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RESEARCH ARTICLE

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING PERIODONTAL HEALTH AMONG THE STUDENTS OF PROFESSIONAL COLLEGES IN PUNE CITY

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ABSTRACT

Introduction- Oral health is an important factor in maintaining sound psychological and physical health. Awareness regarding oral health is considered to be an essential prerequisite for health-related behaviour. Association between knowledge and better oral health has been well document. Aims to assess the oral health awareness and knowledge about periodontal disease among professional students. **Materials and Methods-** Study was conducted among students of professional colleges. A standardised self-administered questionnaire consisting of multiple-choice questions and the received data was analysed. **Result-** A substantial lack of oral hygiene undergoes and limited knowledge of oral hygiene practices even in health professional students. **Conclusion-** Hence there is an urgent need for comprehensive educational program to promote good oral health and impart education about oral hygiene practice at an elementary level.

INTRODUCTION

Health is a universal human need for all strata of society. General health cannot be maintained without good oral health. The mouth is regarded as the gateway to the body and acts as a mirror that reflect the status of general health.¹ Oral health thus became an inseparable part of general health with a number of things influencing the oral hygiene practices, diet, socioeconomic status, literacy and even geographic location, therefore oral health knowledge is regarded as an essential part of an individual health related behaviour including their attitude towards dental care, dentist should in turn help determine oral health of population. Periodontal disease are usually referred to as inflammatory process occurring in and around the tissue surrounding the teeth in responses to bacterial/dental plaque accumulation. This acceration of bacteria is responsible for various chronic inflammatory responses. Periodontal disease has been linked to systemic disease and similarly systemic diseases can also have an impact on oral health.² There is bidirectional relationship and there is evidence that oral health depends on social, biological, environmental factor.³ It is common noted that educated strata of society are moving away from general health and diseases including oral but very minimal data is present. Knowledge of oral health is considered to be an essential prerequisite for health-related behaviour.⁴ Especially among the student of professional colleges they have the knowledge about oral hygiene more as compare to general population.

Periodontal disease comprising gingivitis and periodontitis are probably one of the most common diseases of mankind. Chronic periodontitis is multifactorial disease with high prevalence rate in India. Factor which contributes to steady rise in prevalence of periodontal disease includes poor oral health awareness. Prevention of oral disease can be achieved by poor tooth brushing, use of inter dental aids, flossing, proper dietary practice and regular visit to dentist.⁵ There is very little awareness regarding periodontal health among students of professional colleges. Management of periodontal disease on understanding of etiological factors, signs/ symptoms and Treatment of protocols of this condition. As reported by world health organisation (WHO) many oral diseases such as periodontal diseases are significant an essential part of individual oral health.⁶ Periodontal disease involves a chronic inflammatory process in the periodontium as a response to bacterial antigen in tooth plaque. The latest finding suggest that oral health can have an impact on systemic health and that this may have direct impact on certain conditions such as pulmonary disorders, diabetes mellitus, osteoporosis, cardio vascular problem, pancreatic cancer, Alzheimer disease.⁷ This kind of interrelationship demonstrates a cyclic association where a systemic disease makes the individual susceptible to oral infection and once oral disease has been established it in turn accentuates systemic condition. Therefore, importance should be made in the treatment of periodontal disease. Budding professional college students belongs to strata of society considered to have better knowledge and awareness than general population but assessment of actual status demands a

proper channel study.⁸The the aims and goals of this study is to assess the awareness/knowledge of periodontal diseases and impact on oral health and about oral hygiene practices among students of professional colleges.

MATERIALS AND METHODS

A questionnaire study was conducted among students of professional colleges. The objective of this study was to assess the oral health awareness and the knowledge about periodontal diseases. A structured, self-administered and close ended questionnaire was designed to collect the data. The questionnaire consisted of 15 knowledge based, 8 attitude based and 8 practice based questions. The questionnaire was made using google forms (Google LLC, Mountain View, California United States) and the link was distributed to 25 participants for pilot study. The responses were evaluated which shows Cronbach alpha value was 0.752 hence checked the reliability and validity of the questionnaire. The sample size was calculated using G*Power Software Version 3.1.9.2 (Heinrich Heine University, Düsseldorf) which was 172. The input parameter for sample size calculation used as follows: 80% power of the study, alpha error 0.05, effect size 0.6 and degree of freedom as 5. These study participants were selected using convenient sampling. A brief introduction about the study was given and informed consent was taken from all the participants. The P-value was set at 5%. Responses were collected and entered in a spreadsheet (Microsoft Excel, 2016). Statistical analysis was done using descriptive statistics (Number and percentage). Statistical package for the Social Science 23.0 version software (IBM Chicago, Illinois, United States) was used and result was analysed.

