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Research Article

**AN OBSERVATIONAL STUDY TO KNOW THE DENTAL
CARRIES FREQUENCY IN CHILDREN RANGE FROM 3-12
YEARS OF AGE IN RURAL AREAS OF MULTAN**

¹Dr. Muhammad Mahboob Sabir, ²Dr. Anam Asif, ³Dr. Momina Tahir¹University College of Dentistry, The University of Lahore²The University of Lahore³Nistar Institute of Dentistry Multan**Abstract:**

Objective: The purpose of the study was to know the tooth decay frequency in children of ages 3 and 12 years in rural areas of Multan.

Study Design: An Observational Study.

Methods: 646 total children were selected for study. sample size was 232, 359 and 58 children in the 3 to 5, 6 to 8 and 9 to 12 age groups. Tooth decay and gingival index have been examined and registered accordingly.

Results: By the World Health Organization according to the recommended criteria, tooth decay was diagnosed. DMFT ratio index according to the following factors were investigated: gender, age and personal cleanliness. The sample size of men was 513 and for women 133 aged between three and twelve years. The average age was 6.35. The mean CPOD index for the whole example was 4.02.

Conclusion: The tooth decay frequency was very common in the children of 3 to 12 years of age.

Key Words: Frequency, DMFT index, Dental caries, gingival index.

Corresponding author:

Dr. Muhammad Mahboob Sabir,
University College of Dentistry,
The University of Lahore

QR code



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INTRODUCTION:

In developed countries, the frequency of tooth decay is decreasing, but in developing countries it is increasing because of low socioeconomic level. Education, social class and Income, even in Western countries, have a very important influence on food and oral hygiene. Low socioeconomic People show more dental carries than high class society. Many studies show the frequency of tooth decay in Pakistan. In Pakistan, in urban areas dental health services access has increased over the last few decades, and as a result, the frequency of tooth decay has decreased. The government of Pakistan is a major dentists' employer as well as an important low cost oral health care provider for the urban people of Pakistan. This activity is carried out in a broad clinical network in rural and urban areas. The private dental care on the other side is based mainly on the cities. Dental disease prevention programs are not available. Caries is a multi-factorial disease, most of which relate tooth decay to various factors such as age, gender, race, ethnicity, lack of oral hygiene and socioeconomic status. The World Health Organization (WHO) expects that by 2000, 50 percent of children aged 5 will be completely free from tooth decay. In order to reach this goal, we should make efforts when oral hygiene habits develop at an early age in childhood. For dental health the interest of society is mandatory. In the past, work was done on improving the knowledge and skills of the dentist. The dental services distribution in countries has not been improved who are not well developed. Dental health has long been neglected in Pakistan and is still a major problem in many of the developing countries for many different reasons. For this reason, to assess the frequency of tooth decay among school children in Multan Pakistan this study was conducted.

METHODOLOGY:

A study to know the frequency of tooth decay in children of school-age in Multan was conducted to assess the frequency of tooth decay in terms of various risk factors. This study was conducted at 646 children studying in different schools in Multan - Pakistan. The various schools were selected randomly. The sample size was 232, 359, and 58 children in the 3 to 5, 6 to 8 and 9 to 12 age groups, respectively. All efforts were done to include the same number of female and male subjects in each of these age groups, but this was not possible because the girls were often neglected because they were sent to schools in this area of Pakistan. Male-female was about 4: 2 respectively. For examination of the children Consent on the sample paper was taken from the relevant District Education Directorate and District Health Officer together with the principal of school. In the study all those children were included who were present on the examination day, and only those who did not cooperate were excluded from the study. A separate form was used for each child and the child was examined on a common seat after entering their oral hygiene habits and basic demographic information, no radiograph was taken under natural light and only open cavities were accepted as decay. The whole review was carried out by a single investigator according to the basic method developed by the WHO and the data entered by another person in the Performa. The data were analyzed using the SPSS statistical package, Thee was summarized using standard deviations and arithmetic means. For one way analysis of variance ANOVA statistical test used. P value 0.05 was taken significant statistically.

RESULTS:

In the sample of 646 children, male were 512 (80.01%) and female were 133 (21.06%) (Table and Figure 1).

