Oral health status, dental knowledge and behaviors among children and adolescents (8-15) years old in the cities of Baghdad and Thamar

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ABSTRACT

Background: Investigating dental health knowledge among children is important. Knowing what behaviors are right in relation to dental health does not guarantee that children will practice those behaviors. However, lack of knowledge and misconceptions about dental health may lead to behaviors that are harmful to teeth and gum. Baseline data on knowledge levels are required to determine which particular areas of dental health education are in need of improvement for high-risk children living in different geographical areas. This research was conducted to study the oral health status, dental knowledge and behavior in relation to two different cities, among children in Baghdad and Thamar (republic of Yemen) governorate.

Materials and Methods: The sample collected was composed of two geographically different groups, first group from Baghdad city: composed of 144 children and adolescents and the second group collected from the city of Thamar (republic of Yemen) composed of 108 of an age range 8-15 years old children. Dental plaque and Gingival health condition was assessed by using plaque index of Silness and Loe (1964),and gingival index of Loe and Silness (1963), Ramfjord index teeth were examined to represent the whole dentition. Oral examination was performed by a single examiner using mouth mirror and dental explorer for each child. Ten questions were fabricated to evaluate the dental health knowledge and behavior of the two groups.

Results: This study was recorded that the age group 12-15 years old the significant difference was found in relation to gingival health condition, the dental Knowledge and behaviors was the highly significant difference was found between Baghdad and Thamar group. As well as highly scores of dental knowledge and behavior was significantly related to the dental plaque for both Baghdad and Thamar group.

Conclusion: The difference in the geographical location could affect on oral hygiene, dental health knowledge and behavior of the children and adolescent.

Keywords: Oral health status, geographical location, dental knowledge. (J Bagh Coll Dentistry 2013; 25(4):100-103).

INTRODUCTION

Oral health is a significant problem, which is the most common disease of childhood, it is one of the most prevalent infectious diseases, it begins soon after teeth erupt, and affected by age, culture, genetic and biological factors, social and physical environment, health behaviors, dental and medical care all these factors can help to change or improve oral health [1, 2, 3]. Oral health is an integral part of overall health status as well as the oral diseases are the most prevalent of all health problems, As efforts continue to improve the health of all citizens, oral health could not be overlooked [4].The level of dental knowledge, ethnicity, deprivation, and education, and the lifestyle and diet choices, all together could affect the oral health [5, 6].So that to provide guidance for a public health intervention we should deal with understanding cultural issues surrounding children's oral health [7]. Race/ethnicity is a marker for oral health status underlying cultural beliefs and practices influence the condition of the teeth and mouth, through diet, care-seeking behaviors, or use of home remedies, It is important to note that among and within all racial/ethnic groups there are substantial differences in beliefs and behaviors, which can lead to varying health status. Such differences are often associated with demographic characteristics [8, 9].

Populations have different health experiences and patterns of service use due to socio-cultural differences. Research on poor health outcomes generally examines deterrents such as high cost, lack of insurance and availability of services, often aspects of cultural ideas and health practices are suggested as additional deterrents [10]. Health is a basic human right and oral health is a significant component of general health, as well as the oral health problems are mostly not life threatening, but they are important because of effect on the quality of life. These will make the attention to oral health care [11]. Knowledge, beliefs and attitudes that students acquire during school can influence their behavior towards not just their own health, but also towards health in their immediate environment [12]

Dental health problems could be related to many other factors like social, cultural and environment, from this point of view this study was conducted in order to identify if there is a difference in the oral health status and dental knowledge and behaviors according to two different Arabic cities.

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MATERIALS AND METHODS

The sample of this study was composed of two groups, the first group was conducted in Baghdad governorate in republic of Iraq, and second group was collected in the city of Thamar governorate in republic of Yemen, the First group composed of 144, second group composed of 108 with an age range 8-15 years old children and adolescents for both group. These two groups were selected from different schools in different area in the Baghdad city as well as the sample of Yemen was selected from different schools in different area of Thamar city. Oral examination was performed by a single examiner using mouth mirror and dental explorer for each subject. Dental plaque was assessed by using plaque index (PlI) [13]. Gingival health condition was assessed by gingival index (GI) [14]. The teeth were examined to represent the whole dentition by using Ramfjord index teeth [15]. The examination of the children in the sitting and light position was done according to the criteria of WHO [16]. Finally ten questions fabricated for the evaluation of dental knowledge and behaviors of the children, questions that related to dental knowledge and behavior was:

1. Do you use tooth brush with tooth paste?
2. Should we brush teeth at least twice per day?
3. What is the Number of deciduous teeth?
4. What is the Number of permanent teeth?
5. Should we drink milk to reduce dental caries?
6. Sweet will or will not cause dental caries?
7. Do you visit the dentist regularly?
8. Is caries progression leads to losing teeth?
9. Is early loosing teeth lead to disharmony of teeth arrangement?
10. Do you think that good oral hygiene can lead to healthy teeth and gum?

The answer of these questions either yes or I don't know .The correct answer was yes and take score 1 for each question, for questions 3 and 4 the answer was giving correct number of deciduous or permanent teeth. So that the total maximum score was 10, it means that the entire question was correctly answered. Zero score was recorded when the answer was I don't know.

