



Review Article

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AN OVERVIEW ON CLINICAL DENTISTRY: A CONCEPTUAL FRAMEWORK IN AYURVEDA

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ABSTRACT

Ayurveda is the ancient Indian system of health-care and longevity. There is a long history of use of herbal plants and its formulations for the improvement of dental health and oral hygiene. This article was aimed to frame a conceptual analysis of Ayurveda based dentistry in clinical practice based on the available literatures in our science. This framework outlines salient findings about helpful Ayurveda-based alternative opportunities for quick access by ayurvedic practitioners, researchers and patients. There is a mention of Oral Health and Dentistry under the broad heading of Mukharoga (oral diseases) in Ayurveda which has a detail description of its classifications, management and complications. The treatment modalities which are specific to oral health have also been mentioned at various contexts. Managing dental diseases are integral to general health and well-being as many are the consequences of impaired body metabolisms. Hence treatment of dental diseases includes both topical and systemic management along with measures to prevent recurrence. There has been a sudden increase in the use of herbal extracts or plant products as an alternative approach to modern day medicines in general and oral health. Hence this study has been taken up to understand the fundamental basis in managing the dental diseases as an alternative to contemporary science.

Key words: Mukha Roga, Ayurvedic Dentistry, Oral Health, Concept study

INTRODUCTION

Modern Dentistry is a branch of medicine that consists of the study, diagnosis, prevention, and treatment of diseases, disorders, and conditions of the oral cavity, commonly in the dentition but also the oral mucosa, and of adjacent and related structures and tissues, particularly in the maxillofacial (jaw and facial) area. Although primarily associated with teeth among the general public, the field of dentistry or dental medicine is not limited to teeth but includes other aspects of the craniofacial complex including the temporomandibular and other supporting structures. Dentistry usually encompasses practices related to the oral cavity. According to the World Health Organization, oral diseases are major public health problems due to their high incidence and prevalence across the globe, with the disadvantaged affected more than other socio-economic groups¹. The majority of dental treatments are carried out to prevent or treat the two most common oral diseases which are dental caries (tooth decay) and periodontal disease (gum disease or pyorrhea). Common treatments involve the restoration of teeth, extraction or surgical removal of teeth, scaling and root planning and endodontic root canal treatment¹.

Oral and dental diseases are widely prevalent in India. Gingival and periodontal diseases affect 90% of the population. Though not life-threatening, these diseases are often very painful, expensive to treat and cause loss of several man-days. On the other hand, they are, to a great extent, preventable. It has now been recognized that oral and general health are closely interlinked. Periodontal (gum) diseases are found to be closely associated with several serious systemic illnesses such as cardiovascular and pulmonary diseases, stroke, low birth-weight babies and preterm labour. Besides, poor oral health affects the functions of mastication and speech, and ultimately the overall

well-being of an individual. The major oral and dental diseases/disorders are (i) dental caries, (ii) periodontal diseases, (iii) dentofacial anomalies and malocclusion, (iv) edentulousness (tooth loss), (v) oral cancer, (vi) maxillofacial and dental injuries, and (vii) fluorosis.²

The dimension of oral and dental health has been expanded by adding the concept of wellbeing after WHO broadened the definition of health by the inclusion of social wellbeing. Since then oral health too is considered to contribute to general wellbeing and not mere absence of disease. Daily activities like eating, talking, smiling and creative contributions to society are determinants of an individual's wellbeing. So now it is understood that oral health is integral to general health and wellbeing.³

In Ayurveda oral and dental diseases are explained under the broad heading of Mukha rogas which includes the diseases of the oral cavity, dental, jaw, facial area along with its management and prevention.^{4,5} An effective protocol can be framed to diagnose and manage dental and oral diseases based on the available literatures which will be an asset in the field of Ayurveda and can be a better alternative approach wherever necessary to the existing science.

