

Demands and Dental Treatment Needs among Children Attending the Clinic of Pedodontics, College of dentistry – Babylon University.

الاحتياجات وحاجة الأسنان الفعلية للعلاج بين الأطفال الملتحقين إلى عيادة طب
في كلية طب الأسنان -

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تم تقييم احتياجات علاج الأسنان والمطالب بين الأطفال الملتحقين في عيادة طب أسنان الأطفال في كلية طب الأسنان - جامعة بابل، للمرة الأولى.
الأهداف: الهدف من الدراسة الحالية هو لتحديد الاحتياجات وحاجة الأسنان الفعلية للعلاج بين الأطفال المراجعين إلى عيادة طب أسنان الأطفال والوقائي في كلية طب الأسنان - جامعة بابل.
المنهجية: أجريت دراسته وصفية سريرية لعينة عشوائية من الأطفال. تتكون العينة من 400 طفل (200 ذكور و 200 إناث) الذين تتراوح أعمارهم بين 5-15 سنة. تم فحص الأطفال في عيادة طب الأسنان الوقائي و الأطفال التابعة لكلية طب الأسنان - جامعة بابل للفترة من 1 آذار 2013 ولغاية 1 نيسان 2013. تم تحليل البيانات باستخدام (النسب المئوية، الوسط الحسابي، الانحراف المعياري).
أظهرت النتائج أن ألم الأسنان 48.8% شكلت المطالب الأكثر شيوعاً، تليها صدمة الأسنان، مشاكل تقويم الأسنان، ثم التدابير الوقائية. وفيما يتعلق باحتياجات العلاج، 98.5% من الأطفال بحاجة إلى علاج الأسنان بسبب تسوس الأسنان، في حين أن 97.8% من الأطفال بحاجة إلى علاج اللثة. وبالإضافة إلى ذلك، 20.8% من الأطفال بحاجة إلى علاج بسبب إصابات الأسنان المؤلمة، وكذلك 18.0% من الأطفال بحاجة إلى علاج تقويم الأسنان، في حين أن 6.2% فقط من الأطفال بحاجة لاتخاذ تدابير وقائية. وعلاوة على ذلك، 32.7% من الأطفال بحاجة إلى ترميم سطحين متسوسين أو أكثر، بينما 27.2% من الأطفال يحتاجون إلى علاج عصب السن، ثم 22.8% من الأطفال بحاجة ترميم سطح واحد. تعكس البيانات من هذه الدراسة على انه الطلب على العناية بالأسنان يقصر عن الحاجة المعيارية بين الأطفال العراقيين.
: هناك مسافة بعيدة بين الاحتياجات المعيارية والمطالب لتلقي العلاج حيث إن اغلب الآباء والأمهات لا يقومون بزيارة عيادات طب الأسنان إلا بعد شعور أبنائهم بألم شديد. قلة الوعي الصحي فيما يخص صحة الفم والأسنان لدى الأطفال وإبائهم.
التوصيات: أوصت الدراسة بضرورة تكافل الجهود المبذولة من قبل قطاعات الرعاية الصحية الأولية الحكومية بالإضافة إلى كليات طب الأسنان من أجل رفع مستوى الوعي الصحي فيما يخص صحة الفم والأسنان وذلك من خلال زيادة كفاءته العاملين في هذا المجال من خلال إدخالهم في دورات تدريبية و زيادة كفاءته نوعية الخدمات المقدمة بالإضافة الى عقد ندوات بصورة دورية بمشاركة وسائل إعلامية لغرض تثقيف الناس.

Abstract:

Introduction: Demands and dental treatment needs were assessed among Children Attending the Clinic of Pedodontics, College of dentistry – Babylon University, for the first time.

Objective: The aim of the present study was to investigate dental demands and needs of group of children attending clinic of pedodontics in the College of Dentistry, Babylon University.

Methodology: A descriptive clinical study was done for random sample of children. The sample consists of 400 child (200 males and 200 females). The ages of those children were range from 5-15 years. Children were examined in the pedodontic and Preventive Dentistry clinic /College of Dentistry / Babylon University during the period from 1 march 2013 until 1 April 2013. Data were analyzed through using descriptive statistical analysis, which include (Percentage arithmetic mean and standard deviation).

