



## SHORT REVIEW ARTICLE

# CRITICAL ANALYSIS OF ROLE OF KAVALA AND GANDUSHA IN THE MANAGEMENT OF HALITOSIS

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### Abstract

Oral hygiene is an important factor which has a significant impact on quality of life. Oral hygiene is the practice of keeping the mouth and teeth clean to prevent dental problems, most commonly, dental cavities, gingivitis, periodontal diseases and bad breath. Halitosis is unpleasant breath, regardless of its sources, oral or non-oral. Concern about halitosis is estimated to be the third most frequent reason for people to seek dental care. According to American Dental Association, 50% of the adult population has suffered from oral malodour disorder, while 25% appear to have a chronic problem. In about 90% of the genuine cases, origin of the odour is in the mouth itself. Hence oral hygiene plays a major role in controlling halitosis. Though there is no separate chapter in *Ayurveda* describing *MukhaSwasthya*(oralhealth), oral hygiene practices like *dantadhavana*(tooth brushing), *jihvanirlekhana*(tongue cleaning), *kavala*(gargling), *gandusha* are explained as daily routine under the heading of *dinacharya*(daily regimen). *Kavala* and *gandusha* are said to improve the oral hygiene and prevent various diseases of oral cavity. Here an attempt has been made to review the importance of *kavala* and *gandusha* in the management of oral halitosis.

**Key words:** Oral hygiene, Kavala, Gandusha, Halitosis

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## INTRODUCTION

Oral hygiene is an important factor which has a significant impact on quality of life<sup>[1]</sup>. Oral hygiene is the practice of keeping the mouth and teeth clean to prevent dental problems, most commonly, dental cavities, gingivitis, periodontal diseases and bad breath<sup>[2]</sup>. Halitosis is unpleasant breath, regardless of its sources, oral or non-oral. Concern about halitosis is estimated to be the third most frequent reason for people to seek dental care<sup>[3]</sup>. According to American Dental Association, 50% of the adult population has suffered from oral malodour disorder, while 25% appear to have a chronic problem<sup>[4]</sup>. In about 90% of the genuine cases, origin of the odour is in the mouth itself. Hence oral hygiene plays a major role in controlling halitosis.

*Ayurveda*, the medical science not only aims at cure of disease but also gives equal importance to maintenance of health. Though there is no separate chapter explaining about *MukhaSwasthya* (oral hygiene), *Acharya's* have highlighted the importance of oral health by explaining certain practices like *dantadhavana* (brushing), *jihvanirlekhana* (tongue cleaning), *kavala*, *gandusha* (gargling) to be followed as a daily routine under the heading of *dinacharya* (daily regimen)<sup>[5]</sup>. We also get detail references

regarding diseases of oral cavity and their treatment in the classics.

In present scenario halitosis is one of the most common problem bothering the people. It is now one of the most important factor which has its impact on social relations and also is a cause of concern, not only related to health, but also to psychological changes which results in social and personal isolation. People suffering from bad breath try to maintain distance between themselves and their friends and relatives. There is another group of people who go through their routine life completely unaware of their problem and feel embarrassed when they are told about their bad breath by their friends' circle. Hence it's time to review the importance of '*Kavala and Gandusha*' as a measure towards oral health explained in our classics.

**Halitosis**<sup>[6]</sup>: The word halitosis is derived from the Latin word halitus, meaning 'breath', and the Greek suffix -osis meaning 'diseased' or 'a condition of'. Halitosis is a term used to describe a noticeable unpleasant odour in expired air, regardless of the origin whether from oral or non-oral sources. Other terms used to describe the same are fetor oris, fetor ex ore, bad or foul breath, breath malodour and oral malodour. In about 90% of the genuine cases, source of the odour is in the mouth itself. The most common intra-oral causes are halitogenic biofilm on the posterior

dorsal tongue, within the gingival crevices and periodontal pockets. In these conditions odour originates from volatile sulphur compounds derived from the proteolytic putrefaction of sulphur containing amino acids in dietary and salivary protein mostly by anaerobic, gram negative bacterial species. Proteins are broken down into individual amino acids, followed by further breakdown of certain amino acids to produce detectable foul gases. Food impaction areas between the teeth, abscesses and unclean dentures are other intra-oral causes which are less common. Extra-oral causes include disorders of nasal cavity, sinuses, lungs, stomach and liver.

**Treatment<sup>[7]</sup>:** Before planning the treatment it's important to identify the source of the malodour. Treatment should be advised according to the source. Halitosis caused by extra-oral causes should be treated accordingly. Patients with halitosis due to oral causes should be educated about the cause and importance of oral health. In patients with halitosis due to poor oral hygiene and related gingival and periodontal diseases, promoting oral health by effective brushing and flossing can significantly reduce the malodour. If the complaint persists even after improving oral health, tongue cleaning is advised.

