

Knowledge, Attitude and Behavior Toward Periodontal Health Among Males and Females Students Aged (16-18) Years in Erbil City

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Abstract

Background and Objective: periodontal disease concenter as a malty inflammatory disease may be a source of systemic inflammation because oral health is important for appearance and sense of well-being overall health. So cleaning the mouth by brushing and flossing to prevent gum disease is important. The current study was conducted to clarify the knowledge, attitude, and behavior in relation to periodontal health status among male and female students in Erbil city.

Materials and Methods: a questionnaire of periodontal health of knowledge, attitudes, and behavior was allocated on 480 (240 males and 240 females) school students randomly, aged 16–18 year, in Erbil city. Data were collected by means of 23 close-ended questionnaires.

Results: 85% of male and 90% of female knew that brushing prevents gingivitis. 55.4% of the male student, 62.1 of female student thought that using dental floss prevent periodontal disease. While (26.7%) of male and 22.1% of female would visit a dentist in case of gum pain. (81.3%) of male and 97.5 of female thought that regular visits to the dentist necessary ($p \leq 0.0004$). Males reported 25% of twice a day tooth brushing while female reported 42.9% of twice a day tooth brushing ($p \leq 0.025$).

Toothbrush and toothpaste were still the most commonly used oral hygiene aids among male (74.6%) and female (91.7%) students ($p \leq 0.0015$) used tooth brush and tooth paste commonly as oral hygiene aids.

Conclusions: present study shows that our students have positive knowledge, attitude and negative behavior to word periodontal health.

Keywords: periodontal health, knowledge, attitude, behavior.

المعرفة والسلوك والتصرف نحو صحة اللثة بين الذكور والإناث الذين تتراوح أعمارهم بين (١٦-١٨) سنة في مدينة أربيل

الخلاصة

الخلفية والهدف: مرض اللثة يعتبر كمرض التهابات قد يكون مصدرا لالتهاب الجهازية لأن صحة الفم مهم للمظهر والشعور الرفاه الصحة العامة. لذلك تنظيف الفم عن طريق بالفرشاة والخيط لمنع أمراض اللثة أمر مهم. أجريت الدراسة الحالية لتوضيح المعرفة والموقف والسلوك فيما يتعلق بحالة صحة اللثة بين الطالبات والطلاب في مدينة أربيل.

المواد والطرق: تم تخصيص استبانة للمعرفة والمواقف والسلوك حول اللثة على ٤٨٠ (٢٤٠ ذكور و ٢٤٠ إناث) طلاب المدارس عشوائيا، الذين تتراوح أعمارهم بين ١٦-١٨ سنة، في مدينة أربيل. تم جمع البيانات عن طريق ٢٣ استمارة مغلقة.

النتائج: ٨٥٪ من الذكور و ٩٠٪ من الإناث يعرفون أن تنظيف الأسنان بالفرشاة يمنع التهاب اللثة. ٥٥.٤٪ من الطلاب الذكور، ٦٢.١ من الطالبات يعتقد أن استخدام خيط الأسنان يمنع أمراض اللثة. في حين أن (٢٦.٧٪) من الذكور و ٢٢.١٪ من الإناث يزورون طبيب الأسنان في حالة ألم اللثة. (٨١.٣٪) من الذكور و ٩٧.٥ من الإناث يعتقدون أن زيارات منتظمة لطبيب الأسنان اللازمة، ($p \leq 0.0004$) ذكر الذكور ٢٥٪ منهم يقومون بتنظيف اسنانهم مرتين في اليوم بالفرشاة الأسنان في حين ذكرت الإناث ٤٢.٩٪ منهن يتنظف اسنانهم مرتين في اليوم بالفرشاة الأسنان. ($p \leq 0.025$) ولا تزال فرشاة الأسنان ومعجون الأسنان هي أكثر الوسائل المستخدمة في نظافة الفم شيوعا بين الذكور (٧٤.٦ في المائة) والإناث (٩١.٧ في المائة) من الطلاب ($p \leq 0.0015$) الذين يستخدمون فرشاة الأسنان ومعجون الأسنان عادة كمعينات نظافة الفم.

