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STUDY TO KNOW THE ORAL HYGIENE AND CARIES STATUS IN CLEFT LIP AND PALATE CHILDREN

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Abstract:

Objective: *The objective of the present study was to determine caries prevalence and oral hygiene status among cleft lip and palate (CLP) children.*

Study Design: *A Prospective Study.*

Place and Duration: *In the Dental department of Lahore Medical and Dental College in Collaboration with Pediatric Surgery and Plastic Surgery Department for One year duration from June 2017 to June 2018.*

Methods: *. A total of 84 cleft children (45 males and 39 females) were examined for dental caries and oral hygiene status. The children were divided into two age groups; Group A with children age one to six years and Group B with children age seven to 14 years. All the children in both age Groups had dental caries. The mean dmft (decayed, missing and filled primary teeth) score in Group A children was 10.54 (SD 4.59). In Group B children, the combined mean dmft/DMFT (decayed, missing and filled primary and permanent teeth) score was 10.92 (SD 4.90) respectively.*

Results: *There was no statistically significant (p>.05) difference observed between the mean dmft/ DMFT scores in relation to age and gender of the cleft children. More than half (54.7%) of the children had poor oral hygiene.*

Conclusion: *In conclusion; the caries prevalence and severity was high in the studied cleft children. Majority of the children had poor oral hygiene.*

Key words: *Dental caries, Oral hygiene, Cleft lip and palate, Children.*

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INTRODUCTION:

Cleft lip (CL) and cleft palate (PC) are one of the most common congenital malformations seen in birth. The normal fusion of the cleft lip occurs when embryonic life cannot be completed [1]. The cleft lip may be unilateral or bilateral and may range from a slight scarring to a full area extending along the nose. The cleft palate is an opening on the roof of the mouth (the roof of the mouth) because the racks of the palate do not come together on both sides of the mouth and the entire fuse [2]. Cleft lip and palate (CLP) causes emergency and emergency feeding problems [3]. The cleft lip creates suction problems during feeding, while the cleft palate makes suction very difficult; Instead of swallowing milk or food from the baby's nose. Cleft lip and palate are often found together. Both conditions start at different times during pregnancy and a complete etiology is unknown. However, both conditions are linked to development and growth problems during early pregnancy [4]. Other factors such as heredity, environmental effects during pregnancy, bleeding, radiation exposure, serious vitamin deficiencies, certain medications, and biochemical processes can also affect the human fetus [5]. Only two epidemiological studies have reported the incidence of facial clefts in Pakistan. In a study in a hospital, Kumar et al. (1991) reported a frequency of 0.3 per 1000 live births in a six-year period in the city of Riyadh, Kingdom of Saudi Arabia. In another study conducted in a hospital, Bokar et al. (1993) reported 9 cases of fissures per 1000 live births in Indian Children often experience poor dental health with aesthetic, speech, hearing, eating and swallowing problems [5-6]. The literature review presents few studies investigating the prevalence of caries in children with clefts. Lauterstein and Mendelsohn (1964) 8 did not find a significant difference between the experience of decay of cloven and non-slit children in Sweden [7]. In the United Kingdom, Johnsen and Dixon (1984) found more decayed lesions in the deciduous sleds of children with fissures than children without fissures [8]. Two other relatively recent studies in the United Kingdom reported that more than half of children with cleft had no caries and had a strict preventive dental care program. Researchers from other countries concluded that bruising, loaded and missing teeth and children with cleft were more at risk of decay than in normal children in non-slit children [9].

MATERIALS AND METHODS:

This Prospective Study was held in the Dental department of Lahore Medical and Dental College in Collaboration with Pediatric Surgery and Plastic Surgery Department for One year duration from June 2017 to June 2018.

Children with cleft lip and palate were selected for the study. These children were examined for dental caries and oral hygiene during their routine visits to OPD of Pediatric surgery and Plastic surgery after receiving their parents' approval. Children were divided into three categories according to the type of cleft; Only CL, CP and CLP only. Three auditors examined the children in the dentist's chair using the dentist mirror and explorer. Internal and internal auditor reliability was determined using the Kappa method and all were excellent (0.9 and above). The data obtained during the examination were recorded in a format specially designed for the study. The following indicators were used to assess caries and oral hygiene in children. WHO criteria were used in the diagnosis of tooth decay. The decay was identified by visual evidence after drying and removing the residues of the teeth with evidence and mirrors. No x-rays were taken. The oral hygiene index described by James et al was used by the study. There are three categories of tooth cleaning in the index. - Good: the teeth are clean. No traces of food or alba material.

- Bad: The teeth are very dirty. Long-term food remains, alba matter.
- Fair: This class is located between the previous two classes. There is some evidence of debris, but not as poor. The data were then entered into a computer using FOXPRO software and analyzed using the 18th version of the Social Sciences Statistics Program (SPSS). Several frequencies were produced. Pearson Chi-Square Test was used to determine gender differences related to caries and oral hygiene, and any significant relationship between caries and oral hygiene.

RESULTS:

A total of 84 children with clefts and 45 males and 39 females with a mean age of 6.6 years (SD 3.7) were examined. There were 48 groups in Group A, 36 in Group B, 29 (34.5%) in CL, 27 (32.1%), and CLP in 28 (33.4%).

