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Original Article

Psychosocial problems in adults with halitosis

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Abstract

Background: Halitosis whether real or perceived, has been recognized world-wide as a psychosocial stigma. There have also been lots of interest focused on other aspects of halitosis in our environment, but there is little emphasis on the social and psychological impact of this disease.

Aim: This study aims to describe the psychological and social problems of adult patients with halitosis.

Materials and Methods: This was a descriptive prospective study of all consecutive adult patients that presented with halitosis as the chief complaint to the Dental; and the Ear Nose and Throat Departments of Aminu Kano Teaching Hospital, (Northern Nigeria) between July 2013 and September, 2013.

Results: A total of 36 adult patients with halitosis as the main complaint were recruited. There were 20 (55.6%) males and 16 (44.4%) females giving a male: Female ratio of 1:1.2. This marginal male preponderance was not statistically significant (χ^2 = 0.444; P = 0.505). Their ages were between 18 and 62 years; the mean age was 34.67 years (standard deviation = 11.212; 95% confidence interval, 30.87–38.46). At the end of this study, 76.9% respondents reportedly became aware of their bad breath by themselves, whereas 15.4% were told by others that they had bad breath and 7.7% knew they had bad breath by the actions of others. Twenty-eight respondents (77.8%) comprised of 14 males and 14 females (χ^2 = 1.793; P = 0.181) reported that their social lives were unaffected, while 30 (83.3%) of the patients comprising 80% of the total males and 87.5% of the total females claimed their bad breath did not interfere with their family or love relationship (χ^2 = 0.447; P = 0.504). Meanwhile, 25 (69.4%) of the patients reported that they interacted well with other people. Although 86.4% of the respondents reported their bad breath to be of low severity the remaining 13.6% thought it to be of high severity. There was no significant correlation between the duration of bad breath and the severity (r = 0.152; P = 0.535). Using the organoleptic test, only 56.3% of the respondents had a questionable or barely detectable mouth odor.

Conclusion: This study revealed that most adult patients that presented to our clinics had halitophobia, and the majority of them had no associated psychosocial problems. It was also noteworthy that their bad breaths were not influenced by gender or duration of disease.

Key words: Adults, bad breath, halitosis, Kano, psychosocial

Introduction

As a result of improvement in health awareness, patients with halitosis are now commonly seen at health facilities world-wide. For instance, halitosis is estimated to be the 3rd most frequent reason for seeking dental aid after tooth decay and periodontal disease.[1,2] Moreover, its prevalence has been reported to be up to 50% in some population.[3,4]

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Halitosis is considered to be one of the oldest and greatest taboos in many societies and has been reported for thousands of years.[1,5,6] However, it is only recently that is has been recognized as a psychosocial stigma.[4] Consequently, halitosis whether real or perceived has been shown to cause embarrassment, frustration, social isolation, divorce proceedings, obsessive compulsive disorders, and even contemplation of suicide.[1,4,7] In fact, in some societies it has earned the title "a social life killer."[8-10]

Although there have been lots of interest focused on other aspects of this disease in our environment, there

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has been little emphasis on the social and psychological impact of the disease. Previous studies in some parts of the world have reported significant association between halitosis and social and psychological manifestations.[4,5,7,11]

Halitosis, synonymous with breath malodor, bad breath, fetor ex-ore or fetor oris, is defined as a noticeable unpleasant odor that emanates from the mouth which is objectionable to others.[11]

The cause of halitosis in 80–90% of patients can be traced to the oral cavity.[12,13] Although there are diagnostic tests to detect volatile sulfur compounds in the mouth, there are no accepted clinical protocols for the diagnosis of patients with halitosis. Clinicians can therefore, be trained to accurately detect and categorize halitosis using their olfactory senses, and this has been adjudged to be a "gold standard" in the examination of breath malodor.[4,10] The treatment of halitosis requires not only regular oral treatment but the psychosocial problems should also be addressed.

This study aims to describe the psychological and social problems of adult patients with halitosis, and find if any the effects of some confounding variables.

Materials and Methods

This was a descriptive prospective study of all consecutive adult patients that presented with halitosis as the chief complaint to the Dental and the Ear Nose and Throat Departments of Aminu Kano Teaching Hospital, (Northern Nigeria) between July 2013 and September, 2013. The study protocol was approved by the hospital's institutional review board and an informed consent was obtained from the patients.

Study Design

A self-administered questionnaire was explained and administered to the patients at their first visit to the clinic by the authors. For those who did not understand English, it was interpreted in their preferred language. The content of the questionnaire included personal bio-data and questions related to oral malodor.

Subsequently, the patients were asked to assess the severity of their bad breath using the visual analog scale (VAS). The VAS is a 10 cm-long horizontal line that was marked at equal distance to represent 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 in which the patients marked the level of their bad breath using a pen. The minimum score was 0, which means not severe, and the maximum was 10 meaning it can't be worse. Thereafter, the patients were divided into two groups: Those with scores <5 were classified as having low severity scores and those with scores 5 and above as having high severity scores.

In addition, we modified and used the organoleptic test (OT) as described by Zaitsu *et al*.[10] to clinically assess the oral malodor. The test was conducted after the patients were instructed to close their mouths for about 5 min while breathing through the nose. Thereafter, the OT was conducted by the authors while breaths were being assessed for malodor by sniffing the expired air and assessing whether or not this was unpleasant. They rated the malodor on a 0 – 5 point scale: Where a score of 0 = absence of odor, 1 = barely appreciable odor, 2 = slight malodor, 3 = moderate malodor, 4 = strong malodor and 5 = severe malodor. If the judges gave different scores, the average score represented the final score for that particular patient. Patients who were scored 2 or higher by the OT were deemed to have genuine halitosis. Before acting as a judge, persons should not be a smoker and must ensure they do not have a cold, anosmia or hyposmia, halitosis, and must not be wearing a strong perfume.

