

Review Article

**Global promotive and preventive health care of oral cavity w.s.r. to
dantadhavan through ayurveda**

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ABSTRACT:

Oral hygiene has become an alarming health issue throughout the world. As per WHO report, worldwide 60-90% of school children and nearly 100% of adults have dental cavities. A severe periodontal disease, which may result in tooth loss, is found in 15-20% of middle-aged adults. Oral health is an integral part of general health and relates to quality of life. In day today life, however due to lack of time and negligence, oral hygiene is not properly maintained. Habits like tobacco chewing, smoking etc have increased incidences of diseases pertaining to oral cavity. Now a day's many people are suffering from dental problems, because of lack of knowledge of 'Dantaswashya'. Hence, *Dantadhavana Upakrama* mentioned in *Ayurvedic Dinacharya* can play important role in present situation. The western medicine has limited success in the prevention and treatment of a variety of oral diseases. Hence, the search of alternative products continues. *Dantadhavan* procedure described in *Ayurveda* has been proven safe and effective. This exploration of traditional alternative may lead to the development of novel preventive or therapeutic strategies for oral health globally. In this paper, an attempt has been made to review *Dantadhavan* procedure mentioned in *Ayurveda* that can be used as an adjunct for the maintenance of oral health. The literature shows that there is lot of potential which can be used in prevention as well as management of oral diseases. *Ayurveda* practitioners can play a vital part in oral health care delivery, their recommendations could be considered for establishing individual's oral hygiene habits in society. Publicity of these techniques using appropriate media would benefit the global population by giving more confidence in the ancient practices, thus preventing the decay and loss.

KEY WORDS: *Dantadhavan*, *Dinacharya*, oral hygiene, herbal twig

INTRODUCTION:

Oral health is an integral part of general health and essential to quality of life. The oral cavity is a mirror that reflects the health of the individual. It is a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disorders, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking and psychosocial wellbeing^[1]. Prevention of oral diseases should be a priority in developed and underdeveloped countries around the world. The World Congress 2015 on Dental care and Oral health (organized by Japan Dental Association and co-sponsored by WHO) was held in

Tokyo during 13-15 March 2015, in which the 'Tokyo Declaration' on dental care and oral health for healthy longevity was adopted to call upon health policy makers and professionals to significantly reduce the global disease burden, promote greater equity, and integrate oral health promotion into the NCD prevention and control and development agenda^[2]. As per WHO report, Worldwide 60-90% of school children and nearly 100% of adults have dental cavities. A severe periodontal disease, which may result in tooth loss, is found in 15-20% of middle-aged adults.

Ayurveda is an ancient Indian system of health care and longevity which has stood the tests of time. *Ayurvedic* practices of prevention and treatment are safe, effective, economical and practicable. Several therapies such as diet, lifestyle modifications, medications and therapeutic procedures like *Dinacharya* can be widely used for strengthening of oral health and hygiene. Oral hygiene is the practice of keeping the mouth, teeth, and gums clean and healthy to prevent dental problems by removing plaque and bacteria which includes brushing the teeth, *Dantadhavan Upakrama* mentioned in *Dinacharya* (daily regimen) of Ayurveda, can play important role in present situation. This procedure should be implied as primordial preventive methods.

MATERIAL AND METHODOLGY:

Teeth should be cleaned twice a day, after elimination of urine and faeces at morning and after consumption of food at evening. Principally twigs of kasaya, katu and tikta rasa dominant tree like Arka (*Calotropis procera*), nyagrodha (*Ficus begalansis*), khadira (*Acacea catechu*), Karanja (*Pongamia pinnata*) etc [3]. are used for this purpose. These taste help in strengthening of gums, teeth and enhance the taste of food. *Dantadhavan* is entirely different from the modern activity of brushing the teeth, specifically because these sticks used are chewed, chewing stick shows its results due to the pharmacological properties of selected stick and its chewing, rubbing action. The tip of the twig should be chewed to

prepare soft bristle and without harming the gum, teeth should be cleaned starting from the lower row of teeth^[4] facing east or northern direction^[5]. The twig which I used for *dantadhavana* should poses some special character like it should be straight, devoid of branches and knots, grown in good land and everyday new twig should be used for tooth brushing. Some *acharya* opined that powder of trikatu, triphala, trijataka should be used along with twig.

