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Self-Perceived Oral Malodorous among Sulaimani Dental Students

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Oral malodorous is a common public problem, which is well recognized at dental clinics that pose considerable psychological distress to the sufferers. The aim of this study was to determine self-experience oral malodorous among dental students and to consider their knowledge toward its etiology and management. A questionnaire-based study was conducted on dental students to assess their experience of oral bad breath, how they accept the problem, how people around them react to their problem and what are the measures applied by the sufferers to overcome the problem of bad breath. Furthermore, this study attempted to record the psychological impact of oral bad breath on our students. The questioner examined students' knowledge on cause of malodorous and factors (systemic and habits) that associated with it. Three hundred students answered the questioner and the frequency of oral bad breath was 33% experienced bad breath and 41.7 had a positive answer for having bad breath in past. Only 27% of the sufferers had been told about having bad breath by people around them. 31.7% sensed uncomfortable, 45%) sensed sad and 23.1% of suffers started taking and immediate action to controlling their bad breath when they have been told about it. Number of student suffering from oral malodorous and those provided history of halitosis wasn't trivial. Furthermore, oral malodorous found to burden the sufferers psychologically; they were uncomfortable and have been embarrassed frequently by the response of their surrounding people.

Keywords: Halitosis, Students, Psychological, Social, impact.

Bad breath is considered to be one of the common public problems in today's dentistry[1] that causes considerable psychological distress and difficult to assess in general population[2]. Oral halitosis is acknowledged to be a real problem among population and well recognized in dental clinics.

It is recognized that the majority of adult population is complaining from bad breath at least infrequently.

Since oral cavity is the source of halitosis, therefore, dentist is commonly the first professional who deal with patients suffering from halitosis and patient mostly requesting help at dental office[3]. Bad breath may have oral or non-oral sources, result from a number of different etiologies, and have more than just social consequences. In some cases, bad breath may reveal a range of serious local or systemic problems that comprising gingival and periodontal problems and may reflect serious systemic diseases such as respiratory tract infection, hepatic failure and diabetic acidosis[4].

Malodor arises from the oral cavity particularly from tongue or periodontal flora is caused by gram-negative anaerobes that comprise the main lingual and subgingival flora. These organisms habituate low oxygen tension areas such as dorsum of the tongue and deep periodontal

pockets, which are considered the main organisms that are capable of releasing sulphur compounds from the putrefaction of debris and other material. Volatile sulphur compounds, cadaverine and other substances found to be responsible for much of the malodor. Furthermore, some systemic condition may bring about some cases of oral malodor[5].

Published articles about the etiologies of breath malodor suggest that halitosis initiates as a result of degradation of sulfur containing amino acids by anaerobic bacteria in the oral cavity resulting in the emission of hydrogen sulfide (H2S), methyl mercaptan (CH3SH) and dimethyl sulfide (CH3SCH3) together referred to as volatile sulfur compounds (VSC)[6]. Therefore, it is most reasonably the responsibility of dentists or oral care providers to diagnose and manage breath malodor[7] for which halitosis can be a symptom. Halitosis characteristically and belatedly occurs in the course of these diseases when other more obvious or more urgent general symptoms are present[8].

Abrupt and increasingly intensifying breath malodor is indicative of an acute or to less extend a chronic infective process and rarely, it might be secondary to carcinomas or other localized pathologies in the airway[9]. However, when chronic halitosis is the main and only patient's complaint, it is constantly of oral origin, however, there might be no definite halitosis. This is referred to as delusional halitosis. Infrequently, some highly concerned people complaining of having bad breath while they are not, those have halitofobia and their condition referred to as delusional halitosis. These individuals overwhelmed by a belief of having unpleasant mouth odor that neither the dentist nor people around them can recognize it. However, such a burden is anticipated to be the chief complaint of about 25 percent of patients who are in search of professional consultation on halitosis, and it is estimated that one-half to one percent of the adult population may suffer from halitophobia[10]. Delusional halitosis can be classified as either Pseudo halitosis or Halitophobia depending on the response to initial treatment. Halitophobia is an olfactory allusion disorder and is a psychological state that dentist alone is not outfitted to treat alone[11]. It is known that oral bad breath is acknowledged to be a real problem among population, which is well recognized in dental clinics.

Yet there is almost no reliable method for people to properly assess their breath odor. Although so may people develop faulty perceptions about having bad breath that affect their entire lives, whereas, others who have halitosis are unaware of their condition[12]. According to our knowledge and online search, we didn't find any survey concerned halitosis was conducted in this region. Therefore, and based on our dental student's own perception, we tried to find out their view and understanding in having bad breath through a detailed survey questionnaire at School of Dentistry-University of Sulaimani.

