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Oral health knowledge, attitude and practices among health professionals in King Fahad Medical City, Riyadh

Mohammad Abdul Baseer[1], Mohammed Suliman Alenazy[1], Mohammad AlAsqah[1], Mansoor AlGabbani[1], Aleemullah Mehkari[1]

[1]Department of Community and Preventive Dentistry, Riyadh Colleges of Dentistry and Pharmacy, Riyadh, Kingdom of Saudi Arabia

ABSTRACT

Background: The aim of this study was to assess the oral health knowledge, attitude and practices among the health care professionals working at KFMC, Riyadh.

Materials and Methods: A cross-sectional study of 161 health professionals consisting of doctors, nurses, pharmacists, technicians and medical students was carried out using a structured, self-administered, close-ended questionnaire. Responses were collected and descriptive statistics, ANOVA, Chi square tests and z-tests were performed.

Results: Doctors showed a high mean knowledge score as compared with other health professionals. Comparison of oral health knowledge scores among the different types of health professionals yielded statistically significant differences ($P < 0.05$). The attitude toward visit to the dentist varied; 52.7% of nurses and 50% of technicians said that they would like to visit the dentist regularly. 66.7% of the medical students visit the dentist whenever they get pain in their tooth. 54.5% doctors and 45.8% pharmacists are likely to visit the dentist occasionally. For 60% medical students, tooth ache was the driving factor for their last visit. Majority of the health professionals said that the fear of drilling was the main reason for avoiding the dentist. Almost all the health professionals said that they cleaned their tooth by toothbrush and toothpaste. Less than 50% of the health professionals used mouth wash and dental floss. Less than 10% used Miswak and toothpick as part of their oral hygiene.

Conclusion: Oral health knowledge among the health professionals working in KFMC, Riyadh was lower than what would be expected of these groups, which had higher literacy levels in health care, but they showed a positive attitude toward professional dental care.

Key Words: Attitude, health professionals, knowledge, oral health, practices

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Address for correspondence: Dr. Mohammad Abdul Baseer, Department of Community and Preventive Dentistry, Riyadh Colleges of Dentistry and Pharmacy, King Fahad Road Campus, P. O. Box: 84891, Riyadh 11681, Kingdom of Saudi Arabia. **E-mail:** basheer.dr@gmail.com

INTRODUCTION

Dentists as well as other health professionals realize that oral health cannot be divorced from the general health of the hospitalized patient. Many oral conditions are intimately related to systemic diseases. Optimally, total health care requires the combined efforts of the medical and dental professions.[1]

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The health care professionals working in KFMC come across a number of patients in their routine practices. With proper knowledge and oral health behavior, they can play an important role in the oral health education of individuals and groups and act as role models for patients, friends, families and the community at large. Before health professionals are trained as oral health educators, there is a need to determine the status of their own oral health knowledge and behaviors. Moreover, there were no reported studies on oral health knowledge, attitude and behaviors of health professionals working in the medical cities of Saudi Arabia. Hence, the present study was undertaken to assess the oral health knowledge, attitude and practices among the various health professionals working in KFMC Riyadh and to identify the factors influencing them.

MATERIALS AND METHODS

The ethical review committee of the Riyadh Colleges of Dentistry and Pharmacy approved the study. A cross-sectional survey of oral health knowledge, attitude and practices of health professionals working at KFMC Riyadh was carried out. A convenience sampling technique was employed to select health professionals such as doctors, medical students, technicians, pharmacists and nursing staff. Only those health professionals agreeing to participate in the study were considered. A structured, self-administered and close-ended questionnaire was designed and distributed among 200 health professionals working in KFMC, and 161 health professionals responded positively.

The questionnaire used in the study consisted of four parts. The first part was related to demographic data (age, gender, education and type of health professionals). The second part consisted of nine questions to assess dental and periodontal health knowledge (gingival bleeding means, prevention of gingivitis, meaning of dental plaque, what dental plaque causes, sweets affect dental health, soft drink dental health, does dental caries affect aesthetic, total health has relationship with dental health, treatment of toothache is as important as any organ of body). The third part consisted of eight questions to assess the attitude toward the dental profession (visit to dentist, regular visit to dentist necessary, dental management sought during last visit, driving factor for last visit, reasons for not visiting the dentist, dentist explains procedure before treatment, dentist caring patient properly about the patient, dentist cares treatment not prevention) toward professional dental care among the study subject. The fourth part consisted of three questions related to oral hygiene practices (oral hygiene methods used, brushing interval, brushing duration) among the study sample.

