

ORAL CARE THROUGH KAVALA - A CRITICAL ANALYSIS OF KHADIRA- KSHEERI-ARIMEDAMBU KAVALA YOGA

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ABSTRACT

Beauty is a word that so long eluded all efforts to attribute a concrete definition to it. In medical science, beauty is essentially tagged to health. Healthy external factors like skin, hair and shape together with internal qualities of personality and mental balance are key in terming somebody beautiful. Oral cavity is an organ where both internal and external attributes of beauty coincide. Bad breath or halitosis is a condition that affect the individual physically as well as mentally. Brushing is essential to check mouth ailments including halitosis. Industrial toothpastes and mouth washes are chemically complex products and do not guarantee long time overall health benefits. Bad mouth odour as a result of physiological factors and some extent of pathological issues can be effectively addressed by regularly practicing the Kavala technique as advised by the Ayurvedic science. In Ashtanga Sangraha suthrasthana third chapter 'Dinacharya' Khadira-ksheeri-arimedadi kavala yoga is mentioned. It is as an alternative to modern chemical combinations. This article is a critical analysis on the procedure, action and benefits of kavala with this combination of drugs. The drugs in this combination have antimicrobial, antioxidative action. This formulation is a cheap, accessible to all and has no side effects, but has got many additional benefits. Regular kavala with this formulation will help the individual to bridge the internal and external aspects of beauty by preventing oral diseases and promoting oral health.

Keywords- Kavala, oral health, halitosis, khadira-ksheerivriksha-arimedambu kavala

INTRODUCTION

Beauty is a fabulous but an extremely complex concept. Though efforts are made to define beauty from various angles, most of them are incomplete as they don't encompass multiple dimensions of the concept. Ayurveda defines health as the proper balance and working of dosha, dhathu, mala, atma, indriya and manas. Major highlight of this definition is that it tries to bring a combination of aspects under one umbrella. As per this, health has a prominent role in defining beauty. Major aspects of beauty are environmental factors and personal attributes. Time, space, climate, air and water are some among the crucial environmental factors that decide beauty.

Personal aspects further bifurcated into internal and external factors. Skin, hair, colour and shape of the individual are examples for external factors. Internal factors are personality traits and mental balance of the person. Oral cavity is a meeting point to this external and internal beauty of an individual, both theoretically and practically. Various health problems occur in oral cavity. The reasons for this can range from serious pathology to simple physiological issues. One among this is halitosis or oral malodour. A wide range of problems from tooth decay to cancer may result in halitosis. Halitosis due to major diseases can be addressed only by curing those ailments. This article attempts at devising an Ayurvedic remedy to oral malodour. This

complication makes the individual worried and prompts the person to seclude from social life and in turn make them introverts.

Regular brushing of teeth is essential to maintain the health and hygiene and is advised time immemorial in all cultures. In the modern era, immense hype is being created around this simple habit of healthy living, loaded with commercial interests of toothpaste manufacturers. Products for alleviating oral malodour is quite common and the research and development activities are ripe for bringing out more and more new formulations. In this article, kavala, a simple Ayurvedic procedure based therapy is discussed in detail for promoting oral health and overall health.

ORAL HEALTH

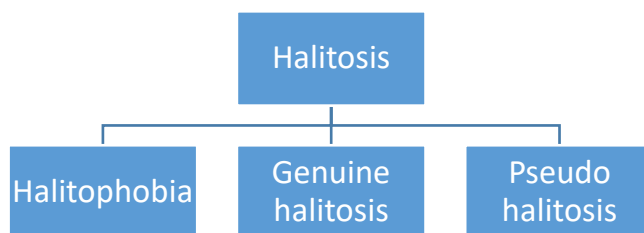
Oral cavity is the beginning of digestive system. Good oral health implies good general health. Oral cavity is a complex area which contains several organs and supportive structures. This area is an important site for many probable diseases which include the most severe form like oral cancer to halitosis. Ayurvedic classics have given utmost care for maintaining oral health. The procedures mentioned in Dinacharya like danthadhavana, jihwanirlekhana, thamboola charvana, gandoosha, kavala are advocated for maintaining oral health. Out of these, the most beneficial and the least explored and practiced procedure is kavala. In this article, a critical analysis of the Khadira ksheerivrikshadi combination mentioned for kavala in Ashtanga Samgraha soothrasthana² is done with special reference to oral malodour.

