



## Halitosis- An Underrated Taboo!

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### Abstract

Halitosis/bad breath/oral malodor has become a concern among youngsters and adults in today's world. The epidemiological research on halitosis is inadequate since it is still a considerable but underrated taboo. Halitosis is still considered an underrated research topic among various researchers. Due to the multi origin nature of halitosis, each individual needs to be treated differently based on the complexity of halitosis. A multidisciplinary team consists of dentist, an ENT specialist, nutritionist, gastroenterologist and clinical psychologist is needed to provide better treatment approaches.

**Keywords:** Halitosis; Underrated; Dentist; ENT

### Introduction

Halitosis/bad breath/oral malodor has become a concern among youngsters and adults in today's world. Most patients complain of bad breath when they visit a dentist for some other primary complaint. Most dental practitioners are not highly aware of halitosis concerns. The epidemiological research on halitosis is inadequate since it is still a considerable but underrated taboo [1]. Halitosis is still considered an underrated research topic among various researchers. This is because the consideration and identification of oral malodor is completely subjective. There are no standard criteria available to identify halitosis patients. This narrative review article aims to focus on the causes and management of halitosis from a general dental practitioners view.

### Origins of halitosis

Intra oral and extra oral origins of halitosis are found in literature (Figure 1). Intraoral causes are the commonest and it includes periodontal origin, odontogenic origin, xerostomia and mucosal lesions of oral cavity [1].

Around 10% of causes contribute to extraoral origin of halitosis. Tonsillitis, pharyngitis, ENT infections, pus discharge from paranasal sinuses, rhinitis, gastrointestinal infections, undiagnosed case of type 1 diabetic mellitus, GERD, asthma, lung diseases, pneumonia and carcinoma of various organs are the list of various causes contributing to extraoral origin of halitosis [2]. In such disorders, halitosis is considered as the preliminary stage/symptom (Figure 2).

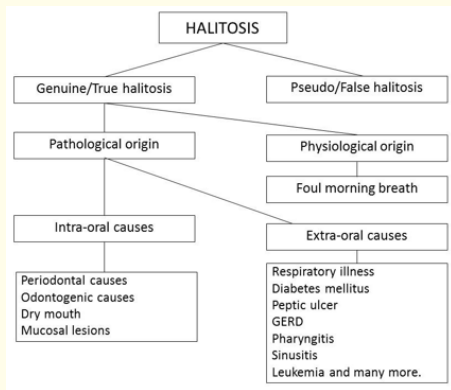


Figure 1: Origin of Halitosis.

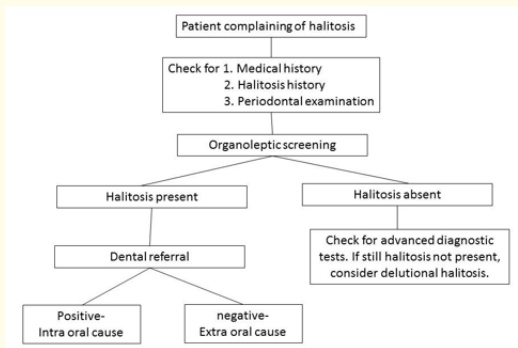


Figure 3: Diagnosis of Halitosis.

DISEASE	CHARACTERISTIC ODOR
Diabetes mellitus	Acetone breath, fruity odor
Lung abscess	Rotten meat odor
Homocystinuria	Musty sweet odor
Maple syrup urine disease	Burned sugar odor
Kidney insufficiency	Fish odor
Liver insufficiency	Dead mice odor

Figure 2: Extra-oral origin of halitosis.

Various drugs contribute to cause halitosis. The list includes lithium, griseofulvin, antihistaminics, metronidazole, amphetamine, penicillamine, ethyl alcohol, arsenic salts, nitrites, bisphosphonates, and diuretics and so on. The history should be analyzed clearly from the patient to understand the origin of halitosis better [3].

Delusional halitosis: Imaginary or delusional halitosis is a condition in which the individual thinks they have bad breath which may or may be true in reality. This comes under “psychosomatic disorders pertaining to dental practice [2]”.

**Diagnosis**

The following points should be considered while diagnosing halitosis (Figure 3).

- Proper medical history needs to be recorded.
- Periodontal screening needs to be done.
- Halitosis history such as frequency or occurrence of halitosis in a day needs to be asked for.
- Habits such as smoking/alcohol consumption should be considered.

