

Prevention and Control of Oral Diseases by Ayurvedic Approach

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ABSTRACT

A healthy mouth is a premise of overall health. The oral cavity can be a mirror image of the body and many systemic illnesses are manifested in the soft tissues of the mouth. When oral health is compromised, overall health will be affected. *Ayurveda* is an integral and most ancient form of medical system which is primarily aimed at prevention of disease and promotion of health. Its holistic approach towards positive lifestyle creates its inevitable significance in the present scenario. Thorough oral care is described under the daily regimen, seasonal regimen for prevention of oral diseases. In *Ayurveda* classics there is description of daily regimen like tooth brushing, tongue cleaning, gargling, oil pulling, nasal application of drugs, chewing of betel leaves, seasonal regimen to pacify doshas, do's and don'ts related to diet and activities. These preventive aspects can be practiced in everyday life to prevent and control the oral disorders. *Ayurvedic* perspectives regarding maintenance of oral health are explored in this article.

Key Words *Dincharya, Danta Dhavan, Danta Majan, Kaval, Pratimarsh Nasya*

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INTRODUCTION

Oral diseases are those diseases whose occurrence is primarily based on the faulty daily food habits, faulty routine activities and improper oral hygiene. *Shalaky Tantra* is one of the specialized branches of *Ashtang Ayurveda*, which describes the treatment of supraclavicular regions of the body¹.

The Oral cavity is considered to be one of the most important parts of the supraclavicular regions of the body because it is the reflector of the body health by acting as gateway of the alimentary canal. *Acharya Shushruta* has

described 65 oral disease and its treatment which indicates the significance of disease occurring in the oral cavity^{2,3}. Also, *Acharya Vagbhat* has described causes of *mukh roga*, 75 oral diseases and their treatment⁴.

Various causative factors that are mentioned by ancient *Acharyas* thousands of years ago are presently the most common cause for oral disorders, some of which with their correlation to contemporary lifestyle are mentioned here.

Aharjanya: Matsya Sevana (Intake of fish), *mahisha, varah Mamas Sevana* (Excessive intake of *anup meat*) cause *kapha* and *rakta dhoshdusti*.

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Masha (*snigha, guru and madhur rasa yukta*), *Dadhi*, *Kshira*, *Ikshurasa* (*Madhur,snigh,kaphakaraka*)- *Sevana* cause *kapha dosha dusti* and produced *ama* formation. foods made from black gram flour, milk and milk products, sugar can products like jaggery etc easily sticks on the tooth surface, easily ferment causing bacterial growth and other pathogenesis of Oro dental disease.

In today's era excessive use of refined flour and refined sugar especially bakery products and carbonated drinks, chocolates, chips, canned juices increase prevalence of tartar deposition, gingivitis periodontitis, dental caries and other oral diseases. If refined flour and sugar coated on the teeth for long time there occur bacteria growth which cause fermentation of the food debris and produced acid. This acid causes demineralisation of the enamel and ultimately carries formation. Also, deposition of mineral in this bacterial plaque causes tartar formation which eventually leads to the gingivitis and periodontitis.

Viharjanya: Avakshaiya (sleeping with head low position) may result in accumulation of saliva for a long time near teeth and gingiva which may accelerate the tartar formation, *dwishito dant dhavan* (not cleaning of teeth and gingiva regularly) it's the well-known cause of the most of the Oro dental diseases., After *dantadhavan prayogik dhoompana* (medicated smoking) is indicated to remove *kapha dosha* if not doing there may occur diseases of oral cavity due to *kapha dosha* provocation. , *Gandush* (oil pulling)

if not done in everyday life may cause Oro dental disease like tooth sensitivity, cracking of lips, dryness of mouth etc. *Chardhana* (induced emesis) in *vasant rutu* is indicated for expulsion of *kapha dosha* accumulated due to seasonal changes. So *vaman karma* done in every *vasant rutu* may prevent oral disease because of all oral disease are mostly caused by *kapha dosha*. *Anuchita Shiravedha* (bloodletting) means improper *shiravedha* karma may cause *rakta dosha vitiation* and cause Oro dental disease.

Among the other oral problems, Oral cancer is a major concerning disease that affects although a minority, but the prevalence is increasing in some countries because of the classical risk factors of smoking and alcohol. Life style influences including diet, ignorance of oral hygiene, and smoking are pivotal to the occurrences of oral diseases.

