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Oral health Knowledge among Public Preparatory Schools Students in Benghazi City

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Abstract

Objective: The scope of this study is to assess the level of oral health knowledge among adolescents students aged between 12-15 attending public preparatory schools in Benghazi, Libya, and to compare between female and male students in oral health knowledge level in association to the level of their parents education.

Methods: A cross sectional descriptive study was used in this research that analyzed data from a representative sample at a specific time by using a modified questionnaire, rate of response was 89.3%,the questionnaire included two parts, demographic and information about oral health, statistical analyses and chi square test were used and statistical significant was set as p=o.o5.

Results: In the total sample, 45.8% of participants were males and 54.2% of participants were females**,** study analyses showed that students who were interested to get information about oral health 95%, also study analyses showed that students who were interested to get information about oral health were significantly of 97.2% in females, whilst 93.2% in males, also the results showed that the ninth grade of age fifteen have more knowledge about the importance of oral health.

Conclusion: It can be concluded from this study that females adolescents tend to visit dentist more than males, The study revealed that females engage better in oral hygiene behavior and possess a greater interest in oral health than do males, Parents help and encouragement about oral health self-care had a significant relationship with higher proportion in females, and the overall knowledge of adolescents was good.

Keyword: *Oral health knowledge among adolescents.*

NTRODUCTION

Oral health is an integral part of general health, and Oral health status has a direct impact on general health and conversely general health influences oral health. Oral health knowledge is considered to be an essential prerequisite for health related practices, also there is an association between increased knowledge and better oral health, because individuals who assimilate oral health knowledge most probably has a sense of personal control over their oral health and they are more likely to adopt self – care practice. There is a strong evidence between Oral health knowledge and better oral health practice by giving adequate information, motivation and practice of oral health measures to individuals , and explain that people with more positive attitudes towards their oral health are influenced by better knowledge in taking care of their teeth [(1)].

Therefore, the first step in establishing good oral habits is to provide relevant knowledge to children and adolescents to raise their awareness of how to prevent oral disease [(2)].

One of the essential components of primary health care is oral health services, and the rates of utilizing these services are higher for adolescents than for adult age group, because adolescence is a period when oral hygiene practices generally decline, while poor dietary habits and high caloric intake abound [(3)].

So, it is important to review the knowledge of oral health of adolescents, even though they are educated with the objectives of including healthy life styles practices to last for a lifetime [(4)].

An adequate oral health knowledge during adolescence period improve attitudes and behaviors toward dental health, and enhances adolescents self – esteem, because pleasing esthetics afforded by good oral health help them to be more welcomed by others, and adolescents who hold favorable oral health related beliefs overtime have better oral health in their later years than those who do not, this implies that changing beliefs should result in changes in behaviors [(5)].

As adolescents became aware that good oral health is essential, the demand for dental services will turn into an effective desire for oral health care , and oral health professional started to provide programs of prevention and oral health education as well as opportunities for treatment in the office , home , school and community [(6)].

Developing oral health promotion programs that include oral health knowledge and dental health education within a school setting with collaboration between oral health professionals, trained teachers, and community could play a significant part in oral health promotion for adolescents [(7)].

Poor oral health in adolescents could be attributed to several factors mainly lack of oral health awareness and over consumption of refined carbohydrate , those who suffer from this problems are twelve times more likely to have restricted activity days than those who do not which may reduce their performance at school, and success in later life [(8).]

Parents undoubtedly play a role in maintaining the oral health of their children in case if they have good knowledge and attitudes toward oral health, but there are many factors emerged as significant factors influencing parents knowledge and attitudes such as socioeconomically, environmental, deprivation, ethnicity, cultural and educational status [(9)].

The World Health Organization global strategy for prevention and control of oral disease is a new strategy for managing prevention and control through strengthening the work of oral health programs for improving oral health globally especially in developing countries by linking with other technical and national public health programs of disease prevention and health promotion, as well as facing the major challenge which is translating knowledge into action programs for oral health of adolescents [(10)].

METHODS

This study is a cross-sectional study, and was conducted from March 2017 to January 2018 in Benghazi, Libya. The population of the current study consists of public preparatory schools students in Benghazi city, the number of the schools were

eighty two distributed in seven areas, forty two school was selected randomly for this study.