Clinical applications of Dental & Periodontal diseases

Sheetada (Gingivitis)

Causes: Due to kapha and Raktadosha.

Signs & symptoms:⁵ (Image 1)

- Sudden bleeding from gums, foul smelling discharge (exudation of fluid from gingival sulcus).
- Gingiva is dark coloured (discoloured), shining, and soft
- Sheeryante (gum recession)

Note: In gingivitis, changes in position of gingiva will happen either coronally (pseudo- pocket) or apical to cemento-enamel junction (gum recession).



Image 1: Gingivitis (Sheetada)

Management of sheetada (gingivitis) includes, raktamokshana (bloodletting), Gandusha with kwatha of triphala, musta, nagara (ginger), sarshapa (mustard) and lepa (application of paste) with priyangu (*Callicarpa macrophylla*), musta (*Cyperus rotundus*), triphala (Haritaki, Vibhitaki and Amalaki).⁶

Upakusha (Periodontitis – initial stage)

Causes: Pitta Rakta dosha

Signs and symptoms: (Image 2)

- Burning sensation and ulcers on gingiva (crevicular epithelium).
- Mobility of tooth.
- Bleeding on probing (aaghattitah prasravanti raktam)
- Mild sensation of pain
- Swollen gums
- Halitosis (foul smelling due to purulent discharge)



Image 2: Periodontitis (Upakusha)

Management includes, samshodhana (vamana, virechana-remove toxins from the body), raktamokshana (blood letting) with kakodumbarika, gojipatra (Curette) and application of paste of trikatu (pippali, maricha and shunti); lavana (salt) and honey and kavala (gargle) with pippali (pepper), shweta sarshapa (mustard), nagara (ginger) added to warm water.⁶

Dantaharsha (Dental hypersensitivity)

Causes: Vata predominant dosha

Signs & symptoms: patient intolerant to hot, cold, sour food stuffs
Management includes, Kavala (mouth gargle), Dhuma (medicated smoking) and Nasya (Nasal drops) with lukewarm vata hara sneha (medicated oil); Mamsarasa (meat soup); Food prepared of mamsa rasa (meat soup), mamsa rasa yavagu (meat soup dhal), Milk, Milk cream, Ghee; Gandusha (gargle) with milk processed in sesamum, yashtimadhu (*Glycyrrhiza glabra*) ksheerapaka (milk preparation) and Shirobasti (oil filling on head) with vatahara dravyas.⁷

Danta sharkara (Dental Calculus)

Causes: Vata predominant dosha

Signs and symptoms: Due to improper oral hygiene, there is collection of mala's (plaques) which hardens and forms calculus due to which it damages tooth and causes foul smelling from mouth (dantanam gunahari). (Image 3)



Image 3: Dental Calculus (Danta Sharkara)

Management includes, remove sharkara (scaling) – danta nirlekhana and application of laksha churna (lac) with madhu (honey).⁷

Krimidanta (Dental Caries)

Due to collection of food debris on the tooth, there is invasion by microorganisms, and it forms cavity, causing severe pain, black coloured tooth discolouration, and mobile tooth with discharge. (Image 4)

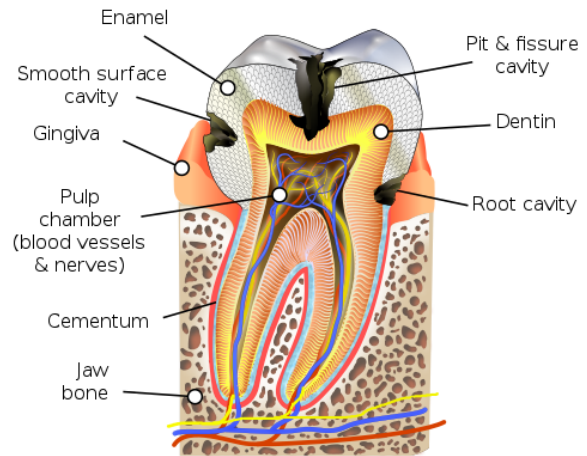


Image 4 (Courtesy: Tooth decay Wikipedia)

