



## Knowledge, Self-Perception, Attitude of Halitosis Among Students in Chengalpet: A Questionnaire Study

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### Abstract

**Aim:** To measure self-perception, knowledge, and awareness of halitosis among students studying in Karpaga Vinayaga educational groups

**Materials and Methods:** In this study, total of 240 participants who are students of Karpaga Vinayaga educational group were recruited. A questionnaire was created online using Google Forms, and the link was sent to the participants through different social media platforms such as WhatsApp and Emails. Their responses were recorded.

**Result:** A widespread issue that affects people all over the world, halitosis or bad breath, has social and psychological as well as medical repercussions. There is ample evidence that halitosis is common everywhere in the world. Our study found that the self-perception of poor breath is significantly influenced by age. Most of the respondents in our study did not report to dentist for having bad breath. Instead, they tried to solve by using chewing gums, mouth wash and sweets. This gave us the conclusion that they lack knowledge about the cause and management plan.

**Conclusion:** Oral malodour is generally poorly understood in all of its facets. Therefore, it is important to promote increased public awareness and education. To lessen this issue, regular visits to dentists and other healthcare providers should be promoted. It should be stressed that dentists have a responsibility to educate and advise their patients about oral malodour, and dental students should receive enough training in handling this problem by organising dental camps, lectures should be provided to students so as to improve knowledge about halitosis<sup>14</sup>

**Keywords:** Halitosis, Awareness, Self-perception, Bad breath, Oral Malodor

## INTRODUCTION:

Halitosis is a broad word for an unpleasant smell in the mouth that is difficult to remove as a result of poor oral hygiene. Halitosis comes from the Latin word "halitus" meaning breath and the Greek word "osis" which means abnormal or disease. Bad odour from inhaling is known as halitosis. the offensive smell brought on by the emission of volatile sulphur compounds (VSCs) as a result of gram-negative bacteria's activity during decay<sup>1</sup>. There are three different types of halitosis: true halitosis, pseudo halitosis, and halitophobia<sup>2</sup>. Although the exact source of halitosis is still unknown, food scraps left in the mouth are the most common cause.

Halitosis is a problem that has an impact on social, medical, and psychological facets of life. The extra-oral factors can include breathing issues, digestive tract issues, sinus issues, diabetes, renal issues, and sometimes drug reactions<sup>3</sup>.

Foods with onion, garlic, pepper, smoking, drinking alcohol, and morning bad breath are all temporary causes of odour.

Bad breath, if present, often results in decreased self-esteem and avoidance behaviours, especially in social settings.<sup>4</sup> Certain substances are widely used by the general public to reduce or eliminate odours, such as toothpaste, mouthwash, chewing gum, floss, etc

Most of the time, a person with bad breath doesn't even know they have bad breath because they are not aware of it. Improving oral hygiene practices has been shown to decrease bad breath and improve self-esteem and confidence.<sup>5</sup> The lack of self-awareness about halitosis results in carelessness to treat it.

This study is conducted to assess the knowledge, awareness, self-perception and cause of halitosis

## MATERIALS AND METHODS

In this study, total of 240 participants who are students of Karpaga Vinayaga educational group were recruited. The duration of data collection was one month.

A questionnaire was created online using Google Forms, and the link was sent to the participants through different social media platforms such as WhatsApp and Emails. Their responses were recorded.

A questionnaire that was created based on another study was modified to take the goals of the current study into account.

Our study's main focus was on the knowledge, self-perception, and attitude toward halitosis among students studying in Karpaga Vinayaga educational group utilizing validated instruments. Secondarily, demographic factors such as age, gender, and educational attainment were evaluated.

The survey comprised two parts: 1) demographic inquiries and 2) in-depth questions examining the participants' self-perception of halitosis and their understanding of the causes and remedies for oral malodour and their attitude towards halitosis.

The questionnaire included questions about their oral health, oral hygiene practices underlying medical conditions, personal habits (smoking and alcohol consumption), whether or not the person believes they have bad breath, how long they have been aware of it, where they first noticed it, steps to minimize it, dental procedures and the existence of dry mouth.