The total number of the students attending these schools in (2016-2017) was (25570), the males students number was (11861), and females students number was (13709). One public preparatory school for boys, and one for girls were simple random chosen from each area. The grades were randomly chosen and the students were systematically alternative chosen. The sample size was determined by a sample size calculation according to Krejcie –Morgan [(11)]. The number obtained was (2743).

Data collection method was based on a questionnaire; the survey questionnaires distributed for chosen sample students, the total sample of the questionnaire survey was (2450) to which questionnaires were distributed.

The questionnaire developed for this study is divided into two parts, first part is for respondent‘s background information and includes school name, grade, gender, age, address, and his/her level of parents education. The second part aims to gather respondents‘ knowledge about oral health on eighteen statements [(12, 13)].

A pilot study was done to pre-test the questioner to assess the acceptability of the questions and avoid potential misunderstanding of the questions and according to the results the appropriate adjustment were made. The co-efficient alpha score (or Cronbach's Alpha) [(14)], is used to measure the reliability the survey questionnaire. The alpha coefficients in thirty cases as pilot study for eighteen statements are more than 72%. These results indicate that the data obtained from questionnaire survey are reliable and suitable for further analysis.

Chi-square test of proportions was used to compare differences in proportions between the groups, All analyses were performed by excel 2010, and using SPSS version 23 and statistical significance was set as $\alpha = 0.05$.

RESULTS

Profile of Respondents is important to introduce the background of respondents participating in the survey to understand the level of the respondents. Table .1 states that 1122 (45.8%) of respondents participating in the survey were males and 1328 (54.2%) were females. This table presents that 202(8.2%) of

respondents participating in the survey are aged 12 years, followed by 662(27.0%) of age from 13 years and most participants were in the age 14 years of about 828,

(33.8%), whereas758(30.9%) from age 15 years. This indicates that most of the respondents from adolescents.

The Table also shows that (33.4%) (or 818 out of 2450) of the respondents participating in seventh grade, while (34.2%) (or 837 out of 2450) in eighth grade. It is also notable that (32.4%) (or 795 out of 2450) of the respondents participating in the survey are in the ninth grade. Educational qualification of the parents is an important indicator about respondent‘s background.

This table shows that the majority of parents’ participating have obtained a Bachelor‘s Degree or obtained Master‘s degree of about 943(38.5%), and 949(38.7%) for both parents.

Table 1: Description of the samples according to the demographic background of respondents

Variables	Classification	Numbers of respondents	Percentage
Gender	Male	1122	**45.8**
	Female	1328	**54.2**
	Total	2450	**100.0%**
Age	12 years	202	**8.2**
	13 years	662	**27.0**
	14 years	828	**33.8**
	15 years	758	**30.9**
	Total	2450	**99.9%**
Grade	Seventh grade	818	**33.4**
	Eighth grade	837	**34.2**
	Ninth grade	795	**32.4**
	Total	2450	**100.0%**
Father Education Level	No education	210	**8.6**
	Primary school	124	**5.1**
	Preparatory school	592	**24.2**
	Secondary school	581	**23.7**
	University or higher education	943	**38.5**
	Total	2450	**100.0%**
Mother Education Level	No education	182	**7.4**
	Primary school	215	**8.8**
	Preparatory school	543	**22.2**

Secondary school	561	**22.9**
University or higher education	949	**38.7**
Total	**2450**	**100.0%**

Table 2: Importance of oral health care for preventing oral disease by gender

Gender	Yes	No	Total
Male	1069 (95.3%)	53 (4.7%)	1122 (100.0%)
Female	1297 (97.7%)	31 (2.3%)	1328 (100.0%)
Total	2366 (96.6%)	84 (3.4%)	2450 (100.0%)
χ^2 = ١٠.٤٨٦	**df=1**	**p-value=0.001**	

Since males and females have different psychological behaviors, it is possible that their oral health knowledge might be different as well. It has been found that females engage in better oral health care for preventing oral disease. In general, this result suggested that most of the students know the importance of oral health care for preventing oral disease, which was statistically significant (p-value=0.01) in association.

