

Ministry of higher Education
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University of Baghdad
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**Extracted primary and permanent teeth for
patients attended the department of pediatric
dentistry / college of dentistry / Baghdad
university in two years ago (a retrospective
study)**

A Project

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Abstract

Purpose: The purpose of this study was to investigate the frequency and percentage for primary and permanent teeth extraction according to tooth type, age, jaw, side for the work of pediatric department / college of dentistry / University of Baghdad.

Methods: The patients selected for this retrospective study were identified by analyzing dental records of children receiving treatment at patients attended the department of pediatric dentistry / college of dentistry / Baghdad university.

In total 3,000 records were reviewed and shows extracted primary and permanent teeth were analyzed from 1513 in (2015-2016) and 1484 in (2016-2017) number of extracted teeth.

Results and conclusion: From this study it was found that the number of extracted teeth was slightly decreased toward the year 2016-2017. It was found that most extracted tooth in both years were second primary molar followed by primary first molar. There were more boys with extracted teeth than boys. In 2015-2016; the most extraction were in the age group 6-8 while in 2016-2017 most extraction were in 9-11. Upper jaw had higher number of extracted teeth than lower jaw in both years. Also for the arch side the right side were higher than left side in number of teeth extracted in the two years.

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Introduction

Before any process that deal with pediatric patient, the operator should know about the anatomical and physiological differences between the adult and the child.

Knowledge and information about these differences will help to complete the extraction procedure more comfortably for operator and patient. (Arathi Rao, 2012)

Reports of tooth extraction are often the reflection of the pattern of oral health diseases in the community (Alsheneifi and Hughes, 2001; Folayan et al., 2005). Although recent epidemiological studies show that the prevalence of dental caries in children has decreased considerably in many industrialized countries, the disease continues to be a major problem for both children and adults in developing countries [Alsheneifi and Hughes, 2001; Christensen and Fields, 2001]. Early tooth loss of one or more primary teeth may result in malocclusion, speech pathology, functional and aesthetic problems. These complications appear to continue throughout life [Folayan et al., 2005; Christensen and Fields, 2001]. To organize an improved approach to prevention and treatment of oral diseases more information is required about the reasons for extraction of permanent teeth, since currently little information exists on the reasons for the extraction of primary teeth and tooth type extracted [Alsheneifi and Hughes, 2001].

Preservation of both the primary and permanent teeth in children is of great importance. The primary teeth help guide the permanent teeth into occlusion and aid in jaw development. (Sarka, 1996)

George Orwell recognized that archives represent power. In his novel Nineteen Eighty-Four, Orwell declared: Who controls the past, controls the future; who controls the present, controls the past (Orwell, 1986)

So the archive is a most important thing in controlled and organized data of an institution.

AIMS OF THE STUDY

This study aimed to record and arrange the work of the department of pedodontics / college of Dentistry/ University of Baghdad at two studying years (2015-2016 and 2016-2017) concerning extracted primary and permanent teeth at the undergraduate clinic, and to have a base line data for future comparison of the achievements of this department, classify them in the past two years according to:

- 1) Tooth type
- 2) Age
- 3) Gender
- 4) Arch distribution
- 5) The side of the arch

Chapter one

Review of literature:

1.1 Definition:

Extraction is the painless removal of the whole tooth or tooth root with minimal trauma to the investing tissues with administration of local anesthesia, so that wounds heal uneventfully and no post-operative prosthetic problems. Tooth Extraction involves the removal of the tooth from the bony socket by means of luxation and pulling using forceps/elevators by an oral surgeon or general practitioner. (Arathi Rao, 2012)

1.2 Indications for tooth extraction:

A-Caries:

Primary and secondary caries plus all sequelae including periapical abscess and failed pulpotomy. (Kay and Blinkhorn, 1986)

B- Orthodontic:

Tooth removed to prevent or correct malocclusion. (Kay and Blinkhorn, 1986)

