ORIGINAL RESEARCH PAPER
Volume-7 | Issue-4 | April-2018 | PRINT ISSN No 2277 - 8179
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

HALITOSIS: AN UNBEARING ODOR.

Periodontology

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ABSTRACT

Halitosis, most commonly called bad breath, is a condition in which a person exits an undesirable odor from their mouth. It can cause anxiety associated with depression. It is considered a social problem associated deteriorative oral-hygiene or with oral-related disease, although it can sometimes be a result of systemic disease. The exhortation of dental practitioners for the treatment of this condition occurs with regularly since 90% of the breath odor problems from the oral cavity. This article provides an extensive review of the etiology, its prevalence, diagnosis and treatment strategies for the condition.

KEYWORDS

Halitosis, Volatile Sulphur compounds, BANA Test.

INTRODUCTION

Halitosis is a general term signifying unpleasant breath arising from physiological and pathological causes from oral and systemic diseases. The term originated from Latin word "Halitus" meaning breath and Greek suffix "Cris" meaning abnormal (Prinz in 1930). A patient with halitosis is most likely to contact general practitioner for diagnosis and treatment. Estimated rates of bad breath vary from 6% to 50% of the population. Concern about bad breath is third most common reason people seek dental care, after tooth decay and gum disease. [2][4] It is believed to become more common as people age. Bad breath is viewed as a social taboo and these affected may be stigmatized. The remaining causes are believed to be due to disorders in the nose, sinuses, throat, lungs, esophagus or stomach. Rarely, bad breath can be due to an underlying medical condition such as liver failure or ketoacidosis. At least 50% of the population suffers from chronic halitosis. In the general population, halitosis has a prevalence ranging from 50% in the USA to between 6% and 23% in China, and a recent study has revealed a prevalence of self-reported halitosis among Indian dental students ranging from 21.7% in males to 35.3% in female. [5-8] Halitosis may produce distinctly different smell, which each disease produces, may offer some help in differentiating the etiology of various factors causing this condition.

Most common causes of halitosis:

Cavities and deeper pockets from gum disease give bad breath bacteria extra places to hide in mouth that are difficult to clear out when brushing and cleaning between teeth. Dry mouth also causes bad breath. Saliva goes a long way for dental health. It rinses and removes unwanted leftovers from mouth. Nose, sinus and throat issues that can leads to postnasal drip may also contribute to bad breath. Bacteria feeds on mucus body produces when it's battling something like a sinus infection, leaving you sniffy and stinky. Tobacco products wreak havoc on body and breath, they can also dry out mouth. Smokers are also more likely to gum disease, which can also cause halitosis. The odor produced mainly due to breakdown of proteins into individual amino acids followed by the further breakdown of certain amino acids to produce detectable foul gases.

Other chronic conditions: While halitosis is most often linked to something happening in mouth, it may also be a sign of gastric reflux, diabetes, liver or kidney disease. Volatile sulfur compounds are associated with oral malodor levels, and usually decrease following successful treatment.

Classification of halitosis

1. Genuine halitosis
i) Physiologic halitosis
ii) Pathologic halitosis

- **Intraoral halitosis**

Periodontal disease
Xerostomia

- **Extraoral halitosis**

- **Blood borne halitosis**
- Systemic disease
- Metabolic disease

- **Non-blood borne halitosis**
- Upper respiratory tract
- Lower respiratory tract

2. Pseudo halitosis
3. Halitophobia

According to character of odor halitosis can be divided into 3 groups.

Character of Odor	Caused by
a. Sulfurous or fecal	Volatile sulfur compound(VSC) most notably methyl.
b. Fruity	Acetone, present in diabetes
c. Urine-like ammoniacal	Ammonia, dimethyl amine present in.

- **How is Halitosis diagnosed and evaluated?**

Halitosis affects a person's daily life negatively. The patient history should complaintmedical,dental and halitosis history information about diet and habits. Most of the people who complaint about halitosis refer to the clinic for treatment but in some of the people who can suffer from halitosis there is no measurable halitosis. Assessment methods of halitosis ensure discrimination of pseudo-halitosis and halitophobia.

