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Relationship between psychological status and self-perception of halitosis among young adults with moderation by oral health status

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Abstract

Background: The present study was conducted for assessing the relationship between psychological status and self-perception of halitosis among young adults with moderation by oral health status.

Materials and Methods: A total of 200 subjects were enrolled and were divided into two study groups with 100 subjects in each group as follows: Group A: Self-perceived group: Subjects who sensed halitosis, and Group B: Suggested group: Subjects who were advised about malodour by family/friends. All the subjects were given strict instructions for refraining themselves from smoking, consuming alcohol, spicy food intake or using any kind of chewing gum, drops, mint, and mouth rinses on the day of clinical examination. A questionnaire was framed and was administered to all the subjects. All results were assessed.

Results: Subjects of group A had significantly higher history of dental visits in comparison to that of group B. While comparing the oral hygiene practices in between the two study groups, significant results were obtained. While comparing the DMFT and BOP in between the two study groups, it was seen that DMFT and BOP was significantly higher among subjects of group A. Incidence of anxiety and depression was also significantly higher among subjects of group A.

Conclusion: Self-perceived halitosis could have a significant impact on the patient's quality of life.

Keywords: chewing gum, drops, mint, and mouth rinses

Introduction

Halitosis, commonly called bad breath, is a problem that can affect both the external, relational, social communication and internal, psychological sphere, with implications on perceived quality of life. People are usually unaware of their breath, and when they become aware of it, they incorrectly attribute the cause of their condition. Halitosis is a frequent condition, present in 50–65% of the world population. Although it is a significant source of discomfort, a precise estimation of prevalence is not possible because epidemiological studies are limited^[1-3].

It is important for dentists to understand self-perception about halitosis because the condition is related to self-image and psychopathological characteristics of the patients as they are the primary health-care providers managing the condition. It has been suggested that dentists should also be aware of cultural and social norms about halitosis so that they can provide optimal oral care to the patients to improve their quality of life. An investigation of clinical observations suggests a link between halitosis and anxiety as a high concentration of sulfur compounds was found among anxious patients. Moreover, the patients with physiological halitosis also exhibit symptoms of depression^[4-6]. Hence; the present study was conducted for assessing the relationship between psychological status and self-perception of halitosis among young adults with moderation by oral health status.

Materials and Methods

The present study was conducted for assessing the relationship between psychological status and self-perception of halitosis among young adults with moderation by oral health status.

A total of 200 subjects were enrolled and were divided into two study groups with 100 subjects in each group as follows:

Group A: Self-perceived group: Subjects who sensed halitosis, and

Group B: Suggested group: Subjects who were advised about malodour by family/friends

All the subjects were given strict instructions for refraining themselves from smoking, consuming alcohol, spicy food intake or using any kind of chewing gum, drops, mint, and mouth rinses on the day of clinical examination. A questionnaire was framed and was administered to all the subjects. The self-administered questionnaire consisted of questions related to self-perception of halitosis with 5-point Likert scale questions. The questionnaire consisted of three parts- First part was of demographic data, second part was of self-reported questions in halitosis and Third part included an assessment of organoleptic score and clinical assessment of oral health. All the results were recorded and analysed using SPSS Software.

Results

Mean age of the subjects of group A and group B was 20.6 years and 24.9 years respectively. Significant results were obtained while comparing the age between the two study groups. Majority proportion of subjects of both the study groups were males. Subjects of group A were of higher socio-economic status in comparison to group B. Subjects of group A had significantly higher history of dental visits in comparison to that of group B.

While comparing the oral hygiene practices in between the two study groups, significant results were obtained. While comparing the DMFT and BOP in between the two study groups, it was seen that DMFT and BOP was significantly higher among subjects of group A. Incidence of anxiety and depression was also significantly higher among subjects of group A.