C-Ankylosed Deciduous Tooth:

Ankylosed tooth: is the tooth that in a state of static retention, whereas in the adjacent areas eruption and alveolar growth continue. (Dean, 2016)

Such tooth shall be extracted when the cessation of vertical alveolar bone growth is observed, as evidenced by deciduous tooth submergence, followed by the placement of a space maintainer. (Arathi Rao, 2012)

D-Natal or Neonatal Tooth:

The natal tooth, which has erupted before birth, or the neonatal tooth, usually erupting within one month following birth, must be considered for extraction if:

- The tooth is mobile and there is a chance of aspiration

- The tooth is a source of mechanical irritation, causing ulceration on the ventral surface of the tongue
- There is interference with breastfeeding.
- The natal or neonatal tooth may be a supernumerary tooth. (Arathi Rao, 2012)

E-Acute and chronic Pathologic Involvement:

This involvement represents an acute periapical infection of a carious deciduous tooth. The tooth is extracted if it is destroyed beyond rehabilitation. A primary molar usually presents with furcal radiographic changes, and the deciduous anterior tooth may have changes seen in the apical portion. This presents with a draining abscess. The risk for the normal development of the permanent tooth bud due to the infective environment warrant the extraction of the diseased deciduous tooth. (Arathi Rao, 2012)

F-Over Retained Deciduous Tooth:

The deciduous tooth may be retained for several reasons such as:

If the erupting succedaneous tooth is malposed, the resorptive process on the deciduous tooth may be irregular.

The resorptive process may also be affected by endocrine disturbances or vitamin deficiencies.

Atypical resorption of a deciduous tooth root may cause it to be over-retained. Such an over retained deciduous tooth should be extracted to allow normal eruption and alignment of the permanent successor. (Arathi Rao, 2012)

G-Fractured or Traumatized Tooth:

Trauma can result in various kinds of trauma to the anterior teeth. Such a deciduous tooth that imposes risk to the permanent teeth should be removed. (Arathi Rao, 2012)

H-Impacted Tooth:

The impacted tooth may be a supernumerary tooth, a malformed tooth, or an unerupted, ectopically placed tooth. (Arathi Rao, 2012)

I-General medical reasons: Prophylactic extraction. (Kay and Blinkhorn, 1986)

J-Economic reasons: The tooth could have been saved but the patient found treatment too expensive. (Kay and Blinkhorn, 1986)

K-Patient/parent request: The tooth could have been repaired, but the patient/parent insisted on extraction. (Kay and Blinkhorn, 1986)

1.3 Contraindications for tooth extraction:

There are no real contraindications, but factors that delay extraction such as:

A-Acute Systemic Infections.

After the acute stages of systemic infections, such as glomerulonephritis, congenital heart disease, rheumatic fever, rheumatic heart disease, are reduced to chronicity, regimens of chemoprophylaxis will be required before extractions (Arathi Rao, 2012).

B-Blood Diseases:

The hemophilic or leukemic child will require a well-trained general dentist, a pediatric dentist, or an oral surgeon along with a hematologist to perform satisfactorily the measures required during tooth removal. (Arathi Rao, 2012)

C-Uncontrolled Diabetes Mellitus:

Tooth removals should be avoided. Surgical wounds heal poorly, and postoperative pain can be extreme. Recurrent hemorrhages may result. (Arathi Rao, 2012)

D-Irradiated Bone:

Tooth removal should be avoided. If an extraction is necessary, it should be accomplished before radiation therapy. Osteomyelitis usually develops following an extraction in an irradiated patient because of Osseous avascularity. (Arathi Rao, 2012)

E-Acute Oral Infection:

In the presence of oral infections, such as acute necrotizing ulcerative gingivitis, acute herpetic stomatitis, acute dentoalveolar abscess, and other

acute forms of oral disease, tooth removals are definitely contraindicated until the infections are eliminated. (Arathi Rao, 2012)