Many people with halitosis go for use of mouthwashes as a solution for halitosis. Marketing media has made a strong impact on

the society that use of certain mouthwashes are useful in preventing oral malodour. Mouthwashes contain antibacterial agents like chlorhexidine, zinc gluconate, essential oils and chlorine dioxide. They act by reducing bacterial load or the associated compounds causing the odour. However, patients may not prefer long term usage of chlorhexidine due to its unpleasant taste and frequent usage may cause burning sensation of oral mucosa and temporary staining of teeth.

Presently the term 'oil pulling' is being popularised as an effective home remedy for halitosis. It is nothing but the practice of *Kavala or Gandusha* mentioned in our classics. Oil pulling is described as swishing oil in the mouth for oral and systemic health. Use of sesame oil, coconut oil and other essential oils are being highlighted. Now it's our duty to throw some light on the procedures – *Kavala and Gandusha* explained in our classics for promoting oral health and thus help the society practice classical remedy for keeping their oral cavity healthy and safe.

**Oral Health in Ayurveda:** As mentioned earlier, Ayurveda has given equal importance to oral health. Explanation regarding time of dentition, their number, diseases during tooth eruption are available in the classics. We also get references regarding diseases affecting the whole oral cavity along with their treatment. Procedures of tooth extraction is also being

explained in our classics. Procedures promoting oral health such as *dantadhavana*, *jihvanirlekhana*, *kavala* and *gandusha* are well described as day to day practices to be followed by every individual.

**Kavala and Gandusha**<sup>[8]</sup>: *Kavala* and *Gandusha* are differentiated based on the dosage and procedure of using the drug. *Kavala* is a procedure in which either medicated fluid or paste of the drugs is filled in the mouth in a dosage such that it can be freely moved within the mouth. It is retained for specific duration and then spit out. In *Gandusha*, mouth is completely filled with medicated fluid such that it cannot be moved within the mouth and retained until there is *netra* and *nasarava* (secretions from eyes and nose) and then spit out. Some of the drugs mentioned for this purpose are medicated oil or ghee, milk, honey and luke warm water. Many other drugs are also mentioned in the contexts of treatment of diseases of oral cavity.

*Kavala* and *Gandusha* are two main oral cleansing procedures explained in the classics. They are not simple cleansing techniques, but also treatment procedures for oral diseases as well as preventive measures. Daily practice of *Gandusha* removes the conditions like *Mukhavairasya*, *Durgandha* (bad odour), *Shopha* (swelling), *Jadya*, and strengthens the teeth. One who practices

*Thaila* (oil) *Gandusha* regularly will not suffer from *Kantashosha* (dryness of mouth), *Oshasputana* (cracking lips), *Dantakshaya* (loss of teeth), *Dantashula* (dental pain) and *Dantaharsha* (sensitivity).

Benefits of proper practice of *Gandusha* are –

- *Vyadhiapachaya* (disease subsides)
- *Tushti* (feeling of freshness)
- *Vaishadya* (cleansing effect)
- *Vaktralaghuta* (lightness of mouth)
- *Indriyaprasada* (improved perception by the sense organs)

### **Puthyasya**<sup>[9]</sup>

Acharya Vagbhata mentions *Puthyasya* as one among the eight *sarvasyaroga* (diseases affecting whole oral cavity). He describes *Puthyasya* as a disease which develops due to accumulation of *mala* (debris) as a result of poor oral hygiene. He explains, one who do not use *dantakashta* develops *Puthyasyatha*. Word 'Puti' refers to 'putrid or foul smelling or ill smelling' and 'Aasya' refers to 'oral cavity'<sup>[10]</sup>. Hence, this term can be correlated to halitosis which develops due to poor oral hygiene. Words *Durgandha* and *Putimukha* are mentioned as symptoms of *Dantamulagataroga* – *Sheetada* and *Upakusha* respectively<sup>[11]</sup>. Hence we can interpret *Putiasya* as a disease as well as a symptom of disease as explained in the literatures.

## Treatment<sup>[12]</sup>

Treatment measures explained for the disease *Puthyasya* are *Vamana*(emesis)followed by *Tikshnadhmapana*(medicated smoking), *Navananasya*(instillation of nasal drops), *Dhavana*(wash) using medicated water, *Avachurnana*(dusting) and treatment modalities of *Sheetada* and *Upakusha*. *Nasya*, *Dhumapana* and *Kavala* are mentioned as treatment modalities of *Sheetada* and *Upakusha*. Here we get the reference of use of *Kavala* as a treatment modality for *Puthyasya*. Hence *Kavala* can give better results in halitosis.