Statistical analysis

For the purpose of analysis, each correct answer was given score "one" and wrong and do not know answers were given score "zero" in the items included in the knowledge sections of the questionnaire. The individual scores were summed up to yield a total score. Descriptive statistics were obtained and mean percentage scores, standard deviation and frequency distribution were calculated for the oral health knowledge. ANOVA test was applied for the statistical evaluation of means. For attitude toward professional dental care and oral health practice items, chi-squared test and z tests were applied. A *P*-value of less than 0.05 was considered statistically significant. The data was analyzed by using the SPSS version 19.0 software.

RESULTS

More than 50% health professionals participating in the study were females, aged 21-34 years, comprising nurses and those who had university level of education [Figure 1].

Oral Health Knowledge-Related Questions and their Responses

A more number of doctors answered correctly that gingival bleeding indicates gingivitis (72.7%), gingivitis can be prevented by toothbrushing and flossing (54.5%), dental plaque refers to soft deposit (27.3%), dental plaque causes inflammation of the gums (36.4%) and sweets affect dental health (100%) as compared with other health professionals considered in the present study. Majority of the nurses in the present study agreed that dental plaque causes dental caries (62.6%) and treatment of toothache is as important as other body treatments (97.8%). A high percentage of technicians said that dental caries affects aesthetics (68.2%) and that oral health is related to general health (100%). Many of the pharmacists and medical students said that soft drinks affect dental health (95.8%) and oral health related to general health (100%), respectively.

Doctors showed a high mean knowledge score as compared with other health professionals. A comparison of oral health knowledge scores among the different types of health professionals yielded statistically significant differences ($P < 0.05$) [Table 1].

Attitude of Study Subjects Toward Professional Dental Care

Attitude toward visiting the dentist varied among

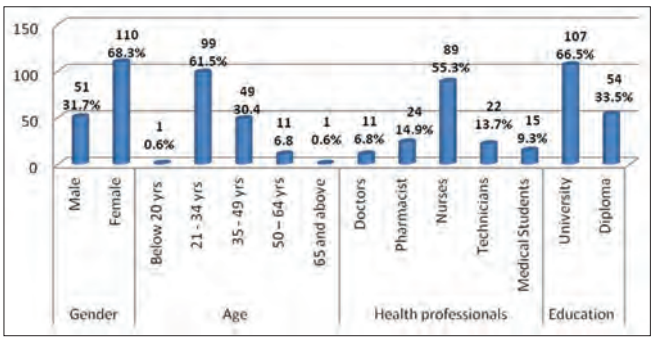

Figure 1: Distribution of study subjects according to age, gender, education and types of health professionals

the different health professionals. 52.7% of females, 44.9% university graduates, 52.8% nurses and 50% technicians said that they would like to visit the dentist regularly. 41.2% male and 66.7% medical students visit the dentist whenever they get pain in their tooth. 54.5% doctors and 45.8% pharmacists are likely to visit the dentist occasionally. Gender and different types of health professionals showed statistically significant differences with respect to visiting the dentist ($P < 0.05$). Females significantly more likely visited the dentist for dental examination and check-up as compared with male health professionals ($P < 0.05$). For 47.1% males, 38.9% diploma degree holders and 60% medical students in the present study, tooth ache was the driving factor for their last visit. Majority of the health professionals said that the fear of drilling was the main reason for avoiding or not visiting the dentist. A comparison between male and female health professionals showed statistical significance ($P < 0.05$) [Table 2].

More than 65% of the health professionals said that the dentist should explain the procedure before treatment, dentists should have a caring attitude toward patients and, most of the times, the dentist cared about treatment rather than prevention of oral diseases. "Dentists should explain procedure before treatment" was found to be statistically significant among the different types of health professionals and different educational groups ($P < 0.05$). "Dentist care patient" was found to be statistically significant among the different types of health professionals ($P < 0.05$) [Table 2].

Oral hygiene practices among the health professionals

Almost all the health professionals said that they cleaned their tooth by toothbrush and toothpaste. Less than 50% of health professionals said that they used mouth wash and dental floss. Less than 10% used Miswak and toothpick as part of their oral hygiene. Females were significantly more likely to use dental floss compared with male health professionals ($P < 0.05$). University graduates were significantly more likely to use dental floss and mouth wash as compared with diploma holders ($P < 0.05$). 99.4% of the health professionals said that they used toothpaste and toothbrush as part of their oral hygiene routine. Eighty percent (77.9%) of the health professionals brushed their teeth once in the morning. University graduates were significantly more likely to brush their teeth at noon as compared with diploma holders ($P < 0.05$). In the present study, 50.6% of the health professionals brushed their teeth for more than 2 min. Females were significantly more likely to brush their teeth more than 2 min as compared with the male counterpart ($P < 0.05$).

