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Original Article

Assessment of oral health behavior among students of faculty of medicine and health sciences in Aden city- Yemen

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ABSTRACT

This study was conducted to estimate the knowledge, attitude and practices of oral hygiene among students of Faculty of Medicine and Health Sciences, including (Medicine, pharmacy and dental collages) in Aden -Yemen. Cross sectional questionnaire using 12 questions about the habit of using oral health products and knowledge was conducted from April to May 2018for the 205 students of different genders and ages. Among the study population, (48.29%) brushing at least twice a day, (42.43%) once a day. The participants use chemical toothpastes with (45.58%), about (48.29%) prevailed the choice of quality. The students' mothers were the guide for teeth brushing and oral health (37.07%), about (49.75%) of students replaced toothbrush every three months. Simple descriptive statistics and the chi-square test were applied to state characteristics related to the knowledge and to establish relationships between categorical variables, the data were analyzed statistically by using Graph pad prism 6. The finding of the current study indicated that the students have relatively acceptable oral health habits. However, there is a critical need to increase the consciousness about accurate dental cleaning system since oral hygiene has a great impact on the general health of the individual.

Keywords: Oral hygiene, knowledge, attitude, practices.

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INTRODUCTION

The practice of maintaining mouth and teeth clean is called oral hygiene. Oral health is considered as an essential part of general health, social confidence, self-esteem and quality of life [1]. In Yemen, dental diseases are prevalent due to unhealthy Khat chewing habit. Khat is an evergreen plant (Catha edulis), widely cultivated on the hill and mountain sides of Yemen and Ethiopia [2]. Long-term Khat chewing linked to have harmful effects on dental and oral tissues. These include periodontal diseases, dental discoloration and attrition, temporomandibular joint disorders, plasma cell stomatitis, mucosal pigmentation, keratotic lesions, and xerostomia. [3]. Another unhealthy habit, found in Aden city is a tobacco chewing (locally known as "shammah") which results in many oral diseases such as oral squamous cell carcinomas and inflammation [4]. The Khat chewing is considered relatively prevalent among students while tobacco chewing is prevalent among other socioeconomic level.

World Health Organization (WHO) stated that, oral health care should be based on the oral hygiene guidance, knowledge and encouraging people to self-care in order to boost and control oral health [1]. In order to gather information about the oral hygiene knowledge and habits of people in a city, a questionnaire must be carried out [5].

Dental diseases are usually associated with the low oral health knowledge, low socioeconomic status and low education. The prevalence of dental diseases can be reduced by increasing the level of knowledge according to Wool grove et al [6] and Hamilton and Coulby study [7]. The main aim of the current study was to estimate the knowledge, attitude and practices of oral hygiene among students of Faculty of Medicine and Health Sciences, including (Medicine, pharmacy and dental collages) in Aden -Yemen. Students of Faculty of Medicine and Health Sciences were selected for this study because they come from different social backgrounds and after years of professional education, these students will become a living model for their families and community. They will come in contact with a diversity of individuals every day as part of their profession so, they will be an adviser to better health care in general and oral health in specific.

METHODS

A self-administered questionnaire consisting 12 questions was distributed randomly among students of Faculty of Medicine and Health Sciences, including (Medicine, pharmacy and dental collages) in Aden -Yemen. A total of 205 students was involved in this study in the period from April to May 2018. The questionnaire involved questions that evaluated both the awareness and attitude toward using oral products. Ethical approval was obtained from the Ethics Research Committee of the Faculty of Medicine and Health Sciences, Aden University and verbal agreement was obtained from all contributors who agreed to participate in the study after clarifying the purposes, importance and interest of the research and that the participation is voluntary. Participants were informed that all gathered data will be used with full privacy and applied only for the research intentions.

Statistical methodology: Data were analyzed using Graph pad prism 6. Simple descriptive statistics were applied to state characteristics of the variables using numbers and percentages for variables related to the knowledge and attitude. To establish relationships between categorical variables, the chi-square test was used for questions related to daily practice, and statistical significance was recognized when $p < 0.05$.

RESULTS

The current study was carried out among 205 students, 80 were Medicine student, 72 pharmacy student and 53 from dentistry collage. The majority of respondents (67%) were male in dominant age group 21-26 years (78.05%) followed by age group 18-21 years old (17.58%). Demographic data presented in Table 1.

