Knowledge Level of Preclinic Students Faculty of Dental Medicine Universitas Airlangga About Halitosis

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ABSTRACT

Objective: This study aims to assess the knowledge of Universitas Airlangga preclinical students' faculty of dental medicine students on halitosis based on class and gender.
Methods: This study was a descriptive research approach by distributing questionnaires about the level of knowledge of Universitas Airlangga Faculty of Dental Medicine preclinical students about halitosis.
Results: The study was conducted on 99 respondents, where based on the generation that had the highest level of knowledge was in the class of 2018, while based on gender, men had a slightly higher level of knowledge than women.
Conclusion: The results showed as many as 57 respondents (57.6%) had a level of knowledge below the average, while the remaining 42 respondents (42.4%) had a level of knowledge above the average. In the frequency distribution of the knowledge level of halitosis by sex showed that the types of men and women do not have a significant difference, where the majority still have a level of knowledge below the average.

INTRODUCTION

Halitosis is a condition in which a person experiences unpleasant breath odours [1,2]. This condition is a common condition, but determining its prevalence is quite difficult. Several studies have shown different prevalence of 31.8% [3] or 53.51% [4]. Most people who experience halitosis feel uncomfortable because they feel ashamed of the condition [5]. This will be detrimental because it will disrupt sufferers' social interactions. A number of studies in developed countries at least 22% to 50% of people suffering from halitosis complain about the condition of bad breath that they are aware of themselves [6]. Several factors such as periodontal disease namely gum bleeding, gingival recession, and bad breath are one that not only affects individuals but also can influence social stigma [7]. The Previous study explained that all female respondents showed that 78.1% of respondents had smelled bad breath from their campus colleagues and 21.4% felt themselves suffering from bad breath [8].

Studies show that the prevalence of halitosis throughout the world occurs mostly in young, adult, and elderly populations. As many as 42% of children in Japan reported that they have halitosis. Another study showed that 23.6% of Korean teenagers had halitosis. While as many as 32% of the adult population in Switzerland were identified as having halitosis. The prevalence of halitosis can range from 20% to> 50% of the world's population [9,10]

Halitosis can be caused by many things either from the mouth or outside the mouth. As much as 75% comes from the mouth. The most common causes of bad breath are poor oral hygiene, tongue coating, periodontal disease, and decreased salivary flow. Factors originating from other than the oral cavity in the form of respiratory tract disorders, digestion, systemic diseases, metabolic disorders, medication, and the influence of food consumption [11,12].

Many studies on the prevalence of halitosis produce a variety of studies that cause differences in results. Halitosis which is also a social phenomenon is also found in the Faculty of Dentistry, Universitas Airlangga. A dental student is considered to better understand what is meant by halitosis, how the mechanism of halitosis emerges, and how to react to it. This paper describes how the attitude of the students of the Faculty of Dentistry, Universitas Airlangga addressing the phenomenon of halitosis in everyday life.

Methods

This study was a descriptive research approach by distributing questionnaires to Faculty of Dental Medicine, Universitas Airlangga preclinical students. The questionnaire has 18 points divided into three parts. The first part contains sociodemographic data such as age, sex, marital status, and population. The second part contains the presence or absence of systemic diseases such as diabetes, hypertension, chronic sinusitis, respiratory illnesses, and habits related to the onset of bad breath such as frequency of brushing your teeth, using dental floss, using mouthwash, and cleaning the tongue using tongue scarper. In the third part of the questionnaire contains how respondents know if they were affected by halitosis and the effect of halitosis on social relationships and the level of confidence in someone.

Location and Time

This study was conducted at the Faculty of Dental Medicine, Universitas Airlangga, Surabaya. The choice of location is based on the distance that is easily accessible and considered in accordance with the title of the funds to be achieved by this research. Then the study period will last around 1 month with details:

• One week: Collecting questionnaires during IKGM lectures.

• One week: Processing data from the results of the questionnaire

• Consultation with supervisors

This study did not require a very long time because the sample needed was simple.

Population

The population used in this study were the students of the preclinical stage of dentistry at Universitas Airlangga, namely the students of preclinical medicine from semester 1 to semester 7.

The choice of population was due to according to our group a preclinical dental student was considered to have to understand what was meant by halitosis, how the mechanism of halitosis emerges, and how to react to it because halitosis was a condition that will often be encountered when preclinical students continue their education to the clinic later.

The number of active dentistry students according to the study population was 600. Thus, the population may not be studied all because of limited time, manpower, and cost, then sampling was performed.

Samples

The sampling technique used in this study was stratified random sampling. The sample size used was 99 preclinical students.

Variable

1) Halitosis knowledge was the science that is understood about halitosis. This variable was conducted by means of a closed questionnaire method with answers "strongly disagree", "disagree" and "agree".