Table 3: The reasons of visiting dentist by gender

Gender	Pain	Check up	Esthetic	Total
Male	776 (69.2%)	273 (24.3%)	73 (6.5%)	1122 (100.0 %)
Female	843 (63.5%)	394 (29.7%)	91 (6.9%)	1328 (100.0 %)
Total	1619 (66.1%)	667 (27.2%)	164 (6.7%)	2450 (100.0 %)
χ^2 = ٩.٤٤٥	**df=2**	**p-value=0.009**		

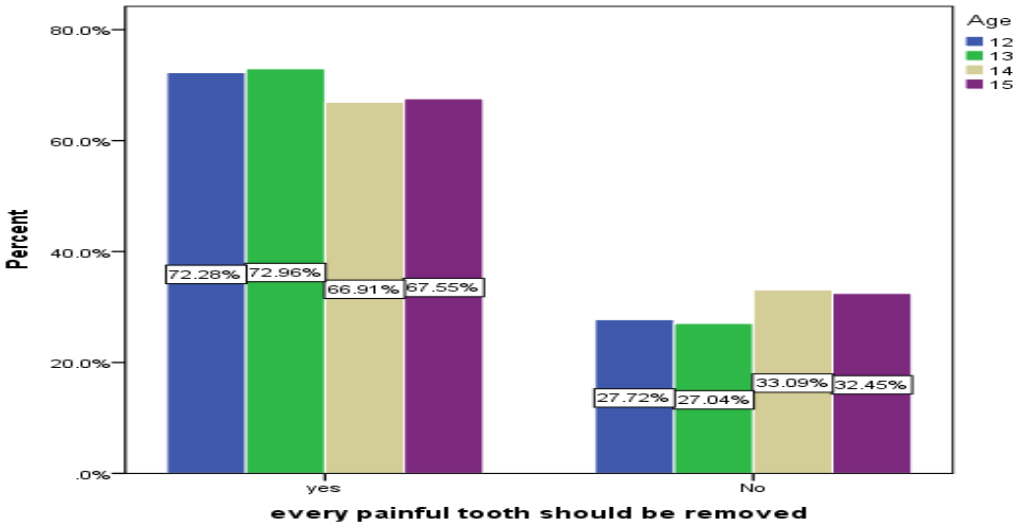
Table 3 shows that males 776(69.2%) tend to visit dentists more reason than females843 (63.5%), whereas females checkup394 (about 30%) tend to visit dentists more than males273(24.3%), as well as esthetic females slightly more than males. The results suggest that there is statistically significantly association (p-value=0.009) gender differences with respect to visit dentists.

Table 4: Regular teeth brushing protect from decay and gum bleeding by age group

Age	Yes	No	Total
12	195 (96.5%)	7 (3.5%)	202 (100.0%)
13	633 (95.6%)	29 (4.4%)	662 (100.0%)
14	785 (94.8%)	43 (5.2%)	828 (100.0%)
15	699 (92.2%)	59 (7.8%)	758 (100.0%)
Total	2312 (94.4%)	138 (5.6%)	2450 (100.0%)
χ^2 = ١٠.٦٣٦ df=3 p-value=0.014			

Table 4 illustrates that the age group differences in the regular teeth brushing protect from decay and bleeding gum. The analyses showed that the majority of the participants who answered yes to regular tooth brushing protect from decay and bleeding gum compared to participants who answered no to regular tooth brushing for all ages. There was significant association in regular teeth brushing between differences ages (p-value=0.014).

Figure 1: Bars plot of knowledge about painful tooth should be removed by age group



The analyses showed in figure 1 that 146(72.3%) answered yes of age 12 year and 56(27.7%) answered no, similar result found of age 13 year, while age 14 year and 15 year have approximately same result for yes and no answer. the knowledge about of every painful tooth should be removed among participants have significantly (p-value=0.040).

Table 5: Oral health self-care according to level of education-mother

Level of education-mother	Most often time	Seldom or no encouragement	Total
No education	159 (87.4%)	23 (12.6%)	182 (100.0%)
Primary school	186 (86.5%)	29 (13.5%)	215 (100.0%)
Preparatory school	475 (87.5%)	68 (12.5%)	543 (100.0%)
Secondary school	489 (87.2%)	72 (12.8%)	561 (100.0%)
University–Higher education	877 (92.4%)	72 (7.6%)	949 (100.0%)

Total	2186 (89.2%)	264 (10.8%)	2450 (100.0%)
χ^2 =١٦.٥٣٥ df=4 p-value=0.002			

Oral health self-care according to level of education-mother as shown in Table 5 about 2186(89.2%) in total of students answered most of the time, while about 264(10.8%) in total of students answered seldom or no encouragement. Therefore, it can be inferred from the test results that the differences observed in the response were statistically significant association (p-value=0.002).

