




THE INCIDENCE OF DENTAL ANOMALIES AMONG SCHOOL CHILDREN AT AGE 7-14 YEARS OLD

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lems affecting the number, location, size, eruption timing, and form [3].

Appropriate examinations and thorough monitoring are essential to detect oral abnormalities in children, which is necessary for planning complete therapy [4]. Dental problems in deciduous teeth are frequently associated with a higher likelihood of permanent tooth problems [5]. Dental abnormalities are more prevalent in orthodontic patients than in the general population and appear to be associated with specific malocclusions [6].

Abstract: Dental problems are a group of conditions affecting children that are cosmetic, functional, and malocclusion-related. Among kids aged 7–14 years in Ramadi, Anbar governorate, Iraq, the goal of this study was to identify the incidence of the most common dental disorders among those who attended school, 2400 school pupils from elementary and middle schools were recruited using a randomized stratified clustering technique. The research subjects were separated into three groups, with each group consisting of 800 pupils (400 boys and 400 girls). The examination was conducted in a quiet environment with natural light. With a disposable mirror, the lips and cheeks were retracted. This study employed the chi-square test, which was implemented in (SPSS) version 22 to analyze the data. The incidence of entirely oral health ailments was 12.3 percent in the study population (Enamel hypoplasia 9.1 percent, Macro-dontia 2.1 percent, Microdontia 0.5 percent, Peg lateral shape 0.3 percent, Meso-dense 0.25 percent). Despite the fact that preventing dental disorders is a difficult task, health education activities for parents and school-aged children are essential. The requirement for early detection and treatment should be enforced.

Keywords: Dental Anomalies; School Children; Tooth Development.

1. Introduction

Dental disorder are difficulties that affect children's oral health and are related with issues including as aesthetics, function, and malocclusion. [1] Normal odontogenesis may be compromised by disruption of the mesenchymal and epithelial contacts, which may result in tooth malformations depending on the embryonic stage at which this disruption occurred, as well as the underlying local and systemic causes of the abnormalities [2]. These ramifications could initiate before or after birth, with the teeth being the first to be affected. Numerous studies indicate a hereditary and genetic component to the etiology of dental problems

Basdra et al. described dental abnormalities in a German sample of individuals with class division 2 malocclusion. According to the findings of the study, dental problems are intrinsically connected to malocclusion [7].

Additional dental issues may increase the risk of periodontitis and dental caries (by causing stagnant areas of food to accumulate), as well as the possibility of aesthetic, endodontic, or orthodontic disorders [8]. The study was carried out in Ramadi owing to a paucity of studies on oral disorders at the time. Anbar region in Iraq's Ramadi was the setting for this study, which sought to investigate the frequency of dental issues among students aged 7–14 years in Ramadi.

2. Materials and Methods

Across-sectional survey was done in Ramadi city on 2400 pupils aged 7–14 years. There were 1200 males (50 percent) and 1200 girls (50 percent). The samples were drawn from primary and medium schools using a randomized stratified cluster sampling technique. The study population was separated into three age groups (7-9 years, 10-12 years, and 13-14 years), with each group consisting of 800 kids (400 boys and 400 girls). Inside their age group, with a male-to-female ratio of 1:1 Prior to organizing the survey, approval was acquired from the Anbar University College of Dentistry and the Ramadi Directorate of Education. Schoolchildren were examined clinically utilizing disposable mouth mirrors and probes. The examination was conducted in a beautiful environment with ample natural light. With the aid of a disposable mirror, the lips and cheeks were retracted. SPSS (Statistical Package for the Social Sciences) version 22 was used for statistical analysis.

3. Results and Discussion:

The distribution of teeth disorders between girls and boys show no significant differences between them, with prevalence of 12.3 % among participant. Enamel hypoplasia was the more prevalent disorder, affecting 9.2% of boys and 9% girls, affecting 9.2% of boys and 9% of girls, however another condition such as macrodontia, microdontia, mesodense and peg lateral shape was lower prevalent as in table 1. Regarding age analysis, enamel hypoplasia was more prevalent in younger age for both genders, especially in those aged 7-9 years and lower prevalent in older age for both genders as in table 2 and 3. Furtherly, both genders shown same distribution of dental anomaly in the upper and lower jaw, with upper dentition being more affected as in table 4 and 5. In table 6 there is no significant differences between both gender and both upper and lower jaw in dental disorders ($P>0.05$). Enamel hypoplasia, macrodontia, microdontia, mesodense, and peg lateral form are all illustrated in Figure 1 (a-e).

