

REVIEW ROLE OF DANTADHAVANA IN MAINTAINING ORAL HYGIENE

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INTRODUCTION

The goal of Ayurveda is to maintain health and cure diseases. To maintain positive health in a healthy individual. Ayurveda has mentioned Dinacharya, which is one of the most important things in our daily life. It means "The Daily Routine" one should follow the Dinacharya properly to lead a healthy and disease-free life. Acharya Charaka, Sushruta, and Vagbhatta have a separate chapter for Dantadhavana, which is the most important part of our daily routine every morning and after food. In the modern era, due to a sedentary lifestyle, unhealthy eating habits, addiction to tobacco and alcohol, improper oral hygiene, and other factors, oral diseases are increasing progressively. People don't have time to clean their teeth properly and do not maintain oral hygiene properly. Because of that, various dental problems arise. Ayurveda has mentioned Dantadhavan kashta (twigs for brushing like Arka, karanja, khadira, Arjuna, etc) to prevent dental caries and plaque formation and other peri-odontal diseases. Some herbs promote oral health through their antimicrobial, antiviral, antifungal, and anti-inflammatory properties. Oral hygiene protects us from many Mukha rogas, which leads to proper health management and a healthy immune system. Chemicals, toothpastes as chlorhexidine, calcium carbonate, hydrated silica, magnesium aluminium silicate, silica, fluoride, potassium nitrate, sodium silicate, cellulose, etc., are used in toothpaste. It prevents various dental diseases nowadays.

TOOTHBRUSHING- AS PER CONTEMPORARY VIEW

Tooth brushing is the most commonly recommended and performed oral hygiene behaviour. It is considered a primary mechanical means of removing substantial amounts of plaque in order to prevent oral disease, including gingivitis and dental caries. Many types of toothbrushes have been discovered as per requirements, like electric toothbrushes, interdental toothbrushes, end-tuft toothbrushes, chewable toothbrushes, and musical toothbrushes. There are many methods of toothbrushing, like Horizontal toothbrushing, Vertical toothbrushing, Circular technique, The Bass technique, and The roll technique. Currently materials those are used in the manufacturing of tooth brushes are polypropylene, polyethylene, and Nylon. Polypropylene and polyethylene are usually used in making handles. Nylon, specifically nylon 6, is the main material of bristles. Toothbrushing is the most widespread mechanical means of personal plaque control in the world, and is said to be an important factor in the prevention of periodontal disease.

Dantadhawan, According to Ayurved

Dantadhavana is an important part of dinacharaya. Acharya Sushruta kept dantadhavana in the first place among all the dinacharya procedures. As per Sushruta

Samhita and astanga hrudya dantapavana (teeth cleaning twig of the tree) length should be of twelve angula long and the size of the little finger in thickness, straight, not having nodes, not wounded (cut, split, worm eaten etc), not having many knots, which is fresh. The length of Dantapavana, according to different texts, is mentioned in the Samhitas. As per Acharya Charaka, the twigs should be chewed to convert them into a toothbrush shape. Dantrolene should be taken two times a day after meals.

TOOTH POWDER

Tooth powder is thought to have originated many thousands of years ago. In ancient days, there was the practice of using myrrh, burnt eggshells, crushed animal bone ash, and oyster shells to create powders, and those were able to remove mouth odour, clean and polish teeth. In the 19th century, Homemade and manufactured tooth powders that contained salt, chalk, or baking soda came into practice.

Dantadhavana procedure is explained in Astanga Sangraha. Acharya Vagbhatta said that the first lower teeth should be cleaned, then the upper teeth. While cleaning, extra care should be taken so that dantrolene does not cause any harm to the gums. Acharyas told Dantapavana should be rich in katu, tikta, and Kashaya

rasas. Comparison of the rasa of Dantapavana by different texts is mentioned in the Samhita. Specific karma of rasa in the context of dantadhavana is mentioned in the samhita. In Samhitas, many trees are mentioned for the dantadhavana purpose. Acharya Vagbhata mentioned a list of plants in Astanga Sangraha, such as shleshmataka, arishta, vibhitaki, dhava, bilva, nirgundi, sheegru, tilvaka, tinduka, shami, peelu, pippali, ingudi, guggulu, paribhadra, amlika, mochaki, shalmali, etc, and Madhura, amla, lavana rasa rich trees whose dantapavana should be avoided¹⁸. Trees mentioned in various texts for dantapavana are mentioned. There are certain conditions in which dantrolene is contraindicated. Different contraindication conditions for dantapavana by

various texts are mentioned in the Samhitas. Acharya Vagbhata and Sushruta indirectly said that in those conditions, dantadhavana with dantakastha is contraindicated, but we can do dantadhavana with the help of powders like tejovati, saindhava mixed katu taila, kustha, trivargatrayas (triphala, trikatu, trijataka) ¹⁹. Acharya Vriddha Vagbhata said that after dantadhavana jihwa nirlekhana should be done. By doing regular practice of Dantadhavana can prevent for coming disease of jihwa, danta, and mukharogas. Regular Dantadhavana develops a taste for food, cleanness of mouth, and a feeling of lightness. It also alleviates foul smell, tastelessness, etc.