DISCUSSION

Practice of modern medicine has become a joint effort of many groups of health workers, both medical and paramedical. Various health professionals working together constitute the health team to provide medical care for the patient and the society at large. Such health teams come across a variety of people every day as part of their profession. A need was felt for assessing the oral health-related knowledge, attitude and practices of various health professionals in KFMC, Riyadh keeping in mind the expected role to be played by them in providing oral health care for hospital patients and the community on the whole

Table 1: Comparison of oral health knowledge in the different study groups

Knowledge score	Characteristic	Mean	*N*	Std. Deviation	F	*P*-value	Sig
Gender	Male	5.882	51	1.306	3.574	0.061	NS
	Female	6.300	110	1.303			
	Total	6.167	161	1.314			
Type of health professional	Doctors	6.636	11	1.286	3.043	**0.019**	S
	Pharmacist	5.708	24	1.398			
	Nurses	6.370	89	1.317			
	Technicians	6.136	22	1.037			
	Medical students	5.400	15	1.183			
	Total	6.167	161	1.314			
Education	University	6.149	107	1.264	0.061	0.806	NS
	Diploma	6.203	54	1.419			
	Total	6.167	161	1.314			

NS: Differences are not significant S: Bold value = Differences are significant at $P < 0.05$

Table 2: Pearson Chi-square tests for attitude toward professional dental care

		Gender	Education	Health professional
How often you visit dentist	Chi-square	17.65	0.248	25.67
	df	2	2	8
	Sig.	**0.000***	0.883	**0.001***
Are regular visit necessary	Chi-square	0.96	0.757	6.21
	df	1	1	4
	Sig.	0.32	0.384	0.18
Management sought last visit	Chi-square	17.748	2.567	39.46
	df	7	7	28
	Sig.	**0.013***	0.922	0.07
Driving factor for last visit	Chi-square	8.933	5.152	8.08
	df	3	3	12
	Sig.	**0.030***	0.16	0.77
Reason not visiting dentist	Chi-square	10.43	11.19	33.35
	df	8	8	32
	Sig.	0.23	0.19	0.40
Dentist explain before procedure	Chi-square	3.64	4.08	15.53
	df	1	1	4
	Sig.	0.056[a]	**0.043***	**0.004***
Dentist care patient	Chi-square	9.53	2.660	22.56
	df	2	2	8
	Sig.	0.00	0.265	**0.004***
Dentist cares treatment not prevention	Chi-square	0.30	1.50	6.54
	df	1	1	4
	Sig.	0.58	0.21	0.16

*Bold values indicate = Differences are significant at $P < 0.05$; df = degrees of freedom

in affecting a behavioral change in the society. This study presented an overview of oral health knowledge, attitude and practices of various health professionals working in KFMC Riyadh, Kingdom of Saudi Arabia.

The methodological strength of the present study was that it was the first of its kind conducted in KFMC, with an adequate sample size and diverse nature of oral health practices. The limitations of the present study include the lack of standard questionnaire for assessing the oral health knowledge, attitude and practices and the non-availability of comparable study instruments. As the results of the present study rely on self-reported data, the oral health practices may be biased through over- and underreporting due to social desirability.

In the present study, it was found that the level of knowledge was varied among health professionals, with less than 37% of the subjects having correct knowledge of meaning of plaque, role of plaque in causing gum disease and prevention of gingivitis. More than 59–65% of health professionals had correct knowledge about what gingival bleeding indicates, how caries affects aesthetics and the role of dental plaque causing dental caries. Oral health knowledge was found to be high among health professionals, with more than 85% having correct knowledge of how sweets affect dental health, soft drinks affect dental health, general health related to oral health and that the treatment of toothache is as important as other body treatments.

