

## Using of inter dental cleaning aids among Iraqi dental students

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### Abstract:

In this study an attempt was made to estimate the knowledge and behavior in regard to the use of inter dental cleaning aids among Iraqi dental students at different levels of dental study. Two hundred seventy four Iraqi dental student in College of Dentistry, University of Al-Mustansiria were questioned by a suitable questionnaire designed for this purpose about their knowledge and behavior in relation to the use of interdental cleaning measures. Results of this study showed that their information about this subject may need to be reviewed.

### Key words:

Interdental cleaning, interproximal, periodontal, dental students, behavior, knowledge.

### Introduction:

Bacterial dental plaque is generally agreeable as the main etiologic factor of dental caries and periodontal diseases<sup>(1,2,3)</sup>.

It is logically accepted that any successful preventive measures should be directed to prevent the plaque accumulation on and around the teeth specially in the dentogingival areas where such accumulation is of significant relation to the initiation and progression of periodontal disease<sup>(3,4,5)</sup>. The self performed plaque control measures was and still the most important measures to control plaque, but the using of different types of these plaque control measures was highly variable between different individuals<sup>(6)</sup>. Cleaning teeth with toothbrush and dentifrice can be considered as the most popular plaque control measure practiced by the majority of the population<sup>(6,7)</sup>, but using of toothbrush alone proved to be not enough for complete debridement of the interdental spaces, so a supplement with a suitable inter dental cleaning measure still mandatory<sup>(6,8)</sup>. It is generally

agreed that the interdental cleaning with dental floss is an important component of a daily periodontal preventive care and caries prevention regimen.<sup>(9)</sup> Parmlly<sup>(10)</sup>, since 1819 recognized the importance of local factors in dental disease and advocated the use of the waxen silken thread to dislodge that irritating matter which no brush can remove. Bass<sup>(11)</sup> was responsible for the early development of specifically formulated unwaxed nylon floss and the popularization of personal oral hygiene techniques in common use today. Waxed and unwaxed floss have been shown clinically to be similarly effective in their ability to remove plaque, prevent gingivitis, reduce gingival bleeding, and reduce gingival crevicular fluid flow<sup>(12)</sup>.

Anatomy of interproximal spaces (size & shape) may necessitate using of inter proximal cleaning measures other than dental floss such as interproximal brushes, stimudent toothpicks and interdental irrigators.

Only patients with spaces large enough between the teeth will be able to use them. This is usually true for

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those patients that have had periodontal surgery and/or a lot of gingival recession, where there is enough space between the teeth to accommodate the tapered interproximal brushes. Effectiveness of such interdental cleaning aids was a subject for a lot of studies that had been conducted in field of periodontal research (13, 14, 15, 16).

Using of tooth picks for cleaning of interdental areas are widely used & distributed among large percentage of population, however less information about using of these measures had been reviewed in the literature.

The interdental irrigators have been recently introduced as an

interproximal cleaning measure in comparison to others, but its effectiveness had been proved by a lot of periodontal researches (17).

In this study an attempt was made to estimate the knowledge and behavior in regard to the use of interdental cleaning aids among Iraqi dental students at different levels of dental study.

## Materials and methods:

Two hundred seventy four Iraqi dental students in the College of Dentistry in University of Al-Mustansiria in Baghdad were participating in this study, (Tab 1).

**Table (1):** Distribution of the population sample by sex & level of study

Graduation	Number		Total
	Female	Male	
First year	58	22	80
Second year	34	36	70
Third year	30	38	68
Fourth year	24	32	56
Total	146	128	274

Very simple but significant questions were used in a simply designed questionnaire that delivered to the participating students, (Fig 1). The questions were directed to estimate the student's knowledge and behavior regarding the types and use of interdental cleaning measures. General information regarding age, sex and study level was also included in these questionnaires. These questionnaires were distributed for dental students in the first, second, third & fourth years.

Age	
Sex	
Study level	
Do you know what the interdental cleaning measures does mean?	Yes No
If your answer is YES so what are they?	1- 2- 3- 4-
What type of them do you use?	1- 2- 3- 4-

**Fig (1):** The questionnaire



## Results:

Data collected from this study had revealed that majority of dental students (72.9%) claimed that they

know what interdental cleaning measures does mean, while minority of them (27.1%) were negatively react to this question (Table 2).

