

Prevalence of Halitosis as a Common Social Problem and Associated Factors



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ABSTRACT: After periodontal diseases and dental caries, oral halitosis, or foul breath, is the third most common reason people visit a dentist. It is an annoying or disagreeable odor that emanates from the oral cavity to others and has grown to be a serious health problem among the general public. The fact that halitosis instances have occurred often in Iraq, their causes has never established. Anaerobic sulfur-producing bacteria often reside on the tongue or throat's surfaces and causing oral malodor. These bacteria produce a variety of malodorous molecular species, including volatile sulfur compounds, the majority of which have unpleasant oral odor at some point. Many people in the industrialized world believe they have periods of bad breath. The purpose of this study (as a graduation project) is to determine the prevalence of halitosis in Babylon province / Iraq and to examine the relationship between halitosis and sociodemographic factors, oral habits, and health practices among patients attending the dental clinics / College of dentistry, University of Hilla, Babylon, Iraq.

INTRODUCTION

A prevalent case that affects the social connections is halitosis, which is an unpleasant or terrible odor coming from the mouth. The affect is between 25–30% of people on the planet. Additionally, phrases use the unpleasant breath, foul or poor breath, nasty scents, and breath malodor [1, 2]. After dental caries and periodontal disease, oral halitosis—an unpleasant or objectionable odor—has grown to be bad public health concern [3, 4]. It is the third most prevalent cause for patients to visit a dentist. Mostly, it stems from the metabolism of oral microorganisms. Hundreds of different bacterial species with varying dietary requirements live in our mouths. These organisms break down proteins, number of putrid compounds produced, which cause bad breath [5, 6, 7]. It is possible to identify and treat the oral malodor caused by an overabundance of proteolytic, anaerobic gram-negative bacteria growing in the tongue dorsum's fissures. The halitosis brought on by intra-oral causes typically refers to the oral malodor [8, 9]. Both intrinsic and extrinsic reasons can contribute to halitosis. Alcohol, tobacco, and consumption of special food are the extrinsic factors. Intraoral causes may include intrinsic cause [10, 11, 12]. Oral health conditions such as tongue coating, periodontal disease, significant dental caries, impacted food, dirty dentures, stomatitis, xerostomia, and mouth breathing are associated with intra-oral causes [13, 14, 15]. Systemic illnesses and some drugs that affect mouth odor are examples of extra-oral causes. In about 90% of all cases halitosis which frequently caused by oral problems. The breakdown of sulfur-containing amino acids by anaerobic bacteria in the mouth results in the formation of these components. Standard dental procedures and mouthwashes are frequently advised to manage oral causes, offer relief, and necessitate ongoing maintenance [16,17,18,19, 20]. It might be a social concern. This study's objectives were to determine the prevalence of halitosis among patients visiting the clinics in College of Dentistry, University of Hilla, Babylon, Iraq, and to evaluate the associations between halitosis and sociodemographic traits, self - reported halitosis, and etiological factors. Standardized measurement techniques were used to accomplish these goals.

METHODS

The patients who visited dental clinics in the College of Dentistry, University of Hilla, Iraq in 2023 were the subject of this study. This dentistry clinic is one of the College's specialty centers, offering both inpatient and outpatient services. Participants in this study were individuals who went to the dental clinics while the data was being gathered. There were 260 patients in all in this study—169 males and 91 females. Through examinations and inquiries, each patient's information was gathered within the dental clinics. Information regarding oral hygiene, sociodemographic behavior, and other data (sex, age, marital status, place of

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residence, and occupation) was gathered based on the questionnaire form. Additionally, information about risk factors (such as smoking, eating habits, systemic disorders, and teeth brushing) was documented.

Examination of halitosis was performed according to the basic method of oral health survey of CDC [21].

RESULTS

The final total number of participants reached 260 patients, the number of males was 169/65.0 % and the number of females was 91/35.0 % (Table 1). The positive cases in male were 92/ 35.3% and negative ones 77 / 29.6%. However, the females whose suffering from bad breath was 59 / 23.1% and negative ones 32 / 26.5%. These results showed that the number of males that suffering from bad breath is higher than that of females, and this matter has nothing to do with hormones, but rather with hygiene. Moreover, as men advance in age, they become disinterested in oral hygiene. In the marital status, it was found that married showed higher percentage than single and this may be related to female patients and their pregnancy [22]. It also found that the percentage of patients that have halitosis who live in the countryside is lower than that of patients who live in the city, and this is may be due to the types of foods they used [23]. Also, there is a good relation between the type of occupation and halitosis (Table 1), it was found that employees showed higher percentage of disease this due to different reasons, such as their labor efforts or types of food [24]. Concerning the associated factors (risk factors) that affecting halitosis, it was found that smoking is associated with the increased incidence and severity of halitosis (Table 2). This largely because of cigarette smoking is associated with the high levels of volatile Sulphur compounds (VSCs) produced from food remnants by bacteria living on the dorsum of the tongue [25, 26]. The main compounds that thought to be the primary cause of halitosis are hydrogen sulphide, methyl mercaptan and dimethyl sulphide [27]. Some dietary foods, especially carbohydrates and those containing volatile compounds such as garlic, onions and spices, can cause unpleasant or bad breath, but not all individuals would consider such alterations as 'halitosis' because this will be influenced by what people believe is an acceptable breath smell, a fruit with a very pungent odor, can also give rise to a profound dietary-related halitosis [28]. In addition, results showed that there is a correlation between systemic diseases, caries, periodontal health and halitosis [29, 30, 31].