Students who are studying MBBS, Engineering, Nursing and other paramedical courses in Karpaga Vinayaga educational groups were included in this study. Dental Students of Karpaga Vinayaga educational groups were excluded in this study. The data collected from the respondents via the completed questionnaires was kept private and anonymous.

## RESULT:

This study is the first questionnaire study done among medical, engineering, nursing, paramedical students in Karpaga Vinayaga institution, Chengalpet regarding self-perception, knowledge and attitude of halitosis among students in Karpaga Vinayaga educational group. In this study 240 students had participated in which 125 students were medical, 79 students were engineering, 12 students were nursing and 24 students were paramedical the mean age of students participating in the study was 22.5 years among them 69.2% were females and 30.8% were males. The number of answers given for each question in the questionnaire was calculated and the percentage of correct answers for each question were calculated for the entire sample. In response to questions about halitosis, 15.8% said they have halitosis, 52.8% said they did not, 31.7% said they have while eating onion and garlic. Predominately 71.3% of participants have no coatings on tongue, 13.3% of participants have coatings in their tongue and 15.4% of are not aware of coatings in their tongue. Majority of the participants don't have any medical problems and 5.4% participants have medical problems. Among them 90.8% of participants are didn't take any medications and 9.2% of participants are under medications. Of those with halitosis, the majority knew they had it from "days ago" (62.1%), 19.6% for "month ago" and 18.3% for a "year ago" among them 78.3% of participants are not mouth breather, 8.8% are mouth breather and 12.9% of participants are not sure about mouth breathing. Of the participants, 30 % noticed they have bad breath and 70% said they don't have bad breath. Among them 87.5% didn't had an examination for bad breath and 12.5% of participants had an examination for bad breath. Majority of participants 78.8% don't have bleeding gums and 21.3% of participants have bleeding gums. About 37.1% of participants selected mouthwash as a halitosis reducing measure. 25.4% of participants selected nothing, 23.8% of participants selected chewing gums, 13.3% of participated selected they avoid certain foods to avoid halitosis. Regarding to personal habits 88.8% of participants are non-smoker and 11.3% are smoker. 88.8% of participants are non-alcoholic and 11.3% are alcoholic. Approximately 88.3% of the participants did not go to dentist for a checkup due to foul smell and 11.7% said they go to the dentist for halitosis. In terms of dental hygiene, 65.4% said improper brushing and diet is one of the causes for bad breath and 34.6% said that's not the cause for halitosis. Majority of participants brush their teeth once a day around 70.4% and 29.6% said that they brush their teeth twice a day. About tongue cleaner 55% of participants doesn't use tongue cleaner and 45% of participants uses tongue cleaner. Regarding deposits in teeth 41.7% of participants don't have deposits in teeth, 20.4% of participants have deposits in teeth and 37.9% of participants were not sure about deposits in teeth. Majority

of participants don't know they have halitosis or not (47.9%), 32.5% of participants answered that they just know they have bad breath, 15% of participants said that someone told them they have halitosis and 4.5% of participants came to know through non-verbal communications of other people. Individuals reported with bad breath about 52.1% of participants felt uneasy whenever need to talk, 45% of participants hesitate to talk to people, 16.3% of participants don't like to meet other people and 6.3% of participants said other people avoid them. 77.5% of participants are not aware of tests used to detect halitosis and 22.5% of participants are aware of tests used to detect halitosis. Among 240 participants 56.3% of people are not willing to go for treatment for halitosis and 43.8% of people are willing to go for treatment of halitosis

## DISCUSSION:

A widespread issue that affects people all over the world, halitosis or bad breath, has social and psychological as well as medical repercussions. There is ample evidence that halitosis is common everywhere in the world.<sup>6</sup> Our study found that the self-perception of poor breath is significantly influenced by age. Younger folks may be more conscious of their breath since they participate in more social events than older adults, which could be one explanation for this.<sup>7</sup> However, our study found no evidence that education level was a significant factor in determining one's poor breath. This is in contrast to earlier research that found poorer self-perception of halitosis is associated with lower levels of education.<sup>8</sup>

Brushing the tooth at least twice a day has been the followed protocol to maintain keep the optimum oral hygiene. Majority reported brushing their teeth regularly, but many brushed only once that may cause halitosis. Even if oral hygiene is good yet they develop halitosis, then the cause will be the coated tongue.<sup>9</sup> This may be the reason why students in this study with minimal tongue cleaner users reported bad breath. Most of the respondents in our study did not report to dentist for having bad breath. Instead, they tried to solve by using chewing gums, mouth wash and sweets.<sup>10</sup> This gave us the conclusion that they lack knowledge about the cause and management plan.