الاستنتاجات: تبين الدراسة الحالية أن طلابنا لديهم معرفة والموقف إيجابية، والسلوك السلبي لصحة كلمة اللثة .
الكلمات المفتاحية: صحة اللثة، المعرفة، والموقف، والسلوك.

1-Introduction

Oral health is part of general health that should be protected throughout the life time. The oral health status of an individual is usually determined by the presence or absence of dental caries and periodontal disease as well as the oral hygiene found in the population.

This is due to that dental caries and periodontal disease is the common oral problem of public health. Plaque plays an important role in the performing of dental caries and periodontal diseases and the removing of dental plaque is important for oral health status. Tooth brushing twice per day with toothpaste and flossing remove plaque from teeth is important factor control of dental caries and periodontal diseases.

[1] Many studies showed that control of plaque can be achieved by increased educational and knowledge for the patient about periodontal diseases, their initiating factors, and the role of dental plaque as the enhancing factor for periodontal diseases. [2] [3] The term knowledge is mean the (theoretical or practical) of a subject with the ability to use it for a specific purpose. [4]

Oral health knowledge related to periodontal diseases which has a great role in prevention of the periodontal disease among children, adolescents, and adults including university students. [5] Attitude is an acquired characteristic of an individual. People demonstrate a wide variety of attitudes towards teeth, dental care, and dentists. These Attitudes naturally reflect their own experiences, cultural perceptions, familial beliefs, and other life status and they influence the oral health behavior.

Health behavior is the human action performed to protect and enhance health. It also plays a role in preventing diseases. Oral health behavior include a personal care and tooth brushing, dental flossing, and visiting dentist. [6]

The oral diseases are related to the behavior of not practicing adequate oral hygiene protection. Many people do not perform perfect tooth brushing which plays a major role in preventing their oral diseases. Their attitude toward brushing is only for an esthetic purpose. People have no behavior of visiting dental clinics for the general checkup. They believe that the sign of oral diseases and treatment available to dental clinic is only extraction. [7]

So the aim of the study was to determine knowledge, attitude and behaviors of high school students to word periodontal health of both different genders in Erbil city.

2-Subjects and Methods

A questionnaire was allocated randomly on 480 (240 (%50) males and 240(%50) females) students from high school randomly, aged 16–18 years in Erbil city.

Erbil city was divided into four sections: from each section, one school was randomly selected and data sample of four schools was collected. The study subjects were students from high schools level.

A previously prepared questionnaires were allocated to the participants through a personal interview by the researcher. The questionnaires were fully explained to the participants. The medical and dental terms of the questionnaire related to periodontal diseases were also explained to them. The questionnaire included several questions related to periodontal health. Some of the questions were answered by; yes or no, while anothor questions included one correct answer and the other answers were wrong.

[7]The questionnaires included information on, knowledge about periodontal disease, attitudes towards preventing periodontal disease, dental health behavior toward periodontal disease. [8] periodontal health knowledge were included items on the effects of brushing and using of flossing, the meaning of bleeding gums and how to protect against it, the meaning of dental plaque and its effects, the effects of periodontitis on the appearance the meaning of bone loss. Oral health behavior was indicated brushing frequency, duration, time, and brushing aids), the parent's role in encouraging the participant towards oral hygiene protection, dental education, and dental visits. [9]

The questionnaires sent to the schools (by Kurdish and English language) explaining the questions and the aims of procedures that would be performed. The informations were informed to the students by their teachers helping at the end of a lecture on a voluntary basis. The questionnaires were collected in person immediately after completion.

Statistical analysis was done by SPSS version 17. Chi-squared test was used. Statistical significance was based on probability values of less than 0.05. So the aim of present study was to identify the knowledge, attitude and behavior in relation to periodontal health status among males and females Kurdish school students aged (16-18) living in Erbil city.

3-Results

Among 480 studying samples in Erbil city, 50% were males and 50% were females, students were 16-18-years old.