1.4 Dental abnormalities that need extraction:

1. Supernumerary Tooth:(extra tooth)

Supernumerary teeth can be associated with delayed eruption of permanent teeth, overretention of primary teeth, deflection of roots with unusual inclinations, displacement of teeth, diastemas, abnormal root resorption, and formation of follicular or dentigerous cysts. (Dean, 2016)

Mesiodens: supernumerary present between two central incisors. it can cause delayed eruption, crowding, spacing, impaction of permanent incisors, abnormal root formation, alteration in the path of eruption of permanent incisors, median diastema, cystic lesions, intraoral infection, rotation, root resorption of the adjacent teeth or even eruption of incisors in the nasal cavity. (Gorlin RJ, 2001)

2. Concrescence:

Cemental union between the crown of an unerupted tooth and the roots of an erupted tooth so preventing the eruption of permanent tooth. (Sugiyama et al, 2006)

3. Dilaceration:

It refers to a bend in the tooth (crown or root) it should be extracted if it has undesirable resorption and delay the eruption. (Nikhil, 2014)

4. Regional odontodysplasia:

It is a rare development anomaly affecting the teeth (primary and permanent) with an unknown etiology Eruption of the affected teeth is delayed or does not occur. Because of the poor quality of the affected teeth, they cannot be rehabilitated for functional use therefore the treatment of choice is extraction

with prosthetic replacement. However, necrosis and facial cellulitis appear to be a complication if these teeth are retained.(Kannan and sarawathi, 2001)

5. Amelogenesis imperfecta:

Amelogenesis imperfecta is caused by mutations in the genes AMELX, ENAM, or MMP20. These genes are responsible for making the proteins needed for normal formation of enamel.

If tooth decay has already progressed too far, the teeth may have to be extracted. Traditional dentures may then be necessary to replace the missing teeth.(Chen, et al. 2013)

6. Cyst / periapical infection related tooth / Cementoblastoma:

Benign cementoblastoma is a rare odontogenic tumor characterized by the formation of a mass of cementum or cementum-like tissue attached to the roots of a tooth.so when present it removed with associated tooth. (Souza et al, 2004)

1.5 preoperative consideration:

Before any surgical procedure, informed consent must be obtained:

○ Medical evaluation:

Important considerations in treating a pediatric patient include obtaining a thorough medical history, obtaining appropriate medical and dental consultations, anticipating and preventing emergency situations, and being prepared to treat emergency situations.(Wilson and Montgomery, 2013)

○ Dental evaluation:

It is important to perform a thorough clinical and radiographic preoperative evaluation of the dentition as well as extraoral and intraoral soft tissues. Radiographs can include intraoral films and extraoral imaging if the area of interest extends beyond the dentoalveolar complex (AAPD, 2015).

○ Growth and development:

The potential for adverse effects on growth from injuries and/or surgery in the oral and maxillofacial region markedly increases the potential for risks and complications in the pediatric population. Traumatic injuries involving the

maxillofacial region can adversely affect growth, development, and function (Wilson and Montgomery, 2013).

○ **Behavioral evaluation:**

Behavioral guidance of children in the operative and perioperative periods presents a special challenge. Many children benefit from modalities beyond local anesthesia and nitrous oxide/oxygen inhalation to control their anxiety. Management of children under sedation or general anesthesia requires extensive training and expertise. Special attention should be given to the assessment of the social, emotional, and psychological status of the pediatric patient prior to extraction. (AAPD, 2015)

Pre-operative preparation of the parents and child

- Parents:

1. Parental consent before the procedure.
2. Instruct the parent not to discuss with the child what the dentist will do.

- Child:

1. Armamentarium should be kept behind the chair.
2. Never hold the needle in front of child always hidden by fingers.
3. Before giving the local anesthesia, explain to the child that sensation of pinching or an ant biting may be felt.
4. Child realizes the difference between pressure and pain.
5. Explain the sensation of numbness to child. (Azza, 2014)