RESULTS

Out of 172 participants In table 1, when asked about which type of brushing technique is best for oral health 48.3% of the population voted for vertical motion while 31.4% voted for horizontal motion of brushing technique.68.6% of the population feel that dental floss should be used as an interdental cleaning aid. Currently out of the collected data 48.3% of the population take 1-2 mins to clean their teeth.

When asked about the commonest cause for bad breath 48.3% of the population voted for poor oral hygiene, 20.3% for systemic illness, 17.4% for onion/ garlic products and 14% for smoking. 48% of the participants feel that improper tooth brushing is the commonest cause for receding gums. In table 2, 48.3% of the population agree when asked that it is essential to gargle after consuming food. 86% of the population feel that old age people are more prone to periodontal disease. Out of 172 students of professional colleges 65.7% feel that it is essential to brush your teeth twice a day. 48.3% of the participants agree that bad oral hygiene affects the general health. 65.7% of the population agree that oral health is an integral part of general health. When asked oral diseases have implications on certain systemic diseases (cardio vascular, pregnancy low birth weight babies) 79.7% disagree to this statement. 65.7% agree that periodontal diseases are more prevalent in diabetic patients.

In table 3, 48.3% of the population was not aware that lasers are used in the treatment of periodontal diseases while 68.6% of the participants were aware that gums swelling sometimes occurs in pregnancy. Out of 172 participants 68.6% feel that coffee/tea causes staining of teeth. When asked that dental plaque/tartar builds up on tooth surface causes periodontal disease only 20.3% of the population agree while 65.7% were not sure about it. 68.6% of the participants feel that smoking affects the healing of periodontal tissues. Out of 172 students of professional colleges 68% of the population feel that periodontal diseases (diseases of gums and bones) are preventable. Providing proper knowledge and awareness about periodontal health among the students of professional colleges is really important.

DISCUSSION

Most of the people are unaware about the relationship between oral hygiene and systemic diseases such as cardiovascular disease and diabetes. Therefore, oral hygiene has mostly remained as an ignored and unrealized social problems. But professional colleges student should be aware about the oral hygiene status,therefore this study showed a positive attitude, certain “preventive behaviors” such as twice daily brushing, dental floss use, reduction in sweet consumption etc. were not adequate, which reflects a low level of knowledge among the students. People continue to neglect oral health, but seek medical care as required. However, it is not realized that often poor periodontal health can be a cause for deteriorating systemic health of the individuals.

Table 1. ‘Knowledge Based Questions’ responses of study Participants (N=172)

Sr. No.	Questions	Responses	N	%	Total N (%)
1	How many times you should clean your teeth	Once	24	14%	172 (100)
		Twice	118	68.6%	
		After every meal	30	17.4%	
		Never	0	0%	
2	What type of brushing technique do you think is best for oral health	Horizontal motion	54	31.4%	172 (100)
		Vertical motion	83	48.3%	
		Circular motion	35	20.3%	
		Randomly	0	0%	
3	How often you should change your toothbrush	Once in 3 months	83	48.3%	172 (100)
		Once in 6 months	24	14%	
		Every year	30	17.4%	
		Once every month	35	20.3%	
4	Do you think you should use mouthwash	Never	0	0%	172 (100)
		Once in 2 weeks	24	14%	
		Once a day	118	68.6%	
		As prescribed by dentist	30	17.4%	
5	What type of toothbrush do you use	Hard	24	14%	172 (100)
		Soft	83	48.3%	
		Ultra-soft	30	17.4%	
		Not aware	35	20.3%	

