Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20173316

Oral health knowledge, attitude and practices among male Qassim university students

Mahmoud F. Jaber^{1*}, Asif Khan^{1,2}, Yousif Elmosaad¹, Mustafa Mohammed Mustafa¹, Nagwa Suliman³, Ahmad Jamaan¹

Received: 14 June 2017 **Accepted:** 10 July 2017

*Correspondence: Dr. Mahmoud F. Jaber,

E-mail: mahmoud.jaber73@yahoo.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Good oral health not only promotes an individual to look and feel good, it also helps in preserving oral functions. Oral health is considered an integral part of an individual's overall health. The study was carried out to assess oral health knowledge and practices among male students of Qassim University.

Methods: This study included five hundred and eight Students from (4) male colleges in Qassim University enrolled in that academic year were invited to participate in this survey using a self-administered structured questionnaire consisted of (16) questions, written in Arabic and was pretested.

Results: The students had good knowledge on the basic oral health measures. Majority (63%) of them they knew that poor oral health lead to gum disease, (59.1%) students were aware that maintaining oral hygiene by using toothbrush and paste. The attitude toward regular visits to the dentist were necessary (81.5%), they perceived brushing of teeth regularly prevents dental decay (94.9%), Sweets affected the teeth adversely (87.4%) and Soft drinks affect the teeth adversely (84.4%). But still students had poor oral health practices they brush their teeth once daily (71.3%) and brushed for less than the optimal time of two minutes (55.7%).

Conclusions: Students had good knowledge on the basic oral health measures, but their attitude regarding oral health was diverse and practices toward oral health were relatively poor. Oral health education programs should be conducted with reinforcement, to close the gap between knowledge and practice.

Keywords: Oral health, Knowledge, Attitude, Practice

INTRODUCTION

Oral health is an essential component of general health and overall well-being of an individuals. Oral cavity and its surrounding structures that are free of any diseases is indicative of good oral health. This not only makes a person look and feel good, it is equally relevant in maintaining oral functions.

Oral hygiene is the process of protecting the oral cavity and keeping it healthy and clean by various modalities like brushing and flossing in order to prevent tooth decay and gum diseases.³ Oral health is just not limited to the teeth being healthy, but means a comprehensive protection of all the structures in the oral cavity.

Oral diseases are clearly related to behaviour, and the prevalence of dental caries and periodontal disease has

¹Department of Public Health, Qassim University, Al-Bukairiyah, KSA

²Department of Community Medicine, Adichunchanagiri Institute of Medical Sciences, B.G. Nagara, Mandya, Karnataka, India

³Department of Community Medicine, Gazera University, Sudan

decreased with improvements in oral hygiene and a decrease in the consumption of sugar products. This general favourable trend in reducing dental caries, however, has not been seen in several developing countries.⁴

Good oral health not only promotes an individual to look and feel good, it also helps in preserving oral functions.^{5,6} Oral health is considered an integral part of an individual's overall health.⁷ A good knowledge about oral health is necessary to pursue healthy oral practices.^{8,9} Prevention of Oral disease is mainly dependent on good oral hygiene.

Previous studies have shown that the main references for oral health knowledge are mass media, dental professionals, and dental literature. Previous Studies have shown that there is a direct relationship between increased knowledge of oral hygiene and better oral health. That mean Oral health knowledge is considered to be an essential prerequisite for health-related behaviour, although only a weak association seems to exist between knowledge and behaviour in cross-sectional studies. Nevertheless, studies have shown that there is an association between increased knowledge and better oral health. 13,14

Many studies about oral hygiene behaviours have been conducted among university students. But data is limited among university students of Saudi Arabia in general and more limited particularly in the region of Qassim. Therefore the present study was carried out to assess oral health knowledge and practices among Qassim University male students.

METHODS

Study design

A cross–sectional university-based study was conducted among Qassim University male students in academic year 2015–2016. Five hundred and eight students from (4) male colleges in Qassim University, enrolled in that academic year were invited from, to participate in this survey using a self-administered structured questionnaire written in Arabic and validated by public health specialists from faculty of public health and health informatics. It was voluntary participation, and informed consent was obtained from those who participated in the study. All the students were explained regarding the nature and purpose of the study. Permission to conduct the survey was obtained from the Deanship of Admission and Registration – Qassim University.