Oral diseases are closely linked to lifestyle. There is overwhelming evidence that periodontal disease and dental caries affect the majority of the populations. their prevalence and severity vary according to age, sex, race, geographic areas, socioeconomic factors, local and systemic factors, and methods of oral cleansing.

People with an improved socio-economic status use refined and high sugary diet and use carbonated drinks more as compared to low-income people, so they appear to have more caries but on the other hand they improve oral hygiene in order to have better look and smile. High caries prevalence and better oral hygiene is seen in high societies, whereas in low social

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classes carries occurrence is not high but oral hygiene is very poor so in low social classes people have more oral problems like tartars, gingival and periodontal diseases.

Oral health in any respect cannot be given less weight due to its low morbidity and mortality, as health of tissues (teeth, gums) of the "Mouth" (gateway) to our body is essential like other tissues of the body. That's way that work taken for oral health related prevalence and promotive measures.

MATERIALS AND METHODS

Brihatrayi (Charak Samhita, Sushruta Samhita and Astanghrdaya samhita), Laghutrayi (Madhavnidan, Bhavprakash and Sharandhar Samhita) with commentaries and other classical texts have been used for this compilation with critical analysis, relevant modern texts, articles from PubMed, google scholars etc were thoroughly searched.

ORAL HYGIENE METHODS AND ITS IMPORTANCE

Ayurveda aims first at maintaining a healthy body and preventing ailments by adopting a proper, healthy, life style. To fulfil this aim, the *Swasthya Chatuska* has been described in *Charaka Samhita Sutrasthana* which includes daily regimes in the form of *Dinacharya*, seasonal regimes in the form of *Ritucharya*, dietic regimes as well as behavioural patterns described under *Swasthavritta*. The components forming the oral cavity are involved in some of the most important

physiological functions like churning, deglutition, taste, speech, metabolism etc., to ensure that there functions. it is essential to take care of the oral cavity by maintaining good oral hygiene. Only *Ayurveda* has mentioned eight measures as a part of *Dinacharya* to keep tongue, teeth, gums & whole oral cavity (*mukha*) clean. They are *Dantadhavana/ dantapavana, Dantashodhana choorna (manjana), Jihvanirlekhana, Gandusha, Kavala, Pratisarana, Mukhaprakshalana, Tambulasevana*

1.Dant dhavan.

1.Dantadhavan: cleaning the teeth by the twig(toothbrush) is called *danta dhavan*. Teeth should be cleaned twice a day, after elimination of urine and faeces in the morning and after consumption of food in the evening. The tip of the twig should be chewed to prepare soft bristle and without harming the gum teeth should be cleaned one after another starting from the lower tooth⁵ facing east or northern direction⁶. The twig which is used for *dantadhavan* should have some special character like it should be straight, knotless or having one knot and free from cavity (caused by insect infection) and size is 12 Angula. *Datum* (Brush)told for Dantdhavan should be of *Katu* (pungent), *Tikta*(bitter), *Kashay* (astringent) *rasa*⁷. *Karanj* (pongame oiltree), *Karvir* (*nerium indicum*), *Arka* (Giant calotrope), *Malti* (*combretum indicum*), *Arjuna* (*terminalia arjuna*), *Asana* (*pterocarpus marsupium*), *Kadira* (*acacia catechu*), *Nyogdhra* (*Ficus bengalensis*) *Datuna* are the best for *dant dhavana*⁸.mouth diseases are caused by mainly

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Kaph Dosh, so pungent, bitter, astringent *Ras* are helpful to prevent most of the oral diseases and additionally its removes *Mala* and *Kapha* which cause *Mukhashuddhi*.

Advantage of dantadhavana:

- It cleans the oral cavity.
- It neutralizes the Kapha and helps to clear the viscid mucoid secretions in the mouth.
- It is a good exercise for periodontal ligament. By masticating the stem it strengthens the muscles of jaw.
- It removes food particles.
- Perceives the taste better.
- Cheap and readily available.
- Prevents pocket formation.
- Cleansing agent and gum massage action.