The plant used for dantrolene

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>	Oleaceae	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

Drugs Contraindicated for Dantrolene

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

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 tastelessness and bad odour of

mouth, oral and lingual ailments, and generates desire for food, clarity, and lightness. It is useful in bad breath, Vairasya, Jivha, Danta, Mukha Mala Shodhana, and Danta Vishodhana. 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 Dantakastha (tooth brush prepared with twigs).

DRAWBACKS OF CONTEMPORARY TOOTHBRUSHING MATERIALS AND USAGE OF TOOTHPOWDERS AND TOOTHPASTE AND THE NEED FOR AYURVEDIC METHODS TO MAINTAIN AND PROMOTE ORAL HEALTH

Both toothpaste and tooth powder have benefits for tooth health. Both may also contain ingredients that may be of concern for people when it comes to overall health. These include: Triclosan. Triclosan is an antibacterial ingredient. It was removed from most toothpaste formulations due to evidence for generating antibiotic resistance, as well as a major impact on thyroid hormone function, and Sodium lauryl sulfate (SLS). SLS is irritating to the skin and gums. Fluoride. Improper proportion of fluoride in toothpastes and powder can lead to many conditions, like discoloration or white spots on teeth (dental fluorosis) and skeletal fluorosis, a bone disease.

PLASTIC TOOTHBRUSHES- A MAJOR CONCERN TO HEALTH & ENVIRONMENT

Over 3.5 million plastic toothbrushes are sold around the world every year. The majority of toothbrushes are made with nylon bristles and a plastic handle, both of which could take over 400 years to decompose. It is a major concern for the soil. When the toothbrushes do start to biodegrade, they leave behind pieces of microplastic, which is very dangerous for the soil. Microplastics can leach into the soil, which can travel into the food we eat. During heavy rain, the small pieces of plastic are picked up and washed away to the sea or natural water sources. So nowadays it is an invitation for many conditions like - Cancer, weakened immune system, Congenital disabilities, Reproductive problems, etc.

DISCUSSION

Good oral health is important for maintaining overall good health. The mouth is one of the nine openings mentioned in Ayurveda. Dantadhavana plays a major role in maintaining oral hygiene along with other procedures like Gandusa, Kawala, Jivha nirlekha, etc. According to Ayurveda, Dantadhavana is done by using herbal twigs of mainly Katu, Tikta, and Kashaya Rasa plants. Nowadays, Dantrolene is replaced with chemical toothpaste and tooth brushes, in spite of that, dental problems have been on the rise during this decade, and have almost maybe this is also a reason for the increase of Oro dental disease nowadays. As per W.H.O, Oro dental diseases affect nearly 3.5 billion people. Almost 10% of the global population is affected by Oro dental diseases. 530 million children suffer from dental caries of primary teeth. Oral cancer is one of the three most common cancers in some countries of Asia and the Pacific. All these data give light that Madhura rasa (sweet taste) in toothpaste is not capable of doing its kapha niraharana (expulsion of vitiated kapha dosha) action properly. So, there is a need to follow the rasa principles told by the acharyas. Katu (pungent taste), tikta (bitter taste), Kashaya (astringent taste) rasas are having karmas related to the mouth, are like Vaktra

Shodhana (cleanses the oral cavity), Rochana (increases appetite), Krimighna (anti-microbial), Vishaghna (anti-toxic), etc, are helpful for kapha niraharana (expulsion of vitiated kapha dosha) action. So Rasa Siddhant is very much relevant to prevent Oro dental diseases. This concept should prompt us to revisit current practice and bring into practice pastes and powders having Katu (pungent taste), tikta (bitter taste), and Kashaya (astringent taste) rasas. Coming to toothbrush v/s twigs, due to difficulty in availability of twigs, storage, and operational method of use. So, there is a need for modification over time. Acharyas also talked about the usage of dantadhavana powders. We can easily convert the twigs into powders as per feasibility by keeping in mind about rasa principle and the pharmacological actions of the tree. In the current situation, there is a need to shift from Madhura rasa (sweet taste) to Katu (pungent taste), tikta (bitter taste), and Kashaya (astringent taste) rasas. Those who wish to use twigs can use twigs. If there is any operational difficulty with twigs, then one can use powder or paste made of the same trees.

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