

Self-perceived Halitosis and Oral Hygiene Habits among Patients attending Medical College in India

¹Madhurjya Chakraborty, ²Debjit Dhamali, ³Dinesh F Swamy, ⁴Dithi Chandradas, ⁵Rajesh Divakar

ABSTRACT

Introduction: Halitosis or oral malodor is characterized by unpleasant odor arising from the oral cavity. The aim of this study was to evaluate the self perception of oral malodor and oral hygiene habits amongst dental students.

Materials and methods: A self administered questionnaire was administered to 528 patients at Narayana multispecialty Hospital, Durgapur, West Bengal, India. The questionnaire was designed with 10 close-ended questions about oral hygiene and oral malodor.

Results: Of the 528 patients the response rate was 92%. Selfperceived halitosis was reported by 44.1% males and 45.32% females. Among males, 71 (28.1%) reported perceiving halitosis, 153 (60.5%) gave a negative answer, and 29 (11.4%) were not aware of its presence or absence; where in females, 89 (38.3 %) reported self-perception, 95 (40.5 %) gave a negative response, and 49 (21.2 %) were not aware of its presence or absence.

Conclusion: The results of this study indicate higher prevalence of halitosis among this population. The awareness of halitosis as an individual entity should be promoted to the general population and the therapeutic measures should be made available to all

Keywords: Dental patients, Halitosis, Oral hygiene, Oral malodor.

How to cite this article: Chakraborty M, Dhamali D, Swamy DF, Chandradas D, Divakar R. Self-perceived Halitosis and Oral Hygiene Habits among Patients attending Medical College in India. *Int J Prev Clin Dent Res* 2017;4(4):265-267.

Source of support: Nil

Conflict of interest: None

¹Registrar, ²Associate Professor, ³Lecturer, ^{4,5}Reader

¹Department of Dentistry, Fakhruddin Ali Ahmed Medical College and Hospital, Barpeta, Assam, India

²Department of Dentistry, IQ City Medical College and Narayan Multispecialty Hospital, Durgapur, West Bengal, India

³Department of Pedodontics and Preventive Dentistry, Goa Dental College and Hospital, Bambolin, Goa, India

⁴Department of Public Health Dentistry, Noorul Islam College of Dental Science, Thiruvananthapuram, Kerala, India

⁵Department of Orthodontics, Noorul Islam College of Dental Science, Thiruvananthapuram, Kerala, India

Corresponding Author: Debjit Dhamali, Associate Professor Department of Dentistry, IQ City Medical College and Narayan Multispecialty Hospital, Durgapur, West Bengal, India, e-mail: debjit.dhamali@gmail.com

INTRODUCTION

Human breath is composed of highly complex substances with numerous variable odors, which can generate unpleasant situations like halitosis. Halitosis is a Latin word, which is derived from halitus (breathed air) and the osis (pathologic alteration),¹ and it is used to describe any disagreeably bad or unpleasant odor emanating from the mouth air and breath. Feter oris, oral malodor, mouth odor, bad breath, and bad mouth odor are the other terms that are used to describe and characterize halitosis.²⁻⁴ This undesirable condition is a common complaint for both genders and all age groups. It creates social and psychological disadvantages for individuals, and these situations affect individual's relation with other people.⁵ Being multifactorial, halitosis may require an interdisciplinary assessment and treatment involving professionals from dentistry, medicine, psychology, and nutrition. The dentist often is the first health care professional to examine the patients of halitosis.⁶

Oral hygiene behavior and seeking oral health care depend on a number of factors. Patients comply better with oral health care regimens when informed and positively reinforced. Lack of information is among the reasons for nonadherence to oral hygiene practices. Further, oral health attitude and beliefs are significant for oral health behavior.⁷ Keeping a healthy oral profile requires joint efforts from the dentist as well as the patient him/herself. One of the most important factors that decides the dental health of a population is the outlook of its people toward their dentition.⁸ The aim of this study was to assess the prevalence of self-perceived oral malodor and oral hygiene practices among patients attending a medical college.

MATERIALS AND METHODS

The present study was carried out on patients attending the Department of Dentistry, IQ City Medical College and Narayana Multispecialty Hospital, Durgapur, West Bengal, India. A self-administered questionnaire adapted from a study by Almas et al⁹ was used to assess the following: Self-perception of oral health, awareness of bad breath, timing of bad breath, treatment received for bad breath, prevalence of oral hygiene habits, caries and bleeding gums, dryness of mouth, smoking habits, and tongue coating. Questionnaire was provided to

each patient containing 10 close-ended questions about oral hygiene and oral malodor. They were asked to tick one answer among the choices provided to each of the question. A total of 528 patients participated in the study. Statistical Package for Social Science, version 15, was utilized for statistical analysis (SPSS Inc., Chicago, Illinois, USA). Chi-squared test was performed for comparison of responses obtained from males and females. The level of statistical significance was set at a p-value less than 0.05.