Scientists have long thought that smelling one's own breath odor is often difficult due toacclimatization, although many people with bad breath because of bad taste. Patient often self-diagnose by asking a close friend. One popular home method to determine the presence of bad breath is to lick the back of the wrist, let the saliva dry for a minute or two, and smell the result. This test results in overestimation, as

concluded from research, and should be avoided. [9] A better way would be to lightly scrape the posterior back of the tongue with a plastic disposable spoon and to smell the drying residue. Home tests that use a chemical reaction to test for the presence of polyamines and sulfur compounds on tongue swabs are now available, but there are few studies showing how well they actually detect the odor. Furthermore, since breath odor changes in intensity throughout the day depending on many factors,multiple testing sessions may be necessary.

Testing:
If bad breath is persistent, and all other medical and dental factors have been ruled out, specialized testing and treatment is required. Hundreds of dental offices and commercial breath clinics now claim to diagnose and treat bad breath.

They often use some of several laboratory methods for diagnosis of bad breath:

Hali meter:
A portable sulfide monitor used to test for levels of sulfur emissions (to be specific, hydrogen sulfide) in the mouth air. When used properly, this device can be very effective at determining levels of certain VSC-producing bacteria. However, it has drawbacks in clinical applications. For example, other common sulfides (such as mercaptan) are not recorded as easily and can be misrepresented in test results. Certain foods such as garlic and onions produce sulfur in the breath for as long as 48 hours and can result in false readings. The Hali meter is also very sensitive to alcohol, so one should avoid drinking alcohol or using alcohol-containing mouthwashes for at least 12 hours prior to being tested. This analog machine loses sensitivity over time and requires periodic recalibration to remain accurate. [10]

Gas chromatography: portable machines, such as the Oral Chroma, are currently being introduced. This technology is specifically designed to digitally measure molecular levels of the three major VSCs in a sample of mouth air (hydrogen sulfide, methyl mercaptan, and dimethyl sulfide). It is accurate in measuring the sulfur components of the breath and produces visual results in graph form via computer interface.

BANA test: This test is directed to find the salivary levels of an enzyme indicating the presence of certain halitosis-related bacteria.

β-galactosidase test: salivary levels of this enzyme were found to be correlated with oral malodor.

Although such instrumentation and examinations are widely used in breath clinics, the most important measurement of bad breath (the gold standard) is the actual sniffing and scoring of the level and type of the odor carried out by trained experts ("organoleptic measurements"). The level of odor is usually assessed on a six-point intensity scale. [4] [11]

Epidemiology:
It is difficult for researchers to make estimates of the prevalence of halitosis in the general population for several reasons. Firstly, halitosis is subject to societal taboo and stigma, which may impact individual's willingness to take part in such studies or to report accurately their experience of the condition. Secondly, there is no universal agreement about what diagnostic criteria and what detection methods should be used to define which individuals have halitosis and which do not. Some studies rely on self-reported estimation of halitosis, and there is contention as to whether this is a reliable predictor of actual halitosis or not. In reflection of these problems, reported epidemiological data are widely variable. [12]

MANAGEMENT :
Efforts may include physical or chemical means to decrease the numbers of bacteria, products to mask the smell, or chemicals to alter the odor creating molecules.[1] It is recommended that in those who use tobacco products stop.[1] Evidence does not support the benefit of dietary changes orchewing gum.[1]

Mechanical measures:
Brushing the teeth may help.[13] While there is tentative benefit from tongue cleaning it is insufficient to draw clear conclusions.[15] A 2006 Cochrane review found tentative evidence that it might decrease levels of odor molecules.[14] Flossing may be useful.[1]

Mouthwashes :
A 2008 systematic review found that antibacterial mouth rinses may help.[3] Mouthwashes often contain antibacterial agents including methylpyridinium chloride, chlorhexidine,[3] zinc gluconate, essential oils, hydrogen peroxide, and chlorine dioxide. Methylpyridinium chloride and chlorhexidine can temporarily stain teeth.

Underlyingdisease
If gum disease and cavities are present, it is recommended that these be treated. [1]

If diseases outside of the mouth are believed to be contributing to the problem, treatment may result in improvements. [1]

Counselling may be useful in those who falsely believe that they have bad breath. [1]

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