Caries-Experiences and Dental Treatment Needs among (16-18 Years Old) in High School Girls in Al-Mussayb City, Babylon Governorate

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ABSTARCT

Background: Numerous epidemiological studies were conducted in Iraq, concerning dental caries and related etiological factors however; most of these studies were concerned with pre-and primary school children and/or those at index ages (12-15years old). At the time studies regarding older ages are very limited. This study was done to determine the prevalence and severity of dental caries and treatment need among high schools girls (16-18 years old) in Al-Mussayb city, Babylon Governorate. Thus, it can be considered as a base line data that allows studying dental caries among permanent dentition, also allows the comparison with other studies in other parts of the world.

Material and Method: A total number of 900 high school girls were examined in their classroom following the method of WHO. Dental caries was recorded by application of DMFT/DMFS index, and dental treatment needs following criteria of WHO.

Results: The prevalence of dental caries was 70.5% with a mean DMFT/DMFS values (3.30 ±SE 0.091, 4.94 ±SE 0.161) respectively. A statistically highly significant increase of caries-experience was recorded with aging. The highest percentage of girls needed one surface restoration (60.8%).

Conclusion: A relatively high caries – experience was present among high school girl in Al Mussayb city indicating the need for preventive programs.

Keyword: Dental caries, Secondary school students. (J Bagh Coll Dentistry 2015; 27(4):147-149).

INTRODUCTION

Iraq is one of developing countries that demonstrated a high caries prevalence and severity of dental caries among different age groups however; most of these studies were conducted in Bagdad cityand directed to pr-and primary schools [(1-3)]. While there is a limitation in studies concerning (16-18 years old). Only two studies wereable to found concerning adolescent from 10-19 years old in Humaidat village, Mosul Governorate and in Al-Door, Salahaldeen Governorate [(4,5)].

Al-Mussayb city, Babylon Governorate located in the Middle Euphrates region about 40 km from Hilla city. The city is located on the banks of the Euphrates River that bisects it in to two halves. An estimated population of Al-Mussayb city is (107344) people according to Iraqi Ministry of Planning/ Al-Mussayb Statistics Department, 2014. This study was designed in order to have a base line data concerning the prevalence and severity of dental caries in Al-Mussayb city, Babylon Governorate for 16-18 years old high school girls, and determine the treatment need.

MATERIALS AND METHODS

In the present study, the total number examined consisted of (1100) high school girls (16, 17, 18 years old).

Permission was obtained from the Al-Mussayb Education Institution in order to meet subjects with no obligation, also a special consents were distributed to parents to obtain permission for including their girls in the study with full cooperation, girls without permission, and/or with serious systemic diseases, uncooperative, wear orthodontic appliance and married were excluded from total sample. Examination was performed in classrooms under standardization criteria of WHO [(6)].

Using disposable mouth mirrors and dental explorers, dental caries was diagnosed and recorded by application of DMFT/ DMFS index according to criteria of WHO [(6).]

The same reference was followed in recording the dental treatment needs. Natural day light was used for illuminations supplemented by artificial light.

As data were not normally distributed, Kruskal-Wallis test was applied to test the differences between results. P-Value less than 0.05 were considered significant and highly significant if P-Value less than 0.01. Girls were informed about their dental status and the treatment they need.

RESULTS

The final number of high school girls composed only of (900). Table (1) illustrates the distribution of caries-free of high schoolgirls and the DMFT values. Only (29.5%) were caries-free of total girls examined.

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Table (2) illustrates the mean and median value of DMFS value according to the ages.

Caries-experience was found to increase with age and difference was highly significant (P< 0.01). DS value component was highest compared to MS.

DISCUSSION

The present study is the firststudy concerning caries-experiences among (16-18 years old) high school girls in Al- Mussayb city, Babylon Governorate. Thus it is consider as a base line data to allow comparison with other study in Iraq and other part in the world.

The prevalence reported by current study was 70.5%, this is considered to be lower than that reported by Rebelo et al [7], while this percentage was higher than that reported by Rose and Vieira in USA [8]. This relatively high prevalence of dental caries may be indication of poor dental education in the studied area beside the assumed low fluoride level in communal water supply.

