

## Assessment of Smoking Habits, Oral Hygiene Practices and Perceived Malodour among the College Students in Ahmadabad

Aumkar Trivedi\*, Jalark Patel\*\*, Mayur Parmar\*\*\*, Soham Patel\*\*\*\*, Sapan Patel\*\*\*\*\*, Foram Shah\*\*\*\*\*

\* Reader, Department of Prosthodontics, \*\*Reader, Department of Pedodontics, \*\*\*Reader, Department of Periodontics, \*\*\*\* Reader, Department of Conservative Dentistry, \*\*\*\*\*Reader, Department of Periodontics, \*\*\*\*\*Senior Lecturer, Department of Periodontics, Goenka Research Institute of Dental Science, Piplaj, Gandhinagar

**Abstract:** Introduction: Halitosis or oral malodour affects a large proportion of the population and is often associated with poor oral hygiene practices, smoking habits, oral and systemic diseases. Objectives: To assess the effect of smoking habits, oral hygiene practices on halitosis and even to evaluate self perceived malodour among college community in Ahmadabad. Methods: A survey was carried out in a college community of Arts and Science students in Ahmadabad, Chennai in order to assess smoking habits, oral hygiene practices and self perceived malodour. All the 1200 students were invited to participate in the study but only 650 volunteers participated and a self administered close ended questionnaire was distributed. Descriptive statistics were used to describe the data. Results: Out of 650 students, only 31 (4.8%) had a habit of smoking and 619 (95.2%) were aware of the ill effects of smoking. 464 (71.3%) brushed once daily, 326 (50%), 457(70.3%) rinsed their mouth after eating anything and self perceived malodour was expressed by 59(9%). Conclusion: The habit of smoking was seen in a very small percentage of study subjects and majority of them were aware of its ill effects. There is a need to educate them on brushing techniques and encourage them to visit a physician/dentist whenever they perceive a malodour. [A Trivedi Natl J Integr Res Med, 2018; 9(1):26-30]

**Key Words:** College community, Oral hygiene, Oral malodour, Smoking

**Author for correspondence:** Mayur Parmar, Department of Periodontics, Goenka Research Institute of Dental Science, Piplaj, Gandhinagar E-Mail: drmayur.perio@gmail.com, drpiyushpujara@gmail.com M: 9427350988

**Introduction:** Smoking has health implications for young people and is associated with other high-risk behaviors among young people including abuse of other drugs, fighting and high-risk sexual behavior.<sup>1</sup> Young adults smoke fewer cigarettes daily and are less likely to smoke every day than the general population of adults.<sup>2</sup> Various factors affect tooth loss including cigarette smoking; however, evidence regarding the association between smoking and tooth loss during young adulthood is limited.<sup>3</sup> Many studies tell that cigarette smoking leads to excess mortality risk.<sup>4-7</sup>

Many methods are available for maintaining optimal oral hygiene, among which tooth brushing is the most widely accepted method for the prevention and control of periodontal diseases. Most researchers recommend tooth brushing twice a day and agree that when performed with fluoride toothpaste, it could also reduce dental caries. However; a recent systematic review of the available evidence has shown that tooth brushing plays a limited role in caries prevention because brushing alone is not sufficient in cleaning the proximal surfaces of teeth. As such, using dental floss is therefore also recommended to further help in preventing both dental caries and periodontal disease.<sup>8</sup> Other oral hygiene tools include woodsticks, rubber tips and interdental brushes, these also aid in interdental cleansing.<sup>9</sup> Mouthwashes are adjuvants to

brushing and flossing, it has been observed that they add advantages to mechanical control.<sup>10</sup>

Oral malodour affects a large proportion of the population and is often associated with poor oral hygiene practices, smoking habits, oral and systemic diseases. Halitosis is a general term used to describe an unpleasant or offensive odor emanating from the oral cavity. Although several non-oral sites have been related to oral malodour, including the upper and lower respiratory tracts, the gastrointestinal tract, and some diseases involving the kidneys or the liver, it is thought that around 90% of all bad breath odors emanate from the mouth itself. Oral halitosis is the specific term used to define halitosis with an origin within the oral cavity.<sup>11</sup> Oral halitosis is a very common problem in dental patients.<sup>12</sup> In fact, most adult subjects have socially unacceptable bad breath when waking up in the morning. This problem is transitory and attributed to physiologic causes such as reduced saliva flow during sleep. Although these transitory problems are easily controlled, persistent bad breath may be indicative either of oral diseases or indicative of systemic diseases.

Along with this food impaction, dry socket, dentures and prosthesis are other etiologic factors behind halitosis.<sup>13</sup> In healthy subjects, tongue coating is by far the most important source of malodour, most of the

odor coming from the dorso-posterior surface of the tongue where the crypts are the favored sites for growth of the anaerobic bacteria responsible for halitosis. Some investigators believe that besides VSC (Volatile Sulphur Compounds), other volatiles produced by oral putrefaction processes such as organic acids, ammonia, and amines may also cause oral malodour.<sup>14</sup> As the young adults of today are indulging in unhealthy habits like smoking, drug abuse, poor oral hygiene practices, consumption of fast foods, a study was carried out to know the smoking habits, oral hygiene practices, and self perceived malodour among arts and science students of Ahmadabad.