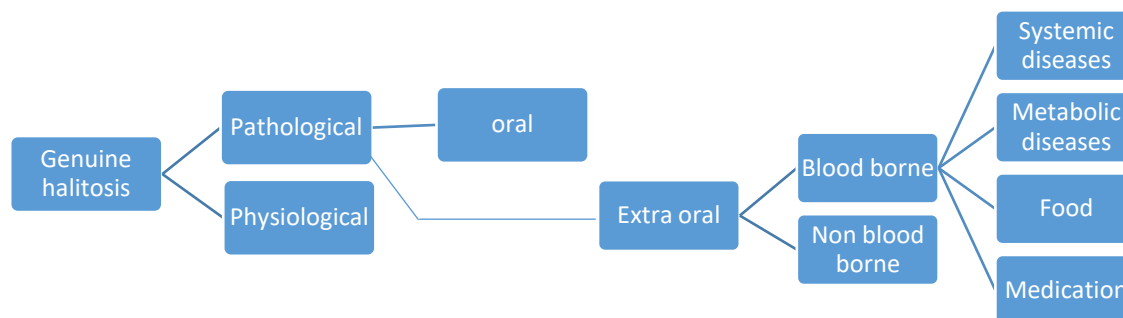
ORAL MALODOUR (HALITOSIS)

Halitosis is also commonly known as oral malodour, breath malodour, bad or foul breath, fetor oris, fetor ex ore etc. It is an oral health condition characterized by unpleasant odours emanating consistently from oral cavity. The epidemiological research about halitosis is inadequate since these cases are not taken seriously by the dentists or oral care professionals and there is a lack of uniform evaluation methods for organoleptic and mechanical measurements. But nowadays the patients are concerned much about this. Actually, one in four people have bad breath and some studies have reported that approximately 50 percent of the adult population in USA does have it⁴. It is estimated that the self-reported halitosis among Indian dental students ranges from 21.7% in males and 35.3% in females⁵. This indicates a high prevalence of halitosis among the general public. Thorough literature search shows that there is not enough studies related to the prevalence of halitosis.

CAUSES OF HALITOSIS

There are numerous causes for halitosis. Miyazaki et al. 1999 suggest genuine halitosis, pseudo-halitosis and halitophobia. Genuine halitosis is divided into physiological or pathological, then the latter is split into oral and extra-oral⁶. Tangerman and Winkel suggest intra- and extra-oral halitosis, the latter then divided into non-blood-borne and blood-borne⁷. An earlier publication divides extra-oral halitosis into blood-borne, upper respiratory tract and lower respiratory tract⁸. They list 4 etiologic mechanisms of blood-borne halitosis: systemic diseases, metabolic disorders, food and medications⁷. Following is a pictorial representation on various relevant types of halitosis.





Major 3 types of halitosis are

- Pseudohalitosis-There is no local or systemic condition, and no reliable, third party reports confirming the complaint. This scenario is generally ascribed to psychological factors, termed imaginary halitosis or pseudohalitosis⁹.
- Halitophobia-Also known as delusional halitosis. It is the fear of having halitosis. People who have halitophobia often worry excessively about having bad breath¹⁰.
- Genuine halitosis-Defined as obvious malodor with intensity beyond a socially acceptable level is perceived¹¹.

Genuine halitosis may occur either physiologically or pathologically. Pathological halitosis is caused by various factors ranging from small food impaction to oral carcinoma. Physiological halitosis often arises after sleep (morning halitosis), fasting etc... Here in this article, physiological halitosis and minor causes of pathological halitosis are addressed by the kavala procedure.

ORAL SOURCE OF HALITOSIS

Bad odour arising from mouth is due to the microbial putrefaction of food debris, saliva, cells and blood. Mainly gram negative bacteria are the culprits among the oral microbes causing halitosis. They may produce volatile sulphur compounds (VSC) like hydrogen sulphide, methyl mercaptan and dimethyl sulphide¹².

The dorsum of the tongue is the biggest reservoir of bacteria as a source of malodorous gases¹³.

Physiological halitosis is caused by factors such as stagnation of saliva, putrefaction of entrapped food particles, desquamated epithelial cells by the accumulation of bacteria on the dorsum of the tongue and some other conditions.¹⁴

DIAGNOSIS OF HALITOSIS

Clinical assessment of halitosis is mainly subjective and is based on smelling the exhaled air of the mouth and nose and comparing the two. It is known as organoleptic assessment¹⁵. It is considered as the gold standard of assessment in halitosis in clinical setting and is inexpensive and easy to perform and purely depends on the examiner.

Objective assessment methods using portable sulphide monitor, gas chromatography, darkfield or phase contrast microscopy, polymerized chain reaction etc... are rarely used because of their expensive and time consuming nature.

TREATMENT OF HALITOSIS

Treatment is primarily directed towards educating the patient. Effective teeth cleaning like brushing, interdental flossing, tongue cleaning, use of aromatic chewing gum, regular use of antimicrobial tooth pastes and mouth washes containing chlorhexidine gluconate, cetylpyridinium chloride, triclosan and zinc lactate etc... reduce oral malodour producing bacteria.¹⁶ However patients are reluctant to use the chemical containing mouthwashes on regular basis as

they may cause burning sensation, unpleasant taste and staining of teeth. Here arises the scope of Ayurvedic procedure based therapy Kavala on every day with natural products having mouth cleansing action by targeting the harmful antimicrobial flora.