Table 1. Demographic Data of The Participants (Gender and Ages).

Demographics		Count	Percentage
Total		205	100%
Gender	**Male**	138	67.32
	Female	67	32.68
Age Between (18-21year)		34	16.59
Between (21-26 year)		160	78.05
Between (26-31Year)		10	4.88
Above 31 year		1	0.49

The participants use chemical toothpastes with (45.37%) of which 35.48% were medicinal students, 25.81% pharmacy students and38.71% dentistry student. Other student almost equally using herbal toothpastes (26.83%) and mouthwashes (27.80%) the detailed percentages for each collage is represented in Table 2.

Table 2. Preference of Using Oral Cleaning Products Among the Students of The Three Collages.

Which type of oral care products do you prefer?					
	Medicinal Collage n (%)	**Dental Collage n (%)**	**Pharmacy Collage n (%)**	**Total n (%)**	**P- value**
Chemical Toothpaste	33 (35.48)	36 (38.30)	24 (25.81)	93 (45.37)	0.0001
Herbal toothpaste	29 (52.73)	9 (16.36)	17(30.91)	55 (26.83)	
Mouth wash	18 (31.58)	8 (14.03)	31(54.39)	57 (27.80)	
Total	80	53	72	205	

About the frequency of using toothbrush (48.29%) of students were brushing at least twice a day, (42.44%) once a day and (9.26%) of students brushing after every meal, the percentage of each collage is illustrated in Table 3.However, these findings were distinct from the time of using toothpastes for all students, which were (41.95%) at morning, (37.07%) at bedtime and (20 .97%) at other times, as represented in Table 4.

Table 3. Frequency of Using Toothbrush Among the Students of The Three Collages.

How often do you use toothbrush in day?					
	Medicinal Collage n (%)	**Dental Collage n (%)**	**Pharmacy Collage n (%)**	**Total n (%)**	**P- value**
Once a day	35(40.22)	20 (22.99)	32 (36.78)	87 (42.43)	0.644
Twice a day	36 (36.36)	30 (30.30)	33(33.33)	99 (48.29)	
After every meal	9 (9.27)	3 (15.78)	7(36.84)	19 (9.27)	
Total	80	53	72	205	

Table 4. Time of using Toothpastes Among the Students of the Three Collages.

When you are use the toothpaste?					
	Medicinal Collage n (%)	**Dental Collage n (%)**	**Pharmacy Collage n (%)**	**Total n (%)**	**P- value**
At morning	39(45.34)	18 (20.93)	29 (33.72)	86 (41.95)	0.217
At bedtime	22(37.07)	29(38.16)	25 (32.89)	76 (37.07)	
Other times	19(20.97)	6 (13.95)	18 (41.86)	43 (20.97)	
Total	80	53	72	205	

The study also showed that approximately (50%) exactly (49.75%) of students replaced toothbrush every three months, while (32.19%) changed every six months and only (18.04%) replaced every month (Table 5).

Table 5. Frequency of Changing Toothbrush Among the Students of the Three Collages.

When you change toothbrush?					
	Medicinal Collage n (%)	**Dental Collage n (%)**	**Pharmacy Collage n (%)**	**Total n (%)**	**P- value**
Every Month	13 (35.13)	10 (27.02)	14 (37.83)	37 (18.04)	0.337
Every 3 Month	41 (40.19)	31 (30.39)	30 (29.41)	102(49.75)	
Every 6 Month	26 (39.39)	12 (18.18)	28 (42.42)	66 (32.19)	
Total	80	53	72		

The simple description statistic was used for the other questions related to the knowledge and attitude. The results are represented as percentages for the three faculties students. The standard of selecting toothpaste, about (48.29%) of the participants prevailed the choice by quality where the percentage of the participants that select by price was (11.71) and by flavor was (11.71%), by advertisement was (8.29%) and other (8.78%). The students preferred different types of commercial toothpastes; the percentages were relatively near each other. The majority of students are using their toothpastes for prevention of decay (47.32%) while, (20%) for whitening quality, (19.51%) for refreshing and (13.17%) as a habit. There are many factors that affect the toothpaste selection in this study such as: acceptable price with relatively good quality, advertisement and specialty of usage

for certain dental disease. About (37.56%) of the students changed their toothpaste brand frequently, (27.80%) occasionally changed them and (25. 85%) were brand loyal, while (8.78%) did not care about the brand. The students' mothers were the guide for teeth brushing and oral health (37.07%), only (22.43%) were received guidance from dentists. As well as, family (28.29%), dentist (29.76%) and friends (24.88%) have almost the same percentage in the students' decision making for the selection toothpastes.