Results: The study showed that toothache 48.8% formed the most frequent demands, followed by dental trauma, orthodontics problems, and then preventive measures. Concerning treatment needs; 98.5% of children needed dental treatment because of dental caries, while 97.8 of children needed periodontal treatment. In addition, 20.8% of children needed treatment because of traumatic dental injuries, as well as 18.0% of children needed orthodontics treatment, while only 6.2% of children

needed preventive measures. Furthermore, two or more surface restoration needed in 32.7% of children, while 27.2% of children needed pulp care, then 22.8% of children needed one surface restoration. Data of this study reflect that, the expressed need or demand for dental care falls short of the normative need among Iraqi children.

Conclusions: There is a far distance between the normative requirements and demands for treatment, where that most parents came to visit dental clinic only after their children feel with severe pain. There was a lack of health awareness regarding oral and dental health in children and their parents.

Recommendations: The study recommended the need for collaborative efforts made by the sectors of primary health care, in addition to the faculties of dentistry in order to raise the level of health awareness with regard to the health of the mouth and teeth and by increasing the efficiency of workers in this field through brought into the training courses and increase the efficiency of the quality of services provided, in addition to holding seminars periodically with the participation of media for the purpose of educating the people.

Keywords: Dental need, Dental demand, Children, Pedodontic and Prevention clinic.

INTRODUCTION:

The term need is defined as the quantity of dental treatment, which in the opinion of an expert, should be available over a period for people to be certified dentally healthy [1]. In underdeveloped countries, dental care demand might be only for pain relief [2]. Most studies of need and demand show that the former is larger than the latter [3, 4, 5, 6, 7]. This is due to many reasons includes: Availability of treatment, acceptability of treatment and accessibility of treatment [6, 7].

Evaluating needs and demands for treatment in the population is probably a difficult task to achieve [6]. Many factors not directly related to the actual disease for which treatment can be offered will interfere, such as cost, culture, equipment, manpower and treatment prognosis [7]. Consequently, the utilization of dental care depends on the interaction between needs and demands for treatment and the available resources [8]. Most of epidemiological and clinical studies in our society were directed to the estimation of the prevalence and severity of oral problems while little data or information are available at present on the two parameters; dental needs and demands [9,10,11]. The aim of this present study was to investigate dental demands and needs of group of children attending clinic of pedodontics in the College of Dentistry, Babylon University.

MATERIAL AND METHODS:

The sample size is consisted of 400 child (200 males and 200 females) was taken randomly from children attending to the pedodontic clinic/ College of Dentistry- Babylon University for the first time during the period from 1 march 2013 until 1 April 2013. The ages of those children were range from 5-15 years. Parents consent were taken at the time of examination. The chief complaint according to the patient's own words were recorded first followed by clinical examination. Gingival, plaque and calculus conditions were assessed by the use of gingival, plaque and calculus components of the periodontal diseases index of Ramfjord in 1959 [12]. Dental caries and treatment needs were recorded according to WHO, 1987 [13]. Traumatic dental injuries were assessed by the use of Garcia-Godoy classification in 1981 [14] and as follow:

1. Enamel fracture.
2. Enamel and dentine fracture.
3. Enamel, dentine and pulp exposure.
4. Enamel, dentine and cementum fracture.
5. Root fracture.

6. Concussion.
7. Loosening without displacement
8. Intrusion.
9. Extrusion.
10. Avulsion.

Dental treatment need were assessed according to the following scores [9]:

1. Arrested caries.
2. One surface restoration.
3. Two or more surface restoration.
4. `Chrome steel crown.
5. Pulp care.
6. Extraction.
7. Immediate care.

Data were analyzed through using descriptive statistical analysis which include (Percentage arithmetic mean and standard deviation).