The questionnaire consisted of sixteen (16) Questions designed to evaluate the oral health knowledge, attitude and practice in relation to oral health among the students. The questionnaire was organized into 4 parts:

- The first part includes information related to the socio-demographic attributes of students including age and year of study.
- The second part assessed the participant's oral health knowledge and included (4) questions on knowledge about the cause and prevention of tooth decay and purpose of visiting dentist, and importance of oral health on general health.
- The third part was used to elicit their attitude towards the perception of the students toward necessity of the regular visits to the dentist, relationship between oral health and General Health, effect of soft drinks on teeth and attitude towards dental care.
- The last part assessed the practices in relation to oral health by using (4) questions regarding their materials used, frequency of brushing and oral hygiene.

Data collection

The students were requested to remain in the classroom after the lecture and to fill in the questionnaire. They were asked to respond to each item according to the response provided in the questionnaire. Responses included multiple-choice questions in which the students were instructed to choose only one appropriate response from a provided list of options. Two hundred and four students from college of art and science and one hundred and one students from the college of economic and administration located in Alrass, ninety nine students from college of engineering located in main campus and one hundred and four students from the college of public health and health informatics located in Al-Bukyriah completely filled questionnaires were collected giving a response rate of 100%.

Statistical analysis

All respondents were included in the data analysis of the study. The obtained data were analysed using the Statistical Package for the Social Sciences (SPSS) software for windows version 20.0. All statistical tests were performed using 0.05 as the level of significance at 95% confidence interval. Depending on the nature of the variables, descriptive statistics were used to tabulate and describe the data (frequency distribution, percentages), and inferential statistics (Chi Square tests) was used to examine association between categorical variables. For knowledge questions four point was the maximum possible score in which each correct answer was given one point and incorrect answer was given zero point. The maximum possible score for practice was four where each good practice was given one point while poor practice was given zero point. The maximum possible score for attitude was four where each positive attitude was given one point while negative attitude was given zero point. Poor knowledge, poor practice and negative attitude corresponded to a score of <mean, while mean and above were considered as good knowledge, good practice and positive attitude respectively.

RESULTS

More than 60% of the students participating in the study were aged 22-23 years and the mean age of them was: 22.34 ± 1.80), and approximately more than half of the students (62.3%) had two or more university education Table 1.

The above table depicts the knowledge among students about oral health. Majority(63%) of the students knew that poor oral health lead to gum disease. also 59.1% students were aware that maintaining oral hygiene by using toothbrush and paste prevents gum disease Table 2.

Table 1: Distribution of the students according to course of study and age (N=508).

Variables	Count	Percentage (%)
Age		
19-21 years	150	29.5
22-23 years	308	60.6
>25 years	50	9.8
Educational level		
One year	191	37.6
Two or more	317	62.4

Table 2: Shows level of students' knowledge regarding oral health (N=508).

Question	Response	Count	Percentage (%)
Does poor oral health lead to gum	No	188	37.0
disease?	Yes	320	63.0
	I don't know	156	30.7
	Using soft food	11	2.2
How do you prevent gum disease?	Using vitamin C	31	6.1
	Using dental floss	10	2.0
	Using toothbrush with paste	300	59.1
	I never visited a dentist	95	18.7
Why do you visit the dentist?	When I have dental pain	298	58.7
why do you visit the dentist:	Occasionally	68	13.4
	Regularly every 6-12 months	47	9.3
	I am afraid of the dental needle	72	14.1
Why do you not want to go to the	Treatment cost is high	140	27.5
dentist?	There are no dental clinics nearby	81	15.9
	There is no pain to go to dentist	215	42.3

Table 3: Shows attitude of university students toward oral health (N=508).

Variables	Response	Count	Percentage (%)
Regular visits to the dentist are necessary.	No	94	18.5
Regular visits to the dentist are necessary.	Yes	414	81.5
There is relationship between oral health and general	No	90	17.7
health.	Yes	418	82.3
Donalou hanshing of tooth anguents dontal doors	No	26	5.1
Regular brushing of teeth prevents dental decay.	Yes	482	94.9
Consider official this tooth advisorable	No	64	12.6
Sweets affect the teeth adversely.	Yes	444	87.4
Coft duinks offset the teeth advancely	No	79	15.6
Soft drinks affect the teeth adversely.	Yes	429	84.4
Hoing flyouide strongthons the tooth	No	431	84.8
Using fluoride strengthens the teeth.	Yes	77	15.2
Dentist always explain teeth problems and propose	No	315	62.0
solution	Yes	193	38.0
Tooth is weakened, because of reported electing	No	74	14.6
Teeth is weakened because of repeated cleaning	Yes	434	85.4

Table 4: Shows oral hygiene practices among university students (N=508).