RESULTS

The study population included 528 participants in the age range of 18 to 70 years. A total of 259 participants answered all the questions provided and were included for statistical analysis. Questionnaires that were incompletely filled were excluded from the final analysis. The overall response rate was 92%; of the 486 patients, 253 (52%) were males and 233 (48%) were females. Graph 1 shows the comparison for self-perception of halitosis. Among males, 71 (28.1%) reported perceiving halitosis, 153 (60.5%) gave a negative answer, and 29 (11.4%) were not aware of its presence or absence; whereas in females, 89 (38.3%) reported self-perception, 95 (40.5%) gave a negative response, and 49 (21.2%) were not aware of its presence or absence. The difference was found to be significant ($p < 0.05$). The answers to all the questions provided in the questionnaire were segregated according to gender and analyzed using the chi-squared test. Significant difference was observed for self-perception of halitosis, use of mouthwash, presence of carious teeth, bleeding gums, and use of tongue cleaners ($p < 0.05$).

Brushing habits were prevalent among 92% of patients. Mouthwashes were used by 12.4% of the patients, while dental floss was used by 2.3% of the patients. Caries were self-reported by 15.6% of the patients. Bleeding gums

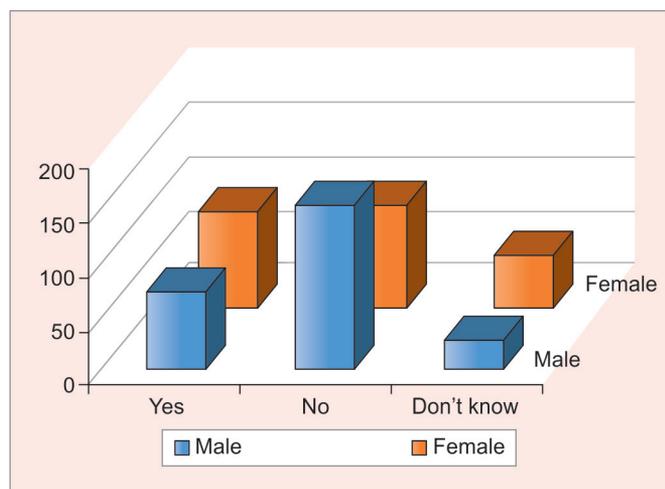
was experienced by 56.8% of patients. Dry mouth was reported by 4.8% of patients. Smoking was reported by 52.9% of the males, and 3.9% of the female respondents.

DISCUSSION

Halitosis is a common problem among the general population. It can have a distressing effect that may become a social handicap and the affected person may avoid socializing. Self-perception is very important for diagnosing and controlling bad breath by seeking appropriate dental treatment. Bad breath was experienced by 24.7% of the patients in the present study, whereas in a study by Kumar et al,¹⁰ 21% of participants experienced bad breath. Furthermore, results of the present study are in contrast with that of an epidemiologic survey of the general population of Japan where 24% of the individuals examined complained about bad breath.¹¹ A Swedish study reported that only 2.4% of the subjects had oral malodor.¹² In a questionnaire given to 4,815 individuals aged 15 years and older, as a representation of the French population, 22% of the population reported to have halitosis.¹³ Recently, a study by US dentists showed that about 41% of the dentists reported six or more patients a week with chronic halitosis.¹⁴ The above-mentioned studies showed that halitosis is a universal problem, which is perceived in different cultures and societies. The present study found that brushing with toothbrush and toothpaste was the most commonly used method of teeth cleaning (92%). Similar findings were also noted by Jain et al¹⁵ at Jodhpur, Sharda et al¹⁶ at Udaipur, Chandra Shekhar et al¹⁷ at Mysore, Bhat et al¹⁸ at Bengaluru, and Pandya et al¹⁹ at Gujarat. Similar to the findings of Agarwal et al²⁰ and Dasgupta et al,²¹ the present study revealed that 39.1% of the subjects used to brush their teeth twice daily. However, studies by Jain et al,¹⁵ Sharda and Sharda,¹⁶ Chandra Shekhar et al,¹⁷ Bhat et al,¹⁸ and Pandya et al¹⁹ revealed the findings that were somewhat lower compared with the present study, where only 23.0, 15.4, 22.0, 11.6, and 13.96% respectively, used to brush twice a day. Only 12.4% of the subjects used mouthwash as an oral hygiene aid in the present study; this was in agreement with Jain et al's study.¹⁵ However, Sharda and Sharda¹⁶ found mouthwash users to be 64.10%.

