

Assessment of Oral Hygiene Maintenance among Young Adults

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ABSTRACT

Objective: Oral health is essential for general health of the individuals, poor health is related to significant morbidity and it affects the quality of life of the affected person. The objective of the present study was to assess the oral hygiene practices among students of different institutions of Karachi city.

Study Design: Cross Sectional study.

Place and Duration of Study: This study was conducted at different educational institutions of Karachi and Hyderabad (Bahria University of Medical and Dental College University, University Dental College, Hyderabad) from January 2019 to June 2019.

Materials and Methods: It was conducted among 500 subjects who were randomly selected from the different educational institutions of Karachi and Hyderabad. A questionnaire was administered to determine the oral health knowledge and practice in 500 samples from January to June, 2019. The data was analyzed on statistical package for the social sciences (SPSS), version 23.

Results: The present study findings showed that majority of the male students 338 (98.5%) used tooth brush as a cleaning aid followed by miswak 4(1.2%) and Manjan 1(0.3%). Medium bristled tooth brush was more widely used among females as compared to males with a p-value 0.004. The change of tooth brush was observed within 1-3 months with significance of <0.05 p-value.

Conclusion: In this study potential for the improvement in the oral health status and interest in taking modern oral hygiene maintenance measures among students was found significant. However, much emphasize must be taken on a larger scale to implement these measures for general young population.

Key Words: Tooth brush, Oral Hygiene, Brushing teeth, Awareness

Citation of article: Najmi MA, Zeeshan J, Iqbal W, Tariq U, Al Absi MA, Irfan N. Assessment of Oral Hygiene Maintenance among Young Adults. Med Forum 2020;31(11): 119-122.

INTRODUCTION

Oral hygiene has been recognized as important as general health. It plays an important role in the pathogenesis of dental decay and periodontal disease therefore, maintaining a good oral hygiene is imperative for oral health. Regular cleaning of the teeth and routine dental check-up is mandatory for good oral hygiene maintenance^{1,2}. Research has shown that in developing countries, the oral hygiene practice has been ignored due to lack of oral health knowledge and low socioeconomic status.³

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Received: April, 2020

Accepted: August, 2020

Printed: November, 2020

According to World Health Organization (WHO), about 60% to 90% school going children and nearly every adult around the globe has dental caries.² Dental caries is the highly prevalent dental problem in most of the world. Studies have shown that 90% of the students have experienced dental cavities which lead to tooth loss at a young age.⁴

The practice of brushing teeth varies in different parts of the world. A study conducted in Jordan, illustrates that female students brushed their teeth more frequently than male students.⁵ Almas conducted a study in Gulf country which demonstrated that 50% of dental patients brushed their teeth twice daily. This study revealed that knowledge and awareness about oral health care was better in male subjects than female.⁶ The aim of this study was to assess the knowledge and perception about oral health care among students of Karachi and Hyderabad cities.

MATERIALS AND METHODS

This cross-sectional and multicenter study was carried out from January to June, 2019 for assessing dental care knowledge and awareness among school going pupils. 500 students participated in this study. For this study the non-probability convenient sampling technique was utilized. A questionnaire was designed to assess their

oral health knowledge comprising of demographic details and questions related to oral health, presented in simple English language. The questionnaire reflected the following variables: frequency of tooth brushing, type of dentifrices used and when to change a tooth brush. The present study was approved by Ethical Board Review Committee. An informed consent was taken prior to initiation of the study. Inclusion and exclusion criteria were strictly followed and only those participants were included in the study who agreed voluntarily to participate, while students who refused to give consent were excluded from the study. SPSS version 23.0 was used to enter and analyze data. All categorical variables were presented as frequency and percentages. To see the significance between gender with type of instrument used and other variables Chi-Square test was used. P-value of ≤ 0.05 considered to be statistically significant.