Table 1: Gender differences in dental problem distribution.

Dental Anomalies	Boys n=1200		Girls n=1200		Total n=2400 No (%)	P Chi - square
	No.	%	No.	%		
Enamel hypoplasia	110	9.2	108	9	218 (9.1)	0.508*
Macrodontia	26	2.2	24	2	50 (2.1)	0.677*
Microdontia	4	0.3	8	0.7	12 (0.5)	0.258*
Mesodense	3	0.25	3	0.25	6 (0.25)	0.973*
Peg lateral shape	2	0.2	6	0.5	8 (0.3)	0.163 *
Total	145	12.1	149	12.4	294 (12.3)	

*No Significant $P>0.05$

Table 2: In boys, the prevalence of dental disease varies with age.

Age group	Enamel hypoplasia	Macrodonia	Microdonia	Mesodense	Peg lateral shape	Total
7-9	45	15	0	0	0	59
10-12	50	9	0	3	0	62
13-14	15	2	4	0	2	24
Total	110	25	4	3	3	145

Table 3: In females, the prevalence of dental disease varies according to age.

Age group	Enamel hypoplasia	Macrodonia	Microdonia	Mesodense	Peg lateral shape	Total
7-9	40	8	1	0	0	49
10-12	38	12	4	1	2	57
13-14	30	4	3	2	4	43
Total	108	23	8	4	6	149

Table 4: Both sexes suffer from dental disease in the maxillary dentition.

Dental Anomalies	Boys N=1200	Girls N=1200	Total N=2400	P (Chi square)
Enamel hypoplasia	103	98	201	0.409*
Macrodonia	13	12	25	0.832*
Microdonia	2	4	6	0.408*
Mesodense	2	3	5	0.651*
Peg lateral shape	3	6	9	0.308*
Total	123	123	246	

*No Significant P>0.05.

Table 5: For both sexes, the distribution of dental problem in the mandibular dentition is similar.

Dental Anomalies	Boys N=1200	Girls N=1200	Total N=2400	P (Chi square)
Enamel hypoplasia	7	10	17	0.631*
Macrodonia	13	12	25	0.371*
Microdonia	2	4	6	0.511*
Mesodense	0	0	0	**
Peg lateral shape	0	0	0	**
Total	22	26	48	

*No Significant P>0.05

**Not calculate

Table 6: Dental problem distribution by upper and lower jaws.

	Boys N=1200		Girls N=1200		Total N=2400		P (Chi square)
	No	%	No	%	No	%	
Maxillary	123	10.3	123	10.3	246	10.3	0.597*
Mandibular	22	1.8	26	2.2	48	2	0.597*
Total	145	12.1	149	12.4	294	12.3	