TABLE 1: GENDER-WISE DISTRIBUTION

	N	% <>
MALE	513	79.4
FEMALE	133	20.6

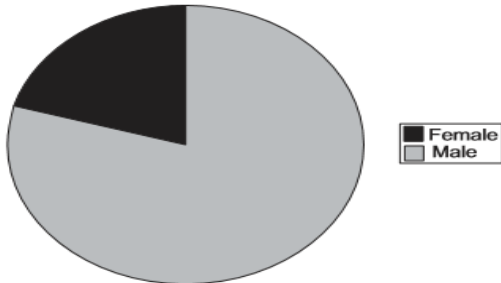
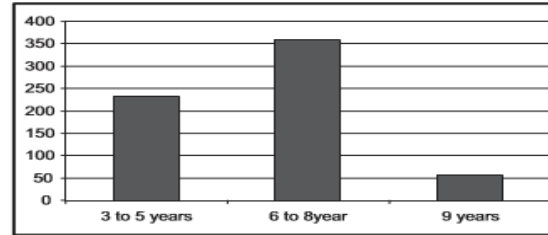


Fig 1

TABLE 2: ORAL HEALTH MEASURES BY AGE GROUPS

	3-5 yrs	6-8 yrs (n=231)	9-12yrs (n=358)	P*
DMFT	3.8±4.4	4.6±3.9	3.7±3.3	0.06
GI	0.7±1.5	1.3±1.9	1.3±2.0	.0005



+ MEAN ± STANDARD DEVIATION

*ONE-WAY ANALYSIS OF VARIANCE

Fig 2

Into three age groups the sample was divided: In group 1, 35.8%, 231 children of age 3-5 were selected, In group 2, 358 children (55.4%) of age (6-8 years) and in group 3 (8.8 percent) of the children were 9-12 years of age. In this study the average age was 6.4 (+ SD = 1.8). The men average age was 6.4 (± SD = 1.7) and 6.2 (SD = 1.7) for women. In this study the main oral health assessment variables examined were incomplete and included complete tooth decay (PCDD), gum index (GI) and personal oral hygiene, mean CPO and S.D. The exact sample was 4.02 and 4.05 respectively. The standard deviation and mean for GI for the whole sample was 1.2 and 2.0. Between the age groups for GI, there was a significant difference (ANOVA one way, p = 0.005); lower GI occurs in the youngest age group than two groups other (0.8, 1.4 and 1.3) (Table and Figure 3).

TABLE 3: DMFT BY AGE

	3-5 yrs (n=231)	6-8 yrs (n=358)	9-12 yrs (n=57)	P*
DMFT	3.8±4.4	4.6±3.9	3.7±3.3	0.06

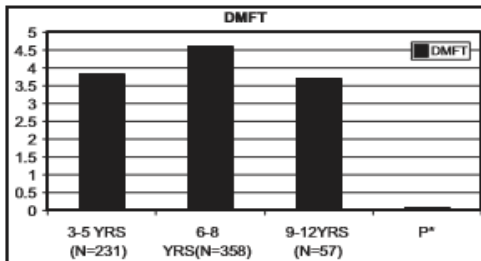


Fig 3

TABLE 4: AGE

	MEAN	SD	N	P
3-5 YEARS	3.6	4.1	231	0.15
6-8 YEARS	3.9	3.4	357	
9-12 YEARS	2.9	2.8	58	

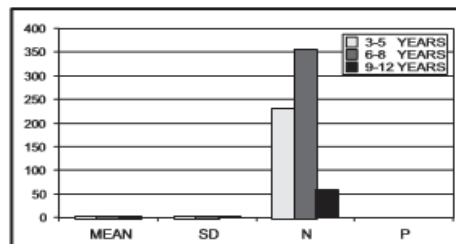


Fig 4

In the entire sample of 646 children, only six fillings were observed. For this reason, the "number of full teeth" variants of inferential and statistics have been neglected.

