

ROLE OF DANTADHAVANA IN MAINTAINING ORAL HYGIENE: A REVIEW

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ABSTRACT

Oral disease is a major health problem worldwide and in India, it is not given as much importance due to lack of time however it is very important in maintaining good health because many infections starts from mouth. Dental caries and periodontal disease are two most common globally prevalent dental problems. In India large number of population suffers from periodontal disease. Maintenance of good oral health is not only important for structures in oral cavity but also plays an important role in maintaining general health. Healthy oral cavity is important for healthy G.I.T. As digestion starts from mouth so oral hygiene plays an important role in proper digestion. Food debris cling between tooth give rise to pathogenic organism which may lead to systemic disorders like rheumatic carditis, infective carditis etc. In *Ayurveda Dantadhavan* is a very important part of *Dinacharya*. Different *Acharyas* have mentioned different type of drugs for *Dantadhavana*. *Acharya Charaka* have mentioned role of *Katu*, *Tikta* and *Kashaya Dravyas* for *Dantadhavana* while *Acharya Sushruta* also added *Madhura Rasa Dravyas* for *Dantadhavana*.

KEYWORDS: *Dantadhavana*, Oral disease, *Dinacharya*.

INTRODUCTION

Oral and dental diseases are emerging problem in public health in India. Oral hygiene and health plays an important role in one's life as it is one of the nine openings of the body and gastrointestinal tract begins with mouth. Oral hygiene is an important part of *Dinacharya* and *Swasthavritta* mainly focuses on maintaining good health by following properly *Dincharya* and *Ritucharya* as mentioned in our *Samhitas*. *Ayurveda* is a science which mainly focuses on its aim *Swasthasya Swastha Rakshanam and Aturasyavikara Prashamana*.^[1] To achieve its first objective it is necessary to focus on implement of *Ritucharya* and *Dinacharya* in one's lifestyle. Due to the busy and modern Lifestyle oral hygiene & health is neglected and not considered as an important part of healthy lifestyle.

92% of the dentists said that it is important to brush for at least 2 minutes twice a day and visit a dentist every 6 months for optimum oral health.

Process of Dantadhavana

Acharyas have mentioned about process of *Dantadhavana* in different *Samhitas* in *Dinacharya*. *Acharya Charaka* have mentioned that *Dantadhavana* should be done twice a day.^[2] One should brush ones teeth with the twigs of *Arka*, *Nyagrodha*, *Khadira*, *Karañja*, *Kakubha (arjuna)*, etc. After *Mala – Mutra*

Tyaga sitting steadily facing the east or north and keeping mum.^[3] *Acharya Yogaratnakar* mentioned that one should start brushing with lower teeth.^[4]

Due to *Vata* taste of mouth become *Kashaya*, become *Katu* due to *Pitta* & due to *Kapha* taste of mouth become *Madhura*. So while choosing *Datun* one should choose *Datun* of opposite *Rasa*.

Length and Appearance of Dantadhavana

According to *Ayurveda Dantadhavana* should be twelve *Angula* long and *Kanisthika Anguli Praman*. A twelve *Angula* long, thick as the little finger, soft, knotless and intact twig should be chewn with teeth (to form the brush) then each tooth should be brushed with that soft brush.^[5]

Praman of Dantadhavana According To Vrana

Todarnanda, in his classic mentioned different length of *Dantakastha* for people of different *Varna* (cast), according to this 12, 10, 8 and 6 *Anguli* (finger) *Dantakastha* should be used by *Brahmana*, *Kshatriya*, *Vaisya* and *Ksudra* respectively.^[6]

Drugs Used For Dantadhavana

According to *Acharya Charaka Katu*, *Tikta*, *Kashaya Dravyas* should be used for *Dantadhavana*.^[6] *Acharya Sushruta* also mentioned that *Katu*, *Tikta* and *Kashaya*

Dravyas along with Madhura Dravyas for Dantadhavana.^[7] Acharya Charaka named many drugs like Karanj (*Pongamia Pinnata*) Karveera (*Neeriumindicum*), Arka (*Calotropis Procera*), Malati (*Jasminum Grandifolium*), Kakubh (*Terminalia Arjuna*), Asana (*Pterocarpus Marsupium*) for Dantadhavana.^[7] Acharya Sushruta mentioned that Madhuka is Srestha in Madhura Dravyas, Karanj (*Pongamia Pinnata*) is

Srestha in Katu Dravyas, Nimba (*Azidirecta Indica*) is Srestha in Tikta Dravyas and Khadira (*Acacia Catechu*) is Srestha in Kashya Dravyas for Dantadhavana.^[8] Acharya Sushruta mentioned Tejovatyadi Churna for Dantadhavan. He mentioned one should use Dantadhavana coated with Madhu, Saunth, Marich, Pippali, Dalchini, Ela, Tejovaha, Taila, Saindhava, Tejabala Churna for brushing teeth.^[9]

