

# Comparison of Knowledge and Attitude Related to Oral Health and Behavior towards Gingivitis of Students of Sir Syed College of Medical Sciences, Karachi

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## ABSTRACT

**Background:** The unawareness of oral health affects the quality of life and its daily activities causing multiple oral manifestations such as caries, periodontal disease and gingivitis. Therefore, the aim of this study was undertaken to compare the knowledge regarding oral hygiene of medical and dental students of clinical and non-clinical level and to evaluate their behavior towards gingival health. **Methods:** A cross-sectional study was done at Sir Syed College of Medical Sciences, Karachi for girls, from July to August 2019 including medical and dental non-clinical and clinical students. A self-administered questionnaire was given to all study participants who gave consent to be participated in the study. Data was analysis using SPSS version 17.0 through descriptive analysis, frequencies and one way Anova was performed to compare means. **Results:** Total 226 medical and dental graduates participated in the study with mostly aged between 18-21 years (69.2%) from medical (55.5%) non-clinical (37.9%) section. While assessing knowledge of oral hygiene variable means were compared with age, field and year of study. When the behavior of study population towards gingivitis was evaluated only age group displayed significant results. **Conclusion:** Both medical and dental practitioners should also have appropriate knowledge of oral diseases and should play an active role in oral health promotion because many systemic diseases has oral manifestations as well. It is concluded from our study that medical students has more knowledge and practices related to oral health and related diseases thus more studies should be done.

**Keywords:** Oral Health, Medical and Dental Students, Gingivitis.

## INTRODUCTION

Oral health touches every aspect of our lives globally but frequently is taken for granted. It is a crucial state to maintain general health and welfare during the lifetime. The unawareness and the ignorance of oral health affect the quality of life and its daily activities causing multiple oral manifestations such as caries, periodontal disease and gingivitis.<sup>[1]</sup> According to World Health Organization (WHO), good oral health is "The Oral health which means being free of chronic mouth, facial pain, oral and throat cancers, oral sores, birth defects such as cleft lip and palate, periodontal (gum) disease, tooth decay and tooth loss, and other diseases and disorders that affect the mouth and oral cavity".<sup>[2]</sup>

Neglecting the oral health can have chief side effects on general health and can be fatal.<sup>[3]</sup> Recognition, treatment and prevention of oral diseases is the art and practice of dental hygiene so

good oral hygiene is the ground for avoiding 80% of dental problems.<sup>[4]</sup> Having improved oral hygiene involves a clean and healthy mouth, which can be achieved by proper brushing and flossing of teeth. The most effective method of maintaining good oral hygiene is mechanically removing plaque by tooth brushing, if done correctly and efficiently which in turn helps in promoting better gingival health by reducing plaque. If this does not removed properly are considered as primary cause of gingivitis and caries.<sup>[5]</sup> Gingivitis is mainly the inflammation of gums which usually results due to accumulation of bacterial plaque on cervical margins of teeth which varies according to the frequency of tooth brushing, diet and caries. Additionally, these factors also determine severity and type of gingivitis.<sup>[6]</sup> Plaque induced gingivitis is presence of inflammation of gingiva without loss of connective tissue attachment and it is, by far, the most frequent of all forms of periodontal disease. In order to measure severity of gingivitis, various approaches involve clinical assessment of the intensity of gingival inflammation using a 3-tiered system. Clinical signs of gingivitis are edema, gingival bleeding, and redness and can also be accompanied by pain.<sup>[7]</sup> According to an epidemiological study, it was found that in 12-yr old children prevalence of gingivitis was 23.7%.

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Studies have shown that there is a strong relationship between increased knowledge and better oral health.<sup>[8]</sup> An essential measure for health-related behavior is to have oral health knowledge. It is also important that understanding about oral health of the auxiliary health personnel should be good and it conforms to professional recommendations as they play a vital role in preventive information and health promotion and act as role models for general public and people of the community at large.<sup>[8,9]</sup> Similarly it is also important to identify the level of familiarity that is acquired by both medical and dental students and professionals.

According to past researches emphasis has been given to oral hygiene habits and its association with developing caries rather than its practice. Therefore the aim of this study was to compare knowledge regarding oral hygiene among medical and dental students of both clinical science and basic science level at Sir Syed College of Medical Sciences and to evaluate their behavior towards gingivitis.