*No Significant P>0.05

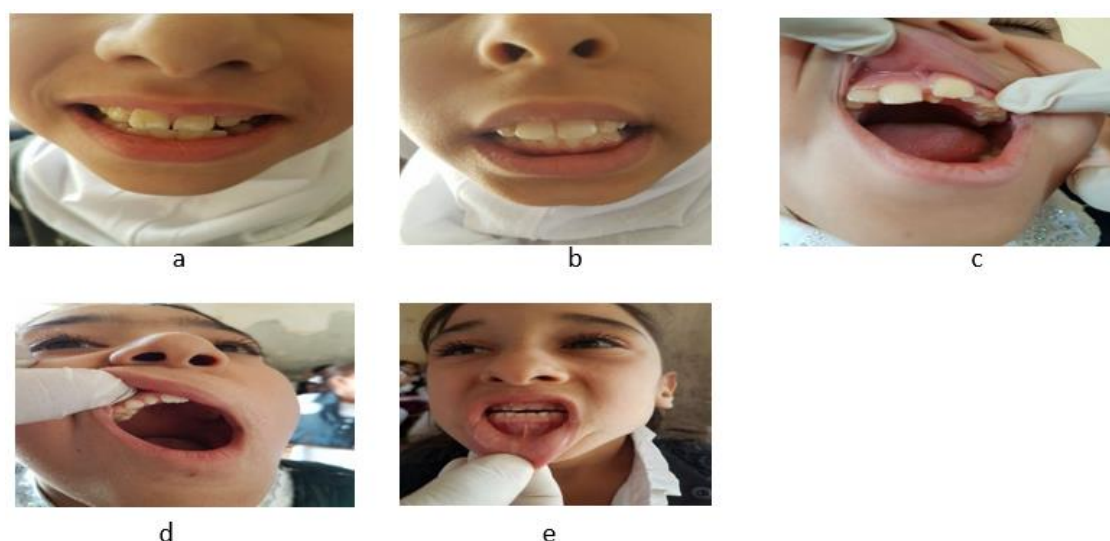


Figure 1: (a) Enamel hypoplasia; (b) Macrodontia; (c) Mesodense; (d) Peg lateral shape; (e) Microdontia.

Discussion: In Ramadi, Iraq, researchers examined the prevalence of dental anomalies among 7–14-year-old pupils. Many researches have examined the prevalence of dental problems in Iraq and elsewhere, but none have focused on Ramadi city. Genetic and hereditary theories have been put forth to explain the origin of dental abnormalities involving abnormalities of number, size, location, and development time. This study found a larger percentage (9.1%) of the population had enamel hypoplasia compared to previous studies, which found 6.61 %, 5.8 %, 3.06 %, 2.07 % and 2.04 %, respectively. [9] (7.8 percent) discovery is quite close to this one. Local variables such as abscess or local trauma, or specific substance in the type of nourishment, may explain this discrepancy in findings across different trials. Enamel hypoplasia can be caused by a deficit in calcium and vitamin D [10]. Having teeth that are bigger than what would be considered normal is known as macrodontia. True generalized or localized macrodontia can be classified.

The condition known as generalized macrodontia, in which all of the teeth are noticeably bigger than they should be, Because of its small size, a single tooth can be classified as having localized macrodontia [11]. Only 2.1% of the participants had macrodontia, according to the findings of this study. That's less what the Gupta et al., 2015 [12] study found. Macrodontia was found in 3.8 percent of 3248 pupils. Sample size may be a factor in the discrepancy. When compared to the percentages found by [9], [10] in Baghdad city, [13] in Al-Radwaniya town, [14] in Halabja city, Bashir in 2006 in Khartoum [1], [15], Microdontia accounts for just 0.5 percent of all teeth. [15] The variance in results might be attributed to differences in ethnic variety, sample size, and inquiry approach, among other factors. Nayak and Nayak [16] reported that peg lateral form was observed in 0.4 percent of individuals in their study, which is lower than our finding of 0.3 percent.

An estimate from a recent poll indicates that 0.33 percent of the population is affected by the ailment. In part, these discrepancies can be attributed to the fact that people come from a variety of ethnicities and cultural backgrounds. Or, to put it another way, the mesiodense is the most common form of additional tooth, and it can occur unilaterally or bilaterally in both jaws, in the midline of the maxilla, erupted or impacted [17]. It can also occur in both jaws, unilaterally or bilaterally, and it can occur in either or both jaws. It is smaller than the 0.36 percent recorded by Najm and Younis in Missan, and the 0.4 percent recorded by Al-Nori in Baghdad city, and it is smaller than the 0.93 percent reported by Sarkis [13] in AlRadwaniya village, Gupta et al. in 2011 [18] 2.40 percent, and the 7.4 percent recorded by Bashir in 2006 in Khartoum [1] in 2006 in Missan. Only mesiodens have been discovered in any of the situations where additional teeth have been discovered.

4. Conclusion

Enamel hypoplasia was the most common dental problem, followed by macrodontia and microdontia. Although preventing dental problems is challenging, health education initiatives for parents and schools are crucial. Early detection and treatment should be mandatory. Preventing caries and periodontal disease should be one of the treatment goals. It's tough to determine whether oral diseases run in families.

Supplementary Materials:

No Supplementary Materials.

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