

Concept of Oral Hygiene in Ayurveda

Review article

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Abstract

Ayurveda is the ancient Indian system of health-care and longevity. It involves a holistic view of man, his health and illness. Even though dentistry was not a specialized branch of *Ayurveda*, it is included in its *Shalaky Tantra*. Problems such as deformities of the oral cavity, plaques and infections were managed in ancient India. Research has shown that all kinds of chewing sticks described in ancient *Ayurveda* texts have medicinal and anti-cariogenic properties. *Kavala* and *Gandoosh kriyas* are claimed to cure several systemic diseases. Scientific validations of the *Ayurveda* dental health practices could justify their incorporation into modern dental care. In this paper, an attempt has been made to review various herbal plants mentioned in *Ayurveda* that can be used as an adjunct for the maintenance of oral health.

Keywords: Oral hygiene, Chewing sticks, *Kavala*, *Gandoosha*

Introduction:

Ayurveda the fountain head of Indian medicine was conceived as a science and preached in the country some thousands of years ago, long before the other countries could dream of systematizing the concept of remedies for human ailments. *Shalaky Tantra* is one among 8 specialities of *Ashtanga Ayurveda*, which deals with the diseases occurring above the clavicle. It includes Eye, Ear, Nose, Throat and Oro-dental diseases and their management along with their structural and functional details.

Oral hygiene is not described as a separate chapter in *Ayurveda* but it comes

under the different chapters of *Ayurvedic* literature. *Acharya Charak* described it under the topic “*Swasthyavrata*” which means personal hygiene in “*Matrashitiyaadhyaye*”. *Acharya Sushruta* had told about oral hygiene in the “*Anagatabhadapratished*” chapter, while *Acharya Vagbhatta* described it in “*Dincharya*” chapter. All the authors have given emphasis on personal hygiene which should be followed by each individual strictly. *Dhantapavan* (*Dhattuna*), *Jihwanirlekhana*, *Kavala* and *Gandoosha* are the procedures told by *Ayurveda* for maintenance of oral hygiene. These procedures will be discussed one by one in forthcoming pages-

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Dhantpavan- *Dhantpavan* means *Dhattuna* or Chewing sticks. It is entirely different from the western-pioneered activity of ‘brushing the teeth’, specifically because these sticks are chewed. The stems should be healthy, soft, without leaves and knots. It is recommended that

chewing sticks be obtained from fresh stems of specific plants. The method of use is to crush one end, chew it, and eat it slowly.

Ayurveda had given indication for using it twice a day. In morning after leaving the bed and in evening, before going to sleep and after taking food. According to *Acharya Sushruta*, *Dantapavan* should be fresh and straight. Its length should be 12 *angul* (9 inches), while thickness should be equal to *kanshtika anguli* (little finger) (1). These herb sticks should be either '*kashaya*' (astringent), '*katu* (acid), or '*tikta*' (bitter) in *rasa* (2). *Acharya Sushruta* also includes *madhura* *rasa*(3). According to the individual's *prakarti* (constitution) and dominant *dosha*, it is stated that people with the *vata* dominance may develop atrophic and receding gums, and are recommended to use chewing sticks with sweet, bitter or astringent tastes, such as *Yasthimadhu* (*Glycyrrhiza glabra* Linn.) and the *cutch tree* (*Acacia Catechu* Linn.) respectively(4). *Pittadosha* dominant individuals are recommended to use chewing sticks with a bitter taste such as the twigs from the *neem tree* (*Azadirachta indica* Linn.) and the *arjuna tree* (*Terminalia arjuna* Linn.). Those with the *kaphadosha* dominant are likely to have pale and hypertrophic gums and are instructed to use chewing sticks with pungent taste, like *Kantaki karanja* (*Caesalipinia bonduc* Linn.) and the *Arka plant* (*Calotropis procera* Linn.).

Acharya Sushruta had mentioned *Tooth powder* for cleaning the teeth. He told to use of *Dhattuna* dipped in *Madhu*, *Trikathu*, *Trivargha*, *oil* and *saindhavlavana*(5). Researches has proved that salt is good for tooth and oral hygiene. Now a days tooth paste are coming along with salt.

The benefit of *Dhantpavan* is to get rid from bad odour of mouth along with increase interest towards food due to removal of *mala* from tooth, tongue and

mouth(6). Chewing on these stems is believed to cause attrition and levelling of biting surfaces, facilitate salivary secretion and possibly, help in plaque control while some stems have an anti-bacterial action (7). Present day research has shown that all the chewing sticks described in ancient *Ayurveda* have medicinal and anti-cariogenic properties(8).