RESULTS:

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

Age	Males		Females		Both	
	No.	%	No.	%	No.	%
5-8	52	13.0	42	10.5	94	23.5
9-12	64	16.0	74	18.5	138	34.5
13-15	84	21.0	84	21.0	168	42.0
Total	200	50.0	200	50.0	400	100

Table (1) shows the distribution of the children by age and gender in which the numbers of males (13.0 %) were higher than females (10.5 %) at age group (5-8 years), while the numbers of females (18.5 %) were higher than males (16.0 %) at age group (9-12 years). Furthermore, the numbers of children at age group (13-15 years) were equal (21.0%).

Table (2): Distribution of children according to dental demands by age and gender.

Age	Gender	No	Tooth ache		Trauma		Ortho.		Preventive measures		Checking		Others	
			No	%	No.	%	No	%	No	%	No	%	No.	%
5-8	M	52	21	40.4	12	23.1	10	19.2	5	9.6	2	3.8	2	3.8
	F	42	19	45.2	6	14.3	10	23.8	4	9.5	2	4.8	1	2.4
	B	94	40	42.6	18	19.2	20	21.3	9	9.6	4	4.3	3	3.2
9-12	M	64	32	50.0	16	25.0	9	14.1	4	6.3	1	1.6	2	3.1
	F	74	40	54.1	11	14.9	14	18.9	5	6.8	3	4.1	1	1.4
	B	138	72	52.1	27	19.6	23	16.7	9	6.5	4	2.9	3	2.2
13- 15	M	84	45	23.6	22	26.2	8	9.5	5	6.0	3	3.6	1	1.2
	F	84	38	45.2	16	19.0	22	26.2	3	3.6	3	3.6	2	2.4
	B	168	83	49.4	38	22.6	30	17.9	8	4.8	6	3.6	3	3.6
Total	M	200	98	49.0	50	25.0	27	13.5	14	7.0	6	3.0	5	2.5
	F	200	97	48.5	33	16.5	46	23.0	12	6.0	8	4.0	4	2.0
	B	400	195	48.8	83	20.8	73	18.2	26	6.2	14	3.5	9	2.3

M= Males F= Females B= Both

Dental demands for the children were illustrated by table (2) according to age and gender. The most frequent dental complaint was toothache (48.8 %) followed by dental trauma (20.8 %) then orthodontic problem (18.0 %).

Table (3): Prevalence of dental caries, traumatic dental injuries, and gingivitis by age and gender.

Age	Gender	No.	D.C		Trauma		Gingivitis	
			No.	%	No.	%	No.	%
5-8	M	52	52	100	12	23.1	52	100
	F	42	42	100	6	14.3	42	100
	B	94	94	100	18	19.1	94	100
9-12	M	64	64	100	16	25.0	60	93.8
	F	74	74	100	11	14.9	72	97.3
	B	138	138	100	27	19.6	132	95.7
13-15	M	84	82	97.6	22	26.2	84	100
	F	84	80	95.2	16	19.0	81	96.4
	B	168	162	96.4	38	22.6	165	98.2
Total	M	200	198	99.0	50	25.0	196	98.0
	F	200	196	98.0	33	16.5	195	97.5
	B	400	394	98.5	83	20.8	391	97.8

M= Males F= Females B= Both

Table (3) shows the prevalence of dental caries, traumatic dental injuries and gingival disease. The percentages of children suffering from dental caries and gingival inflammation were (98.5 %)(97.8 %) respectively while (20.8 %) of children were suffered from traumatic dental injuries. Males (25.0 %) were more affected by dental trauma than females (16.5 %).

Table (4): Caries experience, traumatic tooth injury, plaque, gingival and calculus assessments (mean and SD) by age and gender.