The knowledge of gingival bleeding indicates that gingivitis was known to a more number of females, but the knowledge of prevention of gingivitis by toothbrushing and flossing was known to a more number of males. Females know more about the role of dental plaque in causing dental caries than gum diseases, while the vice versa was true with males. In general, females showed higher oral health knowledge as compared with males, but the difference was not statistically significant. Similar results were reported by Khami *et al.*,[2] in which gender differences were not found in the knowledge of the senior Iranian dental students. The results of the present study were in contrast with the other studies such as those by Schwarz,[3] Kawamura *et al.*,[4] Ostberg *et al.*,[5] Al-Omari and Hamasha,[6] Lim *et al.*,[7] Pellizzer *et al.*[8] and Fukai *et al.*,[9] in which females showed significantly higher oral health knowledge compared with males.

Health professionals with diploma degree showed higher oral health knowledge compared with

university graduates. The possible explanation for this could be that diploma holders were more involved in patient care as compared with university graduates, who were more likely to be involved in patient administrative work.

Among the various health professionals considered in the present study, doctors answered more number of questions correctly, followed by nurses, technicians, pharmacists and medical students in this order. The more likely reason for this could be that clinical examination of the oral cavity was routine for doctors to assess the changes in response to disease, previous dental department postings before graduation, continuous medical education courses and personal involvement with dental patients. Hence, their knowledge regarding oral health could be more as compared with other health professionals. A comparison made among different health professionals did not yield any statistical significance.

Plaque, consisting of bacteria and their intercellular products, is generally considered as the primary etiological factor in both caries and gingivitis.[10] Less than 28% health professionals in the present study know the meaning of dental plaque. This suggests poor knowledge of dental plaque and its formation on the tooth and gums. For effective primary prevention of dental caries and periodontal disease, knowledge of plaque and its removal is essential.

Attitude toward professional dental care varied among the various health professionals. Less than 50% health professionals showed a positive attitude toward regular visits to the dentist; toothache was the driving factor for their last visit and fear of drill was the reason for not visiting the dentist. More than 50% health professionals showed a positive attitude toward necessity of regular visit to dentist, examination and check-up, dentist explaining the procedure before treatment, dentist's caring attitude and dentist's higher concern toward treatment rather than prevention. In the present study, 99% of the study subjects used toothbrush and paste as the preferred method of oral hygiene and less than 35% used dental floss. More than 50% brushed their teeth in the morning for more than 2 min.

96.3% health professionals in the present study said that regular visit to dentist was necessary, suggesting favorable attitudes. This result was higher than the previously reported studies by Sharda and Shetty,[11] Hoogstraten and Broer.[12] and Timmerman *et al*.[13] This may be attributed to more favorable conditions like working in medical city with proximity of dental center, provision of health insurance with dental services being covered in it, discounted fee or free dental treatment as member of health care team and socioeconomic and educational factors. In the present study, 43.5% health professionals said that they actually visited the dentist previously, which was higher (57.3%) in a study reported by Sharda and Shetty[11] and (88.3%) Usman.[14] Among the health professionals considered in the present study, nurses and technicians significantly more likely visited the dentist regularly compared with doctors, pharmacists and medical students ($P < 0.05$). Similarly, female health professionals significantly more likely visited the dentist regularly compared with males. Male health professionals and medical students significantly more likely visited the dentist whenever they had an attack of tooth pain. This shows that they had knowledge and attitude, but all the knowledge was not changed into practice. This may be explained by the lack of time, job commitments, night shifts and habitual personal neglect.

Overall, 35.4% health professionals said that toothache was the driving factor for visiting the dentist. Sixty percent of medical students and 36% nurses followed by others said that toothache was the driving factor for visiting the dentist. In contrast with the results of the present study, Al-Omari and Hamasha[6] reported 50% of the dental students in a Jordanian study and Sharda and Shetty[11] reported that in 30.3% of the professionals tooth ache was the main reason for dental visit. The main reason for dental visit was also reported to be toothache in a study by Doshi *et al*.[15]

Visiting the dentist for routine check-up was defined as preventive care use. In the present study, 65.2% of the health professionals visited the dentist for routine check-up. The percentage of female health professionals visiting a dentist for routine check-up was higher than their male colleagues. This could be explained on the basis that females usually care more about body and appearance. They would thus be more concerned about visiting the dentist. This finding agrees with the result of the study by Astrom *et al*.[16] among Tanzanian University students, where dental attendance behavior was higher among females.