**MATERIALS AND METHODS**

**Study Design and Setting:**

The study was carried out in Sir Syed Medical and Dental College for girls during the academic year of 2019. Ethical clearance from the authorities of Sir Syed College of Medical Sciences was done. This was a cross sectional study in which 226 medical and dental students from clinical and non-clinical study level was given a predesigned questionnaire assessing their knowledge related to oral health and behavior regarding gingivitis.<sup>[1]</sup>

**Sample Collection:**

Sample collection was done in July-August 2019. Consent was taken from each participant before induction in the study. A self-assessed questionnaire was made in disguise among the medical and dental students to inquire into their knowledge regarding oral hygiene and behavior towards gingivitis, which was given to participants.

**Data Analysis:**

The data were tabulated and analyzed by using SPSS v.17.0 software. Sampling was done through convenience sampling technique and sample size was determined through Open Epi, version 3,

having 95% confidence interval. The oral hygiene and gingivitis attributes were compared between age group, marital status, field of study and level of study using descriptive analysis and percentages. Means was compared using one way Anova.

**RESULTS**

After compilation of data total 226 medical and dental graduates participated in the study with mostly aged between 18-21 years (69.2%) from medical (55.5%) non-clinical (37.9%) section. As study population is medical and dental student's maximum participants are unmarried. [Table 1]

While assessing knowledge of oral hygiene variable means were compared with age, field and year of study. The timings of brushing showed statistically significant results in age group and field of study whereas duration of brushing showed significant results with field of study only. The amount of intake of fizzy drinks when linked with age group showed significant results with age groups. Visiting dentist on regular basis and use of interdental aids with age group and field of study has statistically significant p-value but the use of dental floss only showed significant pvalue when compare to field of study. The association of general body health with oral health showed significant results with age group [Table 2].

When the behavior of study population towards gingivitis was evaluated, only age group displayed significant results with change in color and lowering of gums, sensitivity of hot and cold sensation and cause of bad breath. [Table 3]

**Table 1: Frequency Distribution of Variables**

Variables	Mean ± SD	Classification	Percentage
Age	1.349±0.563	18-21	69.2%
		22-25	26.0%
		26-29	4.4%
Field	1.442±0.497	Medical	55.5%
		Dental	44.2%
Marital Status	1.026±0.161	Married	2.7%
		Single	96.9%
Year of study	2.225±1.11	MBBS Non-clinical	37.9%
		MBBS clinical	16.7%
		BDS Non-clinical	29.5%
		BDS Clinical	15.4%

**Table 2: Assessing Knowledge of Oral Hygiene**

Variables	Age	Field	Year
How often do you brush your teeth?	0.000160	0.003	0.394
For how long do you brush your teeth?	0.150	0.004	0.567
How Proper cleaning is done?	0.178	0.595	0.145
What is your reason for last dental visit?	0.706	0.131	0.371
How often do you take fizzy drinks/sweets?	0.000365	0.767	0.519
How often should you change your toothbrush?	0.588	0.848	0.874
Do you smoke?	0.645	0.144	0.221
Does brushing teeth	0.748	0.586	0.221

prevents dental decay?			
Are regular visits to dentist necessary?	0.008	0.009	0.350
Does general body health has a relationship to oral and dental diseases?	0.059	0.341	0.710
Do you know what interdental aids are?	0.053	4.5976E-7	0.915
Do you think use of dental floss is necessary?	0.578	1.8774E-11	0.255
Do you think rinsing your mouth after eating is important?	0.489	0.173	0.307
Do you think use of mouth wash can aid in better oral hygiene?	0.210	0.170	0.749
Do you think you should clean your tongue after brushing?	0.614	0.763	0.878
What kind of tooth brush is suitable for healthy people?	0.182	0.069	0.401

**Table 3: Assessing Knowlegde and Behaviour of Gingivitis**

Variables	Age	Field	Year
Do you find any redness or color change in your gums?	0.005	0.480	0.996
Do you find any glossiness or swelling in your gums?	0.165	0.564	0.697
Do you find any lowering of gums?	0.059	0.307	0.546
Do you feel sensitivity in any teeth?	0.133	0.968	0.112
Have you ever noticed bleeding in your gums?	0.946	0.168	0.781
Do you find bleeding in your gums after brushing?	0.092	0.602	0.843
How do you protect yourself from gum bleeding?	0.826	0.138	0.773
What is the commonest cause for bleeding gums?	0.834	0.426	0.683
What measure have you taken to control bleeding gums?	0.964	0.885	0.320
What is the commonest cause for bad breath?	0.000291	0.969	0.729
Do you think coffee/tea causes staining of teeth?	0.913	0.922	0.101
Do you think sensitivity to hot or cold can be treated?	0.050	0.094	0.760