Questions	Reponses	Count	Percentage (%)
How many times do you house your	Once per day	362	71.3
How many times do you brush your teeth?	Twice per day	123	24.2
teem:	More than twice per day	23	4.5
	Toothpicks	21	4.1
What do you use for brushing your	Dental floss	23	4.5
teeth?	Siwaak	45	8.9
	Brush with toothpaste	419	82.5
	After lunch	129	25.4
When do you brush your teeth?	Morning	241	47.4
	Before going to bed	138	27.2
Ear have long do you hough your tooth?	Less than two minute	283	55.7
For how long do you brush your teeth?	More than two minutes	225	44.3

Table 5: Shows the distribution of study participants by their overall level KAP regarding oral health (N=508).

Variables		Count	Percentage (%)
Vnovdodao	Poor knowledge	235	46.3
Knowledge	Good knowledge	273	53.7
Attitude	Negative attitude	201	39.6
	Positive attitude	307	60.4
Practice	Poor practices	220	43.3
Fractice	Good practices	288	56.7

Table 6: Shows chi square for association between knowledge attitudes and practices.

Variables		Knowledge Poor (%)	Good (%)	\mathbf{X}^2	95 % confidence interval (CI)
Attitudes	Negative	112 (22.0)	89 (17.5)	11.00	1.9 (1.31-2.70)
	Positive	123 (24.2)	184 (36.2)	11.98	
Practices	Poor practice	118 (23.2)	102 (23.0)	9.40	1.7 (1.17-2.41)
	Good practices	117 (20.1)	171 (33.7)	8.49	

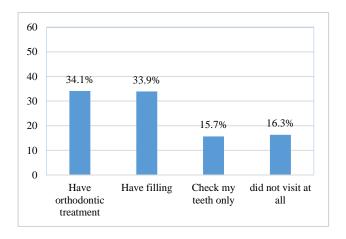


Figure 1: Showing the reasons for visiting the dentists.

The above table reflects the attitudes among the students regarding oral health. Majority of students perceived that regular visits to the dentist were necessary (81.5%), a relationship between Oral health and General Health exists (82.3%), brushing of teeth regularly prevents dental decay (94.9%), Sweets affected the teeth adversely

(87.4%) and Soft drinks affect the teeth adversely (84.4%) Table 3.

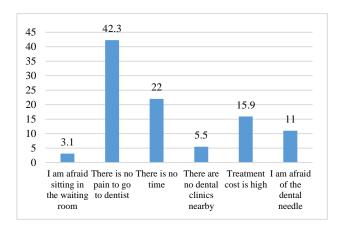


Figure 2: Showing the reasons for not visiting the dentists.

The above table shows that majority of the students brushed once daily, brushed with toothbrush and

toothpaste and also brushed for less than the optimal time of two minutes. Also it is found that majority of the students brush in the morning. Only 24.2% students brushed twice per day Table 4.

Knowledge attitude and practices score showed that 53.7 students had good knowledge, 60.4 had positive attitudes and 56.7 had good practices Table 5.

Figure 2 shows majority of the students did not visit the dentist because they did not have any dental problem. 15.9% did not visit a dentist because of a high cost of treatment.

The above table shows the relationship between knowledge, attitude and practices. 36.2% students had both good knowledge and positive attitudes and 33.7% (95 % CI 1.31-2.7) students had both good knowledge and good practices (95 % CI 1.17-2.41). A minor segment of the study population had good knowledge with negative attitudes (17.5%) and poor practices (23%).

DISCUSSION

In the developing countries, there is a high prevalence of oral disease in their communities. This can be due to neglect, scarcity of resources, poor knowledge and negative attitudes. This cross-sectional study aimed to assess the knowledge, attitude and practices of (508) students who were randomly selected from 4 colleges in Qassim University.

In the present study, it was reported that the students had a good knowledge about oral health. It was reported that majority (63%) of the students knew that poor oral health lead to gum disease. A good knowledge about oral health is necessary to pursue healthy oral practices. 16,17 Studies conducted in Spain and Kuwait showed an association between increased knowledge and better oral health. However good oral health not only promotes an individual to look and feel good, it also helps in preserving oral functions. 20

The attitudes among the students regarding oral health were diverse. Majority of students perceived that regular visits to the dentist were necessary (81.5%), This was in accordance to previously reported studies done by Baseer et al. and Timmerman et al. 21,22 This may be attributed to more favourable conditions like university dental hospital and dental clinic at primary health care centre, free dental treatment as university students. However students believed that these are a relationship between oral health and general health exists, brushing of teeth regularly prevents dental decay, Sweets affected the teeth adversely and soft drinks affect the teeth adversely. This could be due to the fact that students had excellent opportunities to promote their oral health.