AYURVEDIC ASPECT OF HALITOSIS – PUTIVAKTRATA

Ayurveda classics have given a wide description of oral cavity disorders under the heading of Mukharoga.

Acharya Susruta has given description of 65 oral diseases based on 7 sites where as Acharya Vagbhata has given description of 75 diseases on the basis of 8 sites.

Only Vagbhata has mentioned oral malodour as a disease under the 'sarava sara mukha rogas' in the name of 'Puthiaasyatha'. The main cause for this is the lack of danthakasha (tooth powder) i.e. those who hate or avoid proper brushing, gandoosha, kavala, nasya, thamboola charvana etc... may get this disease¹⁷. Along with this the samanya mukharoga nidana like excessive intake of matsya-mahisha-varahadi (fish, meat of buffalo and pig), black gram, curd, milk, jaggery, other sugar based products and improper sleeping positions like head down position or prone position etc... may cause oral disease¹⁸. This may contribute to the oral malodour.

Along with the description of other diseases like seethada, upakusha (dantamoola rogas) krimidanta (a danta roga), urdwaguda (a sarva sara roga), puthi vaktratha can be seen as a symptom. It is similar to the description of halitosis under oral and extra oral causes.

KAVALA-AGRYA MUKHAROGA CHIKITSA UPAKRAMAM

As per the Agya description of Vagbhata, kavala and nasya are the best treatment options for Mukharoga¹⁹. Virechana, nasya, vamana, kavala with katu tikatha dravyas, general kapha raktha shaman treatments, intake of kapha nashaka ahara dravyas like yava, trinadhanyas, dehusked soups with different pulses

etc... are mentioned under the samanya mukharoga upakrama²⁰.

Apart from this, in Dinacharya vidhi all acharyas have mentioned the use of Kavala and gandoosha on a regular basis for promoting the oral health. Based on this thought, the kavala yoga mentioned in Ashtanga sangraha soothra sthana dinacharya adyaya is taken for promotion of oral health and critical analysis of this formulation with special reference puthivaktratha will be examined².

Kavala is a treatment procedure for mouth-gargling mentioned in Ayurvedic classics. Here either medicated paste or drava (liquid medication) is taken in to the oral cavity in such a way that it can be freely moved inside the oral cavity. This is kept for a specific period of time till his mouth gets cleared of accumulated kapha or other doshas or till he gets secretions inside his nostrils or eyes. This procedure benefits by both the action of medication and the swishing movement. At a stretch three, five or seven gargles can be done to get rid of the doshas²¹.

TYPES OF KAVALA

Generally four types of Kavala are mentioned in classics. They are snigdha kavala, prasadana kavala, sodhana kavala and Ropana kavala²². For promoting oral hygiene on a regular basis, a combination of sodhana-shamanakavala should be selected. Regular conduction sodhana kavala will produce some ill effects like lekhana to mucosal covering of oral cavity, so adding shamana quality drugs may enhance its long run usage.

DOSE OF KAVALA DRUGS

Kavala is mentioned with kashaya and kalka by various acharyas. Sarngadhara has mentioned kavala with kalka where as in Ashtanga hridaya and many other classics kavala with kashaya or drava is also mentioned. From these references, came to the conclusion that kavala with kashaya or kalka can be done. If kashaya is taken for kavala then kola (6g) kashaya choorna is to be taken and should be performed 3, 5 or 7 times. If kavala is performed with

kalka, then one karsha (12g) is the amount of medicine to be taken.

Here in the case of puthivaktrata, kavala with kashaya will be beneficial as it produces a pressure

inside oral cavity by swishing movement which helps to remove the impacted food particles and stimulate saliva secretion.

Khadhira-ksheerivriksha-arimedambu kavala yogam

Dravya ^{23& 24}	Botanical name	Family name	Rasa panchaka	Dosha hara action	Other properties
Khadhira	Acacia catechu	Fabaceae	Rasam-Tikta, kashaya Guna-Lagu, ruksha Veerya-Sita Vipaka-Katu	Kapha-pitta shamaka	Antioxidant Antibacterial action Hypotensive Hypoglycemic
Udumbara	Ficus racemosa	Moraceae	Rasam-Kashaya Guna-Guru, ruksha Veerya-Sita Vipaka-Katu	Kapha-pitta shamaka	Antioxidant Anti-inflammatory Hepatoprotective
Aswastha	Ficus religiosa	Moraceae	Rasam-Kashaya madhura Guna- Guru, ruksha Veerya- Sita Vipaka- Katu	Kapha-pitta shamaka	Antiulcer ²⁵ Anti-inflammaotory Analgesic ²⁶
Pareesha	Thespesia populnea	Malvaceae	Rasam-Kashaya Guna-Lagu, ruksha Veerya-Sita Vipaka-Katu	Kapha-pitta shamaka	Antimicrobial Antioxidant Hepatoprotective Antidiabetic
Plaksha	Ficus lacor	Moraceae	Rasam-Kashaya Guna-Lagu, ruksha Veerya-Sita Vipaka-Katu	Kapha-pitta shamaka	Antioxidant Antiarthritic
Arimeda	Acacia leucophloea	Fabaceae	Rasa-Kashaya Guna-Guru, ruksha Veerya-Sita Vipake-Katu	Kapha shamana	Antioxidant Antibacterial Antifungal