Plants Used For Dantadhavana^[10]

Name	Latin name	Family	Rasa	Guna	Karma	Pharmacological action
Karanja	<i>Pongamia pinnata</i>	Fabaceae	Tikta, Katu, Kashaya	Laghu, Tikshna	Kapha-Vatahara	Anti-inflammatory, anti-oxidant and anti-ulcer activity.
Karveera	<i>Nerium indicum</i>	Apocynaceae	Tikta, Katu, Kashaya	Laghu, Tikshna, Ushna	Kapha-Vatanashaka	Anti-bacterial, anti-fungal, anti-viral, anti-oxidant, analgesia, anti-ulcer, anti-inflammatory, anti-cancer
Arka	<i>Calotropis procera</i>	Asclepiadaceae	Katu, Tikta	Laghu, Ruksha, Tikshna	Kapha-Vatanashaka	Anti-bacterial, wound healing, anti-inflammatory, anti-cancerous, analgesia.
Malati	<i>Jasminum gradifolium</i>	Oleceae	Tikta, Kashaya	Laghu, Snigdha, Mridu	Tridosha shamaka	Anti-bacterial, anti-inflammatory, anti-ulcer, anti-microbial, anti-oxidant.
Arjuna	<i>Terminalia arjuna</i>	Combrataceae	Kashaya	Laghu, Ruksha	Kapha-Pittashamaka	Anti-microbial, anti-fungal, anti-tumour, expectorant, anti-cancer.
Asana	<i>Pterocarpus marsupium</i>	Fabaceae	Kashaya, Tikta	Laghu, Ruksha	Kapha-Pittashamaka	Anti-oxidant, anti-inflammatory, analgesia, anti-microbial, anti-fungal.
Madhuka	<i>Madhuka indica</i>	Sapotaceae	Madhura, Kashaya	Guru- Snigdha	Vata- Pittahara	Anti-ulcer, anti-oxidant
Khadira	<i>Acacia catechu</i>	Mimosaceae	Tikta, Kashaya	Laghu, Ruksha	Kapha-Pittahara	Anti-oxidant, anti-inflammatory, analgesia, anti-microbial
Nimba	<i>Azadirachta indica</i>	Meliaceae	Tikta, Kashaya	Laghu	Kapha-Pittahara	Anti-fungal, anti-bacterial, anti-inflammatory, anti-tumour

Chemical Constituents of Toothpaste

Toothpastes generally contain the following components

- Water (20-40%)
- Abrasives (50%) including aluminum hydroxide, calcium hydrogen phosphates, calcium carbonate, silica and hydroxyapatite
- Fluoride (usually 1450 ppm) mainly in the form of sodium fluoride. Stannous fluoride and sodium monofluorophosphate have also been used.
- Detergents, mainly sodium lauryl sulfate (SLS) with concentration ranges of 0.5-2%
- Antibacterial agents such as triclosan or zinc chloride.
- Flavoursants including spearmint, peppermint, and wintergreen

- Remineralizers in some toothpastes containing hydroxyapatite nanoparticles and calcium phosphate
- Humectants including glycerol, xylitol, sorbitol, polyethylene glycol, and propylene glycol.
- Antisensitivity agents in sensitive toothpaste containing strontium chloride and potassium nitrate or arginine.
- Anticalculus agents such as sodium polyphosphate or zinc citrate.

Chemicals like triclosan, chlorhexidine, calcium carbonate, sorbitol, sodium lauryl sulfate, hydrated silica, flavor, magnesium aluminum silicate, sodium mono fluorophosphate, potassium nitrate, benzyl alcohol, sodium silicate, cellulose gum, triclosan, and sodium

saccharin etc. are used in mouth rinses and dentifrices to prevent plaque and gingivitis nowadays. But some of these chemical especially Sodium lauryl sulphate may have toxic effects. Exposure to SLS in toothpaste removes the protective mucin layer present in the soft tissue of the oral cavity. This compromises the integrity of the oral mucosa, resulting in ulceration of soft tissue i.e gums, inner lining of cheeks and tongue.

