

Current prevalence of dental caries in Iraqi preschool children. A comparison to national and international studies.

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ABSTRACT

Background: This study described the occurrence of dental caries among children in kindergartens and described changes in caries prevalence and experience from 1983 to 1998, and to provide a baseline for the evaluation of the preventive oral health programs.

Materials and methods: The sample consisted of 946 kindergarten children, 512 (54.13%) boys, and 434 (45.87%) girls age ranged between 4 - 5 years, and the kindergartens were randomly selected in different regions in Baghdad city.

Results: In this study the mean value of caries experience (dmft) was found to be equal to (4.83 ± 4.05) for boys, and (4.15 ± 4.00) for girls in age 4 - 5 years.

Conclusion: It was concluded that in spite of the drastic changes concerning diet, especially sugar and carbohydrates due to sanctions, but what was found that there were few fluctuations around the same values of (dmft) from 1983 -1998. It was concluded that the present (dmft) value was among the highest reported values among recent international studies and neighboring arabian countries.

Key words: Dental caries, caries- epidemiology; preschool children. (J Bagh Coll Dentistry 2006; 18(1) 72-75)

INTRODUCTION

Many epidemiological studies had been conducted in Iraq to evaluate the caries prevalence of preschool children; this age is of interest in relation to the levels of caries in primary dentition which may exhibit changes over a shorter time span than the permanent dentition⁽¹⁾.

This study evaluated the caries prevalence in preschool children, and in addition reported the results of previous standardized clinical caries examinations in order to determine whether any changes occurred in caries prevalence among the preschool children in Iraq during the past fifteen years, and the results were compared to the international studies. The results of this study will give a baseline data for future planning of effective preventive programs for this age group.

MATERIALS AND METHODS

The sample consisted of 946 kindergarten children, 512 (54.13%) boys, and 434 (45.87%) girls age ranged 4-5 years. The kindergartens were randomly selected in different regions in Baghdad city, during the period from December 1997-March 1998.

All examinations were performed by the principle authors after having completed practice examinations for calibration.

The clinical examinations were performed with the aid of mouth mirrors, and right angle explorers. The examination was carried out with the child facing natural light and in an open space in every kindergarten. Dental caries experience was evaluated by reading the (dmf) teeth, according to the WHO standards criteria for diagnosis of caries.

Student's t-test was used at the 5% level of significance to test for statistical significance between the means of caries index in different ages and genders.

RESULTS

In Table 1 it is demonstrated that almost equal groups were included for both ages and genders, also it was shown that no statistically significant variation were found between the genders regarding the mean value of (dmft) in both age groups 4 and 5 years old.

In Table 2 the mean and standard deviation of (dmft) separate components 'dt', 'mt', 'ft' were shown according to age and gender. It was clear from this table that the value of 'dt' was the highest value, followed by the 'mt' with great difference and the least are the 'ft' values.

Figure 1 demonstrates the results of Iraqi standardized studies from years 1983, 1986,

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1989, 1991, 1995, till 1998 through all these years and in spite of the drastic changes concerning the diet and specially sugar and carbohydrates due to sanctions but what was shown that there were few fluctuations around the same value of (dmft).

Figure 2 demonstrates the values of (dmft) in different countries, and it was clear from this figure that Iraq demonstrated the highest values of (dmft) among all recent international studies.

DISCUSSION

The value of (dmft) if taken separately, (dt = 4.13 ± 3.7), (mt = 0.27 ± 0.76), (ft = 0.05 ± 0.33), 'dt' comprised the highest value which indicated decayed teeth, and the 'mt' was lower with a significant difference, but the lowest was the 'ft' which indicates the poor treatment level, if compared to what was found in the Iraqi studies since 1989⁽²⁾ and 1995⁽³⁾, there was no change, but if compared to other countries in the world as for example in the United Kingdom, the values were 'dt = 1.33', 'mt = 0.3' and 'ft = 0.22'⁽⁴⁾. In Hong Kong the values were (dt = 2.93), (mt = 0.04) and (ft = 0.23), which indicated lesser decayed teeth, more extracted teeth, and more filled teeth, which means higher level of dental treatment⁽⁵⁾. It was obvious from these findings shown in figure 1 that there were no significant changes or trend toward decline in the value of mean (dmft) to this age group through the past 15 years since 1983, and this is not in agreement to what was found in recent studies around the world. In the United Kingdom the mean (dmft) was found to be 1.84 with improvement 0.7% compared to 1993-1994, and over recent years the overall trend in this age (5 years old) seems to be flat with evidence that there are minor deviations above and below a plateau value⁽⁴⁾. In France there was a reduction in dental caries about 35% in 1991 compared to 19 planned and supervised and annual records that should be inspected and studied.