**Table (2):** Student answers for "do you know what the Inter dental cleaning measures does mean?"

Graduation	Yes				No				total	
	Female		Male		Female		Male		No	%
	No	%	No	%	No	%	No	%		
First year	30	11	13	4.7	28	10.2	9	3.3	80	29.2
Second year	26	9.5	23	8.4	8	2.9	13	4.7	70	25.54
Third year	23	8.4	31	11.3	7	2.6	7	2.6	68	24.82
Fourth year	23	8.4	31	11.3	1	0.4	1	0.4	56	20.44
Total	102	37.2	98	35.7	44	16.1	30	11	274	
Total (No)&%	(200) 72.9 %				(74) 27.1 %				(274) 100%	

For the students who state Yes for the previous question, 58.3 % of their answers had mentioned the dental floss as a first choice measure of cleaning the interdental areas, followed by 27.8 % for the tooth picks, 9.9 %

for interdental brush and 4 % of them had stated other measures for interproximal cleaning including ordinary non dental floss, match picks, tooth sticks (Meswak) and salty mouth wash. (Table3).

**Table (3):** types of IDCMS as the student claim to know.

Types of IDCMS* Level of study	Dental floss		Tooth picks		Inter dental brush		Others		Total No of answers
	Female	Male	Female	Male	Female	Male	Female	Male	
First year	28	13	10	7	4	3	1	1	67
Second year	26	20	12	7	4	6	1	0	76
Third year	22	31	6	12	8	4	1	2	86
Fourth year	22	31	16	22	1	3	3	4	102
Total (No)	98	95	44	48	17	16	6	7	331
Total (No)&%	(193) 58.3 %		(92) 27.8 %		(33) 9.9 %		(13) 4 %		(331) 100%

\*IDCMs = Inter Dental Cleaning Measures.

The other finding of this study is that no one had state the irrigating devices as one of the interdental cleaning measures.

One hundred fifty two of the students claimed that they use one or more of the different types of interdental cleaning aids really in their

daily routines for cleaning of interproximal areas: 54.61 % of them claimed that they use the dental floss, 29.61 % using of tooth picks, 15.13 % using of other measures that had been mentioned previously & only 0.65 % using the inter dental brush. (Table4).

**Table (4):** Types of IDCMs as the student claim to use.

Level of study	Dental floss		Tooth picks		Interdental brush		Others		Total
	Female	Male	Female	Male	Female	Male	Female	Male	
1 <sup>st</sup> year	16	15	12	7	0	0	2	1	53
2 <sup>nd</sup> year	3	4	4	5	0	0	2	1	19
3 <sup>rd</sup> year	10	9	6	5	0	0	1	4	35
4 <sup>th</sup> year	14	12	3	3	0	1	8	4	45
Total No	83		45		1		23		152
Total %	54.61 %		29.61 %		0.65 %		15.13 %		100%

## Discussion:

Studies related to the estimation of periodontal knowledge and behavior in this age group is very limited because most of preventive programs are usually directed toward either a younger age groups were it thought to be more effective in preventing the occurrence and progression of periodontal disease, or directed to an older age groups in an attempt to arrest the periodontal disease or prevent its destructive complication.

This study can be classified under the field of efforts aimed to enhance the oral health status of this particular age group, by providing a valuable baseline data in this zone of Periodontology (using of interdental cleaning measures). Conducting of the present study on dental rather than other university students may tend to magnify the results and findings because of the known specific relation of dental students to this subject.

A simple comparison between the result of this study and another study <sup>(6)</sup> conducted ten years ago

showed that no improvement had been achieved in using of interdental cleaning measures among Iraqi dental student. This fact is not true for only our community, but it surely true even in developed countries .e.g in a similar study <sup>(18)</sup> that conducted on Italian university students at 2001, the researcher state that "Results seemed to be defective with interproximal cleaning procedures and compliance toward professional preventive care. Since the sample was characterized by a young, urbanized, homogeneous group with a high educational level and frequently from an upper middle class social status, the analysis probably gives a supra-estimation of the positive behavior. It is rational to suppose that strategies to promote dental service utilization, patients, compliance and a professional style oriented toward prevention may be useful to improve the oral health condition in the young adult population <sup>(18)</sup>.

Findings of this study showed that no one at all of the students had claimed to know or to use the interproximal irrigators as an



interdental cleaning measure. This can be explained simply by the fact that not all interdental cleaning measures have been introduced to our markets. One of the other surprising findings of this study is the large gap between the student knowledge and behavior related to the use of interdental brushes, from about 9.9 % of students who recognized the interdental brush as one of the interdental cleaning measures, only 0.65 % of them had state that they use it practically. Such gap may also be explained by the fact that this type of interdental cleaning measure may also not available or not widely distributed on our markets. In general this subject still in need of more researches and exploration despite the fact that this subject may appear old from the first look. Dental students should also not be excluded from such research depending on the known fact that they may be familiar with such subject with advancing in their study.

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