Original Article

Dental Caries

Prevalence of Dental Caries Among the Patients Visiting Islam Dental College Hospital Sialkot

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ABSTRACT

Objectives: This study was designed to find out the occurrence of dental caries among the patients visiting Islam Dental College Hospital Sialkot.

Study Design: Observational / descriptive / cross sectional study.

Place and Duration of study: This study was carried out at Islam Dental College Hospital, Sialkot from 1st September 2015 to 30th December 2015

Materials and Methods: The study consisted of Oral Examination of 1008 Patients (526 males and 482 females) in the diagnostic department. Dentition status and treatment need (WHO 1997) method was used to assess the caries of patients. Mouth mirror and probes were used to examine the patients.

Results: The results showed that there were 52% male and 48% females. Of the total patients seen, 44.4 % patients showed presence of dental caries which was higher in males ($p<0.05$), in the mandibular arch in both sexes and in posterior teeth compared to anterior teeth. In both the sexes, second molar teeth were affected more.

Conclusion: Present study shows that the dental caries a common disease affecting both male and female and more prevalent in posterior teeth compared to other teeth. Health professionals and dentists need to educate communities regarding the risk factors of dental caries and also give proper hygiene instructions.

Key Words: Prevalence, Dental Caries, Mandibular arch, Molar teeth

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INTRODUCTION

Dental caries is the most prevalent chronic disease in the global scenario. Dental caries (DC) is a multi-factorial disease affecting the teeth in the oral cavity. It is a progressive, non-reversible disease, showing alternating phases of de-mineralization and remineralization, if not stopped, leading to the destruction of teeth. It can be restricted in its early stages by timely diagnosis and proper treatment [1,2]. Due to its worldwide higher occurrence rate, it has been described as a 'pandemic' disease showing many untreated carious cavities leading to severe pain, distress and functional difficulties specially in children[3]. These untreated carious lesions, additionally, have a considerable impact on the general health of people which influences the social and economic wellbeing of communities[4].

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It has been observed that untreated caries is more widespread in developing countries and Pakistan is a developing country with a rapid growth of urbanization[5]. Previous surveys of oral health indicate that Pakistan is classified as a low-caries country; with more than 50% of the 12 year olds being caries-free [7,8,9] and that the oral disease is equally prevalent in urban and rural areas 8. The age, sex, socio-economic status, race, geographical location, food habits and oral hygiene practices of patients show variable pattern and severity of prevalence of dental caries according to various studies[10,11,6.,16,25].

The purpose of this study was to assess that how many patients visiting Islam Dental College Hospital Sialkot were affected by dental caries.

MATERIALS AND METHODS

This cross sectional study of the patients having dental caries and visiting Islam Dental College hospital Sialkot was conducted during 1st September 2015 till 30th December 2015. There were 1008 patients, 526 male patient and 482 female patients, examined in the diagnostic department. Dental examination was carried out by 4 dental surgeons using Dentition Status and Treatment Need (WHO 1997) criteria. The patients were asked to rinse mouth thoroughly before examination and the teeth were dried with cotton swab. Mouth mirrors and ball-ended probes were used to

examine all the patients. The carious and cavitated lesions visible under room's tube lights and dental chair light were noted on specially designed assessment forms. A proportion test was applied for statistical analysis to compare the prevalence of dental caries among male and female patients, teeth (anterior or posterior) and jaw (maxilla or mandible). Oral health care instructions were given to all the patients and those who required treatment of affected teeth, they were referred to the concerned departments and treated accordingly.

RESULTS

The study consisted of 526 male patients and 482 female patients making 1008 patients all together.

Table No.1: Gender comparison.

Total no of patients seen	1008
Male patients	526 (52%)
Female patients	482 (48%)
Total patients affected with caries.	448 (44.4%)
Male patients affected with caries	250 (56%)
Female patients affected with caries	198 (44%)

Table 1 shows the prevalence of dental caries. 44.4 % Patients showed the presence of dental caries. Amongst the 1008 patients seen. The caries prevalence was higher in males, 250 (56%) than in females which was 198 (44%) and the difference was significant statistically (P<0.05)

Table No.2: Dental caries affecting Maxilla or mandible in both male and female patients.

Arches affected by caries	Mandible	Maxilla
Arches affected by caries	291 (65%)	157 (35%)
Males	170 (68%)	80 (32%)
Females	134 (67.7%)	64 (32.3%)

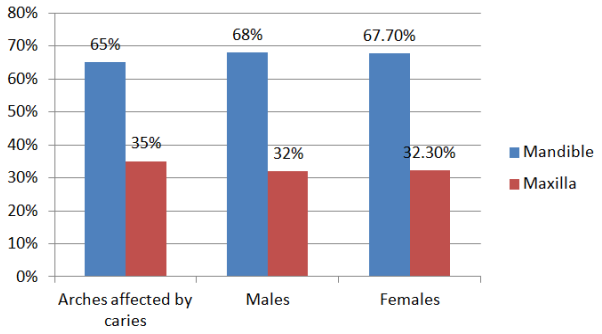

Figure No.1 Graphical presentation of Prevalence of dental caries in jaws (Arch wise prevalence)

Table 2 and Figure 1 show presence of dental caries in Maxilla and Mandible. Occurrence of Caries was more in mandible (40%) than maxilla (26%). The Male Patients showed a higher caries level of 38% in mandible than in maxilla (27%) and significant statistically (P<0.05). Similarly in females, caries was 34.5% in mandible compared to maxilla (22%) and P<0.01.

Table No.3: tooth wise prevalence of dental caries

Teeth affected with caries	Male patients	Female patients
Central Incisors	65	40
Lateral incisors	35	30
Canines	22	27
Premolars	198	185
1st molars	233	155
2nd molars	275	221

Table 3 Presents the tooth wise prevalence of dental caries. In both sexes, caries prevalence was higher in the posterior teeth than the anterior teeth and In both the sexes, second molar teeth were affected more.s

DISCUSSION

Dental caries is the most common chronic disease affecting the inhabitants of every geographic area in the world. The prevalence of dental caries has shown an increasing trend among all age groups including children. Its early recognition, diagnosis and treatment are of vital importance in order to prevent it to make oral health services more relevant in the health [12, 23] .

From figure 1 it can be seen that among the study population, caries was more prevalent in males patients (56%) than in female patients (44%) and the difference was significant statistically (P<0.05) also indicating some sex predilection as reported by some studies [13,14,23].

Results of inter-arch comparison in figure 2 and figure 3, show that Caries was higher in mandible (65%) than maxilla (35%). Among males, the mandible showed a higher caries involvement of 68% than maxilla (32%) and significant statistically (P<0.05). similarly in females, caries was 67.7% in mandible compared to maxilla (32.3%) and difference was statistically significant (P<0.01) also seen in other studies by Sathe and Rizwan [15, 16, 24].

Figure 3 also presents that in both males and females patients, posterior teeth are affected more compared to the anterior teeth and among posterior teeth, mostly the second molar teeth are affected by caries as compared to other teeth. Similar finding has been observed by [17, 18,19, 20, 22, 24]. Dental caries affecting the posterior teeth, especially molars more, could be due to the fissure topography. The deeper pits and fissures especially in second molars allowing food and bacterial accumulation resulting in more dental caries [17, 21].

CONCLUSION

Present study shows that the dental caries a common disease affecting both male and female and more prevalent in posterior teeth compared to other teeth. Health professionals and dentists need to educate communities regarding the risk factors of dental caries and also instruct prober brushing techniques. School and community level oral health programs should be organized to control and reduce dental caries.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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