## DISCUSSION

Oral health is one of the imperative meters of individual and public health.<sup>[10]</sup> Nowadays, various health care workers including doctors, nurses, pharmacist, and technicians are working in collaboration to provide complete medical care to the patient and society. In the developing nations, there is a high prevalence of oral disease in the society which can be due to neglect, shortage of resources, illiteracy, etc. Dental treatments are considered to be least priority in this population. Hence, health care workers are dealing with more patients daily, than those dealt by the dentists and therefore we felt a need to carry out a study to identify the level of knowledge, attitude and practice acquired by students.<sup>[1,3]</sup>

In our study, we compared the knowledge regarding oral hygiene among medical and dental students, which presented that the inclusive level of knowledge and attitude of our participants were modest, but their practice was lower in comparison. Grounded on categorized scores, the dental student respondents had great scores in all components as compared to medical students. This may be due to the lack of awareness concerning visiting dentists among medical students that affected the frequency of low visit which may probably be due to low awareness of importance of oral health, thus affects the student's health seeking behavior whereas dental students were more active and educated positively as their curriculum includes subjects related to oral health and its maintenance.<sup>[11]</sup>

In present study it was observed that only the age group falling in 18-21 presents appropriate healthy behavior and practice towards the dental health, which clearly specifies that being independent and carrying less responsibilities participants were

having high frequency of awareness and practice for maintaining healthy oral environment.

According to a study carried out in Mysore city where knowledge, attitude and practice of pre-University students was determined, it came to a conclusion that majority of students had a very good and profound knowledge of basic oral measures but their attitude on the contrary, was rather poor. About 88% students were aware that dental health is a major and essential part of general health, about 89% of the students had knowledge that dental was caused by sweets and sticky food whereas 90% students were very well aware that consuming alcohol, chewing ghutka and smoking lead had harmful effects on oral cavity and were leading cause for cancer. There was about 80% of students who knew that dental and gum diseases can be prevented by daily brushing teeth properly; however 77% were unaware of the treatment options available for bleeding gums.<sup>[12,13]</sup> Practice of modern medicine has become a joint effort of many groups of health workers, both medical and paramedical.<sup>[14]</sup>

Various health professionals working together constitute the health team to provide medical care for the patient and the society. Such health teams come across a variety of people every day as part of their profession.<sup>[12]</sup> Medical and dental professionals in their routine course of study come across many people of different age groups and backgrounds hence with proper knowledge and behavior they can educate and demonstrate correct methods to practice and maintain oral health and can act as role models not only for their family but also for the community at large scale.<sup>[4]</sup>

Being part of basic science faculty this study could help us understand better and could facilitate if any addition is required in their curriculum to get them

to understand the importance of good oral health and get them to spread awareness among general population. According to our results, medical non-clinical students have more knowledge, attitude and practice regarding oral health and related diseases due to more number of participants in that group. It is important that both medical and dental practitioners should have appropriate knowledge of oral diseases and should play an active role in oral health promotion. The motive being that there are a number of systemic diseases of medical interest that are related with periodontal diseases and a large number of these systemic diseases have oral manifestations.<sup>[9]</sup> Moreover, many drugs are associated with oral adverse drug reactions. Hence early diagnosis, screening and proper referral by these professionals may lead to beneficial outcomes such as improved access to oral health care which may in turn reduce the rate of morbidity and mortality. Being approached by majority of the population, it is the need of the hour that the general practitioners have adequate knowledge about oral health.<sup>[15]</sup>

Therefore, oral health and its awareness should include in medical sciences curriculum for their better understanding. The limitations of the current study encompass the lack of standard questionnaire for assessing the oral health attitude, knowledge and practices with that it was a single centered study, which mainly focuses on female students therefore more studies should be done including standard questionnaire, clinical examination and different centers for study participants.

## CONCLUSION

Both medical and dental practitioners should also have appropriate knowledge of oral diseases and should play an active role in oral health promotion because many systemic diseases have oral manifestations as well. It is concluded from our study that medical students has more knowledge and practices related to oral health and related diseases thus more studies should be done.

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