TABLE 1: DISTRIBUTION OF CHILDREN BY GENDER AND CLEFT TYPE.

Cleft Type	Male (%)	Female (%)	Total (%)
CL	15 (51.7)	14 (48.3)	29 (34.5)
CP	10 (37.0)	17 (63.0)	27 (32.1)
CLP	20 (71.4)	8 (28.6)	28 (33.4)
Total	45 (53.6)	39 (46.4)	84 (100)

CL: Cleft lip only, CP: Cleft palate only, CLP: Cleft lip and palate

Table # 1 summarizes the distribution of children by gender and type of cleft. Combined data is presented since there are no differences in slit experience or in the case of oral hygiene according to the cleft category. Children were divided into two age groups; Group A consisted of children aged between 1 and 6 years and group B had children aged between seven and 14 years. All children in both groups had tooth decay. Decay experience in both groups is given in Table # 2.

TABLE 2: CARIES EXPERIENCE OF THE CHILDREN

Age Group	Mean dmft/ DMFT (SD)	Mean decay (SD)	Mean missing (SD)	Mean filled (SD)
A	10.54 (4.59)*	9.23 (4.39)	1.17 (1.95)	0.15 (1.01)
B	10.92 (4.9)**	9.6 (4.77)	1.17 (1.94)	0.14 (1.01)

A: up to 6 years, B: Above 6 years, * Primary teeth only, ** Primary and permanent teeth combined)

The mean score in children in Group A was 10.54 (SD 4.59), fragmentation component (d) 9.23 (SD 4.39), incomplete (m 1.17 (SD 1.95) and full component (f) 0.15 (SD 1.01). The score was 9.92 (SD 4.77), fragmentation component 9.6 (SD 4.77), component 1.17 missing (SD 1.94) and 0.14 (full component of SD component) 1.01). There was no significant difference in mean caries scores (p> .05). The mean caries score was slightly higher in girls than in boys (Table 3). However, the difference was not statistically significant (p> 0.05).

TABLE 3: CARIES EXPERIENCE OF THE CHILDREN IN RELATION TO GENDER

Age Group	Gender	Mean dmft/ DMFT	SD	*p* value
1-6 Years	Male	9.96	4.11	>0.05
	Female	11.23	5.12	
> 6 Years	Male	5.32	4.60	>0.05
	Female	6.00	5.72	

Very few children (6%) had good oral hygiene and the majority of children (94.0%) had regular or poor oral hygiene (Table 4).

TABLE 4: ORAL HYGIENE STATUS IN RELATION TO GENDER

Gender	Oral hygiene			Total (%)
	Good (%)	Fair (%)	Poor (%)	
Male	4(8.9)	14(31.1)	27(60.0)	45(100.0)
Female	1(2.6)	19(48.7)	19(48.7)	39(100.0)
Total	5(6.0)	33(39.3)	46(54.7)	84(100.0)

There was no statistically significant difference between the oral hygiene status of the children with cleft (p> .05).

Younger Children with clefts had relatively better oral hygiene than the age group (Table 5). But; the difference was not statistically significant (p> 0.05). In both age groups, there was no relationship between tooth decay experience and oral hygiene (p> .05).

TABLE 5: ORAL HYGIENE STATUS IN RELATION TO AGE

Gender	Oral hygiene			Total (%)
	Good (%)	Fair (%)	Poor (%)	
1-6 Years	4(8.3)	21 (43.8)	23(47.9)	48(100.0)
> 6 Years	1(2.8)	12(33.3)	23(63.9)	36(100.0)
Total	5(6.0)	33(39.3)	46(54.8)	84(100.0)

DISCUSSION:

In particular, children with cleft had a general lack of knowledge about caries and oral hygiene in children with clefts. This study provided the first opinion on the subject. It is hoped that this study will provide useful information on the limited data on oral health of children with clefts[10]. The results of this study will serve as reference data for future comparisons and will help to plan preventive efforts in these children. Studies on the experience of caries of children with cleft lip and palate showed significant differences in their findings[11]. This study showed very high caries in both primary and mixed dentistry. The findings of our study are consistent with several other studies. It is known that the severity of caries and prevalence vary according to age. In primary teeth, the effects are cumulative up to 7 years of age, after which the effects are reduced when the primary teeth begin to exfoliate. Previous studies in schools and in pre-school children in the Eastern Region showed significantly lower caries levels than the caries of children allocated in this study[12]. In children with cleft, high levels of tooth decay may be due to the low priority of dental care for these children, because parents need to focus on the numerous medical procedures needed to correct birth defects in early childhood. Therefore, it is very important to include dental prevention regimens in these children in the general treatment protocol[13-14]. Our medical colleagues should know the relationship between CLP and dental health. Parents of cleft children should be informed about possible dental problems in their children and should be motivated to consult dentists for better preventive dental care[15]. The dental profession needs to be better informed about the special needs of children with a cleft. Oral rehabilitation programs should be designed for people with better dental health breaks.

CONCLUSION:

The experience of cleft lip and palate caries was very high. There was no significant difference between

caries of the cleft children and their ages and genders. Most of the cleft children had fair or poor oral hygiene.

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