Pervious Iraqi studies reported a fluoride levelin Tigris River not more than 0.22 ppm, explaining the increase in dental caries, while no study was able to be found regarding Euphrates River so future study is needed to explore the fluoride level in relation to dental health.

The mean values of DMFT recording by the present study was (3.03 ±SE 0.091) which was higher than that recorded by others [9]. On the other hand, this value was lower than that recorded by different studies among different populations [10,11].

Variation between studies in caries-experiences may be either related to variation in etiological factor and/or associated risk factor [12]. In addition variation between studies may be related to differences in the design of the study and diagnostic criteria.

In similarity with other Iraqi studies, the DS fraction contributed the major part of DMFS Index, this may indicate either ignores to treat already existing caries or girls are not even aware of the presence of carious teeth. The neglecting of dental health and the irreversible accumulative nature of dental caries may explain the increase in caries severity recorded with age [13,14].

The study showed that nearly 70% of girls were in need of one surface restoration while 8.9% needed pulp care and extraction of teeth. Neglecting of dental care and periodic dental visit may allow for progression of dental lesion thus increase in the need for treatment.

As conclusion; high caries prevalence can be seen by this study, with increase in dental treatment need indicted the need for public or school preventive programs and improvement of dental health educations.

Table (1): Distribution of Caries-Free among High School Girls and Caries -Experience by Age

Age In years	No.	caries-free		DMFT		
		No.	%	Mean	±SE	Median
16	276	91	33.0	2.58	0.151	2.00
17	290	95	32.8	2.99	0.165	2.00
18	334	80	24.0	3.43	0.153	3.00
Total	900	266	29.5	3.03	0.091	2.00

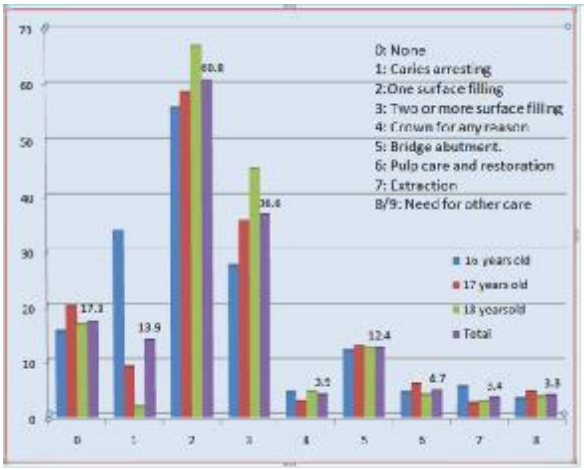

Figure (1): Distribution of High School Girls According to the Type of Treatment Need Required by Age.

Table (2): Caries-Experience (Mean, SE, Median of DS, MS, FS and DMFS) among High School Girls by Age.

Caries – experience	Descriptive statistics					Kruskal Wallis Test	
	Age in years	Mean	±SE	Median	MR#	Chi-Square	P-Value
DS	16	2.86	0.189	2.00	410.90	14.419	0.001**
	17	3.38	0.204	3.00	443.69		
	18	4.15	0.225	3.00	489.19		
	Total	3.51	0.122	3.00			
MS	16	0.85	0.139	0.00	452.29	0.116	0.944
	17	0.86	0.150	0.00	448.01		
	18	0.92	0.142	0.00	451.19		
	Total	0.88	0.083	0.00			
FS	16	0.60	0.107	0.00	449.03	1.265	0.531
	17	0.50	0.087	0.00	443.12		
	18	0.55	0.087	0.00	458.12		
	Total	0.55	0.054	0.00			
DMFS	16	4.31	0.284	3.00	410.38	13.476	0.001**
	17	4.74	0.262	4.00	446.51		
	18	5.62	0.281	4.00	487.12		
	Total	4.94	0.161	4.00			

****Highly significant, P < 0.01, df = 2, # mean rank**

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