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Role of *Dantdhavana* (Brushing of Teeth) in the Preservation and Promotion of Oral Health

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ABSTRACT

Ayurveda, the science of life has been practiced in India from Vedkala. It is considered as one of the Upaveda of Panchamaveda. The main aim of *Ayurveda* is to maintain the healthy state of an individual and cure of the diseases. To achieve these goals, *Ayurveda* described *Dinacharya* (daily routine) in detail. These daily routines have physiological effects on proper functioning of the body thereby maintaining a state of normal equilibrium of three *doshas*, *SaptaDhatu*s, *Mala* and the *Agni*. *Ayurveda* prescribes *Dinacharya* modalities like *Achmana* (Slipping of water), *Dantadhavana* (brushing of teeth), *Jihvanirlekhana* (Tongue cleaning) *Kavala* (swishing) and *Gandusha* (gargling) to keep up the health of the oral cavity, prevention and treatment of diseases of the oral cavity. *Dantadhavana* is important procedure in daily routine. According to *Ayurveda* its regular and judicious use is having a prime role in maintains of the oral health. In today's life, however due to lack of time and poor hygiene, oral hygiene is not properly maintained. In addition to this, habits like tobacco chewing, smoking etc. have increased incidences of diseases of oral cavity. Now a day's many people are suffering from dental problems and oral health problems, because of lack of knowledge of "*Dantaswasthya*". Hence, *DantadhavanaUpakrama* mentioned in *Dinacharya* can play important role in present situation. Therefore, this review article attempts to explain *Dantadhavanain* detail as mentioned in *Ayurvedic* classics and its importance and also explain which precautions should be taken during the time of Teeth brushing.

KEYWORDS

Ayurveda, *Dinacharya*, *Daily routine*, *Dantadhavana*, *Mukha Swasthya*, *Oral health*



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INTRODUCTION

Ayurveda, the science of life or longevity, is the holistic alternative science of medicine. *Ayurveda* explains two goals to be achieved i.e. *Swastharakshana* and *Vikarprashamana*¹. In this regard, for the preservation and promotion of positive health, several regimens are mentioned in *Ayurveda* which mainly includes *Dinacharya* (daily regimen), *Ratricharya* (night regimen), *Ritucharya* (seasonal regimen), *Sadvritta* (right conduct of life) and *Acharya Rasayana* (behavioral conducts). To maintain a healthy and disease free life one should follow a daily routine or schedule. If these rules are violated, then surely person suffers from various types of diseases and due to this adverse effects are clearly visible in various forms like early fatigability, stress and anxiety etc. in almost each and every person².

Dinacharya which describes the routine to be followed by a healthy individual for maintaining the health. *Dinacharya* starts from rising from bed in the morning up to going to sleep at Night³. *Dinacharya* starts from *Brahmuhurta jagrana* (waking up early in the morning), *Mala-Mutra Visarjana* (evacuation of bladder and bowel contents), *Dantadhavana* (brushing of teeth) etc.

Now a day's due to lack of time, poor hygiene, oral hygiene is not properly maintained. Habits like tobacco chewing, smoking etc. have increased incidences of diseases of oral cavity. Therefore, *Ayurveda* has prescribed various procedures like *Dantadhavana* (brushing of teeth), *Jivhanirlekhana* (Tongue scraping) *Kavala* (swishing), *Gandusha* (gargling), *Tambulasevana* (Chewing betel) and *Mukha Prakshalana* (cleaning the face) to keep up the health of the oral cavity, prevention and treatment of diseases of the oral cavity. Its regular and judicious use is having a prime role not only in maintaining the good oral health but also prevents various oral disorders. *Dantadhavana* is one such important procedure which is practiced in order to maintain the oral hygiene.