Organoleptic method is considered as the gold standard method in diagnosing halitosis [4]. It is a subjective method in which odor from nose and mouth is diagnosed by an expert and a comparison of both is made. Odor from nose alone is considered to have origin from nose or sinuses. Odor from mouth alone is considered to be of oral or pharyngeal origin. A similar smell from both oral and nasal origin is considered to have systemic origin.

In organoleptic method, a trained smelling expert judges the smell from patients as follows.

The expert smells the odor from mouth by being 10cm away from subject’s mouth. The subject is made to refrain from nasal breathing for some time and oral breathing odor is assessed. The expert smells the odor as the subject counts to 10 so that dry mouth is avoided.

Wrist lick test- subject licks on his wrist and it is allowed to dry for a few seconds. Then it is assessed by the expert by smelling it [5]. Nasal breathing test is done by asking the subject to sell normally through nose with the mouth closed [2]. Scraps from the dorsum of tongue are used to assess any periodontal origin of halitosis. Though this method is considered as a gold standard, it still comes with a few drawbacks which include subjective nature of the test, low comfort level for both the expert and the subject [4].

**Gas Chromatography**

This method is used to analyze volatile compounds in air, saliva, oral debris or crevicular fluid. It is very much specific for VSCs, detects them even in very low concentrations. It is easy to reproduce

the results with this technique [5]. The drawbacks of this technique are

- Expensive method,
- Trained operator needed,
- Time taking procedure,
- Not suitable for day-to-day practice,
- Detects only VSCs.

### Management

A halitosis patient seeking for management is usually found to be anxious due to unresolved issues with traditional approaches. Hence, an accurate diagnosis should be made mandatorily to treat halitosis effectively. A thorough oral examination should be made along with periodontal screening. If there is any decayed tooth or plaque accumulation present, it should be managed accordingly. The primary cause should be addressed immediately.

Plaque removal is considered as the prime step in treating halitosis. Tongue coating is known to cause halitosis. Hence tongue scraping or tongue brushing should be given significant importance in halitosis management. Tongue scarping reduces almost 75% of volatile sulphur compounds producing halitosis whereas tongue brushing does for only 45% [6]. Cochrane database showed that even though there was no major difference found between tongue brushing/scraping, statistically significant differences are seen with better improvement in halitosis towards tongue scrapers than tongue brushes [7]. Flossing or interdental brushing should also be given importance to remove interdental plaque bacteria. Another systematic review data demonstrated that administration of sugar free gums, dietary modification, tongue brushing or scraping or zinc containing toothpastes are not clinically significant in reducing halitosis.

Mouth washes containing chlorhexidine (CHX) and cetylpyridinium chloride (CPC) are known to reduce VSCs and reduce halitosis. CHX is considered as gold standard treatment method. A Cochrane systematic review data concluded that CHX and CPC inhibit VSCs whereas mouth rinses with chlorine dioxide and zinc might neutralize VSCs [8]. Mouthwashes containing triclosan, Listerine are shown to reduce plaque producing bacteria and VSCs. Use of triclosan/copolymer/sodium fluoride for 3 weeks had shown better results in reducing plaque biofilm and VSCs [9].

Research data indicated that intake of probiotics such as *Lactobacillus salivarius* WB 21 controlled halitosis and its related factors. Other therapies such as photodynamic therapy reduced the expression of VSCs by 32% [10].

Other factors to be considered should include smoking habit/tobacco chewing/alcohol consumption. It should be well instructed that tobacco in any form and alcohol should be avoided. The treatment of delusional halitosis should include a multidisciplinary approach involving dentist and psychotherapists. It is important to give constant reassurance and confidence in cases of delusional halitosis. It needs to be taken care by the primary health care practitioner.

### Conclusion

Due to the multi origin nature of halitosis, each individual needs to be treated differently based on the complexity of halitosis. A multidisciplinary team consists of dentist, an ENT specialist, nutritionist, gastroenterologist and clinical psychologist is needed to provide better treatment approaches. It is highly the right time to highlight the need for interdisciplinary method of treating halitosis to avoid further misdiagnosis and treatment. Since halitosis is a noticeable complaint arising from general public, it becomes the duty of the primary dental care practitioner to identify, diagnose, and treat patients who suffer from this socially debilitating condition.

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