1.6 Effect of early loss of teeth:

Primary teeth play an integral role in the development of the occlusion. Premature loss of a primary tooth through trauma or infection has the potential to destabilize the developing occlusion with space loss, arch collapse and premature, delayed or ectopic eruption of the permanent successor teeth. In general, the effects of early extraction of primary teeth are more profound in the buccal segments than in the anterior dentition. Effective pulpal therapy in

the primary dentition must not only stabilize the affected primary tooth, but also create a favorable environment for normal exfoliation of the primary tooth, without harm to the developing enamel or interference with the normal eruption of its permanent successor. Where these outcomes cannot reasonably be achieved over the clinical life of the primary tooth, it is appropriate to extract the affected tooth and consider alternative strategies for occlusal guidance and maintenance of arch integrity (Angus, 2013).

Early loss of the primary first molars (D), second molars (E), or both (D + E) result in a decrease in dental arch length.

A study by Northway and colleagues showed the following specific details:

1. E loss had the most deleterious effect on dental arch length.
2. Early posterior primary loss resulted in space closure of 2- to 4-mm per quadrant in both arches.
3. Space loss was age-related in the upper but not in the lower arch.
4. Upper D loss typically resulted in blocked-out canines; upper E loss usually led to an impacted second permanent premolar.
5. The greatest space loss was caused by mesial molar movement.
6. More space was lost in the first year after premature tooth loss than in successive years.
7. No recovery of space was demonstrated during growth in the upper arch, and little was found in the lower arch.(Northway WM, 1984)

1.7 Teeth extraction according to different factors:

1.6.1 Age:

In a previous study of extracted teeth according to age there was no age difference [0.3 ± 0.8 for 4 years old children, and 0.3 ± 0.9 for 5 years old child] (alkhatib et al, 2016).

On the other hand, Alsheneifi in their study found that the age group (6-9) had the highest level (707) of extracted teeth (Alsheneifi, 2001) . Similarly, Muslim, 2016 found that the majority of the dental extraction of the primary

molars was the highest at age 6-9 years than other age groups 179(46.13%). (Muslim, 2016).

1.6.2 Tooth type:

Alsheneifi at their study concluded that types of teeth most frequently extracted were first primary molars (30%) and central incisors (25%). (Alsheneifi, 2001). Similarly, Muslim reviewed that according to tooth type the primary 1st. molar had higher percentage than the primary 2nd. molar [228(58.76%) and 160 (41.23%) respectively] (Muslim,2016).

While another study of 4,5 years old children had extracted teeth distributed by tooth type represented with the second molars as the most affected teeth (2.6 ± 1.5), followed by the first molars (2.1 ± 1.6) and central incisors (1.3 ± 1.3), whilst canines were the least affected (0.9 ± 1.2) of missed teeth (Alkhatib et al, 2016).

1.6.3 Gender:

Alkhatib et al, 2016 in their study of the whole teeth extracted, stated that there was no gender predilection, (0.3 ± 0.8) missing teeth for both boys and girls (Alkhatib et al, 2016). study of 2000 charts(Alsheneifi, 2001) found that the gender distribution of the patients with one or more primary teeth extracted was 57% boys and 43% girls. Similarly in muslim, 2016 study there were more boys with extracted teeth than girls (about the primary 1st. molar 34.27%, and 24.48% respectively, and about the primary 2nd. molar 22.93%, and 18.29% respectively)(Muslim, 2016).

1.6.4 Dental arch:

In a study of 4,5 years old maxillary arch missing teeth there were 0.2 ± 0.8 missing teeth, but in the mandibular arch missing teeth were less (0.2 ± 0.6) (Alkhatib et al, 2016). While, Muslim, 2016 said that both the extracted primary first and second molars were higher in the lower jaw 224 (57.73%) than that in the upper jaw 164 (42.27%)(Muslim, 2016),

1.6.5 Arch side:

In a study of the extracted teeth in the right side, they were more extracted teeth in the right side (0.2 ± 0.6) than that of the left side 0.2 ± 0.5 (Alkhatib et al, 2016). Similarly, in muslim,2016 study the results showed that right primary molars were extracted more than left primary molars (54.1% and 45.8% respectively)(Muslim, 2016).