Management includes, if immobile tooth do bloodletting, followed by gandusha (gargle) with medicated oil and temporary filling with madhuchista (beewax) or saptachada and arka ksheera (*Calotropis gigantea*) to reduce pain. If mobile tooth extract teeth and do dahana (cautery) at that site.⁷

ORAL AND DENTAL HEALTH

Gandusha & Kavala

Gandusha is holding any medicated liquid in the mouth to its full capacity without any movement till there is secretion from eyes, nose, whereas kavala is that which allows movement of the liquid.

Types⁸

- Snehana (oleates)
- Shamana (pacifies)
- Shodhana (cleanses)

4. Ropana (healing)

Indicated in dental hypersensitivity, if mobile tooth it should be done using lukewarm solution of tilakalka (paste of sesame), also with medicated oil with rock salt; Cleansing heals ulcers of mouth decreases burning sensation and dryness if done with honey. On a regular basis it can be done with taila (oil) and mamsarasa (meat soup).

Kavala

Specific indications are in the diseases of head, neck, ears, mouth, eyes, dryness of mouth, nausea, loss of taste and rhinitis.

Uses: Gandusha & Kavala helps in Shodana (cleansing), Ropana (healing) and Shamana (soothing); Specific uses are it increases local defense mechanism, removes metabolic wastes, soothing effect and helps in strengthening of muscles of oral cavity.

Pratisarana (Application of paste)

It is application of medicated paste, powder with the tip of the finger (Angulyagra grihitam).

Indications: similar to gandusha.⁸

Types

1. Kalka (Paste)
2. Avalehya (Linctus)
3. Churna (Powder)

Specific Indications are, in Sheetada (gingivitis): medicated paste should be applied with Honey; in dantaveshtaka (periodontitis), medicated paste should be applied with Lodhra, yasti, laksha and raktachandana with Honey and in impacted wisdom tooth, medicated paste should be applied with Vacha, chavya, paata, sarjakshara and yavakshara.

Mode of action

It does scrape, dries excess moisture, antimicrobial, decreases kapha, heals ulcer and cleansing (Vairechanika)

Uses¹⁰

Smoking cures heaviness of head (gourava), headache (shirashoola), rhinitis (peenasa), hemicranias (ardhavabhedaka) Irritates oral mucosa and increases vascular permeability, thus an active principle of drug gets absorbed into systemic circulation as well because of thin mucous membrane in the region of buccal & sublingual region it presents a low barrier.

Dhumapana (Mediated Smoking)

It is inhaling of medicated smoke through nose or mouth in the diseases of vitiated kapha and vata dosha.

In diseases of head, eyes, nose medicated suppository should be inhaled through nose and exhale through mouth.

In case of diseases of mouth, inhale smoke through mouth and exhale through mouth.⁹

Types

- a. Pacifying (Prayogika)
- b. Nourishing (Snaihika)

Smoking cures heaviness of head (gourava), headache (shirashoola), rhinitis (peenasa), hemicrania (ardhavabhedaka), pain in ear (karna) and eye (akshi), cough (kasa), hiccough (hikka), dyspnoea (shwasa), obstruction in throat (galagraha), weakness of teeth (dantadourbalya), discharge from ear, nose and eye (srava), purulent smell from nose and mouth (putigandha), toothache (dantashoola), anorexia (arochaka), lock jaw (hanugraha), torticollis (manyagraha), pruritus (kandu), paleness of face (panduta), excessive salivation (shleshmaprasaka), impaired voice (vaisvarya), tonsillitis (galashundika), uvulitis (upajihvaka), hairfall (khalitya), premature greying of hairs (pinjaratva), sneezing (kshavathu), drowsiness (atitandra), loss of

consciousness (moha), excessive sleep (atinidra). It also strengthens hair, skull bones, sense organs and voice.