Age	Gender	No.	dmfs Mean± SD	DMFS Mean± SD	Trauma Mean± SD	PII Mean± SD	GI Mean± SD	CI Mean± SD
5-8	M	52	16.2 8.9	2.3 1.9	2.1 1.8	8.3 6.9	15.2 8.9	1.0 0.98
	F	42	15.6 9.1	3.33 2.1	1.8 1.0	8.8 5.9	16.0 8.9	1.1 0.32
	B	94	16.5 8.7	2.8 2.0	2.3 1.3	8.1 5.2	16.2 8.6	1.32 0.44
9-12	M	64	12.5 9.4	3.8 2.6	3.8 1.5	8.5 6.5	12.5 9.4	1.21 0.22
	F	74	14.6 8.3	4.1 2.1	3.6 2.2	9.9 4.0	15.6 9.1	1.1 0.31
	B	138	13.8 8.1	4.1 2.5	3.6 1.9	8.4 4.9	14.7 8.8	1.33 0.54
13-15	M	84	11.3 8.2	4.8 2.6	4.1 1.5	9.1 5.2	11.3 8.2	3.16 1.44
	F	84	11.0 8.1	5.1 3.1	3.1 2.2	9.9 4.9	12.0 8.1	4.33 1.76
	B	168	10.8 8.0	4.9 3.2	3.4 1.8	9.0 5.1	10.8 8.0	3.99 1.49
Total	M	200	13.9 9.5	5.1 3.3	12.5 9.4	9.8 5.1	12.2 9.3	10.3 7.55
	F	200	13.9 9.5	5.7 3.6	10.2 7.9	9.0 6.0	12.9 8.9	11.6 8.33
	B	400	13.3 9.2	5.2 3.4	11.6 8.1	9.9 6.1	12.6 8.8	11.61 8.3

M= Males F= Females B= Both

Dmfs= Decay missing filling surface index for primary teeth, DMFS= Decay missing filling surface index for permanent teeth, PII= Plaque index, GI= Gingival index, CI= Calculus index.

The mean of caries experience of primary and permanent teeth were illustrated in table (4) in which the decayed fraction formed the major part of DMF and dmfs indices. It was founded that caries experiences of both primary teeth surfaces (dmfs) and permanent teeth surfaces (DMFS) were higher in females than males. The mean dmfs decrease with age while mean DMFS increase with age due to mix dentition stage and time exfoliation. The mean number of traumatic dental injures was higher in males than females, while the mean plaque index, gingival index and calculus index were nearly the same in both; females and males.

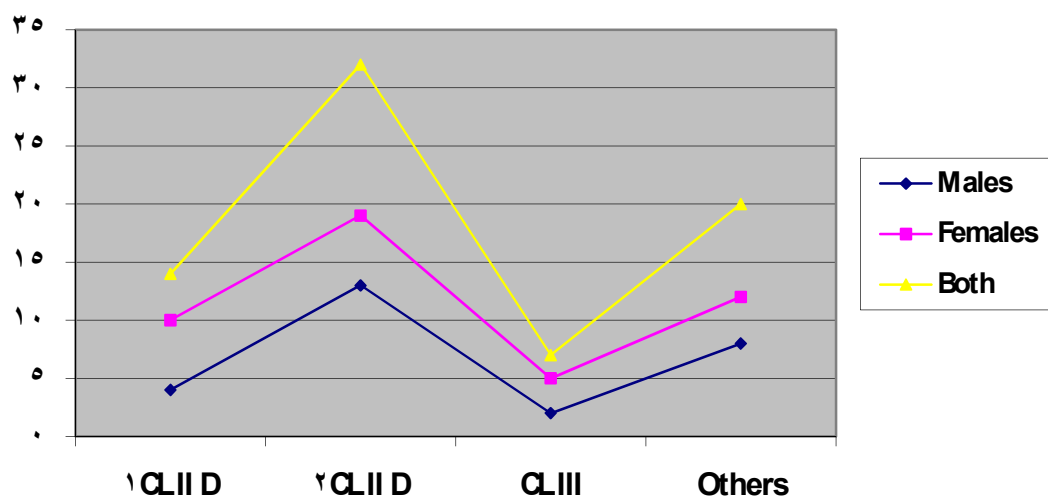


Figure (1): Percentage distribution of children according to malocclusion of teeth by gender.

The distribution of children according to malocclusion of teeth by gender was illustrated by figure (1). Class 2 division 2 was the most frequent cause of malocclusion, while class III malocclusion was the least.