Chapter Two

Materials and Method:

This study was conducted at the department of Pediatric Dentistry / College of Dentistry / University of Baghdad. The sample selected for this retrospective study were identified by analyzing dental records of children attended the department of pediatric dentistry receiving treatment in the years (2015-2016 and 2016-2017).

The total records of the past two years were reviewed and were inserted in Microsoft Excel 2013. Extracted teeth were sorted according to different factors (age groups, gender, jaw and side).

Statistical analysis was done by using IBM SPSS statistic version 19.

نقص الصورة

Chapter Three

Results

Table 3.1 shows distribution of the total sample by age and gender. There were 1513 (775 boys, 738 girls) for the year (2015-2016), while there were 1484 (776 boys, 708 girls) in (2016-2017).

table 3.1: Distribution of the total sample of two years by age and gender

Year	Age groups	gender		Total
		boys	girls	
2016-2017	3-5	79	59	138
	6-8	264	249	513
	9-11	278	249	527
	12-14	155	151	306
	Total	776	708	1484
2015-2016	3-5	58	81	139
	6-8	265	271	536
	9-11	302	255	557
	12-14	150	131	281
	Total	775	738	1513

Table 3.2 shows extracted primary teeth by tooth type, gender, jaw and side. For the year (2015-2016); the total number was 623(41.9%), boys with extracted teeth were 317(21.4%) more than girls 306 (20.5%), the most extracted tooth was lower 2nd primary molar 113(7.4%), there were more extracted teeth in the maxilla 331(22.4%) than in the mandible 292(19.5%), and more extracted teeth in the right side 360(24%) than left side 263(17.5%). Similarly in (2016-2017) there were 667(44.9%) cases of extraction, boys with more extracted teeth 372(25%) than girls 295(19.9%), the most extracted tooth was lower 2nd primary molar 118(7.9%), there were more extracted teeth in the

maxilla 345(23.4%) than in the mandible 322(21.5%), and more extracted teeth in the right side 367(24.6%) than left side 300(20.3%).

Table 3.2: Extracted Primary Teeth of two years by tooth type, gender, jaw and side

	Primary teeth	Gender								total			
		boys				girls							
		Right		Left		Right		Left		No.	%	No.	%
		No.	%	No.	%	No.	%	No.	%				
2016-2017	UE	26	1.8	22	1.5	26	1.8	25	1.7	99	6.8	345	23.4
	UD	11	.7	16	1.1	13	.9	26	1.8	66	4.5		
	UC	12	.8	26	1.8	6	.4	20	1.3	64	4.3		
	UB	21	1.4	15	1	12	.8	12	.8	60	4		
	UA	28	1.9	9	.6	10	.7	9	.6	56	3.8		
	LE	19	1.2	40	2.7	20	1.30	39	2.6	118	7.9	322	21.5
	LD	36	2.4	12	.8	29	2	9	.6	86	5.8		
	LC	43	2.9	4	.3	27	1.8	3	.2	77	5.2		
	LB	20	1.3	6	.4	4	.3	1	.1	31	2.1		
	LA	2	.1	4	.3	2	.1	2	.1	10	0.6		
Total	218	14.5	154	10.5	149	10.1	146	9.8	667	44.9	667	44.9	
		372(25%)				295(19.9%)							
2015-2016	UE	28	1.9	13	.9	26	1.7	17	1.1	84	5.6	331	22.4
	UD	16	1.1	13	.9	10	.7	17	1.1	56	3.8		
	UC	15	1	15	1	16	1.1	21	1.4	67	4.5		
	UB	21	1.4	10	.7	17	1.1	12	.8	60	4		
	UA	21	1.4	13	.9	16	1.1	14	.9	64	4.3		
	LE	20	1.3	36	2.4	19	1.2	38	2.5	113	7.4	292	19.5
	LD	29	1.9	11	.7	25	1.7	9	.6	74	4.9		
	LC	33	2.2	5	.3	26	1.7	3	.2	67	4.4		
	LB	6	.4	5	.3	11	.7	3	.2	25	1.6		
	LA	4	.3	3	.2	1	.1	5	.3	13	0.9		
Total	193	12.9	124	8.4	167	11.1	139	9.1	623	41.9	623	41.9	
		317(21.4%)				306(20.5%)							