In literature, it is evident that the easiest way is to practice daily brushing and flossing that in turn will reduce the dental diseases.^{23,24} In our study the prevalence of daily brushing was reported that majority of the students brushed once daily (71.3%), and 82.5% were using toothbrush and toothpaste, while a study conducted by Amin et al in 2008 who reported that 45% of students were using miswak as a brushing tool.²⁵ With regard to frequency of teeth brushing, our finding is less than other studies [52.6%] which reported twice daily frequency. Most previous studies report a high rate of twice daily or more tooth-brushing.^{26,27} In Lebanon, the proportion of twice-a-day brushers among college students was also higher (65%).²⁸

Our results showed that the students visited the dentist only when they had a dental problem, (33.9%). This could be interpreted as pain is the most important factor for visiting the dentist. As far as reason for not visiting the dentist, the respondents did not have any pain in the tooth 42.3%. Other reasons for not visiting the dentist were busy schedule (22.0%), high cost of treatment15.9% and afraid of the dental needle (11.0%).

The relationship between knowledge, attitude and practices. 36.2% students had both good knowledge and positive attitudes and 33.7% (95 % CI 1.31-2.7) students had both good knowledge and good practices (95% CI 1.17-2.41). This is similar to the finding of several studies that have shown oral health knowledge among the university students positively influences their attitude and behaviour, also in agreement with the findings of the study conducted by Ashley et al who found that oral health knowledge is considered to be an essential prerequisite for health-related behavior, even Vermaire et al 2010 found that a good knowledge about oral health is necessary to pursue healthy oral practices. ²⁹⁻³² While only a weak association seems to exist between knowledge studies.^{33,34} behaviour in cross-sectional Nevertheless, studies have shown that there is an association between increased knowledge and better oral health.35

CONCLUSION

We conclude that students had good knowledge on the basic oral health measures, but their attitude and practices toward oral health were relatively poor.

Recommendation

The study showed that oral health knowledge among the university students positively influences their attitude and behaviour. Oral health education programs should be conducted with reinforcement, so that students can close the gap between knowledge and practice by changing their attitude from negative to positive one.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- 1. Abdollahi M, Radfar M. A review of drug-induced oral reactions. J Contemp Dent Pract. 2003;4:10–31.
- Kumar H, Behura SS, Ramachandra S, Nishat R, Dash KC, Mohiddin G. Oral Health Knowledge, Attitude, and Practices Among Dental and Medical Students in Eastern India – A Comparative Study. J Int Soc Prev Community Dent. 2017;7(1):58–63.
- 3. Emmanuel A, Chang'endo E. Oral health related behaviour, knowledge, attitudes and beliefs among secondary school students in Iringa municipality. DMSJ. 2010;17:24-30.
- 4. Sheiham A. Changing trends in dental caries. Int J Epidemiol. 1984;13:142-7.
- 5. Abdollahi M, Radfar M. A review of drug-induced oral reactions. J Contemp Dent Pract. 2003;4:10.
- 6. Puy CL. The role of saliva in maintaining oral health and as an aid to diagnosis. Med Oral Patol Oral Cir Bucal. 2006;11:449–55.
- 7. Gift HC, Atchison KA. Oral health, health, and health-related quality of life. Med Care. 1995;44:601–8.
- 8. Muhammad S, Lawal M. Oral hygiene and the use of plants. Sci Res Essays. 2010;5:1788–95.
- Kumar, S. Oral Hygiene Awareness among Two Non Professional College Students in Chennai, India: A Pilot Study. Adv Life Sci Tech. 2012;5:31-6.
- Paik DI, Monn HS, Horowitz AM, Gitt HC, Jeong KL, Suh SS. Knowledge of oral practice related to caries prevention among Koreans. J Public Health Dent. 1994;54(4):205-10.
- 11. Hamilton ME, Coulby WM. Oral health knowledge and habits of senior elementary school students. J Public Health Dent. 1991;51(4):212-9.
- 12. Al-Zarea, BK. Oral Health Knowledge of Periodontal Disease among University Students. Int J Dent, 2013: 647397.
- 13. Al-Omari QD, Hamasha AA. Gender-Specific Oral Health Attitudes and Behavior among Dental Students in Jordan. J Contemporary Dent Pract. 2005;6:107-14.
- Ohshima M, Zhu L, Yamaguchi Y, Kikuchi M, Nakajima I, Langham CS, et al. Comparison of Periodontal Health Status and Oral Health Behavior between Japanese and Chinese Dental Students. J Oral Sci. 2009;51:275-81.
- 15. Komabayashi T, Kwan SY, Hu DY, Kajiwara K, Sasahara H, Kawamura M. A Comparative Study of Oral Health Attitudes and Behaviour Using the Hiroshima University, Dental Behavioural Inventory (HU-DBI) between Dental Students in Britain and China. J Oral Sci. 2005;47:1-7
- 16. Mitrakul K, Laovoravit V, Vanichanuwat V, Charatchaiwanna A, Charatchaiwanna A, Bunpradit, W, Arunakul M. Factors associated with parent capability on child's oral health care. Southeast Asian Journal of Tropical Medicine and Public Health. 2012;43(1):249.

