



Prevalence of dental caries in relation to residential factor among (6-9) years old children in Baghdad

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Abstract

dental caries survey was conducted concerning 6-9 years old children in two different social areas in the city of Baghdad.

The total sample composed of 180 (90 males and 90 females). Purpose of this study included the estimation of the prevalence of dental caries and its association with the socioeconomic background of children.

Results showed that for the primary dentition dmfs and dmft values were higher for males aged 6-7 and 7-8 years in high socioeconomic class (7.8 & 4.2 , 9.7 & 4.7) than in low socioeconomic class (6.7 & 3.9 , 7.2 & 3.2) with statistically no significant differences ($p > 0.05$). For children aged 8-9 years in low socioeconomic area the values were higher compared with those in high socioeconomic area for both sexes.

For the permanent dentition the high social class showed higher prevalence of dental caries compared with their lower social class counter parts except females aged 8-9 years with low socioeconomic status recorded higher DMFS and DMFT values (2.66 & 2.6) compared to those in high socioeconomic (2.6 & 1.8), while the relation was not significant ($p > 0.05$).

Generally the present study showed that the prevalence of dental caries for primary teeth was higher among children with low social class (dmfs & dmft) than those with high social class, while the results were reversed for the permanent teeth.

Key words: dental caries, socioeconomic class.

Introduction

Oral health problems are universal that affect nearly all the people in all societies, races and socioeconomic classes throughout the world. Oral health like general health is strongly influenced by socioeconomic status⁽¹⁾.

In addition to that dental caries is a biosocial infectious disease, and its prevention and treatment should take into consideration all the factors that may lead to the development and progression of demineralization⁽²⁾.

Also in order to reduce, and eventually prevent dental disease in a

community, it is necessary first to determine the prevalence of the dental disease. The knowledge can only be acquired by a properly conducted epidemiological survey⁽³⁾.

Material and Method

The sample was collected from children with ages 6-9 years (90 males & 90 females) table (1) , who attended Baghdad schools in AL-Kharkh sector which roughly categorized into high and low social areas, then schools from

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each area where chosen randomly (AL-Yarmook city represent high social area and AL-Rahmanya represent low social area). The schools authority was contacted and the purpose of the study was explained to them to ensure full cooperation. Examinations were carried out in the classroom under standardized conditions and under natural day light using plane mouth mirror and sharp dental explorer.

According to American dental Association Numbering system, a systemic approach of teeth examination was followed, starting from the last upper right molar proceeding in an orderly manner from one tooth to the adjacent tooth space reached upper left last molar, then going to the lower left last molar and passing to the lower last right molar. A coding system was applied for recording dental caries status of primary teeth and a numerical coding system for permanent teeth ⁽⁴⁾. The results were tabulated, and the mean value for each age group was calculated. Statistical significant differences were established using ANOVA and t-test.

Results

Caries experience according to the social status was found to be higher in females with low socioeconomic status aged 6-7 & 7-8 years compared to those with high socioeconomic status (higher dmfs & dmft values), while data revealed that males in high social area aged 6-7 & 7-8 years experienced higher dental caries compared to males in low socioeconomic area table (2,3).

Comparison between the two social classes for age 8-9 years indicated that both males and females in low social areas recorded higher dental caries compared to those with high social areas, the relation was non significant for all age groups ($p>0.05$).

Table (4,5) demonstrates that both sexes with ages 6-7 and 7-8 years experienced higher DMFS & DMFT values for children with high social class than those with low social class. For the children with age 8-9 years males with high socioeconomic status recorded higher dental caries compared with low socioeconomic status, while females recorded reversed results, the differences were non significant for all age groups and for both sexes except females with age 7-8 years the difference was significant ($p<0.05$).

Discussion

In the present study the indicator for the socioeconomic status is the area of residency, children who live in AL-Yarmook city with high level of parents education usually means higher socioeconomic status, while those living in AL-Rahmanya city with low parents education represented children with low socioeconomic status, a similar observation was reported by Slade et al ⁽⁵⁾ and AL-Sharbatti ⁽⁶⁾.

The caries experience for primary dentition was found to be affected by the socioeconomic status of the children (table 2,3). Children of high socioeconomic level had lower caries experience than those of the low socioeconomic level, this finding agreed with studies in the developed countries by Vargas et al ⁽¹⁾ and AL-Mohammadi et al ⁽⁷⁾ but it comes in contrast to the results reported also in the developed counties by Olsson ⁽⁸⁾ and AL-Sayyab ⁽⁹⁾ where caries experience is known to be greater in the higher social class. This finding has been attributed to the reason of more social awareness of the importance of utilizing the dental services and the use of preventive measures on a large scale for the high social class.

Males in this study were found to have higher dmfs mean than females in

high socioeconomic status, the lower caries experience in females was attributed to the better oral hygiene than males and also for more awareness of dental care.