Mukha Swasthya (oral hygiene) has gained importance these days, (is very important) because *Mukha* (oral cavity) is such *Anga*, which is exposed to many risk factors in day-to-day life. Hence one must keep the oral cavity clean and fresh. Oral hygiene is very important for the maintenance of health and prevention of disease as it is one of the openings in the body which communicate with the external environment. If the oral hygiene is optimum, this in itself prevents many diseases and thereby keeps the person



healthy. Good oral hygiene implies sound teeth and healthy gum and surrounding tissues. Healthy teeth are not only essential for mastication of food, which gives emotional satisfaction of food intake, but also required for good appearance and clear speech⁴. There is a close relation between oral hygiene and overall health of an individual which is achieved through antimicrobial, anti-inflammatory, antioxidant, antiulcer and wound healing properties of the drugs used for *Dantadhavana*.

Ayurvedic classics like *CharakaSamhita*, *SushrutaSamhita*, *AshtangSangraha* and *AshtangaHridaya* mentioned *Dantadhavana* as a part of *Dinacharya*. In *CharakSamhita* and *AshtangaHridaya*, *Dantadhavana* is described in *Sutra Sthana* which mainly focuses on preventive aspect while *SushrutaSamhita* described it in *ChikitsaSthana* which focuses its curative aspect.

MATERIALS AND METHODS

This is conceptual type of study. All sorts of references have been collected and compiled from various available *Ayurvedic* texts like *CharakSamhita*, *SushrutaSamhita*, *AshtangaSangraha*, *AshtangaHridaya*, *BhavaprakashandYogratnakara* with available commentaries. Various scientific

papers, research articles are also searched from various websites. Literature available regarding *Dantadhavan* (tooth brushing) from various journals and books are used as source materials to the topic. All matter is analyzed and attempt has been made to draw some fruitful conclusions.

Useful drugs for Teeth brushing *Dantadhavan* should be done with the help of fresh twigs of *Kashaya* (Astringent), *Katu* (Pungent) and *Tikta* (Bitter) *rasa* dominant herbs, like *Karanja* (*Pongamiapinnata*), *Karavir* (*Neriumindicum*), *Arka* (*Calotropisprocera*), *Kakubha* (*Terminalia arjuna*), *Nimba* (*Azadirachta indica*) and which have similar properties are used for this purpose in *Ayurveda*^{5,6}. These herbs are sufficient enough to prevent caries and plaque forming.

Ideal nature of Twig (Tooth Stick)-^{8,9,10}

The method of doing *Dantadhavana* is described in *Ayurveda*. The branches of certain trees are used for *Dantadhavana*. These branches are cut into brush size pieces. One end of the fresh twig is made like a brush by continue chewing until the end of the stick becomes like soft bristle and teeth should be brushed without injuring the gums. According to *Acharya Sushruta*, *Dantadhavanatwig* should be fresh and straight.



Table 1 Showing drugs, *Ayurvedic* properties and its pharmacological actions⁷.