2. Dantamanjana:

Dant majan is the procedure in which gentle rubbing of the tooth and gums surface with the help of fingertip is done⁹ They are substances used with toothbrush or other applicator on tooth surface and gingiva for cosmetic and sanitary purposes and for applying specific drugs to tooth surface for preventive and therapeutic purposes. It is used like *Pratisarana*. If a person is contra indicated for *Dantadhavan* with *Datun*, then he is advised for *Pratisarana*. As general measure, one can use tooth powder consisting of equal quantity of Ginger, *Maricha* (black pepper), *Pippali* (piper longum), *Twak* (Cinnamomum verum), *Lavanga* (syzygium aromaticum), *Tamalapatra* (Cinnamomum tamal), *Triphala*, *Khadira* and *Saindhava* which, should be used after mixing it with *Til* oil. One can use powders of *Triphala*,

Trijataka with honey and *Saindhava* for person with *Kapha* and *Pitta* constitutions. For those with *Kapha* constitution, *Trikatu*, with honey and *Saindhava* can be used as tooth paste. Massaging the gums daily with *Triphala* mixed with *Til* oil maintains them in healthy state.

Advantage of dantamanjana:

- Perceives the taste better.
- Relive tooth ache
- Removes food debris
- Freshen mouth

3. Jihva nirlekhana:

It is also a part of cleaning the oral cavity. Cleaning of tongue is known as '*Jihva Nirlekhana*'. Tongue scrapers, which should not be sharp edged and are curved, and size is 10 *angula*. That are to be made of metals like gold, silver, copper, tin, and brass¹⁰.

Advantage of jihva nirlekhana

- Tongue scrapping stimulates the reflex points of the tongue.
- Removes bad odour (halitosis).
- Improves the sense of taste.
- stimulate the secretion of digestive enzymes.
- Removes food debris sticking on the surface.
- Clinical evidence also shows that use of tongue scrapers on a regular basis, has a significant Improvement on eliminating anaerobic bacteria and decreases bad odour¹¹.

4. Kaval & Gandush

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Kavala means swishing the liquid in the mouth and gandusha is holding the liquid in the mouth without any movement both are variety of gargling. Both are auxiliary methods which are used to rinse the mouth, dislodge food debris and for other therapeutic purpose. Oil pulling is an ancient Ayurveda procedure that involves holding oil in the mouth for oral and systemic health benefits¹². Oil pulling has been used extensively as a traditional Indian folk remedy for many years to prevent decay, oral malodour, bleeding gums, dryness of throat, cracked lips and for strengthening teeth, gums and the jaw^{13,14}. Oil pulling therapy can be done using oils like *sesame* oil¹⁵. Oil pulling therapy is very effective against plaque induced gingivitis both in the clinical and microbiological assessment^{16,17}.

- Til oil or *Mamsa Rasa* is best *Gandusha* material for every day.

- *Gandusha* of *Madhu* cleans the over mucoidal secretion

- *Gandusha* of *kanji* cleans the debris and reduce foul smell.

- *Gandusha* of *Kshara* reduce the *Sanchaya* of *Kapha*.

- *Gandusha* of lukewarm ware reduce the heaviness of mouth

Advantage of gargle:

- *Sneh Gandush* prevents *Vataj* disorders of mouth -cracking of lips, dryness of mouth - *Swarbhed* (loss of voice), *dantaharsha*
- *Kaval* of bark of *Khadir*, *Arimed* & *Kshiri Vraksh*..-Prevents mainly *Kaphaj* disorders,

Aruchi (Tastelessness), *Mukhvairasya* (Faulty taste), *Dourgandh* (Halitosis) - *Lalasarav*(Excessive salivation),etc...

- To dislodge food debris.
- To refresh mouth
- To reduce micro-organism growth

5.Pratimarsh Nasya

Administration of drugs by the route of nasal cavity is termed as *nasya*, and *Snehana dravya* is used for *Pratimarsh Nasya*. *Pratimarsh Nasya* of *Anu tail* or oils indicated for daily use¹⁸ in one or two drops. It pacifies the *Vat Dosh* & give unctuousness to head & neck region, so it prevents mainly the degenerative disorders.

Advantage of pratimarsh nasya

- strengthens the sense organ
- purify the supra clavicular region
- strengthens tissue and muscle of mouth

6.Tambul sevan

Tambula Sevana is a routine practice conducted since long been in Indian society. As per traditional *Ayurveda* classic chewing of betel leaves with *Karpura* (*Cinnamomum camphora*), *Kankola* (pipe cubeba), *Jatiphala* (*myristica fragrans*), *Lavanga* (*syzygium aromaticum*), *Katuka*, *Poogaphala* (*areca catechu*) & *ela* (*Elettaria cardamomum*) offers beneficial effect such as

Advantage of tambul sevan

- cleaning of mouth.
- provide good smell.
- improve complexion.
- clean throat and tongue.