Mode of Action:

Dries the accumulated mucus, facilitates free movement of air through channels by clearing passages, increases oral immunity and regulates salivary flow.

ORAL HYGIENE AND AYURVEDA

Nasya (Nasal drops)

One should inhale Anutaila every year during the three seasons, rainy (varsha), autumn (Pravrit) and spring (Sharad rutu) and when the sky is free from cloud (Gata megha Nabhasthale).¹¹

Uses: One who practises nasal therapy in time according to the prescribed method, his sense organs become clear and there is considerable strength (sarvendriya vaimalya balam). Diseases relating to head and neck do not affect them all of a sudden.¹¹

Tooth brushing

One should use the tooth cleaning stick whose top portion is crushed and which is astringent, pungent or bitter in taste. This should be done in such a way that the gums are not affected. This removes foul smell (gandha) and loss of taste (vairasya). It removes the dirt of the tongue, teeth and mouth causing thereby the taste for food and cleans the teeth instantaneously (danta vishodhanam).¹¹

Plants for dental brush (dantakashta)

Karanja (*Pongamia pinnata* Merr.), *Karaveera* (*Nerium indicum* Mill.), *Arka* (*Calotropis gigantea* R. Br. Ex Ait.), *Malati* (*Aganosma dichotoma* K. Schum.), *kakubha* (*Terminalia arjuna* W. & A.), *Asana* (*Terminalia tomentosa* W. & A.)- These and other trees having identical properties (tastes) are recommended for being used as tooth-cleaning stick (danta kashta).¹¹

Tongue scraping (Jihva Nirlekhana)

Tongue scrapers, which should not be sharp edged (atikshna) and are curved (ruju), are to be made of metals like gold (suvarna), silver (roupya), copper (tamra), tin (trapu) and brass (aya). The dirt deposited at the root of the tongue, obstructs expiration (uchvasa avarodha) and gives rise to foul smell (dourgandhya); so the tongue should be scraped regularly (Jihva Nirlekhana).¹¹

Chewing (Tambula sevana)

One desirous of clarity (vaishadya), taste (ruche) and good smell of mouth (sugandha) should keep in mouth, chew the fruits of Jati (*Myristica fragrans* Houtt.), Katuka (*Hibiscus abelmoschus* Linn.), Pooga (*Areca catechu* Linn.), Kakkola (Piper cubeba Linn.), Sukshma Ela (*Elettaria cardomomum* Maton.), flower stalk of Lavanga (*Syzygium aromaticum* Merr. & L.M.) Fresh leaf of Tambula (*Piper betle* Linn.) and the extract of Karpura (*Cinnamomum camphora* Nees and Eberm.).¹¹

Taila Gandusha dharana (Gargle)

Til oil gargling is beneficial for the strength of jaws (Hanubala), depth of voice (svarabala), flabbiness of face (vadana upachaya), excellent gustatory sensation (Rasa jnana uttama) and good taste for food (ruche uttama). One never gets dryness of throat (Kanta shosha), nor do his lips get cracked (oshta sphutana); his teeth will never be carious (danta kshaya) and will be deep-rooted (drida moola); he will not have any toothache or tingling sensation by sour intake and one can chew even the hardest eatables.

CONCLUSION

Dentistry in Ayurveda is a section of shalakya tantra which is an evidence based study and is in practice since time immemorial. Its applicability and popularity has increased in the recent times due to the advancement made in the field of Ayurveda. The daily and seasonal regimens along with daily routines for healthy behaviour like dinacharya, rutucharya and sadvritta mentioned helps in maintaining health of body and mind. The concepts of dental and oral diseases mentioned here can still be better understood when it is clinically practised. Applicability of these treatment modalities is a great contribution to the mankind and can be better achieved by finding facts through repeated works and analysis.

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