Organoleptic score is the gold standard method of measuring halitosis. In this study the students participated have not undergone these methods, instead they evaluated. By their own and some came to know while they interacted with other people.

Some systemic illnesses are known to cause bad breath which is a rare scenario in our study. Systemic conditions like Diabetes, tonsilitis, sinusitis, stomach problems cause halitosis.<sup>11</sup> This correlation was found minimally in our study but some are affected with PCOD, wheezing and ulcer.

Improper breathing like mouth breathing may lead to bad breath<sup>12</sup> where 21 individuals were mouth breathers and suggested to be a cause of bad breath. Smoking was found among 27 participants in this study. In previous study, it was reported that individuals use smoking as management tool. Flossing has also been an auxiliary method to maintain oral hygiene along with brushing and using mouth wash.<sup>13</sup> In our study we questioned about the use of mouthwash and most of them were using it regularly and occasionally.

Diet also plays a role in the halitosis. In this study some of them mentioned they had bad breath while eating onion, garlic. One of this study's strength is the usefulness of a validated tool. However, the study had limitations because the assessment of poor breath was done without a clinical examination and instead based on self-perceived data. Those students who said that they did not have halitosis, it is not clear that they did were free from it or because of that they were afraid to say confusion.

**Table 1: Demographic data of respondents (n=240)**

AGE	n(%)
17-19 years	20.1%
20-22 years	57.2%
23-25 years	20.4%
26-28 years	2.3%
GENDER	
Males	30.8%
Females	69.2%
COURSE	
MBBS	52.1%
Engineering	32.9%
Nursing	5%
Paramedical	10%

**Table 2: Oral hygienic status**

	Frequency	%
How often do you brush your teeth?		
ONCE	169	70.4%
TWICE	71	29.6%
Do you use mouth wash?		
YES	62	25.8%
NO	127	52.9%
OCCASIONALLY	51	21.3%
Do you use tongue cleaner?		
YES	108	45%
NO	132	55%
Do you have deposits on your teeth?		
YES	49	20.4%
NO	100	41.7%
MAY BE	91	37.9%
Are there any coating on your tongue?		
YES	32	13.3%
NO	171	71.3%
MAY BE	37	15.4%
Do you have bleeding gums?		
YES	51	21.3%
NO	189	78.8%

**Table 3: Perception and knowledge towards halitosis**

<b>Do you have bad breath?</b>		%
YES	38	15.8%
NO	126	52.5%
Sometimes while eating onion, garlic	76	31.7%
<b>How do you know do you have bad breath?</b>		
I don't know	115	47.9%
I just know	78	32.5%
Someone told me	36	15%
Nonverbal communication of other people	11	4.6%
<b>Do you think improper brushing and diet is one of the cause for bad breath?</b>		
YES	157	65.4%
NO	83	34.6%
<b>Did you consult any dentist because of your bad breath?</b>		
YES	28	11.7%
NO	212	88.3%
<b>Are you aware of the test used to detect bad breath?</b>		
YES	54	22.5%
NO	186	77.5%
<b>Are you willing to under go treatment for bad breath?</b>		
YES	105	43.8%
NO	135	56.3%

## CONCLUSION:

The current study discovered that a very small percentage of participants self-reported having halitosis, a much higher proportion said that their stench bothered those around them. The majority of respondents said that instead of treating the underlying cause of foul breath, they would disguise it. Oral malodour is generally poorly understood in all of its facets. Therefore, it is important to promote increased public awareness and education. To lessen this issue, regular visits to dentists and other healthcare providers should be promoted. It should be stressed that dentists have a responsibility to educate and advise their patients about oral malodour, and dental students should receive enough training in handling this problem<sup>1</sup>by organising dental camps, lectures should be provided to students so as to improve knowledge about halitosis<sup>14</sup>.

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## Conflicts of interest

There are no conflicts of interest

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