Statistical analysis was done using SPSS computer software (Statistical Package for Social Sciences) using t-test, Z-proportion.

RESULTS

The sample of this study was composed of two groups divided according to the geographical area B represents Baghdad city and TH represent Thamar governorate in the city of Yemen, the sample are subdivided according to age and gender. According to age the sample distributed in to two age groups 8-11 and 12-15, distribution illustrates in table (1).

Table (2) demonstrates the mean and standard deviation of PlI and GI in relation to area location and age group. The significant at age group 12-15 years old according to GI was significant to the area location ($p<0.05$), as we can see the significant was found at all age group according to the GI.

Table (3) illustrates the number of children that the answers was positive according to question type in relation to area of Baghdad and Thamar, the significant was found in question seven and nine ($p<0.05$),and the highly significant was found ($p <0.01$) in question 1,2,3,4,5,6,8 and 10.

Table (4) shows that the children take ten scores was highly significant in relation to geographical area, while the children take zero was significant in relation to geographical area.

DISCUSSION

In this study the significant in the age group 12-15 was found could be related to that this age group was the pubertal so that the several hormonal changes could occur. Several epidemiological studies revealed that the periodontal disease is wide spread in children and may vary from community to another [16]. other studies have been reached different result by other investigator [15-18].It is important to say that this study found that the calculus was absent in these two group of children present in Baghdad and Thamar area this result agree with other studies [17,19], and disagree with Al-Azawi [20].

The data of the present study revealed that the dental knowledge and behavior of the children was highly significant related to the geographical area, this could be due to the different believes and habit in their country. Several past study compare that the dental knowledge and behavior could differ according to geographical or socially level of the area [17- 23].

In the present study the result shows that the zero score of dental knowledge shows the significant relation according to area location, as well as in the degree of highly scores of dental knowledge the significant was high according to area location. This result could be related to the knowledge about dentistry cannot collected easily, so the children for example doesn't know the number of deciduous teeth and this may be related to other factors like the different social level in the same geographical area.

While according to mean plaque, the significant was not found, but in case of score ten the significant was found, this may be due to that

the children with the zero score doesn't have any interest or knowledge about cleaning their teeth in contrast to the children of score ten were they could have a dental knowledge to take care to their teeth and oral hygiene. Several previous studies found that dental knowledge effected on the oral hygiene [19, 20], and some other study found that the dental knowledge and behavior does not affected the oral hygiene [24, 25].

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Table 1: The distribution of the two sample according to age and gender

Age	area	Male		Female		Both	
		No.	%	No.	%	No.	%
8-11	B	40	44.4	50	55.6	90	62.5
	TH	37	54.4	31	45.6	68	62.9
12-15	B	25	46.3	29	53.7	54	37.5
	TH	18	45.0	22	55.0	40	37.0
Total	B	65	45.1	79	54.9	144	100
	TH	55	50.9	53	49.1	108	100

Table 2: The mean and standard deviation of the PlI and GI in relation to area location according to age

Age	area	plI		t-test	GI		t-test
		Mean	±SD		Mean	± SD	
8-11	B	1.286	0.160	0.596 NS P=0.34	0.755	0.559	0.011 NS P=0.99
	TH	1.405	0.590		0.823	0.548	
12-15	B	1.453	0.414	0.501 NS P=0.617	3.470	1.203	2.244 S P=0.031
	TH	1.453	0.516		0.895	0.498	
Total	B	1.322	0.401	0.016 NS P=0.998	1.562	0.333	2.233 S P=0.039
	TH	1.321	0.522		0.732	0.922	

S=Significant, NS=Not Significant.

Table 3: The distribution of total sample according to the dental knowledge and behavior (positive answers) in relation to geographical area

Question number	area	No. of positive		Z-prop
		No.	%	
Q1	B	102	70.8	14.6 HS P<0.01
	TH	43	39.8	
Q2	B	97	67.4	1.66 HS P<0.01
	TH	80	74.1	
Q3	B	54	37.5	9.66 HS P<0.01
	TH	19	17.6	
Q4	B	66	45.8	47.3 HS P<0.01
	TH	10	9.3	
Q5	B	107	74.3	44.7 HS P<0.01
	TH	32	29.6	
Q6	B	114	79.2	45.8 HS P<0.01
	TH	27	25.0	
Q7	B	58	40.3	1.114 S P<0.05
	TH	48	44.4	
Q8	B	108	75.0	66.8 HS P<0.01
	TH	67	62.0	
Q9	B	32	22.2	2.66 S P<0.05
	TH	51	47.2	
Q10	B	97	67.4	12.3 HS P<0.01
	TH	49	45.4	

S=Significant, HS=Highly Significant.

Table 4: The distribution of children and adolescents according to zero and ten scores of dental knowledge and behaviors among two geographical areas

Knowledge / Behavior	A	No.	%	Z-propr.
0	B	20	9.4	4.68 S P<0.05
	TH	8	5.5	
10	B	16	7.5	6.82 HS P<0.01
	TH	9	6.3	

S=Significant, HS=Highly Significant.