- 17. Kuusela S, Honkala E, Rimpela A, Karvonen S, Rimpela M. Attitudes to oral health among adolescents with high caries risk. Acta Odontol. 2007;65:206–13.
- 18. Jassem A, Eino H, Sisko H. Oral health knowledge and behavior among male health sciences college students in Kuwait. BMC Oral Health. 2003;3:2.
- 19. Ernesto S, Francisco C, Paula FR. Oral health knowledge, attitudes and practice in 12-year-old schoolchildren. Med Ora Patol Oral Cir Bucal. 2007;12:614–20.
- Abdollahi M, Radfar M. A review of drug-induced oral reactions. J Contemp Dent Pract. 2003;4:10.
- Baseer MA, Alenazy MS, AlAsqah M, AlGabbani M, Mehkari A. Oral health knowledge, attitude and practices among health professionals in King Fahad Medical City, Riyadh. Dent Res J. 2012;9:386-92.
- 22. Timmerman EM, Hoogstraten J, Meijer K, Nauta M, Eijkman MA. On the assessment of dental health care attitudes in 1986 and 1995, using the dental attitude questionnaire. Community Dent Health. 1997;14:161-5.
- JamMoum H. Preventive oral health knowledge and practice in Jeddah, Saudi Arabia. Alexandria Dent J. 1999:24:7.
- 24. Al-Attas S. The effect of socio-demographic factors on the oral health knowledge, attitude and behavior in a female population. Saudi Dent J. 2007;19(1).
- 25. Amin TT, Al-Abad BM. Oral hygiene practices, dental knowledge, dietary habits and their relation to caries among male primary school children in Al Hassa, Saudi Arabia. Int Dent J. 2008;6:361–71.
- Kumar, S. Oral Hygiene Awareness among Two Non Professional College Students in Chennai, India—A Pilot Study. Adv Life Sci Tech. 2012;5:31-6.
- 27. Al-Hussaini R, Al-Kandari M, Hamadi T, Al-Mutawa A, Honkala S, Memon A. Dental Health Knowledge, Attitudes and Behaviour among Students at the Kuwait University Health Sciences Centre. Med Principles Pract. 2003;12:260-5.
- 28. Kassak KM, Dagher R, Doughan B. Oral hygiene and lifestyle correlates among new undergraduate University students in Lebanon. J Am Coll Health. 2001;50:15-20.
- 29. Saran R, Kumar S. Oral health knowledge, attitude and behaviour of medical and dental students. Int J Sci Res. 2016;5:359–60.
- 30. Al Kawas S, Fakhruddin KS, Ur Rehman B. A comparative study of oral health attitudes and behaviour between dental and medical students; the impact of dental education in United Arab Emirates. J Int Dent Med Res. 2009;2:6–10.
- 31. Ashley FP. Role of dental health education in preventive dentistry In: Prevention of dental disease. In: Murray JJ, editor. Oxford: Oxford University Press; 1996: 406-14.
- 32. Vermaire JH, Hoogstraten J, Van Loveren C, Poorterman NJA, Van Exel NJA. Attitudes towards oral health among parents of 6-year-old children at

- risk of developing caries. Commun Dent Oral Epidemiol. 2010;38:507–20.
- 33. Freeman R, Maizels J, Wyllie M, Sheiham A. The relationship between health related knowledge, attitudes and dental health behaviours in 14–16-year-old adolescents. Community Dent Health. 1993;10:397-404.
- 34. Kay EJ, Locker D. A systematic review of the effectiveness of health promotion aimed at improving oral health Community Dent Oral Epidemiol. 1998;26:132-44.
- 35. Woodgroove J, Cumberbatch G, Gylbier S. Understanding dental attendance behaviour. Community Dent Health. 1987;4:215-21.

Cite this article as: Jaber MF, Khan A, Elmosaad Y, Mustafa MM, Suliman N, Jamaan A. Oral health knowledge, attitude and practices among male Qassim university students. Int J Community Med Public Health 2017;4:2729-35.