Pharmacodynamics of rasa related to Dantadhavana:

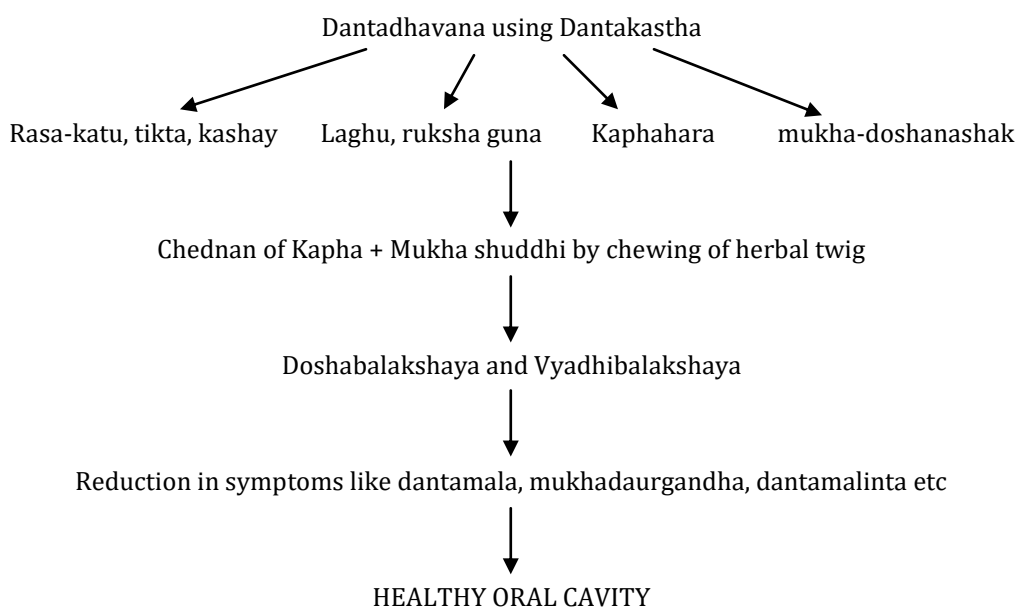
1. Katu rasa karma : Vaktra shodhana, agni-deepan, kleda-mala upahanti, kandu-vinashana, rochana, vranan avasadayati, anti-bacterial, shleshma shaman
2. Tikta rasa karma : Krimighna, vishaghna, vadana-upashoshayati
3. Kashaya rasa karma : Ropana, shoshana, stambhana

Length of Dantakastha:

The twig which is used to clean the teeth is called *dantakastha*. Thickness should be like tip of the little finger and length should be of 12 anguli (finger)

Benefits: This removes foul smell, tastelessness, dirt from tongue and teeth bring freshness of mouth and increase taste sensation^[6] as it pacifies kapha dosha and open up channels.

Probable mode of action:



DISCUSSION:

In today's scenario, most of the tooth paste used are madhura rasa yukta. Research has shown that *dantadhavana* using herbal twig alters the salivary pH and it become alkaline^[7] which helps to neutralize the acid which is produced by pathogenic bacteria. This phenomenon helps to protect the teeth as this acid is the main responsible factor for dental decay.

Basically twigs of Arka (*Calotropis procera*), Neem (*Azadiracta indica*), khadira (*Acacia catechu*), Karanja (*Pongamia pinnata*) etc. are used for dantadhavana and antimicrobial activity of these herbs has been established in several studies. Studies revealed that latex of arka (*Calotropis procera*) poses strong inhibitory effect on specific microorganisms^[8]. Further, Taxifolin, which is the main constituent of khadira (*Acacia catechu*), possesses antifungal, antiviral, antibacterial, anti-inflammatory and antioxidant activity^[9]. Certain studies prove that Karanja (*Pongamia pinnata*) poses antimicrobials as well as effective in prevention of dental caries^[10].

