

PREVALENCE OF DENTAL CARIES OF ONE GRADE SCHOOL CHILDREN IN KARACHI

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ABSTRACT

Aim of the study was to determine the incidence of dental caries in one grade children and to convey them the importance of oral hygiene. Development of proper brushing habit is beneficial for children at this stage. Dental status of one grade children in a semi government school was evaluated with proforma. Details regarding carious missing and filled teeth were recorded after their dental checkup. The risk of caries development in male and female students was evaluated. Frequency of low and high DMFT was also analysed. High incidence of unfilled carious teeth was observed in Class one children. The mean DMFT value was moderate and risk of caries was found slightly more in males. Community awareness programs at school, especially targeting one grade students can affect the oral health of our children in a positive manner. Following proper hygiene instructions and regular dental visits can promote their oral health.

Key Words: Caries, prevalence, DMFT, risk, one grade children.

INTRODUCTION

In our region, it is not a common practice to maintain oral hygiene. Irregular brushing habits are responsible for the prevalence of disease in urban areas and school children of rural area but later to a lesser extent.¹ Oral health care is a life style that is usually adopted from the elders, poor oral health is not only a medical issue but is also affected by many social and living conditions.¹ Plaque control and diet management at an early age reduces severity of caries Progression.² It is mandatory to highlight the etiological factors that are responsible for caries and then take effective measures to prevent the disease. Efforts are required both in medical and social setup.³

In previous research it was observed that the caries is narrated as disease of multivariate origin and the causative factors are interconnected; involving both individual and social characteristics.³ In twenty one districts of Pakistan a health survey was carried out and the results declared caries as the most common childhood disease. It was observed that caries is five

and seven times more common than asthma and hay fever respectively.

Mandibular first molar was reported as, having the highest incidence of caries.⁴ Optimal use of fluoride and healthy dietary habits along with maintaining good hygiene has been beneficial in preventing caries in preschool children. The reduction of sugar intake in-between meals is also beneficial in this regard.⁷ Presently the changes in the diet patterns and choice of food especially more intake of sugary diet has affected the incidence of caries in children.⁹ Introduction of preventive measures can decrease incidence of caries.^{10,12}

Pain while chewing is responsible for malnutrition in children.¹¹ The presence of caries is high in public school children with the involvement of more than one tooth surface.¹⁴ In children the major factor for caries is high carbohydrate intake in diet.¹⁵ A community awareness program was conducted for one grade students to analyze the prevalence of caries in children and to educate them for adequate oral health. It is need of the hour to conduct these awareness programs.

METHODOLOGY

A cross sectional study was performed in a semi government school in Karachi. The objective of the study was to analyze the frequency and the risk of caries in one grade school children. Sampling technique that was adopted was convenience sampling. Class one of the respective school was visited by the team of dentists. A proforma was designed to evaluate the carious, missing

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TABLE 1: FREQUENCY OF CARIES IN CHILDREN

Gender	Low (n)	High (n)	Total	p-value	O.R	95% (C.I)
Male	94(72.3%)	36(27.7%)	130	0.34	1.37	(-2.56-7.04)
Female	72(78.3%)	20(21.7%)	92			

TABLE 2: DMFT VALUE IN STUDENTS

DMFT values (decayed missing filled values)	Gender of partici- pants		Total
	Male	Female	
0	37	29	66
1	23	11	34
2	28	19	47
3	6	13	19
4	15	11	26
5	9	3	12
6	3	1	4
7	4	2	6
8	3	2	5
9	1	1	2
24	1	0	1
	130	92	222

TABLE 3: GENDER DISTRIBUTION OF CARIES

Carious	Gender of participants		Total
	Teeth	Female	
	38	31	69
0	23	14	37
1	28	16	44
2	8	12	20
3	16	11	27
4	8	3	11
5	3	0	3
6	2	2	4
7	2	2	4
8	1	1	2
9	1	0	1
24	130	92	222

TABLE 4: NUMBER OF MISSING TEETH

Missing Teeth	Gender of partici- pants		Total
	Male	Female	
0	124	87	211
1	1	3	4
2	2	1	3
3	0	1	1
4	3	0	3
	130	92	222

TABLE 5: FILLED TEETH IN PARTICIPANTS

Filled Teeth	Gender of partici- pants		Total
	Male	Female	
0	130	91	221
4	0	1	1
	130	92	222

and filled teeth of all the children present in class one. Detailed checkup of each student was done with the help of sterilized examination instruments.

Two hundred and twenty two one grade students were examined. Inclusion criteria comprised students of one class and students of all other classes were excluded from the study. Informed consent was taken from all the parents. Research approval was confirmed from the school principal. IBM SPSS 22. 0.0.0 was used for analysis of the data. Frequencies of the carious, missing and filled teeth were analyzed. Chi-square test was performed to determine the frequency of the low and high DMFT values P value is also evaluated using chi-square test. Binary regression model was applied to determine odds ratio that evaluates the risk of caries in male and female students.

RESULTS

Two hundred and twenty-two grade one school children were examined 92(41.4%) were girls and 130(58.5%) were boys. The students were examined for dental caries, missing and filled teeth. The mean value of DMFT among the students was 2.24. Table 1 describes the frequency of the low and high DMFT values in the study group. Further details can be seen in Table 2-5.

DISCUSSION

The dental health status of primary especially one grade children is evaluated in this study. School children were selected for study to evaluate health condition of lower socio economic class. The purpose of this study was to analyze oral health condition of children one grade school children and tell them, the importance of proper oral hygiene, as it is the most critical period of development of permanent dentition.

The results of this study show that there was nearly no effect of gender on carious rate in children. A similar study on caries also narrated that the caries process

is equally prevalent in both genders and no evidence of increased carious process is observed in females.¹⁹

Agili conducted a study on Saudi population which revealed that the highest caries prevalence is at age of 6 years. According to this survey in Saudi population, the primary caries were present in 80% of the children with mean DMFT value of 5.11. The mean DMFT that has been calculated in the present study is 2.24, which is lower as compared to the above mentioned study.

Another study conducted by Margolis and colleagues indicated that grade one school children in United States of America (USA) are at high risk of primary tooth caries, particularly with increase rate in molars followed by incisors and canine. The calculated DMFT was 2.9%, 8.4% and 10.2% in Portland whites, Aiken whites and Aiken blacks respectively which collectively showed high level of DMFT in United states.¹⁶

A study on early childhood caries in Hong Kong also signifies the increased caries prevalence in 5 year old children which is 67%. It is again a higher rate of caries prevalence.⁴ Compromised oral health is observed in lower social class and the parameters like oral health are more severely affected.¹⁸ Since the present study was performed in a semi government school which does not represent the lower class so, the DMFT values are not significantly high.

The present study supports the fact that early childhood caries is a major problem and it should be addressed on individual as well as on national level. School programmers, parent counseling and country wide efforts are required in this regard for better and healthy community.

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