2) The level of knowledge of Universitas Airlangga, Faculty of Dental Medicine preclinical students is based on class and gender

Result

Table 1. Number of Respondents

The number of respondents in 2016 is 1 respondent in table 1, there are 41 respondents in 2017, there are 15 respondents in 2018, and there are 42 respondents in 2019 with a total of 99 respondents while 22 male respondents and 77 female respondents.

Table 2. Distribution of causes of halitosis

Question	Respondents Knowledge							
	Strongly disagree		Disagree		Agree		Total	
	n	%	n	%	n	%	N	%
Gum disease	5	5.1	23	23.2	71	71.7	99	100.0
Caries	2	2.0	21	21.2	76	76.8	99	100.0
Scented food	3	3.0	20	20.2	76	76.8	99	100.0

Demography	Note	Total	n(%)
batch	2016	1	1.0
	2017	41	41.4
	2018	15	15.2
	2019	42	42.4
	Total	99	100.0
Sex	Male	22	22.2
	Female	77	77.8
	Total	99	100.0

Dry mouth	7	7.1	23	23.2	69	69.7	99	100.0
Caffeinated Beverages	13	13.1	27	27.3	59	59.6	99	100.0
Tonsil Infections	2	2.0	24	24.2	73	73.7	99	100.0
Sinusitis	13	13.1	38	38.4	48	48.5	99	100.0
Gastric disease	4	4.0	23	23.2	72	72.7	99	100.0
Lung disease	25	25.3	41	41.4	33	33.3	99	100.0

Table above explained the causes of halitosis, namely the presence of gum disease as many as 71 respondents (71.7%), caries 76 respondents (76.8%), scented food 76 respondents (76.8%), dry mouth 69 respondents (69,7%), caffeinated beverages 59 respondents (59.6%), tonsil infections 73 respondents (73.7%), sinusitis 48 respondents (48.5%), gastric disease 72 respondents (72.7%), and lung disease - 33 respondents (33.3%).

From these data, it can be concluded that caries and flavourful foods occupy the top position as the most known cause of halitosis by respondents, each of them has a knowledge level of 77.8%. Then lung disease was the category of the cause of halitosis that is the least known by respondents with a level of knowledge of only 33.3%.

Table 3. Respondents in Each Knowledge Category by Force

			Knowledge Category		Total
			Under average	Above average	
Batch	2016	Total	1	0	1
		% Batch	100.0%	0.0%	100.0%
		% Total	1.0%	0.0%	1.0%
	2017	Total	24	17	41
		% Batch	58.5%	41.5%	100.0%
		% Total	24.2%	17.2%	41.4%
	2018	Total	8	7	15
		% Batch	53.3%	46.7%	100.0%
		% Total	8.1%	7.1%	15.2%
	2019	Total	24	18	42
		% Batch	57.1%	42.9%	100.0%
		% Total	24.2%	18.2%	42.4%
Total		Total	57	42	99
		% Batch	57.6%	42.4%	100.0%
		% Total	57.6%	42.4%	100.0%

The frequency distribution of respondents' knowledge level by force in table 3 showed that from the number of respondents in 2016, namely 1 respondent, 100% showed a category below the average. In the 2017 generation, 58.5% of the 2017 generation had below average knowledge, while 41.5% were in the above average category. In the 2018 class, 53.3% of the total 2018 respondents were below the average while 46.7% were above the average. In the class of 2019 showed 57.1% were in the category below the average while 42.9% included in the category above the average of the total respondents in the class of 2019.

Table 4. Respondents in each Knowledge Category by Gender

			Knowledge Category		Total
			Under average	Above average	
Sex	Male	Total	12	10	22
		% Batch	54.5%	45.5%	100.0%
		% Total	12.1%	10.1%	22.2%
	Female	Total	45	32	77
		% Batch	58.4%	41.6%	100.0%
		% Total	45.5%	32.3%	77.8%
Total		Total	57	42	99
		% Batch	57.6%	42.4%	100.0%
		% Total	57.6%	42.4%	100.0%

The frequency distribution of respondents' knowledge level by sex can be seen in table 4. In this study showed that of the total number of female respondents 58.4% showed a category below the average while 41.6% were categorized as above the average. For male, the frequency distribution of the level of knowledge from the total number of male respondents showed that 54.5% had below average knowledge, while 45.5% were in the above average category.

Discussion

Halitosis or better known as oral malodour is a condition of the oral cavity that has an unpleasant odour, this odour comes from exhaled breath due to the presence of sulphur compounds arising from the oral cavity or from the upper airway [13,14].

In this study, preclinical students of Universitas Airlangga Faculty of Dentistry as respondents with 99 random samples from all preclinical students by distributing questionnaires without clinical examination. This study shows that the prevalence of students who are aware of

halitosis is 63.2% so there are still many preclinical students who have halitosis.