Table (1) shows the number and percentage of male and female students according to their knowledge of periodontal health status. Table (1) demonstrated that only(% 85) of male and (%90) of female students knew that effect of brushing on gingivitis, while the rest reported wrong answers with no statistical difference between them, around (%55.4) of male and(% 62.1) of female students thought that dental floss will prevent periodontal disease with statistically not significant difference; while the remain reported wrong answers .About(%71.7) of males and (%79.2) of females thought that when although you follow the dentist you will still have periodontal problems while the remain reported wrong answers with statistically not significant differences between both gender. More than half percent of males(%64) and females(%62)students determined that bleeding on brushing is a primary causes of gingivitis with statistically not significant difference between them, only (%47.1) of male and(%68.75) of female students thought that periodontal disease lead to bone resorption with highly statistically significant difference between them ($p \leq 0.0011$). Approximately (% 72.1) of male and (%87.1) of female school students determined that periodontal problem leads to a health problem with the highly statistically significant difference between them ($p \leq 0.007$). About (%32.1)of male (%32.9) of female students knew that gingival bleeding reflects gingivitis, while the remain reported wrong answers with statistically not significant difference between them Highest number and percent of male (%30.9) and female (%39) students cannot recognize that brushing and flossing help to prevent gingivitis with statistically significant difference between them($p \leq 0.041$) . Highest number and percent of male (%44.6) and female(%50,45) students don't know that what did dental plaque mean and what did it lead to respectively with statistically not significant difference between the

Table (1): distribution of students according to their knowledge towered peri- odontal health status

Knowledge's regarding periodontal disease	Male N(%)	Female N(%)	Total	P -value
Brushing prevent gingivitis?				
Yes	204(85)	216(90)	420(87.5)	0.1662
No	36 (15)	24(10)	60(12.5)	
Total	240(100)	240(100)	480(100)	
Using dental floss prevent periodontal disease?				
Yes	133(55.4)	149(62.1)	282(58.75)	0.1407
No	107(44.6)	91(37.9)	198(41.25)	
Total	240(100)	240(100)	480(100)	
Although you follow the dentist you will still have periodontal problems?				
Yes	68(28.3)			0.1662
No	172(71.7)	50(20.8)	118(24.6)	
Total	240(100)	190(79.2)	362(75.4)	
Bleeding on brushing is causes of gingivitis?				
Yes				0.4476
No	153(63.8)	149(62.1)	302(62.9)	
Total	87 (36.2)	91(37.9)	178(37.1)	
Periodontal disease can lead to bone resolution?				
Yes	113(47.1)	165(68.75)	278(57.9)	0.001179
No	127(52.9)	75(31.25)	202(42.1)	
Total	240(100)	240(100)		
Periodontal problems can lead to other health problem?				
Yes	173(72.1)	209(87.1)	382(79.6)	0.007393
No	67(27.9)	31 (12.9)	98(20.4)	
Total	240(100)	240(100)	480(100)	
gum bleeding mean:				
Healthy gum	30(12.5)	15(6.3)	45(9.5)	0.5593
Inflamed gum	77(32.1)	79(32.9)	156(32.5)	
Gum rescission	43(17.9)	66(27.5)	109(22.7)	
Don't know	90(37.5)	80(33.3)	170(35.4)	
Total	240(100)	240(100)	480(100)	
How do you prevent gum bleeding?				
Using tooth brush ,paste & dental floss				0.041
Using soft food	68 (28.3)	41(17.1)	109(22.7)	
Using vit.C	55(22.9)	50(20.8)	105(21.9)	
Don't know	43(17.9)	55(22.9)	98(20.4)	
Total	74(30.9)	94(39.2)	168(35)	
Dental plaque mean:				
Soft deposits on teeth	78 (32.5)	84(35)	162(33.6)	0.676
Heavy deposits on teeth	31 (12.9)	16(6.7)	47(9.8)	
Tooth discoloration	24 (10)	19(7.9)	43(9)	
Don't know	107 (44.6)	121(50.4)	228(47.6)	
Total	240(100)	240(100)	480(100)	
dental plaque leads to:				
Inflammation of the gum	47(19.5)	29(12.1)	76(15.8)	0.129