DISCUSSION

The current study was conducted to obtain an idea about the common oral hygiene practice among medical students. The sample groups that were involved in this study, was limited to the middle age of students. Additional studies with larger sample size and different social, educational and economic levels should be carried out to get a better perspective about the knowledge and oral habit in Aden.

The chi-square test indicated that, there was a significant difference in the preference of using oral cleaning products between the students of the three collages (p= 0.0001) as represented in Table 2. The overall percent of students that is using chemical toothpastes was (45.37%) while (26.83%) of the students was using herbal products. Nowadays, there is a great tendency in using natural based toothpastes over chemical-based toothpastes, however, in this study the use of chemical-based toothpaste was prevalent over the use of herbal toothpastes and mouthwashes this might be due to a shortage in the herbal oral product in the Aden market. Interestingly, the lowest percentage of using the herbal oral product was belonged to dental students.

The study of the relationship between different faculties in the frequency of using the toothbrush demonstrated that, there was no significant difference between the students (p=0.644) as shown in Table 3. The result of the frequency of teeth brushing was comparatively less than other studies by Jain et al, [8] Jiang et al, [9] and Al-Shammari et al, [10] where 67% patients, 67% of Chinese urban adolescents, and 62% of the Kuwaiti adults brushed twice daily, respectively. The American Dental Association (ADA) recommends brushing twice daily as well [11]. This finding indicted the low concern about the importance of brushing teeth at least twice daily. However, these findings were dissimilar with the time of using toothpastes for all students, which were (41.95%) at morning, (37.07%) at bedtime and (20 .97%) at other times, which might be due to not using the toothpaste each time they use the brush. There was a significance difference between the students of different faculties in the time of using toothpastes (p=0.217).

The data related to the toothbrush replacement indicated that about (49.75%) of overall students changed their toothbrush every three months. There was no significance difference between the three groups of students (p=0337) as summarized in Table 5. According ADA, the toothbrush should be replaced every three to four months, or sooner if the bristles are frayed [12]. The result was similar with the result of Turkish student (49%) [13], though, the result was near (81.6%) among Italian students [14]. This supposes that these students are unconscious of the fact that continued usage of toothbrushes not only reduce the efficiency in removing plaque but also causes trauma to gingival tissue. They should be educated about the significance of changing of toothbrush at constant intervals.

The data concerning the selection of tooth pastes, were varied according the purposes behind using specific toothpastes but the highest percentage of students were concerned about the quality of the toothpaste which indicated a moderately good oral health knowledge. In addition, the students preferred anti-decay toothpastes followed by toothpastes for whitening purpose. This evidence might be an indicator of spreading tooth decay and the problem of tooth discoloration that result from the phenomenon of khat chewing among university students. There are many factors that affect the toothpaste selection in this study such as: acceptable price with relatively good quality, advertisement and specialty of usage for certain dental disease. However, the students should consult their dentist before purchasing toothpastes for specific oral diseases. The ADA accepted toothpaste is important, but the brushing technique is crucial.

The finding relating to the guide for the teeth brushing and oral health exhibited that, the students' mothers were the guide for teeth brushing and oral health (37.07%), only (22.43%) were received instructions from dentists. Although, the oral health habits and knowledge are affected greatly by familial standards, individual understanding, social insight, and other life situations [15], this study results showed that there is a need to increase the awareness to receive a proper practice for dental cleaning and oral health from experts.

CONCLUSION

The finding of the current study indicated that the students of the selected faculties with health sciences background have relatively acceptable oral

health habits. Most of the students brush their teeth at least twice a day and change their toothbrush every three months. However, oral health still requires appropriate oral health education among university students. Oral health education, programs and training relating to the appropriate oral habits, hygiene and avoiding unhealthy habits (Khat chewing and Chamma) are recommended to improve oral health, not only among the university students but also in primary schools because quality of life during childhood have an influence on the later life stages. In order to get a good reflection of oral habits and practice in Aden city, the survey should be conducted across a wider social and economic group in the society.

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