The present study revealed that for the permanent dentition the results were reversed table (4,5), the possible explanation for this finding is that sugar consumption is an important factor in the etiology of dental caries and many studies conducted by Moynihan ⁽¹⁰⁾, Dasanayake and Caufieled ⁽¹¹⁾ showed a positive correlation between sugar intake and dental caries.

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Table (1): Distribution of the total sample by age groups and gender

Age		Gender		Total
		Male	Female	
6-7	No.	15	15	30
	%	50	50	100
7-8	No.	15	15	30
	%	50	50	100
8-9	No.	15	15	30
	%	50	50	100

Table (2). Caries Experience (dmfs: Mean±S.D) by Age, Gender and Socioeconomic status

Age		Gender	Socioeconomic Status	Mean	S.D	t-test	Sig.
6-7	dmfs	Male	High	7.8	3.64	0.55	N.S
			Low	6.73	6.65		
		Female	High	6.73	4.55	0.80	N.S
			Low	8.46	7.05		
		Total	High	6.76	4.05	0.41	N.S
			Low	7.6	6.8		
7-8	dmfs	Male	High	9.73	9.88	0.86	N.S
			Low	7.26	5.11		
		Female	High	9.66	7.75	0.49	N.S
			Low	11.1	8.47		
		Total	High	9.2	7.15	0.17	N.S
			Low	9.7	8.73		
8-9	dmfs	Male	High	8.6	5.11	0.24	N.S
			Low	9.06	5.47		
		Female	High	7.86	5.26	0.57	N.S
			Low	9.06	6.20		
		Total	High	8.23	5.11	0.42	N.S
			Low	9.06	5.76		

t-tab. at significant level 0.05 and d.f (28)=2.04

N.S: Non significant at level $P>0.05$ S: Significant at level $P<0.05$

Table (3): Caries Experience (dmft: Mean±S.D) by Age, Gender and Socioeconomic status

Age		Gender	Socioeconomic Status	Mean	S.D	t-test	Sig.
6-7	dmft	Male	High	4.26	1.98	0.38	N.S
			Low	3.93	2.76		
		Female	High	4	2.47	0.66	N.S
			Low	4.6	2.5		
		Total	High	4.13	2.20	0.15	N.S
			Low	4.26	2.61		
7-8	dmft	Male	High	4.73	3.34	1.57	N.S
			Low	3.26	1.43		
		Female	High	4.86	2.87	0.45	N.S
			Low	5.33	2.81		
		Total	High	4.8	3.06	0.50	N.S
			Low	4.3	2.43		
8-9	dmft	Male	High	4.2	1.52	0.17	N.S
			Low	4.33	2.46		
		Female	High	3.53	1.80	1.37	N.S
			Low	4.53	2.19		
		Total	High	3.86	1.67	0.78	N.S
			Low	4.43	2.29		

Table (4): Caries Experience (DMFS: Mean±S.D) by Age, Gender and Socioeconomic status

Age		Gender	Socioeconomic Status	Mean	S.D	t-test	Sig.
6-7	DMFS	Male	High	0.13	0.35	0.63	N.S
			Low	0.06	0.25		
		Female	High	0.33	0.72	0.32	N.S
			Low	0.26	0.45		
		Total	High	0.23	0.56	0.40	N.S
			Low	0.16	0.37		
7-8	DMFS	Male	High	1.26	1.03	0.09	N.S
			Low	1.21	1.99		
		Female	High	2.2	1.69	2.48	S
			Low	0.9	1.12		
		Total	High	1.73	1.46	1.01	N.S
			Low	1.16	1.62		
8-9	DMFS	Male	High	3.06	2.71	0.34	N.S
			Low	2.73	2.68		
		Female	High	2.6	2.41	0.08	N.S
			Low	2.66	1.87		
		Total	High	2.83	2.53	0.15	N.S
			Low	2.7	2.27		

Table (5): Caries Experience (DMFT: Mean±S.D) by Age, Gender and Socioeconomic status

Age		Gender	Socioeconomic Status	Mean	S.D	t-test	Sig.
6-7	DMFT	Male	High	0.13	0.35	0.63	N.S
			Low	0.06	0.25		
		Female	High	0.33	0.72	0.32	N.S
			Low	0.26	0.45		
		Total	High	0.23	0.56	0.40	N.S
			Low	0.16	0.37		
7-8	DMFT	Male	High	1.26	1.03	0.94	N.S
			Low	0.93	0.88		
		Female	High	1.93	1.33	2.55	S
			Low	0.8	1.08		
		Total	High	1.6	1.22	1.84	N.S
			Low	0.86	0.97		
8-9	DMFT	Male	High	1.86	1.30	0.27	N.S
			Low	1.73	1.33		
		Female	High	1.8	1.37	0.93	N.S
			Low	2.26	1.33		
		Total	High	2	1.33	0.35	N.S
			Low	1.83	1.31		