Staining of the teeth	31(12.9)	26(10.8)	57(11.9)
Dental caries	68(28)	77(32.10)	145(30.2)
Don't know	94(39.6)	108(45)	202(42.1)
Total	240(100)	240(100)	480(100)

Table (2): distribution of students according to their attitude toward periodontal health status: Highest number and percent of female (%67.5 of males and %75 of female) report that periodontal disease will affect aesthetic with statistically not the significant difference. The high number of the study sample determined that their dentist did perform adequate periodontal care during providing dental procedures (%55.8 of male and 51.7 of females) and explained dental procedures (%55 of males and 53.3 of females) and preventive instructions to them, with a statistically not significant difference between both genders. The majority of male (%81.3) and female (%97.5) students reported that regular visit to dentist necessary female reported highest number and percentage with the statistically high significant difference between them ($p \leq 0.000044$), the highest number of student (%41.3) of male (%62) of female students reported that their visit to the dentist was during the last year, reported that a toothache was the driving factor for their last visit while (%20.4 of male and %6.7 of male cause behind of their visiting dentist was gum pain, with statistically significant difference between them ($p \leq 0.0008$). (%30.4 of males and 37.9 of females) were not visiting their dentist regularly because of lack of toothache with statistically not significant difference between them.

Table2: distribution of students according to their attitude toward periodontal health status

Attitude toward periodontal health	Male N(%)	Female N(%)		P-value Fisher exact
Periodontal disease makes me look bad				0.1549
Yes	162(67.5)	180(75)	342(71.2)	
No	78 (32.5)	60(25)	138(28.8)	
Total	240(100)	240(100)	480(100)	
Did dentist perform adequate periodontal care:				0.3615
Yes	134(55.8)	124(51.7)	258(53.8)	
No	106(44.2)	116(48.3)	222(46.2)	
Total	240(100)	240(100)	480(100)	
Dentist explains procedures before treatment:				0.4268
Yes	132(55)	128(53.3)	260(54.4)	
No	108(45)	112(46.7)	220(45.6)	
Total	240(100)	240(100)	480(100)	
Are visiting dentist regularly necessary?				0.000044
Yes	195(81.3)	234(97.5)	429(89.4)	
No	45(18.7)	6(2.5)	51(10.6)	
Total	240(100)	240(100)	480(100)	

The driving factor for your last year visit:				0.0008043
Gum pain	49(20.4)	16(6.7)	65(13.5)	
Parents' and friend advice	27(11.3)	23(9.6)	50(10.4)	
Dentist's advice	65(27.1)	52(21.7)	117(24.4)	
Other reasons like dental pain,	99(41.3)	149(62)	248(51.7)	
Total	240(100)	240(100)	480(100)	
causes of not visiting the dentist:				0.6190
Fear				
Of turbine drilling	40(16.7)	22(9.2)	62(12.9)	
Of dental syringe and needle in waiting room	40(16.7)	47(19.6)	87(18.2)	
I have no pain	19(7.9)	8(3.3)	27(5.6)	
High cost	13(5.4)	30(12.5)	164(34.1)	
No clinic nearby	73(30.4)	91(37.9)	43(9)	
No time	6(2.5)	5(2.1)	11(2.3)	
Total	49(20.4)	37(15.4)	86(17.9)	
	240(100)	240(100)	480(100)	

Table 3: showed behaviors of student's toward periodontal health status. About % 25 of male students and % 42.9 of female students brushed their teeth twice per day with statistically significant differences between two genders ($p \leq 0.025$). Approximately (% 74.6 of the male students and % 91.7 of female students) brush their teeth by tooth brush and paste, about % 6.7 of males use dental floss, while % 2.5 of females used dental floss, with a statistical significant difference in the use of brushing among the students ($p \leq 0.0015$). The majority of male and female students brushed their teeth before bed (%47.1 males) and (%54.2 females), with a statistically high significant difference between them ($p \leq 0.00014$). The majority of male students reported that they spent one minute on tooth brushing (%38.3) while the majority of female students spent two minutes (%33.8) with statistically significant difference between them ($p \leq 0.015$). The parents daily care was reported to be mainly giving advice toward the importance of brushing but do not watch (%70 male and %82 of female). Only (%8.8 of males and %4.6 of females) reported that being advised and watched by parents during brushing. Only %15 of males and %11.3 of females sample reported that their parents never care about statistically not a significant difference between genders. Dental pain was found to be the main cause for visiting the dentist among the whole groups (%42.5 for males and %43.3 for females), with the not statistically significant difference between male and female school student.