RESULTS

A total of 500 students participated in this study. Out of the 500, there were 343 (68.6) males and 157 (31.4) females. The results from this study revealed that the mean age of the participants, was 19.95 and $STD \pm 1.62$. In present study, the different types of instrument used for tooth brushing were also examined based on gender. As shown in Table 1, a majority of the male participants which was about 338 (98.5%) used tooth brush as a cleaning aid followed by Miswak and Manjan respectively 4(1.2%), 1(0.3%) as shown in Table 1. However, it was also observed that none of the females used Miswak and Manjan so the only cleaning aid used by them was a tooth brush. The gender difference was statistically in significant ($p=0.315$) when compared with type of instrument used.

Table No.1: Different Instrument for Brushing Teeth

Type of instrument used for brushing teeth	Gender			P-value
	Male	Female	Total	
Miswak	4(1.2%)	0 (0.0%)	4 (0.8%)	0.315
Tooth brush	338 (98.5%)	157(100%)	495(99.0%)	
Manjan	1(0.3%)	0(0.0%)	1(0.2%)	
Total	343 (100%)	157(100%)	500(100%)	

*Chi-square test was applied, P-value ≤ 0.05 considered to be statistically significant

Table No.2: Distribution of Types of Tooth Brush Bristles Among Gender

	Gender			P-value
	Male	Female	Total	
Soft	118(34.4%)	66(42%)	184(36.8%)	0.004*
Medium	206(60.1%)	87(55.4%)	293(58.6%)	
Hard	19(5.5%)	4(2.5%)	23(4.6%)	

*Chi-square test was applied, P-value ≤ 0.05 considered to be statistically significant

Moreover, 293 (58.6%) of the patients used medium bristled tooth brush, while 184 (36.8%) used soft bristled and 23 (4.6%) used hard bristled. Again, the use of medium bristled tooth brush was more popular in males than in females as shown in Table 2. P-value 0.004 was observed statistically highly significant.

Change of tooth brush was cross tabulated with gender, demonstrating that the p-value <0.000 was highly significant when comparing gender with change of tooth brush. Present findings showed that the replacement of tooth brush was most commonly seen during the period of 1-3 months in males 266 (77.6%), 102(65.0%) in females and least during 7-9 months, in 14 males (4.1%) and 5 females (3.2%), Table 3.

Table No.3: When to Change Tooth Brush (Time Bound)

Months	Gender			P-value
	Male	Female	Total	
1-3 months	266 (77.6%)	102(65.0%)	368(73.6)	0.000*
4-6 months	63 (18.4%)	50(31.8%)	113(22.6%)	
7-9 months	14 (4.1%)	5(3.2%)	19(3.8%)	

*Chi Square test was applied to see the significance, P-value ≤ 0.05 considered to be significant.

It was further observed in the study, that 255 (51.0%) a majority patients brushed their teeth once daily 255 (51.0%). Out of which, 213 (62.1%) were males and 42 (26.8%) were females. However, a slight difference was seen between the two genders who brushed their teeth twice a day as shown in Table 4. Statistically significant P-value was observed to be 0.000.

Table No.4: Frequency of Tooth Brushing with Gender

Months	Gender			P-value
	Male	Female	Total	
Once daily	213(62.1%)	42(26.8%)	255(51.0%)	0.000*
Twice daily	120(35.0%)	115(73.2%)	235(47%)	
occasionally	10(2.9%)	0(0.0%)	10(2.0%)	

*Chi Square test was applied to see the significance, P-value ≤ 0.05 considered to be significant

