MDJ

Evaluation of DMF in Baghdad after years 2003

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Abstract

Dental caries is a sugar – dependent disease acid is produced as a bi product of the metabolism of dietary Carbohydrate by bacteria plaque, which results in a drop in PH at the tooth surface.

In response, Calcium and Phosphate ions diffuse out of enamel, resulting in demineralization.

This process is reversed when the PH rises again [1]. The sample consisted of 100 students from both sexes at age 9, 10, 11 and 12 years from primary schools in Baghdad. This study reveals that dental caries increases with age as caries begins in the permanent dentition. And the DMF decrease after 13 years of sanctions in Iraq.

It has been found that 13 years of sanction is just enough to reveal the result of the reduction in sugar consumption on prevalence of dental caries. Also, it has been found that after two years of 2003 is just enough to reveal of increases in sugar consumption on prevalence of dental caries.

Introduction

In the mouth there are some 27 species of micro organisms (bacteria) to be found. These are considered to be normal inhabitant of the oral cavity in the same way that all parts of the body have a normal resident micro flora. In the mouth these micro organisms grow rapidly over the tooth surface forming dental plaque usually partially removed by regular oral hygiene methods such as tooth brushing and flossing but it is impossible to remove every vestige of plaque from all the nooks and crannies of the tooth and gums and after tooth cleansing plaque build up again rapidly by bacteria by cell division and multiplication. [2,3]

The aim of this study is to measure dental caries prevalence in Baghdad by using DMF index, at the year 2003 that means thirteen years of sanction forced on Iraq and compare it with previous studies before sanction.

A number of oral tissues are particularly sensitive to malnutrition for example teeth during formation, salivary glands and oral epithelium and periodontal ligament.

The first permanent molars is the first permanent tooth to be erupted, it appear at age (6-7) years, so it is the most expected tooth to have dental caries and most probably missed due to caries [4,5].

Education of parents and children about the importance of this tooth is needed to improve their attitude towards dentistry in general and particularly on first permanent molars as it is usually considered a deciduous tooth by many parents [6,7].

The purpose of this study was to

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measure dental caries prevalence in Baghdad by using DMF index [8] D-Decayed M-missing (due to caries only) F-filling

Material and Methods

From Baghdad primary school district, which includes the Al-Karkh and Al-Rusafa and its surroundings, 100 children were selected at random from each of the age groups 9, 10, 11 and 12 years.

A clinical examination had been performed by using DMF index [8] the result has been compared with other studies before sanctions in Iraq which are the Iraqi national survey (1985), national survey at the year 1990 and then the Iraqi national survey at year 1998 (8 years after sanction). And the Iraqi National Survey at years 2003.

Each student has been asked about name, age, address, social condition, hospitalization, medication, family history, habits. Environment exposures were similar for all the subjects.

Instrument needed
1. A plane mouth mirror.
2. Sickle – shape explorer.
3. Day – light.
4. Disinfected solution.

Clinical examination is always done by the same examiner.

Also the educational level of the house hold was stimulated by dividing them in to three levels low, moderate, and high level education.

Results

The sample is classified according to age 9, 10, 11and 12 years.

Relation between Age and DMF

The means and standard deviation (9 years group) was (0.2131 ±0.4750) while for 10 years group was (0.2059 ± 0.4750) also the means and standard deviation for (11 years group) was

(0.4286 ± 0.6341) while for (12 years group) was (0.6341 ± 1.1495) as shown in table (1) Fig. (1).

Relation between Education level of hose hold and DMF

The means and standard deviation (level 1) was (0.3125 ± 0.7461) while for (level 2) was (0.6667 ± 0.7785) also the means and standard deviation for (level 3) was (0.4063 ± 0.8677). As shown in table (2) Fig (2).

Relation between Sex and DMF

The means and standard deviation (female) was (0.2571 ± 0.6929) while for (male) was (0.4250 ± 0.8359). As shown in table (3) Fig (3).