MODE OF ADMINISTRATION

Decoction is made with coarse powder of above said drugs as per classical references i.e. 8 times of water should be added and boiled and then reduced to one fourth. This kashaya can be used for kavala after danthadawana in the morning and in the night just before sleep. The kashaya should be filled half of the mouth and the patient has to make swish movement

till the secretions from nose and eyes becomes to start. About 40 to 50 ml kashaya is required for a single use and the time taken will be around 1-2 minutes. This can be performed 3 or 5 or 7 times or even a single usage depending on the severity of the condition. But if regularly practiced, then single administration will be enough and which is more practical.

PROCEDURAL BENEFIT²⁷

Following are the benefits of adopting kavala regularly

- Relief from minor oral diseases
- Pleasant feeling
- Clarity of face
- Lightness of body and face.
- Alleviation of distaste
- Alleviation of dryness
- Alleviation of tongue coating
- Prevention of ulceration
- Prevention of loosening of teeth and food impaction by the pressure created by the kavala movement.

MODE OF ACTION

The combination of drugs possess kashaya, tikta rasa as a whole and have katu vipaka, which helps this combination to expel the accumulated doshas especially kapha dosha since mouth is one of the main seats of kapha dosha. All the drugs have kapha-pitta shamana nature which help them to remove excess of kapha and prevents from ulceration or any inflammatory changes inside the oral cavity. Almost all drugs possess antimicrobial action, which help to reduce the bacterial load and thereby reduces foul smelling gases. These drugs work by destroying the bacterial cell wall and has got good antiplaque, antigingivitis action, anti-inflammatory and antioxidant action, all these actions help the oral cavity for better performance.

The mechanical pressure exerted by the kavala procedure stimulates the stretch receptors in the mouth, from where stimulatory signals will be transmitted to the salivary nuclei in brain stem. This will stimulate Autonomic nervous system. Stimulation of sympathetic and parasympathetic nerves enhances saliva production but the effects of parasympathetic nervous system are stronger and long lasting, which results vasodilation, thereby stimulation of glandular tissue occurs which further leads to profuse watery secretion inside the oral cavity²⁸.

The chemicals present in the drugs also stimulate the chemoreceptors and there by stimulate salivary glands and produce more saliva. Increased saliva offers some protective works in oral cavity and the

- Dilution of sugar after food and sugar intake.
- Antibacterial and cleansing activity by degrading bacterial cell wall and inhibiting their growth by lysozyme and thiocyanate enzymes.
- Buffering the acid production and controlling the plaque pH with bicarbonates.
- Remineralisation of enamel with calcium and phosphates.
- Tissue repair.
- Facilitating eating and speech.
- Washes away food debris and pathogenic bacteria.
- Enabling speech by lubricating the moving oral tissues.
- Many substances like mercury, lead, thiocyanate are excreted through saliva
- Excretes out some viruses like mumps and rabies.

DISCUSSION

Busy life schedule in the urbanized era is complicating the health in many ways especially in terms of eating habits and which in turn causes negative implication in oral cavity. The swishing movement and the medicinal properties of the drugs are responsible for the cleansing action of kavala. Since this is performed in oral cavity, which is having connection to other indriyas like nose, eyes, ears, so this oral medicinal procedure may produce indirect effects in other areas or organs mainly by removing the channel blocks (Srodorodha nasanam). The procedural benefit obtained from the kavala can be understood from the modern explanation given under mode of action. Thus by using kavala with the proposed yoga may promote the natural way of defence and thereby promote the oral health without any complications.

CONCLUSION

Oral health promotion should be made between people and their environment by focusing on the determinants of health with the help of various

agencies and sectors like educational, organizational, economic and environmental for behavior conducive to health. Providing knowledge alone is not enough for health promotion, it requires strong public policy and community programs to change the social attitudes. For this, government should include these cost effective, side effect free simple procedures of Indigenous medical systems in their policies. Coming to the drug selection Acharyasmade a very keen observation, the continuous usage on regular basis won't create any side effects, instead they will promote the general health especially the oral health.

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