Drugs Contraindicated for Dantadhavana

Acharya Vagbhata contraindicated these drugs for *Dantadhavana*. *Sleshmataka* (*Cordia dichotoma*), *Aristha* (*Azidirecta indica*), *Vibhitaka* (*Terminalia bellerica*), *Dhanavaja*, *Bilwa* (*Aegle marmelose*), *Jalanirgundi*, *Shigru* (*Moringa oleifera*), *Tinduka* (*Diospyros tomentosa*), *Kovidara* (*Bauhinia purpurea*), *Shami* (*Prosopis cineraria*), *Pilu* (*Salvadora persica*), *Guggulu* (*Comiphora mukul*) etc.^[11]

Benefits of Dantadhavan

Keeping the time season etc, *Dosa* and *Prakrti* of the individual into consideration appropriate substance (twig) containing congenial *Rasa* and *Virya* should be used. This prevents taste lessness and bad odour of mouth, oral and lingual ailments and generates desire for food, clarity and lightness. It is useful in bad breadth, *Vairasya*, *Jivha*, *Danta*, *Mukha Mala Shodhana*, *Danta Vishodhana*.^[12]

The patients suffering from headache, thirst, fatigue, exhaustion due to wine intoxication, bells palsy, otalgia, eye diseases or fever of recent infliction and also cardiac ailments should clean their teeth daily with cleansing tooth powders such as *Trikatu* (powder) mixed with honey, rock salt with oil or powder of *Tejovati* without injuring gums and avoid use of *Dantakaṣṭha* (tooth brush prepared with twigs).^[13]

Contraindication of Dantadhavana

Dantadhavana is contraindicated in *Talu Roga*, *Jivha Roga*, *Ostha roga*, *Aasya Paka*, *Hukka*, *Swasa*, *Kasha Vaman*, *Drubala*, *Ajirna*, *Mada*, *Murcha*, *Ardita*, *Karna Shoola*, *Danta Rogi Trishna Kalma*.^[14]

Alternative of Dantadhavana in Contraindication

Those in which *Dantadhavana* is contraindicated Acharya *Kshemakautohal* have mentioned *Mukha Vishodhana* for 12times.

DISCUSSION

Good oral health is important for maintaining overall good health. Mouth is one of the nine openings mentioned in *Ayurveda*. *Dantadhavana* plays a major in maintaining oral hygiene along with other procedure like *Gandusa*, *Kawala*, *Jivha nirlekhana* etc. According to *Ayurveda Dantadhavana* is done by using herbal twigs of mainly *Katu*, *Tikta* and *Kashaya Rasa* plants. Nowadays *Dantadhavana* is replaced with chemical toothpaste and tooth brushes inspite of that dental problems have been on the rise during this decade and have almost

quadrupled in 3 years. 87% of the dentists said that oral hygiene problems are common among Indians. 83% of the dentists agree that in India, people immediately visit their doctor if affected by cold, fever, body ache, stomach ache but not for tooth ache. 87% of the dentists said that patients have no dental hygiene routine prior to their first visit to a dentist. 72% of the dentists said that people come for a check on oral hygiene after embarrassing gossip by colleagues, so awareness about oral hygiene is very important. *Ayurveda* provides many routine procedures for promoting good oral hygiene. *Dantadhavana* plays major role in promoting good oral hygiene. Research has shown that *Dantadhavana* using herbal twig alters the salivary pH and it become alkaline which helps to neutralize the acid which is produced by pathogenic bacteria and so it help in preventing tooth decay. Basically *Twigs of Arka* (*Calotropis Procera*), *Khadira* (*Acacea catechu*), *Karanja* (*Pongamia pinnata*), *Neem* (*Azadiracta Indica*) 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*) posses strong inhibitory effect on specific microorganisms. Further, *Taxifolin*, which is the main constituent of *Khadira* (*Acacia catechu*), possesses antifungal, antiviral, antibacterial, anti-inflammatory and antioxidant activity. Certain studies prove that *Karanja* (*Pongamia pinnata*) poses antimicrobials well as effective in prevention of dental caries. *Kasaya*, *Katu* and *Tikta Rasa* are used in *Dantadhavana*. All these three *rasa* pacifies *Kapha Dosh*; *Katu Rasa* purifies oral cavity, exterminates *krimi* and opens channels. *Tikta Rasa* also having *Krimi Nashaka* property. *Kashaya Rasa* posses *Vrana* (ulcer) purification and healing property. There is sense of freshness and salivation increases after *Dantadhavana*, as it pacifies *Kapha Dosh* and open up channels.

CONCLUSION

Dantadhavana is an important part of *Dinacharya*. It plays very important role in maintaining oral hygiene. It helps in removal of food debris hence help in maintaining oral Ph and prevents dental caries and also helps in preventing dental plague hence in periodontal disease. Along with maintenance of oral hygiene *Dantadhavana* also does *Shamana* of *Kapha Rasa* (*Katu*, *Tikta Kashaya Rasa Datun*), *Katu Rasa* purifies oral cavity promotes *Ruchi* in food, *Kriminashaka* (*Katu* and *Tikta Rasa*). Overall *Dantadhavana* not only helps in promoting good oral hygiene, it also helps in preventing many systemic diseases as it is one of the nine openings of our body mentioned by *Acharyas*. As digestion starts with mouth so oral hygiene also plays an important role in digestion mainly in carbohydrate. So *Dantadhavana* is a important part of our *Dinacharya* which impacts our health.

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