Only 1.2% health professionals have sought fluoride application during their last visit to the dentist. This reflects that majority of the health professionals lacked knowledge of fluoride and its benefits in prevention of

dental caries. Similar findings were reported by Retna Kumari *et al*.,[17] in which the overall knowledge of fluoride was inadequate among the graduating medical students in Kerala. A greater portion of medical and paramedical students (96%) showed poor knowledge on the role of fluorides in dentifrices as they seem to ignore this fact on selecting dentifrices, as reported by Shiraz.[14]

Three models of professionalism have been described. First is the commercial model in which dental care is viewed as the commodity sold by the practitioner. Services are thus not based primarily on the client's need but rather on what the client is able or willing to buy. This rather crass view is distasteful to many. Second is the guild model, in which dental care is seen as a privilege with the professional dominant in practioners and patient relations. In this model, the professional is the repository of all knowledge and wisdom, the patient is a passive recipient and the practitioner has the ethical trust to provide best quality care. The third model is the interactive model, in which dental care is considered as a partnership of equals. In this model, the practitioner and patient jointly determine care provided through a combination of professional expertise and patient values.[18] With increasing popularity of the interactive model, majority of the technicians said that the dentist should show a caring nature toward patients and should value the patient's opinion. The response was statistically significant when compared with different health professional groups in the present study.

Oral hygiene practices have often been closely intertwined with religion and ritual practices, especially in Muslim countries. It has been widely documented that there was widespread use of tooth sticks, which were called miswaks or siwaks. Prophet Mohammed commanded his followers to clean their teeth with the siwak as a way of praising God.[19] Only 1.2% of the health professionals used Miswak for cleaning their teeth. This may be due to the fact that majority of the auxillary staff working in KFMC belongs to different religions. The present study revealed that 99.4% of the health professionals used toothpaste and toothbrush to clean their teeth. The percentage was lower (96.7%) in a study reported by Sharda and Shetty.[11] The percentage was higher (100%) in a study by Doshi *et al*.[15] and in a study by Maatouk *et al*.[20] among Tunisian dental students. 34.2% of the health professionals used dental floss as an oral hygiene aid; this percentage was higher compared with 22.7% students in a study reported by Sharda and Shetty,[11] in Kuwaiti adults in a study by Al-Shammari *et al*.[21] and that of the dental students in a study by Maatouk *et al*.[20]

Females were significantly more likely to use dental floss as compared with males in the present study. This result was in contrast with the previous study by Al-Omari and Hamasha,[6] Khami *et al*.[2] among Iranian dental students and Sharda and Shetty[11] among professional students. University graduates were significantly more likely to use dental floss and brush their teeth at noon compared with diploma degree holders in the present study.

Overall, 77.9% health professionals brushed their teeth once in the morning everyday. Around 3.9% brushed their teeth two times daily; first time in the morning and second time at night before going to sleep. A high percentage of subjects brushed their teeth twice daily in previous studies[15,20,21,11] when compared with the present study. In our study a higher percentage of females brushed their teeth for more than 2 min as compared with males, and the difference was statistically significant.

Health behavior as defined by Steptoe *et al*. is "the activities undertaken by people to protect, promote or maintain health and to prevent disease." The precise nature of the relationship between health-related attitudes, beliefs and behaviors is complex. The broad categories of factors that may influence individual and community health behavior include knowledge, beliefs, values, attitudes, skills, finance, materials, time and influence of family members, friends, co-workers, opinion leaders and even health workers themselves.[22]

The scientific literature offers conflicting results on the impact of oral health knowledge, attitude and oral health behavior on the oral disease. However, collection of such data has been helpful in planning preventive oral health education programmes targeted toward health professionals. There is scarcity of data regarding dental healthcare attitudes in medical city settings and hospitals. To develop a sound strategy for improving the oral health of various health professionals, a more representative database should be made available. For this, additional studies needed to be conducted in various health care facilities like government hospitals, private medical centers, private hospitals and large medical cities using reliable and indigenously developed attitudinal scales. With improved oral health knowledge and practices, these

health professionals can be used for community oral health educational and instructional programs in places where there is shortage of dental work force for catering to the oral health needs of the society.

CONCLUSIONS

It may be concluded that the oral health knowledge among the various health professionals working in KFMC, Riyadh was considerably lower than what would be expected of these groups, which had higher literacy levels in health care but showed a positive attitude toward professional dental care. Factors like gender, education and type of training received during health professional courses were all influencing the oral health practices. Knowledge of the health professionals needs to be increased so that it can have a positive attitude, leading to good oral health practices.

Therefore, we suggest and recommend that oral health awareness among these health professionals should be increased, for which the oral health professionals working collectively need to support the development of a "sound strategy." Oral health topics must be integral components of the health care professional training. There is need to stress upon basic preventive dentistry topics during the training of the health professionals. Continuing medical education should include oral health topics for health professionals to improve their knowledge of oral health.