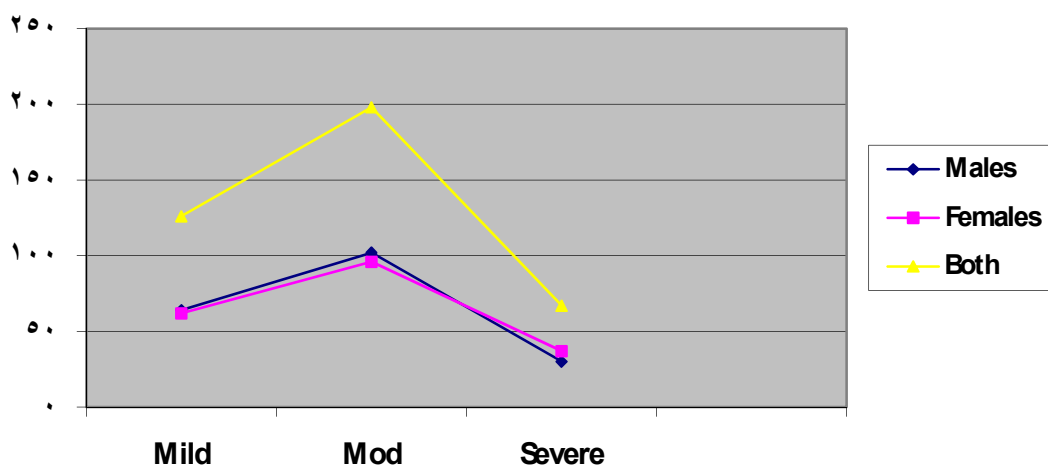
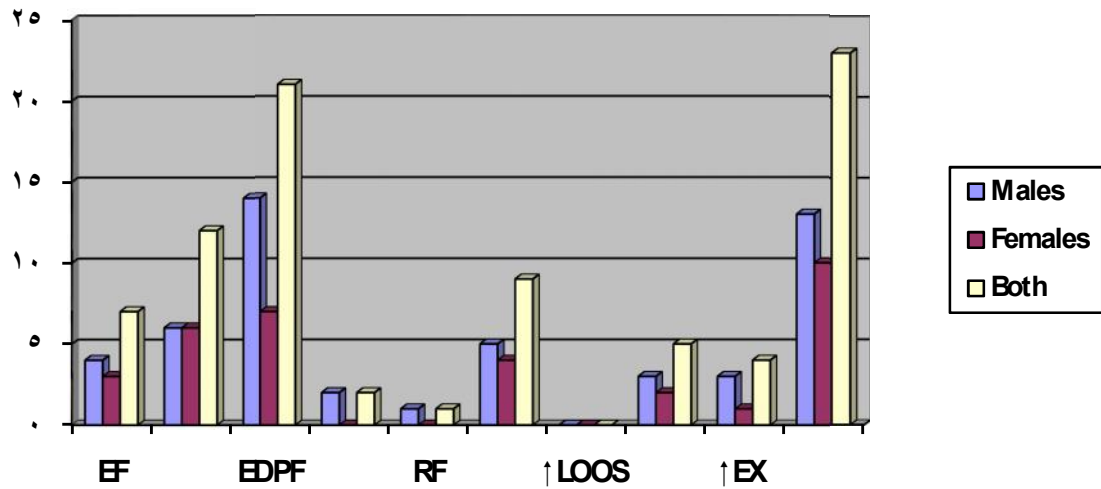


Figure (2): Distribution of children according to severity of gingival diseases by gender.

Figure (2) shows the distribution of children according to the severity of gingival disease by gender. Most children were affected by moderate gingivitis (50.6