Table 6: The source of learning about oral health according to level of father education

Level of parents education-father	From parents	From dentist	From different media	Total
No education	104 (49.5%)	68 (32.4%)	38 (18.1%)	210 (100.0%)
Primary school	50 (40.3%)	50 (40.3%)	24 (19.4%)	124 (100.0%)
Preparatory school	250 (42.2%)	194 (32.8%)	148 (25.0%)	592 (100.0%)
Secondary school	273 (47.0%)	179 (30.8%)	129 (22.2%)	581 (100.0%)
University – Higher education	478 (50.7%)	245 (26.0%)	220 (23.3%)	943 (100.0%)
Total	1155 (47.1%)	736 (30.0%)	559 (22.8%)	2450 (100.0%)

Table 6 shows that the Level of education-father differences in the source of learning provided from different aspects, such as learning from parents were of about 1155(47.1%) in total, followed by 736(30.0%) from dentist and of about559(22.8%) from different media. The results suggest that there is statistically significantly association (p-value=0.004).

Table 7: would you like to have more information about oral health in general

would you like to have more information about oral health		
Answer	**Frequency**	**Percent**
yes	2337	95.4
No	113	4.6
Total	2450	100.0

The result showed that students interested to get information about oral health were of 95.4%, whereas participants who were not about 4.6%.

Table 8: would you like to have more information about oral health in gender

Would you like to have more information about oral health?			
Gender		**Frequency**	**Percent**
Male	yes	1046	93.2
	No	76	6.8
	Total	1122	100.0
Female	yes	1291	97.2
	No	37	2.8
	Total	1328	100.0

The result showed that students interested to get information about oral health were significantly of 97.2% in females, whilst 93.2% in males.

DISCUSSION

In the total sample, 1122(45.8%) of participants were males and 1328(54.2%) of participants were females (see Table1). The study further revealed that the knowledge about the importance of oral health care for preventing oral disease of gender was highly significant (p-value =0.001) of females compared to males (Table2).

Pain is the most common symptom for which people seek dental or medical care (Table3). The knowledge about regular teeth brushing can protect from decay and gingival bleeding was significantly high in students aged twelve 195(96.5%) with (p-value=0.014) in compare to other age group (Table4). These finding were close to the study done in "Rural Nepal" 2011 by Manoj Humagai in regular teeth brushing and awareness of gingival bleeding [(15)].

The response to the question of every painful tooth should be removed was statistical significant difference and the higher and lower percentage was in age thirteen in compare to other age group (Figure1). Parents help and encouragement about oral health self-care was statistically significant in university–higher education level of mothers with percentage 877(92.4%) with (p-value=0.002, Table5) .The significant association of parents education was consistent with a study done in India 2016 [(16)].

Another significant in the source of the learning about oral health where the student of higher fathers educational level showed 478(50.7%) from parents while students no fathers educational level showed 38(18.1%) from different media (p-value=0.004, Table6). Supporting, these finding a comparison between this study and a study done in Qatar (2016) [(17)].

Some results were nearly consistent and compatible in many aspects, for example: the overall response rate was 96%, and parents were the most popular source of oral health knowledge followed by dentists and media.

Study analyses showed that students interested to get information about oral health were of 2337(95.4%), whereas participants who are not 113(4.6%). Study analyses showed that students interested to get information about oral health were significantly of 1291(97.2%) in females, whilst 1046(93.2%) in males (Table7, 8).

CONCLUSION

According to the results of this study there were 95.4% of students interested to get information about oral health, while 4.6% of them did not. Also, study analyses showed that students who were interested to get information about oral health were

significantly of 97.2% in females, while in males were 93.2% in comparing with females.

The results showed that there was no significant association between the grade and gender.

It can be concluded from this study that females tend to visit dentist more than males.The study revealed that females engage in better oral hygiene behavior and possess a greater interest in oral health better than males do.Parents help and encouragement about oral health self-care was significant relationship between parents and students with higher proportion was in females 90.7%.

Recommendation

1. More information, motivation and practice of oral health measures should be given to the students to improve their attitudes.
2. The oral health education programs should be established in schools curriculum in order to inform students and teachers about beneficial of oral health.
3. More oral health programs for improving oral health like prevention and control of oral disease should be done in schools setting emphasizing on the importance of regular dental visits as a part of preventive measures.
4. More studies should be conducted in other regions for comparison.

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