The aim of the current study was to evaluate the Smoking habits, Oral hygiene practices and perceived Malodour among the college community of Arts and Science students in Ahmadabad. It has been observed that self-reporting questionnaire are a valid tool to gather information on the level of discomfort and personal habits of the patient because it provides not only an objective measure of the influence of oral hygiene habits followed by the patient but basically a view on patient's perception of health.<sup>15,16</sup>

**Methods:** An epidemiological survey was carried out to assess the Smoking Habits, Oral Hygiene Practices, and Self Perceived Malodour among the College community of Arts and Science Students, Ahmadabad ethical clearance from the institute ethical board of the college same.

**Sample Size:** All the 1200 students were invited for the study but only 650 students participated. The students belonged to Ahmadabad and from educated and wealthy background. The inclusion criteria included male and female students in the age group of 17-25 years, having no previous medical history, under no medication. The exclusion male and female students having age more than 25 years and less than 17 years, having previous medical history and under some medication.

**Study Design:** A specially designed closed ended questionnaire in Tamil, it consisted of 15 questions was used to assess the smoking habits, oral hygiene practices and self perceived malodour Arts and Science College students in M Ahmadabad Study questionnaire was tested and validated before the study, through a pilot study. It was tested on a small

group of (50) students who were requested to complete it and to indicate any questions that they found unclear to answer. The pilot study proved that moving ahead with the study was beneficial and the survey outcome would be positive. The students were approached class wise and the purpose of the study was explained to them and informed consent was obtained. The questionnaire was distributed to them and was assured of the confidentiality. The filled questionnaire was collected on the same day immediately after completion.

**Statistical Analysis:** Qualitative data will be expressed as percentages and proportions. Quantitative data will be expressed as mean and standard deviation. The differences between two groups with respect to continuous variables will be analysed using t-test while categorical variables will be analysed using chi-square test. All the statistical tests will be performed in SPSS version 15 software. P value <0.05 will be considered as statistically significant while P value <0.01 will be considered as statistically highly significant. The between group comparison of compressive strength of samples in Group A and B was done using One-way ANOVA test. Within group comparison was done using Bonferroni correction test. In the tests, p value of  $\leq 0.05$  was considered as statistically significant.

**Results:** The subjects consisted of 63.8% (415) males and 36.2% (235) females which totally comprises of 650 participants.

**I. Responses of College Students on Smoking Habits:** Among the study subjects 4.8% (i.e. 31) were smokers in which 2.6% (i.e. 17) were smoking daily, 2.1% (i.e. 13) were smoking weekly, 0.1% were smoking occasionally which is represented in Table 1.

Among smokers 64.5% (i.e. 20) were smoking less than 5 cigarettes, 22.5% (i.e. 7) were smoking 5-10 cigarettes, and 13% (i.e. 4) were smoking more than 10 cigarettes per day.

Among smokers 25.8% (i.e. 8) were smoking for 1-3 years, 29% (i.e. 9) were smoking for 1-2 years, and 19.4% (i.e. 6) were smoking more than 3 years. 65.5% (i.e. 212) of males and 78.8% (i.e. 185) of females responded that all the ill effects of smoking. These difference noted between the sexes were statistically significant ( $P=0.001$ ) which is represented in Table 2.

70.9% (i.e. 22) of smokers had attempted to stop smoking and 29.1% (i.e. 9) smokers had not attempted to stop smoking.

**II. Responses of College Students on Oral Hygiene Practices:** 20% (i.e. 83) of males and 46% (i.e. 108) of females brushes their teeth twice a day. These difference noted between the sexes were statistically significant (P=.000). 41% (i.e. 170) of males and 63.4% (i.e. 149) females brush their teeth circularly. These difference noted between the sexes were statistically significant (P=.000)

38.5% (i.e. 160) of males and 51.9% (i.e. 122) of females change their toothbrush once in a month. These difference noted between the sexes were statistically significant (P=.002). 53.7% (i.e. 223) of males and 61.7% (i.e. 145) of females snack once in between meals in a day. These difference noted between the sexes were statistically significant (P=.001).

67.7% (i.e. 280) of males and 74.9% (i.e. 176) of females rinse their mouth after eating. 32.4% (i.e 134) of males and 25.1% (i.e. 59) of females do not rinse their mouth after eating. These difference noted between the sexes were statistically significant (P=0.54).

**III. Responses of College Students on Self Perceived Malodour:** 9.8% (i.e. 40) of males and 0.5% (i.e. 11) of females responded they have bad breath. These difference noted between the sexes were statistically significant (P=.000). 3.07% (i.e. 12) of males and 0.4% (i.e. 9) of females had visited dentist or physician for bad breath. 95.2% (i.e. 395) of males and 99.6% (i.e 234) of females had not visited dentist or physician for bad breath.