REFERENCES

1. Harris NO, Godoy FG. Primary preventive dentistry in hospital setting. In: Godoy FG, editor. Primary preventive dentistry. 6 ed. New Jersy: Julie Levin Alexander publisher; 2004. p. 605-36.
2. Khami MR, Virtanem JI, Jafarian M, Murtomaa H. Prevention-oriented practice of Iranian senior dental students. Eur J Dental Educ 2007;11:48-53.
3. Schwarz E, Lo EC. Dental health knowledge and attitude among middle age and elderly in Hong Kong. Community Dent Oral Epidemiol 1994;22(5 Pt 2):358-63.
4. Kawamura M, Wright FAC, Yamasaki Y, Iwamoto Y, Suh S. An analytical study on gender differences in self-reported oral health care and problems of Japanese employees. J Occup Health 1999;41:104-11.
5. Ostberg AL, Halling A, Lindblad U. Gender differences in knowledge, attitude, behavior and perceived oral health among adolescents. Acta Odontol Scand 1999;57:231-6.
6. Al-Omari QD, Hamasha AA. Gender-specific oral health attitudes and behavior among dental students in Jordan. J Contemp Dent Pract 2005;6:107-14.
7. Lim LP, Schwarz E, Lo EC. Chinese health beliefs and oral health practices among the middle-aged and elderly in Hong Kong. Community Dent Oral Epidemiol 1994;22:364-8.
8. Pellizer C, Pejda S, Spalj S, Plancak D. Unrealistic optimism and demographic influence on oral health-related behavior and perception in adolescents in Croatia. Acta Stomatol Croat 2007;41:205-15.
9. Fukai K, Takaesu Y, Maki Y. Gender differences in oral health behavior and general health habits in an adult population. Bull Tokyo Dent Coll 1999;40:187-93.
10. Loe H, Theilade E, Jensen SB. Experimental gingivitis in man. J Periodontol 1965;36:177-87.
11. Sharda AJ, Shetty S. A comparative study of oral health knowledge, attitude and behaviour of non-medical, Para-medical and medical students in Udaipur city, Rajasthan, India. Int J Dent Hyg 2010;8:101-9.
12. Hoogstraten J, Broers NJ. The dental attitudes questionnaire: Comparing two response formats. Community Dent Oral Epidemiol 1987;15:10-3.
13. 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.
14. Usman S, Bhat SS, Sargod SS. Oral health knowledge and behavior of clinical medical, dental and paramedical students in Mangalore. J Oral Health Comm Dent 2007;1:46-8.
15. Doshi D, Baldava P, Sequeira PS, Anup N. A comparative evaluation of self-reported oral hygiene practices among medical and engineering university students with access to health promotive dental care. J Contemp Dent Pract 2007;8:1-8.
16. Astrom AN, Masalu JR. Oral health behavior patterns among Tanzanian university students: A repeat cross-sectional survey. BMC Oral Health [Open access]. 2001Dec [Last cited on 2011 July 19];1:(1):[about 1-7p]. Available http://www.biomedcentral.com/1472-6831/1/2
17. Kumari NR, Sheela S, Sarada PN. Knowledge and attitude on infant oral health among graduating medical students in Kerala. J Indian Soc Pedod Prev Dent 2006;24:173-6.
18. Burt BA, Eklund EA. The profession of dentistry and dental hygiene. In: Burt BA, Eklund EA, editors. Text book of Dentistry, Dental practice and the Community. 6 ed. Philadalphia: Elsevier Publishers; 2005. p. 3-13.
19. Mandel ID. Chemotherapeutic agents for controlling plaque and gingivitis. J Clin Periodontolol 1988;15:488-98.
20. Maatouk F, Maatouk W, Ghedira H, Ben Mimoun S. Effect of five years of dental studies on the oral health tunisian dental students. East Mediterr Health J 2006;12:625-31.
21. Al-shammari KF, Al-Ansari JM, Al-Khabbaz AK, Dashti A, Honkala EJ. Self-reported oral hygiene habits and oral health problems of Kuwaiti adults. Med Princ Pract 2007;16:15-21.
22. Park K. Medicine and social sciences. In: Park K, editor. Textbook of preventive and social medicine. 20th ed. Jabalpur: Banarsidas Bhanot Publishers; 2005. p. 581-614.

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