The DMF of 12 years was compared with the DMF of the same age group at year 1985, 1990 which mean before the sanctions which was highly significant difference and then compared with the DMF at year 1998, and 2003 and it was not significant Table (4) (figure 4).

Discussion

1. This study reveals that dental caries increases with age as caries begins in the permanent dentition soon after the eruption of the first permanent molar, usually in the pits and fissures of those teeth [9]. Dental caries increases in youth and early adult and more slowly in the later years of life [10] , which is in accordance with many studies [11,2].

2. Another important finding of this study shows that DMF decreases after 10 years of sanction, when we compare it with the DMF of Iraqi national survey at year 1985, 1990 [12] and this is in agreement with [13,14] in which dental caries prevalence decreases due to relation in sugar consumption after the second world war. In another wards 13 years of sanction is just enough to cause a decreases in DMF while in other studies such as [7]indicate an

increase in DMF because 3 years is not enough to cause this reduction.

3. Another finding is that there is no effect of household educations on the state of oral health status and dental caries of their children's – mouth and this is in agreement with (1,15). Due to the fact that improvement of knowledge on oral health of individual does not necessarily leads to improvement of health behavior even to their children [16,17].

4. Another important finding in our study shows that 10 years of sanction is just enough to reveal the result of the reduction in sugar consumption on prevalence of dental caries while in another study, stated that three years is enough to reveal any increase or decrease in dental caries in comparison with increase or decrease in sugar consumption [5] while [7] found that after tow years of sanction on Iraqi children does not cause any decrease in dental caries prevalence.

5. Another finding is the DMF increase after 2003 when we compare with the DMF at years of 1998 and 2003, two years is just enough to cause increase in sugar consumption.

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Table (1)

Age group	Mean	Std. Deviation	F	Sig.
9	.2131	.5489		
10	.2059	.4750		
11	.4286	.6341	6.107	.000 HS
12	.6341	1.1495		
Total	.3467	.7758		

Table (1): Show the relation between age and DMF for each group which was a highly significant difference which indicates that dental caries increases with age
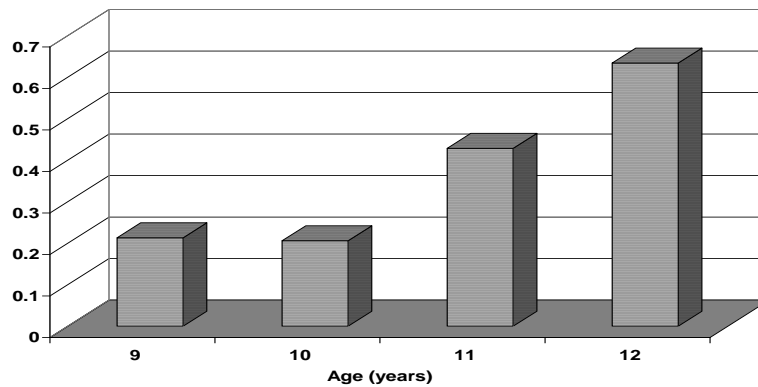

Figure (1)

Table (2)

Education	Mean	Std. Deviation	F	Sig.
Level 1	.3125	.7461		
Level 2	.6667	.7785	1.431	.241 NS
Level 3	.4063	.8677		
Total	.3467	.7758		

Table (2): Showing the relationship between education level of house hold and DMF which reveal a non significant relationship (figure 2).
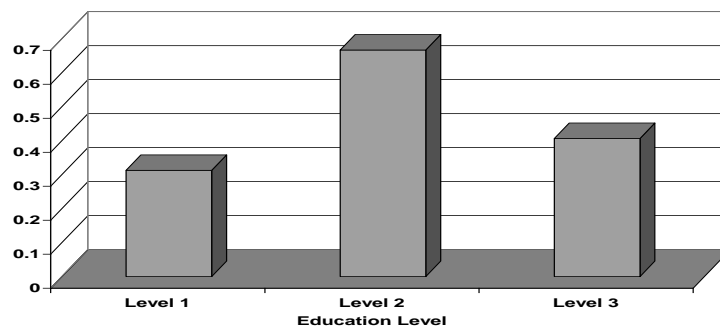