Sr. No.	Sanskrit & Latin name	Properties	Pharmacological actions
1	<i>Karanja</i> (<i>Pongamiapinnata</i>)	<i>Kapha-Vatahara, Krimighana, Kandughna</i>	Anti-inflammatory, Antioxidant and Anti-ulcer activity
2	<i>Karavira</i> (<i>Neriumindicum</i>)	<i>Kapha-Vatahara, Krimighana, Kandughna Dusstavranahara</i>	Anti-bacterial, anti fungal, anti viral, anti oxidant, analgesic, anti ulcer, anti inflammatory, anti cancer, chemo and radio therapy supplementation[
3	<i>Arka</i> (<i>Calotropisprocera</i>)	<i>Vatahara, Vishaghna, Deepana, Shophahara, Vranahara, Krimihara, Kanduhara, Visharogahara</i>	Anti bacterial, free radical scavenging, wound healing, anti inflammatory, anti cancerous, analgesic
4	<i>Malati</i> (<i>Jasminumgrandiflorum</i>)	<i>Vranahara, Mukhapakahara, Dantarati, Vishahara</i>	Anti bacterial, anti inflammatory, anti ulcer, anti microbial and anti oxidant
5	<i>Arjuna</i> (<i>Terminaliaarjuna</i>)	<i>Trishnahara, Sadyovranahara,</i>	Anti microbial, anti fungal, anti tumour, expectorant, anti cancer
6	<i>Asana</i> (<i>Pterocarpusmarsupium</i>)	<i>KaphaPittaghna, Galadoshaghna, RaktamandalaNashana</i>	Anti oxidant, anti inflammatory, analgesic, anti microbial, anti proliferative, anti fungal
7	<i>Nyrodha</i> (<i>Ficusbenghalensis</i>)	<i>Kaphapittahara, Sthambhana, TrishnaChardihara, Vranapaha</i>	Anti oxidant, analgesic, anti ulcerogenic, anti inflammatory
8	<i>Khadira</i> (<i>Acacia catechu</i>)	<i>Kaphapittahara, Dantya, dipana, Aruchihara, Krimihara, Vranahara, Dantarogahara</i>	Anti oxidant, Anti inflammatory, Analgesic and Anti microbial
9	<i>Nimba</i> (<i>Azadirachtaindica</i>)	<i>Kaphapittahara, Krimighna, dipana, Vranahara, Chardihara, Vishahra</i>	Anti fungal, anti bacterial, anti inflammatory, anti tumour
10	<i>Madhooka</i> (<i>Glycyrrhizaglabra</i>)	<i>Tridoshaghna, Rasayana, VranaShothahara, ChardiTrishnahara, Daha, Raktapitta</i>	Anti ulcer and Anti oxidant
11	<i>Trikatu-Shunti</i> (<i>Zingiberofficinalis</i>) <i>Maricha</i> (<i>Piper nigrum</i>) <i>Pippali</i> (<i>Piper longum</i>)	<i>Dipana, Pachana</i>	Anti tumour, Anti microbial, Anti fungal, Analgesic, Anti inflammatory, Appetizer and digester

The twig which is used for *dantadhavan* should have some special character like it should be devoid of branches and knots and free from cavity (caused by insect infection). It should be grown in good land and every day new twig should be used for tooth brushing. Its length should be 12 *Angula* while thickness should be equal to *Kanshtikaanguli* (little finger). According to *AcharyaCharakaDantadhavana* should be

done two times a day for the maintaining normal oral hygiene.

In case of non availability of fresh twigs one can use tooth powder prepared from *Trikatu* (*ginger + black pepper + long pepper*), *Triphala* (*Indian gooseberry + belliricmyrobalan + chebulicmyrobalan*), *Irimeda* (*Acacia farnesiana*) and *Saindhavalavana* (*Rock salt*)¹¹.



Criteria for the selection of drugs for Teeth brushing –

The selection of twigs for tooth brush should be done on the basis of season, size and shape, *dosha*, *rasa* (taste) and *Virya* (potency of drug) and individual's *Prakriti*, *dosha*, health condition etc¹². *Acharya Sushruta* suggested that *Nimba* (*Azadirachta indica*) is best among bitter ones, *Khadira* (*Acacia catechu*) is the best among astringent ones, *Karanja* (*Pongamiapinnata*) is the best among the pungent drugs and *Madhuka* (*Glycyrrhizaglabra*) is the best among sweet ones^{13, 14, 15}. These types of twigs remove particles from the teeth and gums and foul smells or tastelessness from the mouth. They increase appetite and give strength to the teeth and gums.

In *Danta Dhavana* logic behind indicating twigs of plants possessing *katu* (pungent), *tikta* (bitter), *Kashaya* (astringent) *rasas* (tastes) as it poses minimal risk of allergic reactions or mucosal irritations. (Twigs of plants having *katu* (pungent), *tikta* (bitter), *Kashaya rasas* (astringent tastes) poses minimal risk of allergic reactions or mucosal irritations.) Herbs having astringent taste possess analgesic and antiseptic properties and strengthen the gums. It helps to heal gum wounds, oral ulcers and fight bad breath. Pungent tasting herbs help to improve salivation, helping to

flush out toxins from mouth and stimulate the blood flow to the gums. Bitter tasting herbs help to improve taste, fight bad breath and anorexia. It also kills bacteria in taste.