Jhivwanirlekhana

It is used for cleaning tongue with the help of tongue scraper. It should be made up of either metal or branches of the tree. Its length should be twelve fingers. Its margin should be blunt so that it will not damage the tongue and should be curved so can be use easily(9).

Tongue scrapping stimulates the reflex points of the tongue. Removes bad odour (halitosis). Improves the sense of taste, stimulate the secretion of digestive enzymes. Clinical evidence also shows that use of tongue scrapers on a regular basis, has a significant improvement on eliminating anaerobic bacteria and decreases bad odour(10).

Kavala and Gandoosha

Gandusha and *Kavala graha* are two primary oral cleansing techniques; specialized therapy to treat as well as to prevent oral diseases. The difference between the two is only in the dosage and procedure of using the drug. In *gandoosha*, a medicated fluid is held mouthful for a specific period until there is lacrimation and nasal discharge, and then the patient spits it out. In *kavala graha*, the mouth is only three-fourths filled with the medicated fluid; the fluid is swished in the mouth for a specific time and then spat out(11).

The benefits of regular *gandoosha* are *swarabalam* (strength to voice), *hanubalam* (strength to jaws), strength to face, *ruchyam* (better taste perception), *drudadhantha* (strong and healthy teeth), and resistance against *doshaja* or

aaganthuja mukharogas(12). These oral cleansing techniques can also benefit bad breath, decay bleeding gums, dryness of throat, cracked lips and for strengthening teeth, gums and the jaw(13,14).

Ayurveda advises kawala to purify the entire system; as it holds that each section of the tongue is connected to different organ such as to the kidneys, lungs, liver, heart, small intestines, stomach, colon, and spine, similarly to reflexology(15).

Brushing is contra indicated in the cases of mouth ulcer, fever, indigestion, those who have tendency to vomit, asthma, cough, thirst(16). Oil pulling can be used to clean the oral cavity in all these cases.

The exact mechanism of the action of oil pulling therapy is not clear. It was claimed that the swishing activates the enzymes and draws the toxins out of the blood. New researches have proof that the oral mucosa does not act as a semi-permeable membrane to allow toxins to pass through. The medicated oil and fluid used in Kavala and Gandoosha probably protect the oral cavity from infection and inflammation by its antioxidant property (17,18). These mechanisms could be probable mode of action for the reduction of plaque scores and colony count of the microorganisms in the oral cavity. The viscosity of used medicated oil probably inhibits bacterial adhesion and plaque co-aggregation.

Plants with their oral health related indications

The literature showed that there are numerous Ayurvedic drugs, which can be used in prevention as well as management of oral diseases. Some commonly using plants along with properties are listed here-

- Amala has an antioxidant as well as astringent property which has been proven to be effective in the treatment of toothache, gingival inflammations(19) and aphthous stomatitis(20).

- Launga oil is commonly used to relieve in toothache. Eugenol, which is the active component(21), is widely used in root canal therapy, dental abscess, temporary fillings and several gum diseases(22).
- Grita kumari has property of dentin formation(23).
- Nimbu/Lemon solution is the natural source of citric acid with pH 1.68. Because of its antibacterial efficacy, a freshly prepared lemon solution is recommended as a root canal medicament(24).
- Amra leaf contains ascorbic and phenolic acid. Mango leaves possess antibacterial property against anaerobic micro flora and can be used as an effective adjuvant in maintaining oral hygiene(25).
- Antibacterial, Antifungal, Antiviral, analgesic, immunostimulator and antioxidant property of Neem is well established(26). It has both mechanical as well as chemotherapeutic antiplaque agents(27). Neem leaves mouth rinse is very effective in the treatment of periodontitis(28).
- Triphala has shown anticaries(29) and antiplaque property. It is also used for strengthening the gums(30) and root canal irrigant(31).
- Tulsi extract as 4% mouth rinse effectively reduces salivary streptococcal mutants counts(32).
- Turmeric extract can be used in the treatment of potentially malignant lesions in oral cavity(33). It effectively inhibits metastasis of melanoma cells and may be used in deactivating carcinogens in cigarette smoke and tobacco chewing(34,35).
- Kantakari seeds Dhoopan has been used in dental caries due to its chemical constituents like olanocarpine, carpesterol, solanocarpidine, solasonine and solasodine(36).

