.	Anar/Dalima*(punicagranatum)*[23]	control oral inflammation as well as bacterial and fungal counts in periodontal disease and Candida associated denture stomatitis	ellagitannin, punicalagin
5.	Launga/Clove *(Syzygiumaromaticum)*[24]	relief pain of dental caries used in conjunction with root canal therapy, temporary fillings and general gum pain, dental abscesses and in other gum diseases.	Eugenol, beta caryophyllene
6.	Datiwan*(Alucitabidentata)*[25]	treatment of toothache pyorrhea	
7.	Gotu kola *(Centellaasiatica)*[26]	treatment of mouth ulcers, decreases plaque, periodontal pocket depth	Asiaticoide and hypaphorine
8.	Grita Kumari *(Aloe vera)*[27]	promotes dentin formation by stimulating PDPCs proliferation, differentiation, extracellular matrix formation and mineralization	polysaccharide, Acemannan, an extracted
9.	Guduchi*(Tinosporacordifolia)*[28]	anti-inflammatory, antioxidant, immune-modulator,properties improvement in salivary flow and in reduction in severity of mucositis in radiotherapy patients	
10.	Jasmine *(Jasminum grandiflorum)*[29]	treatment oral ulcers, odontalgia, oral wounds	leaves are used
11.	Kantakari*(Solanum xanthocarpum)*[30]	treatment of dental caries	Dhoopana with seeds, solanocarpine, carpesterol, solanocarpidine, solasodine, solasonine and solamargine,

12.	Nimbu (Lemon)[31]	anti-bacterial efficiency (including Enterococcus faecalis), a freshly prepared lemon solution is recommended as a root canal medicament	Lemon solution which is a natural source of citric acid is used
13.	Neem *(Azadirachtaindica)*[32]	Anti-plaque activity, reduce number of bacteria responsible for periodontitis	gallotannins
14.	Nilgiri*(Eucalyptus globulus)*[33]	positive effect on plague accumulation, gingival index, bleeding on probing and periodontal depth probing	Eucalyptus extract, contains macrocarpals
15.	Rumi mastagi/mastic gum *(Pistacialentiscus)*[34]	Used as a remedy for oral malodor, great activity against Porphyromonasgingivalis	
16.	Tila/Sesame *(Sesamum indicum)*[35]	reduces the plaque-induced gingivitis	oil pulling therapy done by using sesame oil
17.	Triphala[36]	anti-caries and anti-plaque properties, it is also used for strengthening the gums as a root canal irrigant	
18.	Tulsi*(Ocimumsanctum)*[37]	reduces the salivary Streptococcus mutans counts	Tulsi extract
19.	Harita/Turmeric *(Curcuma longa linn.)*[38]	used in relief of pain, gingivitis, periodontitis, as colorant in pit and fissure sealant, in dental plaque detection	active component is curcumin
20.	Garlic *(Allium sativum. Linn.)*[39]	effective in relieving the pain of tooth	allicin - a compound with a powerful antibiotic effect

4. Result

Dantdhavan, jivha Nirlekhan, Kavala, Gandush and Pratisaran procedures included in our daily life can help to prevent oral diseases and Maintain oral hygiene.

5. Discussion

The oral cavity reflects the health of the whole body; mouth is often referred to as the mirror of the whole body. In this paper, the literature showed that there are numerous *Ayurvedic* drugs, which can be used in prevention as well as management of oral diseases. The active principles of plants should be incorporated into modern oral health-care practices and its use should be encouraged as natural remedies in various oral health treatments. This will be much safer, affordable and more accessible for the lower socio-economic groups in society. It is therefore very crucial to conserve these ethno cultural practices. However, among them terribly negligible quantities of herbals extracts are utilized in clinical apply and therefore the remainder of others doesn't seem to be practiced because of their unknown pharmacological medicine effects. The clinical studies ought to be inspired to assess the efficaciousness. The normal data of written material ought to be integrated with the trendy medical specialty.

6. Conclusion

Hygiene of oral cavity is more important as it is the chief entrance and digestion process begins in the mouth itself. *Dattuna* can be a good alternative to the toothbrush as a means of preventing oro-dental diseases. *Kavala* and *Gandoosh* procedures are claimed to cure several systemic diseases. 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. These procedures and herbs costs little, possess various medicinal properties and are easily available. *Ayurvedic* treatment modalities aimed at oral diseases need to be evaluated through rigorous randomized controlled trials for safety and effectiveness. Practitioners can incorporate preventive *Ayurvedic* treatments, which are based mainly on natural products, into overall preventive care regimens, if proven safe and effective. The review of above *Ayurveda* oral health practices and scientific researches indicates that *Ayurveda* health promotive, modalities have sound scientific base and these scientific validation could justify their incorporation into modern oral health care.

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