DISCUSSION

Dental plaque is considered to be one of the most important factors for dental caries and periodontal diseases. There is a variety dental cleansing materials available in the market to decrease the amount of bacterial growth which later causes dental problems.⁶ In present study, we also investigated the different measures that were taken by our subjects to maintain their oral hygiene. A majority of the male subjects used tooth brushes with tooth paste as a cleaning aid followed by Miswak and manjan respectively. However, it was also observed that none of the females used Miswak and Manjan so the only cleaning aid used

by them was tooth brush. Similar results were also observed by Oberoi study in which 83.6% patients used tooth paste with tooth brush as a cleaning aid.⁷ A study by Hind Al- Johani reported that approximately, all patients (95.4%) used tooth brushes for cleaning teeth.⁹ These studies also support our findings. In contrast, Singh et al reported in their study that approximately 60% of their patients used finger along with white powder for the cleaning of teeth, in rural areas of India.¹⁰

Research has shown that dental caries mostly seen in school going children. The duration of tooth brushing plays an important role in the efficient removal of plaque and buildup of tartar which prevents bad breath and keeps the teeth whiter.¹¹ Brushing teeth twice a day keeps the gums healthy and prevents from gum diseases. A study conducted on adults and children in Jakarta, Indonesia by Anton Rahardjo et al showed a larger number of participants brushing their teeth twice daily.¹² A study on Chinese adolescents showed that 67% of the subjects were brushing their teeth twice daily.¹³ Similarly, another study by Tsevenjav and colleagues, who compared the dentist with general population, revealed that 81% of dentists brushed their teeth twice daily.¹⁴ This could be due to fact that dentist are health care professionals who are more aware of preventive dentistry as compared to rest of the community. Dentists are considered to be the role models as they maintain a meticulous oral hygiene. A study conducted by Wagle M et al, showed that even a majority (96%) of the dentists brushed their teeth twice daily compared to a layman.¹⁵ These differences could be related to the knowledge and awareness of oral health care, socioeconomic status and eating habits. On the other hand, the current study findings showed a higher incidence among males who brushed their teeth once daily. A study conducted in Central Gujarat showed that majority of the male subjects, (82.1%) brushed their teeth once a day.¹⁶ This study also supported our findings. On the other hand, a meta-analysis data with respect to gender showed that females brushed their teeth significantly more often than males. It is also noticed that both male and female were found to have a similar risk of developing tooth decay.¹⁷

Abrasion of teeth is 'pathologic wearing a way of tooth substance through some abnormal mechanical processes. Use of abrasive dentifrices or aggressive teeth brushing with hard type of tooth brush may results in V-shaped or wedge shape defect on the root side of cement enamel junction area. Factors such as brushing technique, force applied, brushing frequency and stiffness of tooth bristles play an important role in the etiology of abrasion.^{18,19} In our study, most of the patients 293 (58.6%) used medium bristled tooth brush followed by soft bristled and hard bristled brush.

Change of tooth brush was also investigated in our study. Study conducted on Nigerian dental therapist showed that 98 (40.5%) of them replaced their tooth brush every 3 months. These results are in accordance to our study findings.²⁰ On the contrary a study conducted on oral health knowledge in rural Indian population showed that the knowledge on frequency of changing tooth brush was found to be poor.²¹ This again was due to the lack of awareness and affordability.

CONCLUSION

It is concluded that in the present study there is an improvement in the oral health status and behavior among young students. It is observed that general young population of Karachi and Hyderabad can practice oral hygiene maintenance measures if regular community visits and governmental interests in this regards are held in an organized pattern on a regular basis.

Author's Contribution:

Concept & Design of Study:	Muhammad Arqam Najmi
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Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Naseem S, Fatima SH, Ghazanfar H, et al. Oral Hygiene Practices and Teeth Cleaning Techniques Among Medical Students. *Cureus* 2017;9(7): e1487. Published 2017 Jul 18. doi:10.7759/cureus.1487
2. Azodo CC, Unamatokpa B. Gender difference in oral health perception and practices among Medical House Officers. *Russian Open Med J* 2012;1:1-4.
3. Petersen PE, Bourgeois D, Ogawa H, Estupinan-Day S, Ndiaye C. The global burden of oral diseases and risks to oral health. *Bull World Health Organ* 2005;83:661-9.
4. Petersen PE. Oral cancer prevention and control--the approach of the world health organization. *Oral Oncol* 2009;45:454-60.
5. Al-Omari QD, Hamasha AA. Gender-specific oral health attitudes and behavior among dental students in Jordan. *J Contemp Dent Pract* 2005; 6(1):107-14.
6. Almas K, Albaker A, Felembam N. Knowledge of dental health and diseases among dental patients, a