These difference noted between the sexes were statistically significant (P=.002). 10.6% (i.e. 44) of males and 0.5% (i.e. 1) of females had received treatment from dentist or physician for bad breath. 89.4% (i.e. 371) of males and 99.5% (i.e. 233) females had not received any treatment from dentist or physician for bad breath. These difference noted between the sexes were statistically significant (P=.000). 9.8% (i.e. 40) of males and 0.05% of females responded that their bad breath interfere with their social life. These difference noted between the sexes were statistically significant (P=.000). 8% (i.e. 33) of

males and 0.4% (i.e. 1) of females had self medicated themselves for bad breath. 92% (i.e. 381) of males and 99% (i.e. 232) of females had not self medicated themselves for bad breath. These difference noted between the sexes were statistically significant (P=.000).

**Table 1: Frequency of smoking among study subjects**

Smokers			Non-smokers	Total
Daily	Weekly	Occasionally		
17	13	1	619	650

**Table 2: Knowledge on ill effects of smoking among study subjects**

Gender	Oral Cancer	Bad breath and staining of teeth	Respiratory Problems	All of the Above	Total
Male	120	3	20	272	415
Female	47	2	1	185	235

**Discussion:** This was a cross sectional study conducted among Arts and Science College students in Ahmadabad. It was a questionnaire survey in which 415 (63.8%) males and 235 (36.2%) females participated and responded to questions on smoking habits, oral hygiene practices and self perceived malodour.

In the present study only 4.8% were smokers which are very low when compared with a study conducted by, Eldarrat A et al in 2008<sup>17</sup> among Libyan students (schools and universities) and employees in which 17% of them were smokers The smoking attitudes, behaviors of family members and close friends would have influenced the increased frequency of smoking among them.

In the present study 64.5% smoke less than 5 cigarettes, 22.5% smokes 5-10 cigarettes, 13% smokes more than 10 cigarettes per day which is similar to a study conducted by William Kasapila in 2010<sup>18</sup>, among students specializing in Nursing and Agriculture in which 61.8% smokes less than 5 cigarettes and 26.5% smokes less than 10 cigarettes.

In the present study 65.5% of males and 78.8% of males were aware of ill effects of smoking which is similar to a study conducted by Talal J. Hashim in 2000<sup>19</sup> among students of Applied Medical Sciences in

which 73% of the respondents were aware of ill effects of smoking.

In the present study 70.9% have attempted to stop smoking which is similar to that of study conducted by Talal J. Hashim in 2000, Saudi Arabia in which 70% have attempted to stop smoking.

In the present study 80% of the males and 54% of the females brushes their teeth once daily, 20% of the males and 46% of the Females brushes their teeth twice daily. In a study conducted by R. Al-Hussaini et al in 2003, among students of Kuwait University Health Sciences Centre, 94% of the students brushes their teeth once a day and 79% of the girls brushes their teeth twice a day which is comparatively higher than our study. In the present study 28% of the males and 26.8% of the females changed their tooth brush once in three months, 3.6% of the males and 1.3% of the females changed their tooth brush once in six months. In a study conducted by Hossain Neamatollahi et al in 2009<sup>20</sup> in Iran and noticed 33% of them changed their tooth brush once in three months, 43% of them changed their tooth brush once in three to six months which is less than our study.

In the present study 9.8% of the males and 0.5% of the females responded for self perception on malodour which is comparatively low to a study conducted by Khalid Almas et al in 2000<sup>21</sup>, among dental students in which 44% of the males and 32% of the females responded for the self perception of malodour. This difference would be because the subjects of the above mentioned study were dental students who could have perceived malodour better because of their awareness about it.

In the present study 10.6% of the males and 0.5% of the females had received treatment for malodour from the dentist or physician which is comparatively low to a study conducted by Aziza H. Eldarrat (2011)<sup>22</sup> in Libya among University students in which 27% Of students received treatment for malodour from the dentist (24%) or physician (3%). The positive attitudes among Libyan college students as mentioned by the authors in the study would have encouraged them to take treatment for malodour.

In the present study 9.8% of the males and 0.5% of the females responded that their bad breath interfere with their social life. Khalid Almas et al in 2000

conducted a study among dental students in Saudi Arabia. 5.8% of the males and 44% of the females responded that their bad breath interfere with their social life.

In this present study 8% of the males and 0.4% of the females had self medicated themselves for malodour which is comparatively low to the study conducted by Khalid Almas et al in 2000, among dental students in which 12% of the males and 26% of the females have self medicated themselves probably due to the awareness from their educational training.

**Conclusion:** The present study indicates that the habit of smoking was seen in a very small percentage of study subjects and majority of them were aware of its ill effects. A good proportion of smokers had attempted to stop smoking. Majority of them brushes their teeth once daily using circular motion and rinse their mouth after eating. Majority of them had no self perception on their bad breath and who responded for malodour also accepted that it interfere with their social life.

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