Technique of brushing teeth –

Dantadhavan should be done twice a day, after elimination of urine and faeces at morning and in evening before going to sleep and also after meal. One should brush in the vertical direction from bottom to top¹⁶. Tooth brushing should be done towards the direction they grow¹⁷. Teeth should be cleaned one after another starting from the lower tooth¹⁸. Facing east or northern direction¹⁹.

Benefits of *Dantadhavan* (Teeth Brushing) -

According to *Charak Samhita*, regular *Dantadhavan* keeps clean the mouth, destroys bad breath, keeps normalcy of gums and teeth, increases taste sensation. *Dantadhavana* helps in prevention of *Mukhadaurgandhya* (bad odour from mouth), *Asyavairasya*, *Dantamala* (debris), *Dantamalinta* (plaque) and *Aruchi*²⁰.

According to *Sushruta Samhita*, it brings about freshness, takes away bad odour and coating on teeth. It produces alleviation of *Kaphadosha*, clearness in the mouth and desire for food. This helps in improving taste to food, a clean and fresh feeling in the mouth and sense of satisfaction of the mind²¹.



According to *Yogaratanakara*, *Dantadhavan* help in strengthening of gums, teeth and enhance the taste of food. It removes tastelessness of the mouth, diseases of tooth, tongue and oral cavity as well as enhances the taste of food, ensures oral cleanliness and lightness of the organs in the mouth²².

Most used chewing sticks in healthy person are *Neem*, *Babbula*, *Khadira* and *Karanja* which possess mainly bitter, astringent taste. They reduce *Madhura* atmosphere in oral cavity and produce dryness which keeps tab on bacterial growth. Smooth massage of the gums helps the teeth to be strong and stable. Also fibrous nature of these sticks resulting in mechanical plaque removal due to the friction. The indication of brushing is to get rid from halitosis (bad odour of mouth) along with removal of food debris from tooth, tongue and mouth²³. Chewing on these sticks is believed to facilitate salivary secretion and possibly, help in plaque control while some stems have an anti-bacterial action²⁴.

Contra indications for *Dantadhavana*^{25, 26, 27}

Those persons who are suffering from indigestion, vomiting, difficulty to breath, bronchitis, fever, facial paralysis, excessive thirst, mouth ulceration (stomatitis), diseases of heart, fever and pain in the head,

eyes and ears are contraindicated for teeth brushing. However they are not advised to avoid tooth cleaning permanently as long as disease stays in the body, but only for few days up to the dismissal of acuteness.

***Dantadhavanchurna* (Tooth Powder)-**

There are many conditions according to *Ayurveda* where *dantadhavanais* contra indicated. In such conditions, for oral hygiene, tooth powder is used. *Acharya Sushruta* and *Bhavaprakash* had mentioned tooth powder for cleaning the teeth. They mentioned use of *datuna* dipped in *Madhu*, *Trikatu*, *Trivarga*, *Taila* and *Saindhavalavana*^{28,29}.

CONCLUSION

Ayurveda gives more emphasis on prevention of diseases than treatment. *Dinacharya* should be applied by every individual, no matter their body type, age, gender or level of health. It is a preventive modality for maintaining overall health. *Dantadhavana* has promotive, protective and curative effect on the body. Its regular and judicious use is having a prime role in maintains of the oral health. *Dantadhavana* should be practiced as a prophylactic measure to attain its benefits and to maintain oral health. *Dantadhavana* prevents dental carries by maintenance of salivary pH and promotion of salivary



secretion. Regular mechanical removal of food debris and control over acid formation helps to prevent dental plaque which in turn prevents periodontal diseases. In the end we can say that A small activity done regularly is always more beneficial than a great activity done irregularly.



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