The majority of males(%34.2) and females(%28.8) students visited the dentist more than 5 years, visits were more indicated by females with a statistically not significant difference between both genders.

Table 3: distribution of students according to their behavior toward periodontal health status

behavior toward periodontal health	Male N(%)	Female N(%)		P -value
frequency of teeth brushing				0.0252
Some time or no brushing	57(23.8)	25(10.5)	82(17.1)	
Once per day	96(40)	90(37.5)	186(38.8)	
Twice per day	60(25)	103(42.9)	163(34)	
More than twice per day	27(11.2)	22(9.1)	49(10.1)	
Total	240(100)	240(100)	480(100)	
Brushing materials				0.0015
Toothbrush and paste	179(74.6)	220(91.7)	399(83.1)	
Dental floss	16(6.7)	6(2.5)	22(4.6)	
Mouthwash	18(7.5)	10(4.1)	28(5.8)	
Toothpicks	27(11.2)	4(1.7)	31(6.5)	
Total	240(100)	240(100)	480(100)	
Occasion of tooth brushing				0.00014
At morning	73(30.4)	102(42.5)	175(36.5)	
Before bed	113(47.1)	130(54.2)	243(50.6)	
Before bed and at morning	20(8.3)	8(3.3)	28(5.8)	
After lunch	34(14.2)	0(0)	34(7.1)	
Total	240(100)	240(100)	480(100)	
How long time do you spent to brush your teeth?				0.015
Less than one minute	40(16.7)	18(7.5)	58(12.1)	
One minute	92(38.3)	68(28.3)	160(33.3)	
Two minute	47(19.6)	81(33.8)	128(26.7)	
More than two minute	61(25.4)	73(30.4)	134(27.9)	
Total	240(100)	240(100)	480(100)	
Parents care				0.419
watch and advise	21(8.8)	11(4.6)	32(6.7)	
only advise but don't watch	168(70)	197(82)	365(76.1)	
never cared	36(15)	27(11.3)	63(13.1)	
only my mother watches me	15(6.2)	5(2.1)	20(4.1)	
Total	240(100)	240(100)	480(100)	
Frequency of visiting dentist?				0.210
every 6 months	31(12.9)	36(15)	67(14)	
some times	47(19.6)	60(25)	107(22.3)	
when I have dental problem	102(42.5)	104(43.3)	206(42.9)	
never visited	60(25)	40(16.7)	100(20.8)	
Total	240(100)	240(100)	480(100)	
When did you visit your dentist at last				0.336
	52(21.7)	52(21.7)	104(21.9)	
Six month ago	39(16.3)	51(21.3)	90(18.7)	
6-12 month ago	32(13.2)	48(20)	80(16.6)	
1-2 years ago	35(14.6)	20(8.2)	55(11.4)	

2-5 years ago	82(34.2)	69(28.8)	151(31.4)	
More than 5 years	240(100)	240(100)	480(100)	
Total				

4-Discussion

Oral disease can be regarded as a public health problem because of its high prevalence and importance socially. ^[10] This study assessed attitudes, knowledge and behaviors toward periodontal health status of a school student in aged (16-18) years in Erbil city. 50% of the respondents were female and 50% were males. In this study we can demonstrate that Erbil school students have positive knowledge, attitude and negative behavior toward periodontal health; females have more knowledge and behavior toward periodontal health than males, while male students have a more positive attitude than female students toward periodontal health. While other study reported by ^[11] indicated that girls had higher number and percent of attitude, knowledge, and behaviors compared to boys. However, ^[12] reported that there was no significant difference between the knowledge score between genders, also study by ^[13] reported the attitude of boy towards oral health problems was found to be positive and girls had the more positive attitude than boys. This is may be due to that females take care of their looking more than male.