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Table 1: Sample distribution by age and gender, value of mean (dmft) and standard deviation value.

Age	Gender	No.	%	mean dmft	S D	Significance
4	Boys	234	24.76	4.57	± 4.32	t = 1.64 P = 0.1 N. S.
	Girls	212	22.4	3.66	± 3.86	
5	Boys	278	29.3	5.05	± 3.77	t = 0.88 P = 0.38 N. S.
	Girls	222	23.4	4.61	± 4.05	
Total		946	100			

N. S. : Not Significant

Table 4: Mean and standard deviation of (dt), (mt), (ft) components according to age and gender of preschool children.

Age in years	Gender	No.	Dt		mt		ft	
			Mean	SD	Mean	SD	Mean	SD
4	Boys	234	4.29	±.04	0.22	±0.7	0.05	±0.35
	Girls	212	3.52	±3.77	0.12	±0.4	0.01	±0.13
5	Boys	278	4.64	±3.66	0.36	±0.8	0.04	±0.35
	Girls	222	4.07	±3.70	0.41	±1.1	0.12	±0.50
Total			4.13	±3.79	0.27	±0.7	0.05	±0.33

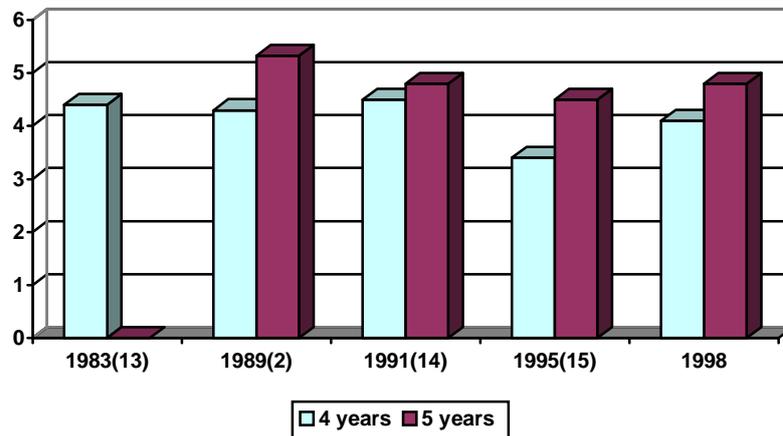


Figure 1: Mean value of dmft at age (4-5) in different studies 1983 - 1998

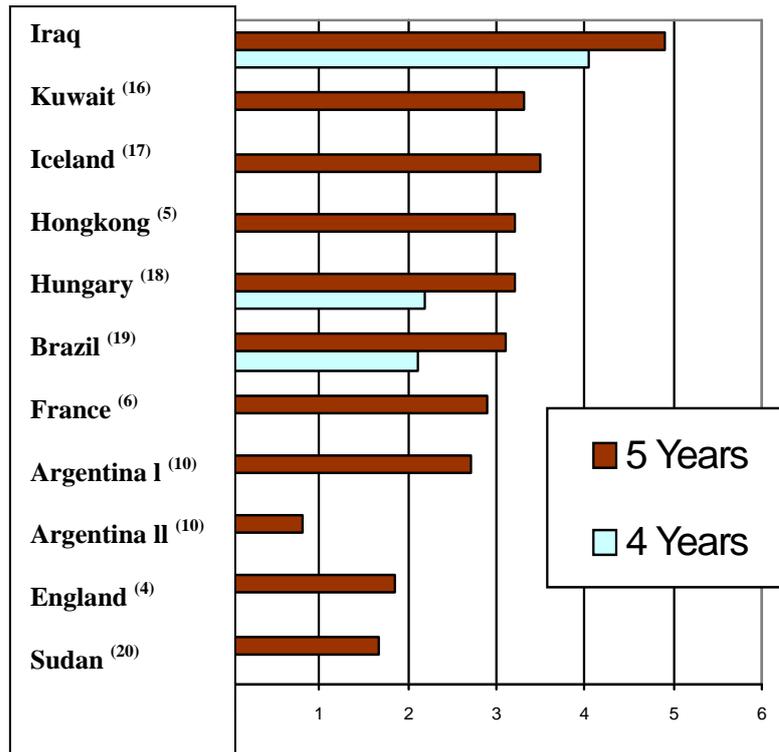


Figure 2: Caries prevalence in preschool children expressed by mean (dmft) in Iraq compared to different countries