- multicentre study in Saudi Arabia. *Indian J Dent Res* 2000 Oct-Dec;11(4):145-55.
7. Munesh Pal Khamuani, Rida Amna, Sabeen Masood, Yousuf Ali Lakdawala. Oral Hygiene Practices- A Survey. *Pak Oral & Dental J* 2018; 38(3):349-352.
 8. Oberoi SS, Mohanty V, Mahajan A, Oberoi A. Evaluating awareness regarding oral hygiene practices and exploring gender differences among patients attending for oral prophylaxis. *J Ind Soc Periodontol* 2014;18:369-74.
 9. Johani HA. Oral Hygiene Practice among Saudi Patients in Jeddah. *Cairo Dent J* 2008;24:395-401
 10. Singh SV, Akbar Z, Tripathi A, Chandra S, Tripathi A. Dental myths, oral hygiene methods and nicotine habits in an ageing rural population: An Indian study. *Ind J Dent Res* 2013;24:242-4.
 11. Das UM, Beena JP, Azher U. Oral health status of 6- and 12-year-old school going children in Bangalore city: An epidemiological study. *J Ind Soc Pedod Prev Dent* 2009;27:6-8
 12. Rahardjo A, Maharani DA, Kiswanjaya B, Idrus E, Nicholson J, Cunningham P, et al. Measurement of tooth brushing frequency, time of day and duration of adults and children in Jakarta, Indonesia. *J Int Dental and Medical Res* 2015;(3):1-5.
 13. Jiang H, Petersen PE, Peng B, Tai B, Bian Z. Self-assessed dental health, oral health practices, and general health behaviors in Chinese urban adolescents. *Acta Odontol Scand* 2005;63:343-52.
 14. Tseveenjav, Battsetseg, Vehkalahti, Miira & Murtomaa, Heikki. Oral health and its determinants among Mongolian dentists. *Acta odontologica Scandinavica* 2004;62. 1-6.
 15. Wagle, Madhu, Trovik, Tordis, Basnet, Purusotam, Acharya, Ganesh. Do dentists have better oral health compared to general population: A study on oral health status and oral health behavior in Kathmandu, Nepal. *BMC Oral Health* 2014;14:23.
 16. Goryawala SN, Chavda P, Udhani S, Pathak NV, Pathak S, Ojha R. A survey on oral hygiene methods practiced by patients attending Dentistry Department at a Tertiary Care Hospital from Central Gujarat. *J Int Soc Prev Community Dent* 2016;6(2):115-119.
 17. Mamai-Homata E, Koletsi-Kounari H, Margaritis V. Gender differences in oral health status and behavior of Greek dental students: A meta-analysis of 1981, 2000, and 2010 data. *J Int Soc Prev Community Dent* 2016;6(1):60-68.
 18. Hanif A, Rashid H, Nasim M. Tooth surface loss revisited: Classification, etiology and management. *J Res Dent* 2015;(3):37-43
 19. Imfeld T. Dental erosion. Definition, classification and links. *Eur J Oral Sci* 1996;104:151-
 20. Azodo CC, Ehizele AO, Umoh A, et al. Tooth brushing, tongue cleaning and snacking behaviour of dental technology and therapist students. *Libyan J Med* 2010;5:10.3402/ljm.v5i0.5208.
 21. Vinnakota NR, Sanikommu S, Ahmed Z, Kamal Sha SK, Boppana NK, Pachava S. Is accredited social health activists' basic oral health knowledge appropriate in educating rural Indian population? *Ind J Dent Res* 2017;28:503-6.