CONCLUSION

The results of this study suggest that oral health awareness and practices among the study population are poor and need to be improved. The self-perceived halitosis can be prevented by simply providing awareness, which is a more cost-effective alternative than expensive dental procedures. Periodic oral health awareness programs at schools, colleges, universities, and community levels



Graph 1: Frequency of self-perception of halitosis according to gender

should be undertaken, and at each level, the major role and responsibility lies in the hands of the primary care physicians, whose interactions at the individual and family levels make them more accessible and acceptable. Dental professionals, dental marketing agencies, and media too may join hands with the government to help in the prevention of oral health problems by improving knowledge, attitudes, behaviors, and practices toward oral hygiene among the general population.

REFERENCES

- Hine KH. Halitosis. *JADA*. 1957 Jul;55(1):37-46.
- Sanz M, Roldan S, Herrera D. Fundamentals of breath malodour. *J Contemp Dent Pract* 2001 Nov;2(4):1-17.
- Cortelli JR, Barbosa MD, Westphal MA. Halitosis: a review of associated factors and therapeutic approach. *Braz Oral Res* 2008;22 Supp 1:44-54.
- Bogdasarian RS. Halitosis. *Otolaryngol Clin North Am* 1986 Feb;19(1):111-117.
- Tonzetich J. Production and origin of oral malodor: A review of mechanisms and methods of analysis. *J Periodontol* 1977 Jan;48(1):13-20.
- Ademovski SE, Lingström P, Winkel E, Tangerman A, Persson GR, Renvert S. Comparison of different treatment modalities for oral halitosis. *Acta Odontol Scand* 2012 May;70(3):224-233.
- Chander Shekar BR, Reddy C, Manjunath BC, Suma S. Dental health awareness, attitude, oral health-related habits, and behaviors in relation to socio-economic factors among the municipal employees of Mysore city. *Ann Trop Med Public Health* 2011;4(2):99-106.
- Dagli RJ, Tadakamadla S, Dhanni C, Duraiswamy P, Kulkarni S. Self-reported dental health attitude and behavior of dental students in India. *J Oral Sci* 2008 Sep;50(3):267-272.
- Almas K, Al-Hawish A, Al-Khamis W. Oral hygiene practices, smoking habit, and self-perceived oral malodor among dental students. *J Contemp Dent Pract* 2003 Nov;15;4(4):77-90.
- Kumar S. Oral hygiene awareness among two nonprofessional college students in Chennai, India—A pilot study. *Adv Life Sci Technol* 2012;5:31-36.
- Miyazaki H, Sakao S, Katoh Y, Takehara T. Oral malodour in the general population of Japan. *Bad breath. Research perspectives*. Israel: Ramot Publishing: Tel Aviv University; 1995. pp. 119-136.
- Soder B, Johansson B, Soder PO. The relation between foeter ex ore, oral hygiene and periodontal disease. *Swedish Dent J* 2000;24(3):73-82.
- Frexinos J, Denis P, Allemond H. Descriptive study of digestive functional symptoms in French general population. *Gastroenter Clin Bio* 1998 Oct;22(10):785-791.
- Losche WJ. The effects of ant microbial mouth rinses on oral malodor and their status relative to US Food and Drug administration regulations. *Quintessence Int* 1999 May;30(5):311-318.
- Jain N, Mitra D, Ashok KP, Dundappa J, Soni S, Ahmed S. Oral hygiene-awareness and practice among patients attending OPD at Vyas Dental College and Hospital, Jodhpur. *J Indian Soc Periodontol* 2012;16(4):524-528.
- Sharda A, Sharda S. Factors influencing choice of oral hygiene products used among the population of Udaipur, India. *Int J Dent Clinics* 2010;2(2):7-12.
- Chandra Shekar BR, Reddy C, Manjunath BC, Suma S. Dental health awareness, attitude, oral health-related habits, and behaviors in relation to socio-economic factors among the municipal employees of Mysore city. *Ann Trop Med Public Health* 2011;4(2):99-106.
- Bhat PK, Kumar A, Aruna CN. Preventive oral health knowledge, practice and behaviour of patients attending dental institution in Bangalore, India. *J. Int Oral Health* 2010;2(2):17-16.
- Pandya H, Dhaduk R. Oral hygiene status in central Gujarat, 2010—an epidemiological study. *J Dent Sci* 2012;2:51-53.
- Agarwal V, Khatri M, Singh G, Gupta G, Marya CM, Kumar V. Prevalence of periodontal diseases in India. *J Oral Health Community Dent* 2010;4:7-16.
- Dasgupta U, Mallik S, Naskar S, Choudhury K, Paria B, Bhattacharya SK. Dental problems and its epidemiological factors—a study on adolescent and adult patients attending dental OPD of a tertiary care hospital in Kolkata, India. *J Dent Med Sci* 2013;5:1-7.