6	How much time you should take to clean your teeth	1-2 mins	83	48.3%	172 (100)
		3-5 mins	24	14%	
		Less than 5 mins	30	17.4%	
		Randomly	35	20.3%	
7	According to you, how often should you visit your dentist	Once	35	20.3%	172 (100)
		Twice	24	14%	
		Once in a month	113	65.7%	
		No visit	0	0%	
8	What is the commonest cause for bad breath	Smoking	24	14%	172 (100)
		Poor oral hygiene	83	48.3%	
		Systemic illness	35	20.3%	
		Onion/garlic products	30	17.4%	
9	Which interdental cleaning aid you should use	Dental floss	118	68.6%	172 (100)
		Interdental brush	0	0%	
		Toothpick	54	31.4%	
		Mouthwash	0	0%	
10	What are the causes of swollen gums	Vitamin C deficiency	30	17.4%	172 (100)
		Pregnancy	35	20.3%	
		Infection	24	14%	
		All of the above	83	48.3%	
11	According to you, what is the commonest cause for mobile teeth	Poor oral hygiene	35	20.3%	172 (100)
		Injury	24	14%	
		Old age	30	17.4%	
		All of the above	83	48.3%	
12	What is the common cause for receding gums (type of gum disease)	Improper tooth brushing	83	48.3%	172 (100)
		Injury to gingiva	24	4%	
		Diabetes/any systemic illness	35	20.3%	
		Poor oral hygiene	30	17.4%	
13	What is the main reason for periodontal diseases	Plaque and calculus	83	48.3%	172 (100)
		Hereditary	24	14%	
		Vitamin C deficiency	30	17.4%	
		Not aware	35	20.3%	
14	What are the commonest causes of dental plaque	Smoking	24	14%	
		Aerated drinks	30	17.4%	
		Sugar/Starchy foods	83	48.3%	
		Side effects of medicine	35	20.3%	
15	What are the commonest causes of sensitivity	Gums disease	35	20.3%	
		Aerated drinks	30	17.4%	
		Injury	24	14%	
		All of the above	83	48.3%	

There is evidence of similar studies in the literature which reflects the ignorance of oral health, lack of oral hygiene understanding, and limited knowledge of oral hygiene practices among students of different professional colleges. This survey was therefore initiated with a prime focus to determine the oral health awareness levels among the students of professional colleges. Although, in our study brushing was the commonly used method of cleaning, the percentage of subjects brushing their teeth twice daily which is 65% which is similar to 67% of the Chinese urban adolescents in a study by Jiang et al. in 2005.⁹ 62% of the Kuwaiti adults in a study by Al-Shammari et al. in 2007.¹⁰ It is noteworthy that 31% of all the professional students brushed their teeth using horizontal method that might result in compromised tooth structure and gingival health which is similar to the study conducted by MundoorManjunath Dayakar et al. in 2016,¹¹ which is 26% shows that students are more aware of horizontal brushing method than others methods. In our study, 48.3% were aware that bad oral hygiene effects general health and the results obtained were better compared to the study conducted by Ali et al. in 2012, Karachi¹² which was 35%. Every student in our study found to brush their teeth but only 65% did twice a day which is more as compared to study conducted by Sabeen et al. in ¹³ 2018 which was 37% which was quit

low as compared to our study. In this study the knowledge about gums swelling seen in pregnancy was 68.6% which was more as compared to the study conducted by Divya et al 2022.¹⁴ which shows only 25% were aware about the gums swelling during pregnancy. In summary, these results indicate that the “oral health knowledge” was not enough to influence the “oral health behavior”, but the behavior was dependent on the “attitude” of the students. This means that a positive attitude and adherence to good oral hygiene behaviors leads to better overall oral health through reduction in periodontal disease. There is a need to further educate students of different professional colleges on oral and periodontal health to enable them to improve their awareness as they are often the first contact point for patients. This education may help them to identify periodontal problems and aware about oral hygiene accordingly which can reduce the morbidity associated with periodontal diseases.

CONCLUSION

Standard of oral health awareness is satisfied with the last proportion of population among professional colleges are affected with many

periodontal problems. The result obtain in our survey are an eye opener for students among professional colleges from result of our survey we conclude that level of awareness of professional students .From our study we conclude that level of awareness in professional colleges students .As dentist we have to keep reinforcing the importances of corrections all aspects related with brushing, flossing along with importances of regular checkup.

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