- Tila/ Sesame oil is used in the treatment of plaque induced gingivitis(37).

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 the bacterial infections. The anti-bacterial activity of Ayurvedic 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. The traditional knowledge of Ayurveda should be integrated with the modern dentistry. For this, the active principles of plants should be studied into modern oral health-care practices and dentists should be encouraged to use Ayurvedic remedies in various oral health treatments.

References

1. Sushruta. Sushruta Samhita Dalhana Comm. Nibandhasangraha, Gayadasacharya comm. Nyayachandrika Panjika on Nidanasthana. In: Jadavaji T, Narayana R, editors. Chikitsa 24/4. Varanasi: Chaukhamba Surbharati Prakashana;2008.p487
2. Agnivesha. Charaka Samhita, Comm. Chakrapanidatta. In: Jadavaji TA, editor. Sutrasthana 5/71. Varanasi: Chaukhamba Surbharati Prakashana; 2008.p125
3. Sushruta. Sushruta Samhita Dalhana Comm. Nibandhasangraha, Gayadasacharya comm. Nyayachandrika Panjika on Nidanasthana. In: Jadavaji T, Narayana R, editors. Chikitsa 24/6. Varanasi: Chaukhamba Surbharati Prakashana;2008.p487
4. Athavale VB. Dentistry in Ayurveda [Danta-Shastra]. New Delhi: Chaukhamba Sanskrit Pratishtan; 1999.
5. Sushruta. Sushruta Samhita Dalhana Comm. Nibandhasangraha, Gayadasacharya comm. Nyayachandrika Panjika on Nidanasthana. In: Jadavaji T, Narayana R, editors. Chikitsa 24/7-8. Varanasi: Chaukhamba Surbharati Prakashana;2008.p487
6. Ibidem 24/9
7. Naik GH, Priyadarsini KI, Satav JG, Banavalikar MM, Sohoni DP, Biyani MK Comparative antioxidant activity of individual herbal components used in Ayurvedic medicine. Phytochemistry 2003;63:97-104.
8. Venugopal T, Kulkarni VS, Nerurker RA, Damle SG, Patnekar PN. Epidemiological study of dental caries. Indian J Pediatr. 1998;65:883-9.
9. Agnivesha. Charaka Samhita, Comm. Chakrapanidatta. In: Jadavaji TA, editor. Sutrasthana 5/74-75. Varanasi: Chaukhamba Surbharati Prakashana; 2008.p126
10. Kadam A, Prasad BS, Bagadia D, Hiremath VR. Effect of Ayurvedic herbs on control of plaque and gingivitis: A randomized controlled trial. Ayu. 2011;32:532-5.
10. Sushruta. Sushruta Samhita Dalhana Comm. Nibandhasangraha, Gayadasacharya comm. Nyayachandrika Panjika on Nidanasthana. In: Jadavaji T, Narayana R, editors. Chikitsa 40/63. Varanasi: Chaukhamba Surbharati Prakashana;2008.p558
11. Agnivesha. Charaka Samhita, Comm. Chakrapanidatta. In: Jadavaji TA, editor. Sutrasthana 5/78-81. Varanasi: Chaukhamba Surbharati Prakashana; 2008.p127
12. Bethesda M. A Closer Look at Ayurvedic Medicine. Focus on Complementary and Alternative Medicine. National Center for