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- it also mitigates excess salivation which offer good effect for heart and cures diseases of throat.

As per *Acharya Vagbhatta Tambula Sevana* affect pathological symptoms such as; *aruchi*(anorexia), *Mukhadaurgandhya* (bad smell frome mouth) and *Mukhavaishadya* (not proper cleaning mouth)^{19, 20}.

RITU CHARYA:

Due to climatic changes, many changes occur in physiology of oral cavity which may lead to many diseases. When one *Ritu* is completed and another one is commenced, the changes in atmosphere trigger off many ailments. For getting rid out of these, *Acharya* has mentioned *Ritu Charya* under the heading of *Ritu Sandhi*. One should follow these for prevention of *mukhroga*. Seasonal purification for vitiated *kapha dosha vama*na(emesis) in *vasant*(spring season), *shirovirechana nasya*(nasal istilation of drug) in *vasant* (spring season) to eliminate *kapha* dosha from supraclavicular region, *virechana*(laxative) in *sharad* (autum season), *basti* in varsha (rainy season) are indicated in our classics.

PATHYA AND APATHYA (wholesome and unwholesome) FOR HEALTHY ORAL CAVITY

PATHYA:

- ✓ *Swedana, Virechana, Vamana* (induces emesis), *Gandusha* (Gargling), *Pratisarana, Kavala, Raktamokshana*(blood latting therapy), *Nasya, Dhoomapana,*
- ✓ *Trunadhanya* (cereals), *Yava*(barly), *Mudga* (green gram), *Kulattha* (hoarse gram),

Jangala mamsarasa (meat of animals of arid,desert-like), *Satavari* (asparahus racemosus), *Karavellaka* (bitter gourd), *Patola* (pointed gourd), *Karpura Jala* (camphora water), *Ushnodaka* (hot water), *Tambula* (betel leaves), *Ghrita* (ghee), *Khadir* (aacacia catechu), *Katu* (pugent), *Tikta* (bitter) *Dravyas*.

✓ One should be encouraged for *Ghrita bhojana* owed to its *Rasayana* and *Vata Pitta Shamana* effects.

✓ Take enough water to prevent dryness of mouth.

APATHYA:

✓ *Danta Kashtha* during an oral disease conditions, *Amla Dravya, Matsya*(fish), *Anupa Mamsa, Dadhi* (curd), *Kshira* (milk), *Guda* (gaggery), *Masha* (black gram), *Ruksha* (dry substance), *Kathina* (hard) *Dravyas, Guru* (heavy meal), *Abhishyandhi Ahara* (sticky foods), *Divaswapna* (day sleep), *Adhomukhashayana* ((sleeping with head low position) are *Apathya* in *Mukharoga*.

✓ Excessive use of *Kashaya rasa, Katu rasa* (pugent), *Ruksha* (dray), *Vikasi, Ushna* (hot), *Tikshna dravyas*, tobacco and its related products like gutka, mawa, panmasala etc. and excessive use of chilies and spicy food must be avoided.

DISCUSSION

In the present scenario the lifestyle of people is occupied of hectic schedules. oral disorders are most likely to occur in certain people who does not maintain oral hygiene properly every day.

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from the forgoing it is clear that thousands of years ago, *Ayurvedic* treatises had very broad knowledge regarding *mukha rogas* including its prevention and treatment. The teachings and principles which were put forth in ancient times to keep one's health disease free, the exact same philosophy is implicated in modern times. But to lead a luxurious life in the present era, money has got precedence, in running after this precedence man has scarcity of time for personal life. This scarcity of time progresses with negligence of health. *Ayurveda's* simplicity, inclination towards natural modalities and a consideration of other causes of an ailment are possibly the best reason explaining its popularity. Changes should be made in diet, behaviour and life style. While adopting the adjustments one can best follow the principles of *Dinacharya* (daily regimen), *Rutuchrya* (seasonal regimen) and *pathya pathya* (dos and don'ts). Few modifications in our daily routine can keep us away from common oral problems. *Ayurveda* is a treasure of herbal formulations and other therapeutic measures, but keeping modern life-style in mind, where man has lack of time for himself, measures which can be easily incorporated in routine are discussed here.