Chemicals like triclosan, chlorhexidine, calcium carbonate, sorbitol, sodium lauryl sulphate, hydrated silica, flavor, magnesium aluminium silicate, potassium nitrate, sodium monofluorophosphate, benzyl alcohol, sodium silicate, cellulose gum, triclosan and sodium saccharin etc. are used in mouth rinses and dentifrices to prevent plaque and gingivitis now a days. But some of these chemicals especially sodium lauryl sulphate may have toxic effect^[11].

CONCLUSION:

Dantadhavana abide the rule of *Ayurveda* obviously helpful in maintaining of oral health. It prevents dental carries by maintenance of salivary pH and promotion of salivary secretion. Further antimicrobial and healing property also present in herbal twigs which are used for *dantadhavana* and are easily available. Publicity of these techniques using appropriate media would benefit the population globally by giving more confidence in the ancient practices.

REFERENCES:

1. <http://www.who.int/mediacentre/factsheets/fs318/en/> (accessed on 1/10/2018)
2. http://www.who.int/oral_health/events/tokyodeclaration032015/en/ (accessed on 1/10/2018)
3. Vagbhata, Astangahridaya Sutrasthan 2/2-3.

Shastri H.Sadasiva editor, with Sarvangasundara of Arundatta and Ayurvedarasayana of Hemadri commentary, Varanasi: Chowkhamba Surbharati Prakashan; Reprint 2010; page24.

4. Vriddha Vagbhata, AstangaSamgraha Sutrasthan 3/23. Gupta A. editor, with Hindi commentary, Varanasi: Chowkhamba Krishnadas Academy; Reprint 2011; page23.
5. Yogaratnakar Purvakhandana nityapravrittuprakar 1/12, Sastri. Brahmasankar editor. with Vidyotini Hindi commentary, Varanasi: Chowkhamba Prakashan; Reprint 2013; page56.
6. Agnivesa, Caraka Samhita Sutrasthan 5/72-73. Dwivedi Lakshmidhar editor, Diwedi B.K and Goswami P.K Co-editor, with Ayurvedadipika Sanskrit commentary by Sri Cakrapanidutta and Hindi translation of Jalpakalpataru of Gangadhar, Part I, 1st ed. Varanasi: Chowkhamba Krishnadas Academy; 2012; page147.
7. Willershausen B, Gruber I, Hamm G; The influence of herbal ingredients on the plaque index and bleeding tendency of the gingival; J Clin Dent. 1991; [cited 2016 Feb 12];2(3):75-8.
8. Kareem, S.O.; Akpan, I. and Oja, O.P. Antimicrobial Activities of *Calotropis procera* on selected pathogenic micro-organisms; African Journal of Biomedical Research, Vol.11(2008); [cited 2016 Feb15] 105-110.
9. Rajeshwer, Aman Bhatia, Sudhir Saroea, JP Yadav and Arvind Kumr Bhatt. Antimicrobial activity of *Acacia catechu* bark extracts against selected pathogenic bacteria. Available from- :http://www.omicsonline.org/abstract/Antimicrobial_Activity_Of_Acacia_catechu_Bark_Extracts_Against_Selected_Pathogenic_Bacteria/
10. Pulipati S, Babu P. Srinivasa, Sampath R, Bindu Sree N. Antimicrobial efficacy of *Pongamia Pinnata* (L) piperre against dental caries pathogens of clinical origin. Indo American Journal of Pharmaceutical sciences. 2016 [cited 2017 October 24] 3(5), 546-551
11. Ghapanchi J, Kamali F, Moattari A, Poorshahidi S, Shahin E, Rezazadeh F, Khorshidi H, Jamshidi S; In vitro comparison of cytotoxic and Antibacterial effects of 16 commercial toothpastes; J Int Oral Health,2015 Mar; [cited 2016 Feb 10] 7(3): 39-43.

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