The characteristics of the study subjects are distributed based on the generation and gender of the respondent. The distribution of research subjects by force and gender can be seen in table 1. Respondents were drawn from Faculty of Dental Medicine UNAIR preclinical students from 2016 to 2019. The 99 respondents with the most number were FKG UNAIR preclinical students in 2019, a number of 42 respondents (42, 4%) and the second highest is the 2017 class of 41 respondents (41.4%). Then, there were 15 respondents (15.2%) in the class of 2018, while in the class of 2016 there were 1 respondent (1%). Characteristics of the respondents' research subjects based on the sex of the respondents can be seen in table 4. A total of 77 respondents (77.8%) were female, while the remaining respondents were male.

The cause of halitosis is generally due to lack of oral hygiene, deep caries, periodontal disease, consuming cigarettes. Besides that, diet is the main cause of halitosis which is the process of breaking down proteins by bacteria. This bacterial breakdown of proteins produces odorous gases, such as hydrogen sulphide, methyl mercaptan, cadaver, skatol, and putricine. Hence, food products that are rich in protein can cause bad breath. Consuming certain foods, such as raw onions, will produce a distinctive odour, biofilms (biological layers) in the oral mucosa containing millions of bacteria, dental caries, gum inflammation, gum recession, plaque, and tartar, lesions / wounds in the mouth, salivary glands , tonsillitis / swollen tonsils, tonsillar plaque and tonsillar fluid, pharyngitis and pharyngeal abscess, dirty dentures, tobacco, smoking, lesions in the nose and ears, diabetes, fever, fasting and dehydration, hospitalized patients, stomach and oesophagus diseases, intestinal disease, lung disease, liver disorders, psychiatric patients, and somatic abnormalities [15,16].

The prevalence of dental caries is higher than dry mouth or gingival bleeding. Intraoral factors involved in the occurrence of halitosis are tongue coating, bleeding gums and dental calculus. Whereas extra oral factors associated with halitosis include digestive tract disorders, chronic sinusitis, upper respiratory tract infections, and lower socioeconomic status [17,18]. Caries and flavourful foods occupy the top position as the most known cause of halitosis by respondents, each of them has a knowledge level of 77.8%. In study conducted at Taibah University, certain types of food have the second largest order as the most known cause of halitosis by respondents [19,20]. Then lung disease is the category of the cause of halitosis that is the least known by respondents with a level of knowledge of only 33.3%.

The overall distribution of respondents' knowledge can be seen in Table 2. This overall knowledge is a description of the knowledge that pre-clinic students have in FKG UNAIR. There are 38 respondents (38.4%) had below average level of knowledge. While the remaining 61 respondents (61.6%) have above average level of knowledge.

The frequency distribution of respondents' knowledge level by force shows that from the number of respondents in 2016, such as 1 respondent, 100% showed a category below the average. In the 2017 generation, 58.5% of the 2017 generation had below average knowledge, while 41.5% were in the above average category. In the 2018 class, 53.3% of the total 2018 respondents were below the average while 46.7% were above the average. In the

class of 2019, it showed 57.1% were in the category below the average while 42.9% were in the category above the average of the total respondents in the class of 2019. According to this study, it could be concluded that the generation with the highest level of knowledge was in the class of 2018. While the oldest generation has the lowest yield. This might be due to the long time since the oldest generation received material on halitosis [21,22].

The frequency distribution of respondents' knowledge level by sex shows that from the total number of female respondents 58.4% showed a category below the average while another 41.6% were in the above average category. For male, the frequency distribution of the level of knowledge from the total number of male respondents showed that 54.5% had below average knowledge, while 45.5% were in the above average category. It can be concluded that preclinical students of Faculty of Dental Medicine, Universitas Airlangga male have higher levels of halitosis knowledge than female.

The results of the above study regarding the level of knowledge of Faculty of Medicine, Universitas Airlangga preclinical students about halitosis are much unexpected. The oldest generation, the 2016 generation has the lowest knowledge yield compared to the two youngest generations in Faculty of Dental Medicine, Universitas Airlangga.

Conclusion

The results showed as many as 57 respondents (57.6%) had below average level of knowledge, while the remaining 42 respondents (42.4%) had above average level of knowledge. In the frequency distribution of the knowledge level of halitosis by sex shows that the types of male and female do not have a significant difference, where the majority still have a level of knowledge below the average. Whereas, the frequency distribution of respondents' knowledge level based on generation shows that there is no significant difference other than in 2016, this is due to the unequal distribution of questionnaires in each generation. Based on the previous study, it is known that there is still a lack of preclinical student knowledge about halitosis and therefore the need for education in each individual will be the importance of knowledge about halitosis.

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