- Complementary and Alternative Medicine, US National Institutes of Health. XII (4) 2006.
13. Hebbar A, Keluskar V, Shetti A. Oil pulling – Unraveling the path to mystic cure. *J Int Oral Health* 2010;2:11-4.
 14. Asokan S. Oil pulling therapy. *Indian J Dent Res* 2008;19:169
 15. Sushruta. *Sushruta Samhita Dalhana Comm. Nibandhasangraha, Gayadasacharya comm. Nyayachandrika Panjika on Nidanasthana*. In: Jadavaji T, Narayana R, editors. *Chikitsha* 24/11-12. Varanasi: Chaukhamba Surbharati Prakashana;2008.p487
 16. Suja KP. Chemical and biochemical studies on natural antioxidants from sesamum species. PhD thesis 2003 . Cochin University of Science and Technology (CUSAT), Kerala, India.
 17. Ambika Shanmugam. *Lipids*. In: *Fundamentals of biochemistry for medical students*. 7th ed. Kartik Offset Printers: 2001. p.50-4.
 18. Treadway L. *Amla* traditional food and medicine. *Herbalgram*. 1994;31:26.
 19. Nadkarni KM, Nadkarni AK. Vegetable kingdom. In: Nadkarni K, editor. *Indian Materia Medica with Ayurvedic, Unani-Tibbi, Siddha, Allopathic, Homeopathic, Naturopathic and Home remedies*. 3rd ed. Vol. 1. Bombay, India: Popular Prakashan Private Ltd; 1999. p. 46.
 20. Amruthesh S. Dentistry and Ayurveda-IV: Classification and management of common oral diseases. *Indian J Dent Res*. 2008;19:52–61.
 21. Sinha AR, Bajaj VK, Singh P, Shekhawat S, Singh K. Phytochemical estimation and antimicrobial activity of aqueous and methanolic extract of *Ocimum sanctum* L. *J Nat Prod Plant Resour*. 2013;3:51–8.
 22. Jittapiromsak N, Sahawat D, Banlunara W, Sangvanich P, Thunyakitpisal P. *Acemannan*, an extracted product from *Aloe vera*, stimulates dental pulp cell proliferation, differentiation, mineralization, and dentin formation. *Tissue Eng Part A*. 2010;16:1997–2006.
 23. Abuzied ST, Eissa SA. Comparative study on antibacterial activities of two natural plants versus three different intra canal medicaments
 24. Bairy I, Reeja S, Siddharth, Rao PS, Bhat M, Shivananda PG. Evaluation of antibacterial activity of *Mangifera indica* on anaerobic dental microglora based on *in vivo* studies. *Indian J Pathol Microbiol*.2002;45:307–10.
 25. Bandyopadhyay U, Biswas K, Chatterjee R, Bandyopadhyay D, Chattopadhyay I, Ganguly CK, et al. Gastroprotective effect of *Neem (Azadirachta indica)* bark extract: Possible involvement of H(+)-K(+)-ATPase inhibition and scavenging of hydroxyl radical. *Life Sci*. 2002;71:2845–65.
 26. Wolinsky LE, Mania S, Nachnani S, Ling S. The inhibiting effect of aqueous *Azadirachta indica (Neem)* extract upon bacterial properties influencing *in vitro* plaque formation. *J Dent Res*.1996;75:816–22.
 27. Botelho MA, dos Santos RA. Efficacy of a mouth rinse based on leaves of the *neem* tree (*Azadirachta indica*) in the treatment of patients with chronic gingivitis: A double-blind, randomized, controlled trial. *J Med Plants Res*. 2008;2:341–6.
 28. Tandon S, Gupta K, Rao S, Malagi KJ. Effect of *Triphala* mouthwash on the caries status. *Int J Ayurveda Res*. 2010;1:93–9.
 29. Date BB, Kulkarni PH. Assessment of *Rasa danti* in various oral disorders. *Ayurveda Res Pap*.1995;2:175–97.
 30. Biradar YS, Jagatap S, Khandelwal KR, Singhania SS. Exploring of antimicrobial activity of triphala

- mashi-An Ayurvedic formulation. Evid Based Complement Alternat Med. 2008;5:107–13.[
31. Agarwal P, Nagesh L. Comparative evaluation of efficacy of 0.2% Chlorhexidine, Listerine and *Tulsi* extract mouth rinses on salivary *Streptococcus mutans* count of high school children – RCT. Contemp Clin Trials. 2011;32:802–8.
 32. Kawamori T, Lubet R, Steele VE, Kelloff GJ, Kaskey RB, Rao CV, et al. Chemopreventive effect of curcumin, a naturally occurring anti-inflammatory agent, during the promotion/progression stages of colon cancer. Cancer Res. 1999;59:597–601.
 33. Mehta K, Pantazis P, McQueen T, Aggarwal BB. Antiproliferative effect of *curcumin* (*diferuloylmethane*) against human breast tumor cell lines. Anticancer Drugs. 1997;8:470–81.
 34. Menon LG, Kuttan R, Kuttan G. Anti-metastatic activity of *curcumin* and *catechin*. Cancer Lett. 1999;141:159–65.
 35. Amruthesh S. Dentistry and Ayurveda-IV: Classification and management of common oral diseases. Indian J Dent Res. 2008;19:52–61.
 36. Asokan S. Oil pulling therapy. Indian J Dent Res. 2008;19:169.