Regarding knowledge in this study we can be observed that most of the subjects knew that the use of toothbrush help prevents periodontal diseases; this in agreement with ^[8] also around 55 percent of males and 62 percent of the females knew that dental floss helps prevent periodontal disease. This is in contrast with the study which done by ^[8] High number and percent of male and female proportion reported that periodontal problems can lead to other health problem while reports by other study indicated that dental problem has the moderate effect on general health ^[13]. Highest number and percent of male (% 30.9) and female(%39.2) students don't know how you protect you self from gum bleeding, what does gum bleeding mean males(%37.5), females(%33.3), what did dental plaque mean males(%44.6) females(%50) and what did it lead to males (%39.9) females (%45.4) respectively with statistically not significant difference between both genders.

The results in the present study indicate that increasing in knowledge toward the gum bleeding and dental plaque is essential.

Prevailing partial knowledge regarding gingivitis and periodontal diseases has been reported in other studies.

In relation to attitude of student's periodontal health status; as shown in table (2), the present study shows that; majority (41.3% of male and 62% of female) students only visited their dentist when they had dental pain, this finding is in agreement with ^[8] ^[12] ^[14]. This might be due to the lack of adequate information regarding the importance of visiting the dentist regularly. Although most of the students stated that regular dental visit was necessary (81.3% Of male and 91.5% of female).

This finding is in agreement with^[13] this study indicated that family seems to play a role just by advising their children to take care of their teeth and dental visit while the study that reports by [12] showed that parent had the minor role in advising their children to word dental visit. This study is in agree- ment with ^[15]Routine dental visit is the best way to prevent periodontal disease and tooth decay [16] .Lack of parent's dental care might be reflected in their children. ^[17]Fear of dental treatment was found to be high among males (%33.4) which is the reason for not visiting the dentist while the reason for not visiting the dentist among. Females (37.9%); this coincided with previous study ^[12] Early oral education in children had a positive influence on dental anxiety, improving Long term dental the follow-up. [9]More than half of students believed that the dentists will take care of their patients, and (55.8% of males 51.7% of females) thought that ex- plain the dental problems and solve it for them, while the study that reported by [12] found that most of the students thought that the dentists will always take care of their patients (90.9%), and explain the dental problems and treat them (86.6%).This is may be due to their positive attitude toward their dentist and their experience.

In relation to behavior of students toward periodontal health status as shown in table(3):the present study reported that frequency of tooth brushing, highest number and percent of male brush their teeth once a day (%40) while; females report twice per day tooth brushing (%42.9) but as a total males and females reported once per day, and a preferable time of tooth brushing was before going to bed (%47.1of males and % 54.1 of females) .This in agreement with the study done by [18] . While most of the subjects reported twice per day tooth brushing at morning ^[19] and some industrialized country in Europe [20].

The present study report that most of the male students brush their teeth in on minute duration (%38.3) while most of the females report two minute duration of brushing(%33.8) this is may be due to that the females care much about of theirs looking .while the study done by^[18] indicated that most of their students brush their teeth less than three minutes.

Most of the study subjects reported irregular dental visit (males %42.5)and females (%43.3), and this finding is consistent with the findings of other studies by. ^[19] ^[21] ^[22] ^[23]. This is may be due to low student knowledge towards visiting dentist and lack of education program which required them to visit a dentist as an annually routine checkup.

This study clarifies that; about (% 16.3 of male and %21.3 of the female student) would visit a dentist every 6-12 month.

While the study which done by [12] [13] indicated that a quarter of the students (24.4%) had a regular dental visit every 6 to 12 months.

5-Conclusion

As general our student have positive knowledge, attitude and negative behavior toward periodontal health; females have more knowledge and behavior toward periodontal health than male, while male students have more positive attitude than female students toward periodontal health so oral health education program is important factor for promoting and preventing oral and periodontal disease.

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