MATERIALS AND METHOD

A detailed survey questionnaire was conducted and introduced to dental students at School of Dentistry. The questionnaire covered almost all possible causes of bad breath, both local and systemic origins in addition to the factors that develop transient or temporary bad breath. The questionnaire is shown in the (table 1).

Furthermore, the participants were about there experience about bad breath if they have experienced or having breath at the time when this questionnaire was conducted or not and how they feeling about it if they have bad breath.

Moreover, it contains information about habits like smoking and specific volatile food consumption regularly like onion or garlic and radish that are known to produce bad mouth breath.

RESULTS

Three hundred dental students at School of Dentistry of University of Sulaimani were involved in the study. Students' age ranged between 22 and 24 years, as this survey was conducted on fourth and fifth years of Sulamani Dental College. This study revealed that bout 33% of students are suffering from various grade of bad breath (Fig. 1), versus 77% with no any grade or source of bad oral breath at the time of conducting this study. However, 41.7% of the students had a positive answer for having bad breathe for their past life history (Fig. 1), where as, 58.3% had not experienced any grade of bad oral breath. Regarding the question if someone notified any of the students to have bad breath, results showed that

27% had been told for their bad breath, whereas 73% not told by any one before that he had bad breath. Among those 31.7% sensed uncomfortable when they have been told to have bad breath and among them some others (45%) sensed kind of sadness. 23.1% of those with halitosis had taken some measures to control their halitosis.

22% of students believed that people keeping themselves away from them or step back during conversation with other people because of the bad breath, others 78% did not recognize or encounter such situation. The percentage of smokers and non-smokers among students were 11.7% and 88.3% respectively. People got annoyed from smokers' breath by 45.7% on the other hand 54.3% answered that they have no any problems in communication with other people because of being smokers. To control or overcome bad breath, students used more than one treatment approach; 21.2% of the participants used chewing gum, 20.6% used different oral hygiene tools followed by 16.4% oral refreshments. Moreover, 15.9% of the

Table 1. Descriptive analysis of the questionnaire form for data recruited in this study

Questions	Answers	Frequency	Percentage	Total
Do experience bad breath	Yes	69	23%	300
	No	231	77%	
Have you ever experienced bad breath	Yes	125	41.7%	300
	No	175	58.3%	
Have anyone told you if you have bad breath	Yes	82	27.3%	300
	No	218	72.7%	
If yes how would you response	You became embarrassed	26	31.7%	82
	You felt sad	37	45.2%	
	take some measure to get over your bad breath	19	23.1%	
Are you a smoker?	Yes	35	11.7%	300
	No	265	88.3%	
If yes do you feel people getting annoyed from your breath?	Yes	16	45.7%	35
	No	19	54.3%	
How do you get over this kind of problem (bad breath)?	Using mouth refreshing	104	16.4%	636
	Chewing gum	135	21.2%	
	Mouth washes	100	15.7%	
	Special tooth paste	65	10.2%	
	Oral hygiene tools	131	20.6%	
	Visiting a dentist	101	15.9%	
What of the following do you believe might cause bad breath?	Dental caries	217	21.3%	1018
	Gum diseases	169	16.6%	
	Sinusitis	83	8.2%	
	Tonsillitis	145	14.3%	
	Respiratory diseases	160	15.7%	
	Gastrointestinal diseases	149	14.6%	
	diabetes	95	9.3%	
Are you eating the following foods frequently?	Onions	73	18.2	401
	Garlic	30	7.5	
	Fish	82	20.5	
	Radish	41	10.2	
	No I do not like to annoy people around me	175	43.6	

study sample preferred visiting a dentist for treating their bad breath, where as 15.7% preferred to use mouth washes and 10.2% attempted to treat his condition by using medical toothpaste for halitosis. When the participants questioned about the causes of halitosis according to their acquaintance, the majority of the participants thought that dental caries is the major cause of halitosis; this was agreed by 21.3% of the total sample, followed by gum diseases by 16.6%, respiratory diseases 15.7%, gastrointestinal diseases 14.6%, tonsillitis 14.3%, diabetes 9.3% and sinusitis 8.2%.

Our last question for the participant was whether they frequently eat source of food that have strong scent and usually causing bad breathe, the majority 43.6% answered with no, justifying their answers by saying "I do not like to annoy people around me". However, others answered yes cont concerned about people around them, they usually eat these foods like fish, onions, radish and garlic by 20.5%, 18.2%, 10.2% and 7.5% respectively.

DISCUSSION

This survey was conducted on fourth and fifth year dental students of Sulaimani Dental School. We excluded sex parameter in this study because of large differences and wide range in prevalence of halitosis among male and female samples) in previous studies (13,14). Since our sample size was small because we recruited only graduating years dental students (fourth and fifth year students) therefore, we awarded about statistical discrepancy and inconsistency during statistical description of our results because of small sample size.