Table 3.3 Shows extracted primary teeth according to age groups. In (2015-2016) the most extracted teeth 234(15.5%) were in age 6-8, while in (2016-2017) the most extracted teeth 253(17.1%) in the age 9-11.

Table 3.3: Extracted Primary Teeth of two years according to age groups

	Primary teeth	Age groups																Total	
		3-5				6-8				9-11				12-14					
		Right		Left		Right		Left		Right		Left		Right		Left			
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2016-2017	UE	3	.2	3	.2	15	1	18	1.2	22	1.5	15	1	12	.8	11	.7	99	6.8
	UD	0	0	0	0	4	.3	11	.7	13	.9	19	1.3	7	.5	12	.8	66	4.5
	UC	2	.1	2	.1	5	.3	10	.7	8	.5	19	1.3	3	.2	15	1	64	4.3
	UB	5	.3	11	.7	15	1	7	.5	10	.7	12	.8	0	0	0	0	60	4
	UA	9	.6	6	.4	15	1	3	.2	14	.9	9	.6	0	0	0	0	56	3.8
	LE	1	.1	9	.6	8	.5	29	2	9	.6	21	1.4	21	1.4	20	1.3	118	7.9
	LD	3	.2	2	.1	23	1.5	7	.5	28	1.9	8	.5	11	.7	4	.3	86	5.8
	LC	7	.5	3	.2	20	1.3	1	.1	32	2.2	1	.1	11	.7	2	.1	77	5.2
	LB	2	.1	0	0	9	.6	4	.3	9	.6	2	.1	4	.3	1	.1	31	2.1
	LA	0	0	1	.1	1	.1	2	.1	1	.1	1	.1	2	.1	2	.1	10	0.6
	Total	69(4.3%)				207 (14.1%)				253(17.1%)				138(9.4%)				667	44.9
2015-2016	UE	1	.1	3	.2	15	1	17	1.1	16	1.1	15	1	9	.6	8	.5	84	5.6
	UD	1	.1	2	.1	4	.3	14	.9	16	1.1	8	.5	5	.3	6	.4	56	3.8
	UC	1	.1	5	.3	14	.9	15	1	13	.9	10	.7	3	.2	6	.4	67	4.5
	UB	1	.1	3	.2	16	1.1	8	.5	16	1.1	11	.7	5	.3	0	0	60	4
	UA	4	.3	3	.2	16	1.1	12	.8	17	1.1	12	.8	0	0	0	0	64	4.3
	LE	1	.1	11	.7	8	.5	18	1.2	9	.6	25	1.7	21	1.4	20	1.3	113	7.4
	LD	5	.3	4	.3	24	1.6	9	.6	16	1.1	2	.1	9	.6	5	.3	74	4.9
	LC	5	.3	0	0	23	1.5	3	.2	21	1.4	2	.1	10	.7	3	.2	67	4.4
	LB	4	.3	0	0	7	.5	5	.3	6	.4	3	.2	0	0	0	0	25	1.6
	LA	0	0	0	0	2	.1	4	.3	3	.2	4	.3	0	0	0	0	13	0.9
	Total	54(3.7%)				234(15.5%)				225(15.1%)				110(7.2%)				623	41.9

Table 3.4 demonstrates the extracted permanent teeth of two years by tooth type, gender, jaw, side. In (2015-2016) total extracted permanent teeth were 15(1%); 5(0.3%) for boys and 10(0.7%) for girls, the most extracted tooth type was upper 2nd premolar 4(0.2%), there were more extracted permanent teeth in maxilla 8(0.6%) than mandible 7(0.4%), and more extracted permanent teeth for the right side 11(0.7%) than left side 4(0.2%) .