Some of the drugs mentioned in classics for *Kavala* in this condition are:

- Decoction of the drugs *Musta* (*Cyperusrotundus*), *Arjuna* (*Terminalia arjuna*), *Amalaki* (*Emblica officinalis*), *Haritaki*(*Terminalia chebula*),*Vibhitaki*(*Terminalia bellirica*) and *Nagara*(*Zingiberofficinale*)
- Lukewarm water
- *Madhuradravya siddha Ghrita*(ghee processed with madhuradravya)
- Decoction of *Nagara* (*Zingiberofficinale*), *Sarshapa* (*Brassica campestris*) and *Triphala*.

## DISCUSSION:

Oral hygiene is an important factor which has a significant impact on quality of life. Concern about halitosis is estimated to be the third most frequent reason for people to seek dental care. According to American Dental Association, 50% of the adult population has suffered from oral malodour disorder, while 25% appear to have a chronic problem.<sup>[13]</sup> In about 90% of the genuine cases, origin of the odour is in the mouth itself. Hence oral hygiene plays a major role in controlling halitosis.

Halitosis is a term used to describe a noticeable unpleasant odour in expired air, regardless of the origin whether from oral or non-oral sources. Other terms used to describe the same are fetor oris, fetor ex ore, bad or foul breath, breath malodour and oral malodour. The most common intra-oral causes are halitogenic biofilm on the posterior dorsal tongue, within the gingival crevices and periodontal pockets. Patients with halitosis due to oral causes should be educated about the cause and importance of oral health. In patients with halitosis due to poor oral hygiene and related gingival and periodontal diseases, promoting oral health by effective brushing and flossing can significantly reduce the malodour. If the complaint persists even after improving oral health, tongue cleaning is advised. Most of the people with halitosis make regular use of mouthwashes containing

antibacterial agents like chlorhexidine, zinc gluconate etc. They act by reducing bacterial load or the associated compounds causing the odour. But, long-term usage of these chemical based solutions can cause discomforts such as staining of teeth and burning sensation in the oral mucosa.

*Puthyasya* is a disease of the mouth described in the classics as a condition developed due to accumulation of *mala* in the oral cavity due to poor oral hygiene. As the name indicates, it is a condition where there is foul smelling of the mouth. Halitosis is also a condition in which there is bad breath due to poor oral hygiene. *Kavala* and *Gandusha* are the two main procedures explained in our classics for promoting oral health and hygiene. They have an important role in maintaining *MukhaSwasthya* and prevention of various diseases occurring in *Mukha*. They are also mentioned as treatment modalities for *Mukhagataroga's* including *Puthyasya*.

**Probable mode of action:** The action of *Gandusha* exerts increased mechanical pressure inside the oral cavity. So this increased pressure stimulates pressoreceptor (stretch reflex) that are present in the mouth. Once the pressoreceptor is stimulated, they send signals to salivary nuclei in the brain stem (pons and medulla). As a result, Parasympathetic nervous system activity increases and motor fibres in facial (VII) and

glossopharyngeal (IX) nerve trigger dramatically increasing the output of saliva. Chemical constituent present in the drug also stimulate chemoreceptors present in the mouth, which in turn increases salivary secretions. An enzyme called lysozyme present in saliva is bacteriostatic in action. It prevents the growth of pathogenic microorganisms in the oral cavity. Antibody IgA present in saliva also provide protection against microorganisms. Thus *gandusha* increases local defence mechanism and promotes oral hygiene.

Mucosal layer inferior to the tongue (sublingual) is thin and highly vascular enough to permit the rapid absorption of the lipid soluble drugs into systemic circulation. Some of the drugs irritates the oral mucosa (by their chemical nature) and increases vascular permeability. Thus an active principle of *dravya* is absorbed into systemic circulation. Most of the *dravas* given for *gandusha* are *sukhoshna* (warm) so raised temperature causes the increased vascular permeability there by enhancing systemic absorption of drugs.

#### **CONCLUSION:**

Oral hygiene is a key to oral health and is equally important in maintenance of general health. Poor oral hygiene is the main cause behind halitosis which has a great impact on

social life of the individual. It has gained a lot of attention as it leads to social and personal isolation. Improving oral hygiene is the main factor which will help reduce the malodour. Most of the people prefer mouthwashes as they are easily available in the markets, but these solutions reduce the malodour only for few hours and chemicals in them can also cause discomfort.

*Ayurveda* has given equal importance to oral hygiene and health. There are references regarding measures to be followed as a routine for maintenance of oral hygiene. There is also description regarding *Puthyasya* which is nothing but halitosis due to poor oral hygiene. *Kavala – Gandusha* which are explained as both preventive and curative measures in oral diseases can be practiced daily to prevent halitosis. It cleanses the whole oral cavity by collecting the debris from interdental spaces, gingival and gingival margins. As we use only herbal or animal origin drugs it will not produce any discomfort to the person. Hence *Kavala – Gandusha* can be used as an effective remedy for halitosis.

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