The study showed that 23% of the students had experienced bad breath while 77% did not; our result is consistent with Paradowska et al (15) which showed (24% and 76% respectively). The range of oral halitosis varies from one study to another in population 22% to 50% (16). Published studies revealed a wide range prevalence or oral malodor between 2% and 44% and this diversity in the prevalence of oral bad breath among different study population could be attributed to different diagnostic criteria, assessment process and sampling method (17). As a result of lack of systematic method of diagnosis and assessment in prevalence of halitosis, Carrao S. suggested one standard protocol to make the real prevalence of halitosis easier around the world (18).

Occasionally people suffering from bad oral breath are often not conscious of it. Consequently this situation may compel surrounding people to respond or at least tell you that your breath has unpleasant odor, which had a large social impact on life of an individual. For the majority of patients having bad breath affects their social communication and life and also causes embarrassment (19,20).

In this study, the number of student that had been told for having bad breath is slightly higher than number of the students has bad breath (82 versus 218 of 300 students). Among those who have been told that they have unpleasant breath, 45.2% felt sad, 31.7% become embarrassed and % 23.1seeking for eradicating the problem. Furthermore 22% of students suffering from bad breath noticed that people usually getting annoyed with their bad oral breath and this will have a negative impact on the students psychological and social status.

Oral bad breath among individuals causing a significant social and psychological burden in a community. Therefore, appropriate and professional diagnosis and treatment by the health care provider is always required for halitosis management (21). A review by Azodo et al 2018 revealed that halitosis is adversely correlated to a wide variety of interpersonal relationship and life quality including friendships, dating, romance, marriage, schooling and employment are adversely affected (21). Thereby, halitosis patients require professional care by a dentist and often require help and support of psychiatry, as it is a problem that leads to avoidance behaviors and thereby limits relationships and it links to poor self care (22). Although number of smokers in this study was very low compared with non-smokers students, only 35 students among the total sample (300) were smoker. Only 16 students admitted that people around them avoid speaking to them closely because of the bad breath of their mouth getting annoyed unpleasant breath of their mouths.

In this study, the majority of the students relied on chewing gum, using mechanical dental tools like toothbrush and dental floss then followed by refreshers and mouth washes and only 15.9% visited dentist for treatment.

People usually try to overcome bad breath by using different measurements. Some of these measurements having short effects, whereas others retain long term effects. Using chewing gum or breath refreshers may be effective for some people. Usually, these temporary measures are not effective especially for those suffering from chronic diseases like dental caries, periodontal diseases and some systemic diseases. Management of oral malodorous should involve controlling predisposing factors. Visiting to dentist and physician to control both local and systemic causes of this symptom is of great important and the sufferers should have good compliance with instruction given to them by their dentist (23).

Regarding students' understanding of the most common cause or causes of bad breath, most of them pointed to dental caries and gum disease, 21.3% and 16.6% respectively. Gastrointestinal diseases and tonsillitis placed the second percentages by 14.6% and 14.3%. Respiratory diseases and sinusitis followed by 15.7% and 8.2%. This indicates that most of the students believes that bad breath patient must be checked for oral causes before systemic disease.

It is acknowledged that bad breath can be a result of few common systemic conditions. It may outcome from upper respiratory tract infections starting from the nose – chronic sinusitis and postnasal discharge, infection of throat or lunge: cases of chronic bronchitis (24). However, proper examination of the oral cavity including caries, periodontal condition, and tongue should be performed to exclude localized oral cause of halitosis in order to focus on systemic causes, in this case a physician should be consulted (25).

For getting some information about the desire of the students to have foods that have strong scent or they keep themselves away from them. About 43.6% keep themselves away from eating these foods. Although these foods have a lot of nutritional benefit, most of people refrain eat them especially in cases of meeting, working and parties.

Diet often is considered a common cause of bad breath, particularly anion and garlic. After ingestion of these foods the process of digestion will start, chemicals that cause bad odor is absorbed into the bloodstream then to the lunges, when exhaled by the patient sensed by people around. Diets high in protein and sugar also have been associated with bad breath (26).

Oral malodor is attracting particular consideration in the recent studies as halitosis has a great impact on interpersonal communication and self- esteem, management of halitosis require a great effort and cooperation between the dentist and other medical specialties. However, Vasconcelos L et al, 2011, reported a limited agreement between dentists and physicians regarding diagnosis and treatment of oral malodorous. Furthermore, the report revealed a need for an interdisciplinary move toward diagnosis and treatment of halitosis to prevent misdiagnosis or unnecessary treatment. (23).

CONCLUSION

Number of student suffering from oral malodorous and those provided history of halitosis wasn't trivial. Furthermore, oral malodorous found to burden the sufferers psychologically; they were uncomfortable and have been embarrassed frequently by the response of surrounding people.

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