Figure (2)

Table (3)

Sex	Mean	Std. Deviation	F	Sig.
Female	.2571	.6929		
Male	.4250	.8359	298	.061 NS
Total	.3467	.7758		

Table (3): Showing the changes of DMF according to Sex also calculated, indicate that the relationship was not significant. (Figure 3).
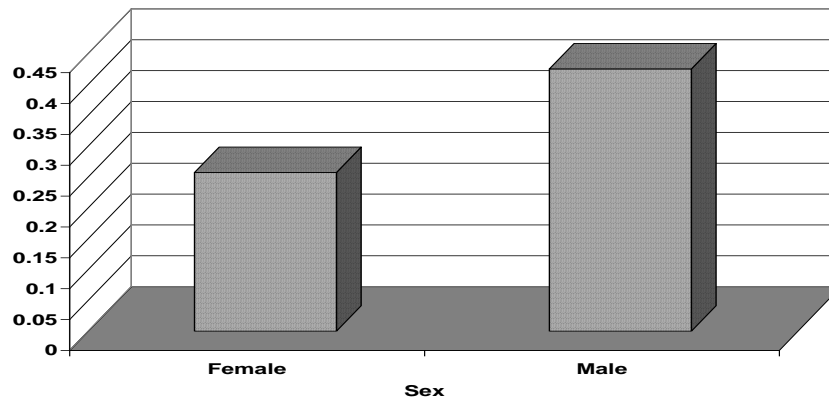

Figure (3)

Table (4)

Year	1985	1990	1998	2003	2006
	1.23	1.1	0.6	0.6341	1.5
C.S	H.S	HS	HS	HS	HS

Table (4) : The DMF of 12 years was compared with the DMF of the same age group at year 1985, 1990 which mean before the sanctions which was highly significant difference and then compared with the DMF at year 1998, and 2003 and it was not significant
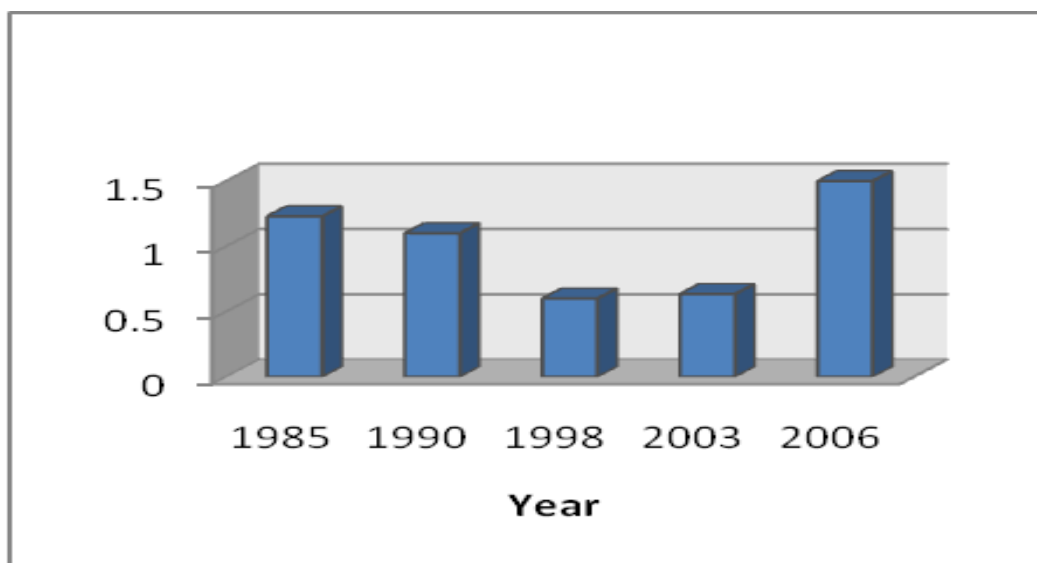

Figure (4)