Dantdhavan: *Karanja* (*Pongamia pinnata*) having Properties like *Kapha-Vatahara*, *Krimighana*, *Kandughna* and Pharmacological actions like Anti-inflammatory, Antioxidant and Anti-ulcer activity²¹ *Nimba* (*Azadirachta indica*) having Properties like *Kaphapittahara*, *Krimighna*, *deepana*, *Vranahara*, *Chardihara*, *Vishahra* and

Pharmacological actions like Anti-fungal, anti-bacterial, anti-inflammatory, anti-tumour²² in modern and *Ayurvedic* science mention about Preventive and curative effect of *Danta Dhavana Dravya*. For preventive aspect most of above-mentioned drugs having anti-oxidant properties and for curative aspect most of drugs having Anti-inflammatory, Anti-fungal, Anti-Bacterial action. So it probably cures gingivitis, periodontist, dental caries like oral disorders.

Danta manjan: *triphala* having rich in various anti-oxidant such as ascorbic, ellagic, gallic, as well as chebulic acid. This herbal mixture has been recommended for treating various diseases including microbial infection. *triphala* also has been established in healing property. On the contrarary Most of the toothpaste in use today are *Madhur rasa yukta* which increase bacterial growth and produces disease.

Jihva nirlekhan: Tongue scraping directly influence oral hygiene that clearing mouth debris and food practical and cleaning cotted tongue. Nowadays we see that stainless steel and plastic tongue scrape is more use in practise which is not healthy for body and small particle of that plastics goes in the body which also cause harm to the body.

Kaval and gandush: People very rarely practise kaval and *gandush* according to classics. Gargling is practises today that too mainly with fresh water but rarely with warm water. *Achrya* give *snehan kaval* for daily use like *tila* tail is give nourishment and strength to the oral mucosa and muscles. *Tila* has calcium

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component so it causes remineralization of the enamel.

Nasya: Acharya Vagbhatta has given some detailed about the mode of action of nasya which explain that nasa being gate way of shira, the drug administrated through nostril reaches *shrigatak marma*, *shira marma* by *nasa shrotas* and spared in the head, eye, ear, throat and stretches the morbid dosha from supra clavicular region. And also nourish all *indriyas*. *nasya* if practised every day.

Tambul sevan: Tambul sevan in the context of Dinacharya (daily regimen) for the maintenance of perfect oral hygiene, for good taste and as a prevention of diseases of the oral cavity and throat. It too acts as post meal digestive stimulant, aphrodisiac and improves physical and mental stamina. It has *Deepana* , *Rochana* (appetizing), *Kaphaghna*, *M,ukhaVaishadyakara* i.e mouth cleansing properties..

Rutucharya: Body purification therapy like *vaman*, *virechana*, *raktamokshana*, *nasya* is taken for seasonal purification of dosha for preventive aspect and in disease condition for prevention of diseases. Seasonal purification for vitiated *kapha dosha vamana*(emesis) in *vasant*(spring season), *shirovirechana nasya*(nasal istilation of drug) in *vasant* (spring season) to eliminate *kapha* dosha from supraclavicular region out. Which is the main dosha for Oro dental disease., *virechana*(laxative) in *sharad* (autum season) eliminate *pitta dosha* and ultimately affect the *raktaprasadana. basti* in

varsha (rainy season) causes pacification of *vata dosha*.

Pathya pathya: most of the drug mention in wholesome diet have *katu* and *tikta* rasa which cause ama *pachan* and pacify *rakta* dhatu which are involved in the pathogenesis of *mukhroga*. Most of the drugs mention in unwholesome diet are having guru, *abhisyandi guna* and Madhur rasa which cause ama formation, *srotorodha* and also bacterial plaque formation which lead to diseases like dental caries and other oro dental diseases.

CONCLUSION

A few simple regimens like *danta dhavan* (tooth bruising), *manjan*, *jihvanirnekhan* (cleaning the tongue), *kavan* and *gandusha* (oil pulling), *pratimarsh nasya* (nasal application of drugs), *tambul sevan* (chewing of betel leaves), should be promoted as effective measures for the prevention of lifestyle related oral disorders and maintenance of oral health. Various practices of such simple techniques with appropriate lifestyle modifications along with inclusion of proper diet can prevent oral diseases as is seen in this review.

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