Data Analysis

All the data obtained were entered into a specialized form designed for this study. They were analyzed using the Statistical Package for Social Sciences software version 16, Illinois, Chicago. Descriptive statistics was used for quantitative variables, and the Chi-square was used to test differences in proportions. A $P < 0.05$ was considered as statistically significant.

Results

A total of 36 adult patients with halitosis as the main complaint were recruited into the study and were analyzed. Their clinical and demographic characteristics are shown in Table 1.

At the end of the study, 76.9% respondents reportedly became aware of their bad breath by themselves, while 15.4% were told by others that they had bad breath and 7.7% knew they had bad breath by the actions of others. 25 (69.4%) patients have sourced some form of remedy to their bad breath in the past, while 11 (30.6%) did not bother to find a solution to their bad breath.

Regarding how their bad breath affected their lives, 28 (77.8%) reported that their social lives were unaffected while 8 (22.2%) of the patients had impaired social live. Similarly, 30 (83.3%) of the patients claimed their bad breath did not interfere with their family or love relationship; while 6 (16.7%) claimed otherwise. While, 25 (69.4%) of the patients reported that they interacted well with other people, 2 (5.6%) of the patients hesitated talking to other people, 1 (2.8%) felt uneasy when someone is nearby, 2 (5.6%) do not like to meet other people, 3 (8.3%) could not come close to other people and 3 (8.3%) reported that other people out rightly avoided them. When we considered the effect of gender on social

Table 1: Clinical and demographic characteristics of adult patients with halitosis

Characteristics	Number (*n*)	Percentage
Sex		
Male	20[a]	55.6
Female	16[b]	44.4
Age (years)		
Range	18-62	
Mean	34.67 (SD=11.212; 95% CI; 30.87–38.46)	
Duration of disease (months)		
<1	6	16.7
1-3	10	27.8
>3	20	55.5
Educational status		
Illiterate	7	19.5
Secondary	8	22.2
Graduate	13	36.1
Postgraduate	8	22.2
Marital status		
Single	11	30.6
Married	23	63.9
Widow/widower	2	5.5
Occupation		
Unemployed	1	2.7
Student	8	22.2
Housewife	5	13.9
Manual worker	5	13.9
Clerical job	2	5.6
Professional	13	36.1
Retired	2	5.6

[a,b]No significant difference χ^2=0.444; *P*=0.505. SD - Standard deviation, CI - Confidence interval

life, we found that 14 (70%) of males and 14 (87.5%) females reported their social lives were unaffected by their bad breath (χ^2 = 1.793; *P* = 0.181). Similarly, 16 (80%) of males and 14 (87.5%) of females reported their family or love relationships were unaffected by their bad breath (χ^2 = 0.447; *P* = 0.504).

On the severity of their bad breath, 86.4% reported their bad breath to be of low severity and 13.6% thought theirs was of high severity. There was no significant correlation between the duration of bad breath and the severity (*r* = 0.152; *P* = 0.535).

Using the OT, 56.3% had a questionable or barely detectable mouth odor, in 3.1%, odor could not be detected, 18.8% had a slight mouth odor, 9.4% definitely had mouth odor, and 6.3% had a strong mouth odor and another 6.3% very strong mouth odor.

Discussion

Broadly speaking, halitosis can be divided into physiological and pathological forms. Pathological halitosis is further sub-divided into categories relating to dental, otolaryngological, internal medicine or psychological areas of study.[1,14] In other words, it has been reported that at least 85% of halitosis has an intraoral source.[12,13] Other extraoral causes of halitosis included: Sinusitis, tonsillitis, pharyngitis, rhinitis, bronchiectasis, lung abscess, diabetes mellitus, liver cirrhosis, and reflux esophagitis.[4,15,16] Accordingly, the authors of the present study were a dental and maxillofacial surgeon and an otorhinolaryngologist. In fact, it is a common phenomenon in our practice to see patients with halitosis shuffling between these departments seeking solutions for their bad breaths.

Even though previous studies[10,17,18] found a female preponderance among patients with halitosis, the present study did not find any significant gender difference. In agreement, our finding corroborates that of other workers.[7,19] Arguably, it stands to reason, and even research has shown that women tended to seek treatment more often that men for similar conditions.[20]

In this study, we found that majority (76.9%) of the participants became aware, and are convinced they had bad breaths (halitophobia); even though OT which is confirmatory, revealed that only 15.7% definitely had halitosis. This is in accordance with the findings of several other researchers using other similar objective assessment methods (oral chroma device) for halitosis.[10,13,14,21]

Furthermore, several studies have reported that people with halitophobia tend to have significant social and psychological problems.[4,7,8,10,13,18,21] In contrast, the present study found that irrespective of gender, the majority of the participants reported that their bad breaths had no adverse psychosocial impact on their lives. This could possibly be due to the fact that the majority of the participants irrespective of gender and duration of their problem in the present study admitted their bad breaths were mild.

Conclusion

This study revealed that most adult patients that presented to our clinics had halitophobia, and the majority of them had no associated psychosocial problems. Furthermore, their bad breaths were not influenced by sex or duration of disease. Nonetheless, the authors acknowledge the small sample size and recall bias in some patients' responses could cause limitations in the study. A large multi-center prospective study using more objective diagnostic tools is recommended in order to validate our findings.

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