DISCUSSION AND CONCLUSIONS

This study was done to assess the prevalence and associated factors of halitosis among patients that in questionnaire form. This research revealed that prevalence and incidence ratios between the males and the females are different because women tend to seek treatment more often than men. Women also have a better attitude towards the importance of dental care, and therefore are more committed to daily oral hygiene practices. Men tend to visit the dentist only when there is an urgent matter at hand. Married men are actually more likely to visit the dentist compared to single men. In some cases, bad breath may reflect serious local or systemic conditions, including diabetic acidosis, gingivitis, periodontal disease. Periodontitis is one of the main problems of halitosis in people who suffer from it, so it was note that people who suffer from it have a greater chance of developing halitosis than people who do not suffer from it. Cavities and the bacteria in the mouth can cause a fresh breath to turn into bad breath, patient who suffer from dental caries suffer from bad breath. Smokers are more likely to have halitosis than non-smokers because of smoking causes dry mouth and no saliva that means patients don't have the tool to keep bad breath away. This research brings to fore the integrating oral health promotion service with other health services, which means linked of oral health promotion activity to general health promotion.

RECOMMENDATIONS

There are many recommendations to prevent halitosis and bad breath, such as: Brushing teeth regularly twice a day to remove the food debris and plaque formation. Flossing is another great way to prevent bad breath, so floss at least once a day. Rinsing with a mouthwash at least twice a day which is a good way to save mouth from bad halitosis. Rinse your mouth with mouthwash at least twice a day to avoid bad breath. Concerning dentures or dental appliances, it necessary to remove them every night and clean it thoroughly before wearing them the next day. Finally, drinking enough water every day to moisten the mouth and have a saliva that help in reducing the bad breath by washing away the food particles and the dead cells, but it is important to avoid substitute water with coffee, soft drinks, or alcohol, as they will only lead to a drier mouth. Finally, avoid smoking and using the tobacco products because these products dry out the mouth and cause an unpleasant taste.

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Table 1: The Prevalence of Halitosis According to the Socio-Demographic Characteristics of the Study Patients.

Socio – demographic factors		Halitosis		
		Yes (Num. / %)	No (Num. / %)	Total (Num. / %)
Sex	Male	92 (35.4 %)	77 (29.6 %)	169 (65.0 %)
	Female	59 (22.7 %)	32 (12.3 %)	91 (35.0 %)
Age	16-34	51(19.6 %)	81 (31.2 %)	132 (50.8 %)
	35-49	54 (20.8 %)	34 (13.1 %)	88 (33.9 %)
	50-65	28 (10.8 %)	12 (4.6 %)	40 (15.3 %)
Marital status	Single	48 (18.5 %)	68 (26.2 %)	116 (44.6 %)
	Married	87 (33.5 %)	57 (21.9 %)	144 (55.4 %)
Residency	Urban	71 (27.3 %)	82 (31.5 %)	153 (58.8 %)
	Rural	61 (23.5 %)	46 (17.7 %)	107 (41.2 %)
Occupation	Student	33 (12.9 %)	70 (26.9 %)	103 (39.6 %)
	Employee	42 (16.2 %)	57 (21.9 %)	99 (38.1 %)
	Retiree	25 (9.6 %)	9 (3.5 %)	34 (13.1 %)
	Worker	19 (7.3 %)	5 (1.9%)	24 (9.2 %)

Table 2: The Relation Between Halitosis and Associated Factors Among Patients Involved in the Study.

Risk factors		Halitosis		
		Yes (Num. / %)	No (Num. / %)	Total (Num. / %)
Tooth brushing	Yes	24 (9.2 %)	10 (3.8 %)	34 (13.1%)
	No	98 (37.7 %)	128 (49.3 %)	226 (86.9 %)
Timing of Tooth brushing	Morning	31 (11.9 %)	44 (16.9 %)	75 (28.8 %)
	Before bed	36 (13.8 %)	39 (15.0 %)	75 (28.8 %)
	No fixed time	71 (27.3 %)	39 (15.0 %)	110 (42.4 %)
Dietary foods	Yes	112 (43.0 %)	104 (40.0 %)	216 (83.1 %)
	No	21 (8.1 %)	23 (8.8 %)	44 (16.9 %)
Smoking	Yes	71 (27.3 %)	112 (43.1 %)	183 (70.4 %)
	No	63 (24.0 %)	14 (5.4 %)	77 (29.6 %)
Systemic diseases	Yes	59 (22.7 %)	98 (37.7 %)	121 (46.5 %)
	No	41 (15.8 %)	62 (23.8 %)	139 (53.5 %)
Periodontal disease	Yes	79 (29.2 %)	93 (35.8 %)	147 (56.5 %)
	No	54 (20.8 %)	34 (13.1 %)	113 (43.5 %)
Dental caries	Yes	116 (44.6 %)	85 (32.7 %)	201 (77.3 %)
	No	17 (6.5 %)	42 (16.2 %)	59 (22.7 %)