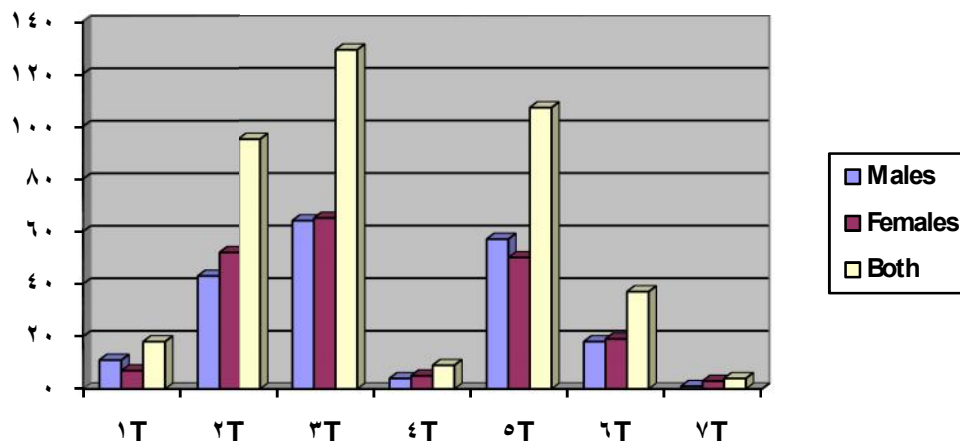
%) followed by mild gingivitis (32.2 %) and the least was sever type of gingivitis (17.1 %).



EF= Enamel fracture, EDF= Enamel and dentine fracture, EDPF= Enamel, dentine and pulp exposure, EDCF= Enamel, dentine and cementum fracture, RF= Root fracture, CON= Concussion, LOOS= Loosening without displacement, IN= Intrusion, EX= Extrusion, AV= Avulsion.

Figure (3): Distribution of children according to type of dental trauma by age.

Figure (3) shows the distribution of children according to the type of traumatic dental injuries by gender. Avulsion the most prevalent type of dental trauma (26.5%), followed by enamel and dentine with pulp exposure (25.3%). Males were affected more than females in all types of dental trauma.



T1= Arrested caries.
T2= One surface restoration.
T3= Two or more surface restoration.
T4= Chrome steel crown.
T5= Pulp care.
T6= Extraction.
T7= Immediate care.

Figure (4): Dental demand of children examined according to gender.

The distribution of children according to treatment need by gender illustrated in figure (4). Data showed that the most children had dental caries, they need two or

more surface restoration (32.7%), followed by pulp care (27.2%), then one surface restoration (22.8%).

DISCUSSION:

The present study showed that the number of boys and girls attended to the dental clinic was equal. This is in disagreement with the results of other studies in which the number of boys were slightly higher than girls [3,15,16]. On one hand, data of this study showed that toothache was the most frequent dental demands. This findings supported by other studies which stated that people seeking treatment in an emergency dental problems only [2,3,4,5,6]. On the other hand, the low percentage (3.5%) of children attended for checking reflect the low dental knowledge of the children and their parents. Furthermore, the percentage of children attending for orthodontic treatments (18.2%) reveal that, the parents were concerned about the dental appearance and esthetic of their children. These findings was lower than the result of other study [22].

Data of this study shows that a high percentage of children 97.8% suffered from gingival inflammation and they need periodontal treatment (oral hygiene instruction and prophylaxis), this may be due to the painless nature of this disease which make it largely responsible for a lack of of demands [3,4], beside that the percentage of children suffering from mild gingivitis 32.2% and moderate gingivitis 50.6% were higher than children with severe gingivitis 17.1%. This could be explained by; gingivitis is the disease of children and its severity increase with age [4]. Children with traumatized teeth formed 20.8% and this was higher than many studies [18,19] but it lower than other studies [20,21]. Males demanded treatments for traumatized teeth more than females, this could be attributed to the fact that; males tend to be more active and participate in outdoor activities while females tend to be more mature in their behavior more stable and calmness than males.

The results also shows the low percentage of caries free children 1.5% ,while 98.5% of children suffered from dental caries, from them 48.8% seeking dental treatment due to toothache. Those children needed filling, pulp care, immediate care, and extraction. These findings explained by the fact that children and their parents were unaware of their actual dental status and did not regard periodic check up as a routine necessity for the maintenance of their oral health [4].

CONCLUSION:

There is a far distance between normative needs and demands for treatment. So improvement of dental health attitudes and perception of parents and children toward dentistry is very essential which may increase the demand for treatment and encourage parents to attend dental clinic with their children regularly. It should therefore be the aspiration of appropriate government ministry and health care providers to attempt converting normative needs into demand for care by raising the level of perceived need through attitude change, as well as increasing the rate at which perceived needs are converted into demands by decreasing barrier to access.

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