While in (2016-2017) the total extracted permanent teeth were 15(1%); 4(0.4%) for boys and 11(0.6%) for girls, the most extracted tooth was lower 2nd molar 4(0.3%), there were more extracted permanent teeth in mandible 9(0.6%) than maxilla 6(0.4%), and more extracted permanent teeth in the right side 10(0.7%) than left side 5(0.3%).

Table 3.5 demonstrates extracted permanent teeth according to age groups. In (2015-2016) and in (2016-2017) the most extracted teeth were in the age 12-14[10(0.8%) and 6(0.4%)] respectively.

Table 3.4: extracted permanent teeth of two years by tooth type, gender, jaw, side

	Permanent teeth	Gender								Total			
		boys				Girls							
		Right		Left		Right		Left		No.	%	No.	%
		No.	%	No.	%	No.	%	No.	%				
2016-2017	U7	1	.1	0	0	2	.1	0	0	3	0.2	6	0.4
	U6	1	.1	0	0	0	0	1	.1	2	0.2		
	U5	0	0	0	0	1	.1	0	0	1	0.1		
	U4	0	0	0	0	0	0	0	0	0	0		
	U3	0	0	0	0	0	0	0	0	0	0		
	U2	0	0	0	0	0	0	0	0	0	0		
	U1	0	0	0	0	0	0	0	0	0	0		
	L7	0	0	1	.1	0	0	3	.2	4	0.3	9	0.6
	L6	0	0	0	0	0	0	0	0	0	0		
	L5	1	.1	0	0	2	.1	0	0	3	0.2		
	L4	0	0	0	0	2	.1	0	0	2	0.1		
	L3	0	0	0	0	0	0	0	0	0	0		
	L2	0	0	0	0	0	0	0	0	0	0		
	L1	0	0	0	0	0	0	0	0	0	0		
Total	3	0.3	1	0.1	7	0.4	4	0.2	15	1	15	1	
4(0.4%)				11(0.6)									
2015-2016	U7	2	.1	0	0	1	.1	0	0	3	0.2	8	0.6
	U6	0	0	0	0	1	.1	0	0	1	0.1		
	U5	1	.1	0	0	1	.1	2	.1	4	0.3		
	U4	0	0	0	0	0	0	0	0	0	0		
	U3	0	0	0	0	0	0	0	0	0	0		
	U2	0	0	0	0	0	0	0	0	0	0		
	U1	0	0	0	0	0	0	0	0	0	0		
	L7	0	0	0	0	0	0	2	.1	2	0.1	7	0.4
	L6	0	0	0	0	0	0	0	0	0	0		
	L5	2	.1	0	0	2	.1	0	0	4	0.2		
	L4	0	0	0	0	1	.1	0	0	1	0.1		
	L3	0	0	0	0	0	0	0	0	0	0		
	L2	0	0	0	0	0	0	0	0	0	0		
	L1	0	0	0	0	0	0	0	0	0	0		
Total	5	0.3	0	0	6	0.5	4	0.2	15	1	15	1	
5(0.3%)				10(0.7%)									