TABLE 6: RELATIONSHIP BETWEEN GENDER AND DECAYED TEETH

	MEAN	SD	N	P*
MALE	0.5	1.2	513	0.26
FEMALE	0.4	0.9	133	

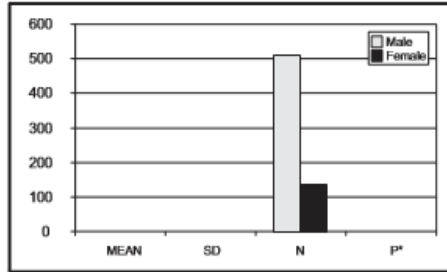


TABLE 6: RELATIONSHIP BETWEEN GENDER AND DECAYED TEETH

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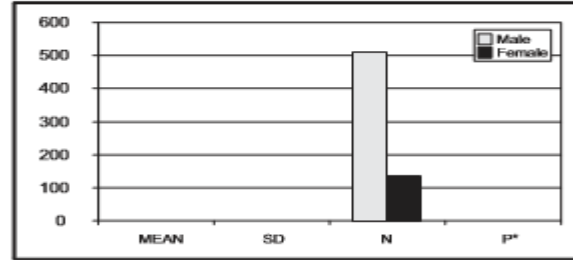


Fig 6

Tables 5 and 6 show comparative analyzes and summary statistics of age, gender, personal hygiene, gingival status and geographical environment for the variables "number of caries teeth" and "missing teeth number" examined in this questionnaire. No statistically significant difference was found between the number of decayed teeth and age groups. However, significant differences in age groups were observed for the number of lost teeth. (One-way ANOVA, $p < 0.0001$) In the youngest age group, fewer teeth were missing (0.3 versus 0.7 and 0.5). Between males and females there was no significant difference in terms of number of lost teeth and number of rotten teeth (ANOVA one-way, $P = 0.48$ and 0.27 , respectively). Table 6

DISCUSSION:

The best way to reach the best oral health care services in Pakistan should start with the use of restorative and conservative techniques and the models adoption that are successful in the same hemisphere. The current state of oral health in children is particularly limited. Beginning in decades at the beginning of the eighties, it was observed that there was a 50 percent reduction in the experience of degradation in urban areas. No known changes in preventive procedures have been observed during this time. It is likely that the use of toothpastes containing fluoride and an improved mouth hygiene is an interesting phenomenon. 80% of the population in the most of developing countries live in eighty rural areas. There is a trend towards high caries rate and high level of periodontal and mucosal diseases. Developing countries often suffer from trained personnel problems; a high level of unsatisfied tooth needs and limited resources. With the population increasingly concerned, these problems will not be solved for years. The government of Pakistan should manages health services through Health ministry, which provides dentists, health care workers and doctors. In 1986-87, State health services started. Under this program dentists were recruited, but the

lack of dental equipment made the program useless. There were no major visible differences in terms of CPOE, periodontal index (P1) and gingival index (GI) in men and women in this study. These findings resemble a full study in the eastern part of Pakistan (32), which reveals the need for generalization of the dentist. There was a significant difference in the margins of age groups for the CPOE (Table and Figure 4). 6 to 9 years of decline in frequency, limited resources, lack of oral hygiene and minors dental prevention programs awareness programs. A significant reduction in DMFT between 9 and 12 years may be due to the natural separation of spilled teeth, or it may be due to the relatively small sample size in the group. The high general level of untreated dental decay in under-examined children underlines that in some children access to dental services is not possible. In general, the general approach of medical care and community dental health should be emphasized. With the overall mean PI for the working sample, the studied sample seems to have a healthy periodontium. Children who are in need of periodontal care, such as dental health specialists, can receive treatment from helpers, but at this time the dental health system in Pakistan only educates dentists and dental assistants. There is no program to

train dental hygienists who can help protect oral health and treat dental diseases. Age associated with GI was found. As age increases, IG increases. This emphasizes the need for oral education and tooth brushing habits at a young age. Most children in developed countries have developed tooth brushing habits since the age of three, and most of the developing countries have adopted tooth brushing in school age. Although the CBD appears relatively high in this study, the results of the study support the hypothesis of similar caries obtained by WHO experiences in areas such as Multan, Bangladesh, Bhutan, Sri Lanka, Nepal and general oral health.

CONCLUSION:

The means of achieving the best oral health care in Pakistan should begin with the use of conservative, restorative and innovative procedures and the adoption of successful models in the same hemisphere.

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