Table 1: Demographic variables

Variable	Group A	Group B	p- value
Mean age (years)	20.6	24.9	0.00*
Males (n)	66	62	0.125
Females (n)	34	38	

*: Significant

Table 2: History of dental treatment

Variable	Group A	Group B	p- value
Had history of dental treatment	56	41	0.000*
Negative history of dental treatment	44	59	

*: Significant

Table 3: Oral hygiene practice

Oral hygiene practice	Group A	Group B	p- value
Brushing twice daily	82	71	0.005*
Use of tongue cleaner	35	12	

*: Significant

Table 4: Comparison of DMFT and BOP

Variable	Group A	Group B	p- value
DMFT	2.52	1.56	0.001*
BOP	3.52	1.86	0.000*

*: Significant

Discussion

Halitosis has been classified into three main categories: genuine, pseudo-halitosis, and halitophobia halitosis. In genuine halitosis, the malodour intensity is beyond the socially acceptable level. If halitosis is not perceived by others but the patient persistently complains of its existence, it is diagnosed as pseudo-halitosis. If after successful treatment of genuine halitosis or pseudo-halitosis the patient still complains of halitosis, the diagnosis is referred to halitophobia. Many oral bacteria produce volatile sulfur compounds (VSCs). Their presence in dental plaque or tongue coating is colorimetrically demonstrated by their ability to hydrolyze the synthetic trypsin substrate N-benzoyl-DL-arginine-2-naphthylamide (BANA), producing blue pinpoints or patches, in the BANA test, a modern chair-side method. Further, the organoleptic test (OLT) is the gold standard to detect oral malodor [7-11]. Hence; the present study was conducted for assessing the relationship between psychological status and self-perception of halitosis among young adults with moderation by oral health status.

Mean age of the subjects of group A and group B was 20.6 years and 24.9 years respectively. Significant results were obtained while comparing the age between the two study groups. Majority proportion of subjects of both the study groups were males. Subjects of group A were of higher socio-economic status in comparison to group B. Subjects of group A had significantly higher history of dental visits in comparison to that of group B. Alzoubi FQ *et al.* clarified the relationship of self-perceived halitosis with psychological and oral health statuses. One hundred participants with a history of halitosis were enrolled from a teaching hospital. They were divided into the self-perceived and suggested groups if they sensed and did not sense the malodor, respectively. The self-perceived group had higher OLT scores ($p = 0.005$) and were significantly younger ($p = 0.001$) than the suggested group. A significantly higher number of its participants were smokers ($p = 0.004$). No significant differences were observed in socioeconomic information, oral hygiene practices and oral conditions. Further, no significant association was noted between self-perceived halitosis and the nine psychological dimensions of SCL-90R. Halitosis is a multi-factorial symptom that requires multidisciplinary management [12].

In the present study, while comparing the oral hygiene practices in between the two study groups, significant results were obtained. While comparing the DMFT and BOP in between the two study groups, it was seen that DMFT and BOP was significantly higher among subjects of group A. Incidence of anxiety and depression was also significantly higher among subjects of group A. In a similar study conducted by Deolia SG *et al.*, authors assessed the psychological and the social effects of halitosis among young adults and to correlate their psychosocial effects with different level of halitosis. About 44 (22%) patients out of the 200 gave a score of 0-Happy face on the device Fit-Scan indicating that they were suffering from pseudohalitosis and not true halitosis. Both genders showed not much of difference with respect to the psychological impact of halitosis, however, social impact was seen more in females. Their study revealed that pseudohalitosis is common among individuals and it restricts one's caliber [13]. Rani RS *et al.*, in another study assessed the relationship between psychological status and self-perception of halitosis among young adults with moderation by oral health status (OHS). They observed that there was a significant relationship noted between the self-perceived halitosis group and self-perceived checklist. In the moderation analysis, the effect of oral health and

self-perception of halitosis was significant with psychological status^[14].

Conclusion

Self-perceived halitosis could have a significant impact on the patient's quality of life.

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