Table 3.5: extracted permanent teeth of two years according to age groups

	Permanent teeth	Age groups																total	
		3-5				6-8				9-11				12-14					
		Right		Left		Right		Left		Right		Left		Right		Left		No.	%
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%				
2016-2017	U7	0	0	0	0	2	.1	0	0	1	.1	0	0	0	0	0	0	3	0.2
	U6	0	0	0	0	1	.1	0	0	0	0	0	0	0	0	0	0	2	0.2
	U5	0	0	0	0	1	.1	0	0	0	0	1	.1	0	0	0	0	1	0.1
	U4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	U3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	U2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	U1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	L7	0	0	0	0	0	0	0	0	0	0	0	0	2	.1	2	.1	4	0.3
	L6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	L5	0	0	0	0	0	0	0	0	2	.1	0	0	1	.1	0	0	3	0.2
	L4	0	0	0	0	0	0	0	0	0	0	1	.1	1	.1	0	0	2	0.1
	L3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
L1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0(0%)				4(0.3%)				5(0.4%)				6(0.4%)				15	1	
2015-2016	U7	0	0	0	0	0	0	0	0	0	0	0	0	2	.2	1	.1	3	0.3
	U6	0	0	0	0	0	0	0	0	1	.1	0	0	0	0	0	0	1	0.1
	U5	0	0	0	0	0	0	0	0	2	.1	2	.1	0	0	0	0	4	0.2
	U4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	U3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	U2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	U1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	L7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	.1	2	0.1
	L6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	L5	0	0	0	0	0	0	0	0	0	0	0	0	3	.2	1	.1	4	0.3
	L4	0	0	0	0	0	0	0	0	0	0	0	0	1	.1	0	0	1	0.1
	L3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
L2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
L1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0(0%)				0(0%)				5(0.3%)				10(0.8%)				15	1.1	

Chapter Four

Discussion

Extraction of primary teeth is a relatively common part of pediatric dental practice, often included as part of treatment predicated by caries, trauma, and orthodontic considerations.

The purpose of this study is to find out Extracted primary and permanent teeth for pediatric patient by pediatric department of college of dentistry / Baghdad University, according to tooth type, age, gender, jaw, side. In our study of 3000 cases were included and we found that extracted teeth were more common in boys 372(25%) than girls 295(19.9%) in 2016-2017the same result was found in 2015-2016 boys 317(21.4%) were more than girls 306(20.5%), which is similar to another studies such as (Alsheneifi, 2001; Muslim, 2016) while disagree with (Alkhatib et al, 2016) who stated that no gender predilection.

According to age groups; in this study the most common extracted teeth were in age 6-8 (234(15.5%)) in 2015-2016, while in (2016-2017) most extracted teeth in the age 9-11(253(17.1%)) which is similar to that of (Alsheneifi, 2001; Muslim, 2016). These differences reflect the chronology of dental development and age differences in susceptibility to traumatic injury and dental caries.

According to tooth type; in both years (2015-2016, 2016-2017) most common tooth extracted was the lower primary 2nd molar (197(13%), 217(14.7%)) respectively which is sililar to that of (Alkhatib,2016). While it is not similar to that of (Alsheneifi, 2001; Muslim, 2016). Differences in the reasons for extraction were apparent. These differences reflect the chronology of dental development and patterns of dental disease.

According to jaw distribution; in this study the extracted teeth in the upper jaw were more than the lower jaw, which is similar to (Alsheneifi, 2001; Muslim, 2016).

According to the side of the jaw in this study extracted teeth in the right side were more than left side which agree with (Alkhatib et al, 2016; Muslim,2016).

Despite the dramatic improvement in pediatric oral health over the last decades, recent evidence suggests that dental disease remains a continued source of tooth loss in a percentage of all pediatric populations. The data from the current study provide a baseline data and systematic archive for future comparison.

Conclusions

1. From this study it was found that the number of extracted teeth was slightly decreased toward the year 2016-2017.
2. It was found that most extracted tooth in both years were second primary molar followed by primary first molar.
3. There were more boys with extracted teeth than boys.
4. In 2015-2016; the most extractions were in the age group 6-8 while in 2016-2017 most extractions were in 9-11.
5. Upper jaw had higher number of extracted teeth than lower jaw in both years.
6. Also for the arch side the right side were higher than left side in number of teeth extracted in the two years.

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