A Retrospective Study on the Pattern of Tooth Morbidity in a Selected Population in Udaipur City, India

Manju Ananthakrishnan Nair, A. Bhagavandas Rai, Rajesh Shankarapillai, Roy George

ABSTRACT

Background: A recent study among outpatients in various dental hospitals in Udaipur was lacking. Aims and Objectives: To obtain information on the tooth morbidity pattern among outpatients attending a private dental college for one year period. Materials and Methods: A retrospective hospital record based study from 01.01.2009 to 31.12.2009 was carried out among individuals attending the outpatient department (OPD) of the Pacific Dental College and Hospital, Udaipur, Rajasthan, India. A total of 10,278 new patients attended the OPD during the study period. Systematic random sampling (1 in every 20 patients) was done and 514 patients selected. After excluding patients visiting the emergency department, those who got admitted and whose records were not available, 500 cases were analyzed. The demographic details, morbidity pattern, average number of teeth removed were noted. Results: Periodontitis and dental caries were the most common reasons for extraction, i.e., 77% and 19.8% respectively. Conclusions: Periodontitis was the main reason for teeth loss in older age group compared to dental caries which was the main cause in younger generation.

Key Words: Tooth Loss; Periodontitis; Dental caries

Introduction

The pattern of the prevalence for various dental diseases varies from each geographical location to other. By knowing the reasons for the tooth loss, it’s easy to plan the preventive methods and develop new strategies for the patient education. Tooth being an important organ for the physical and mental wellbeing of the human it’s important to prevent its loss. The main cause of tooth loss in elderly population was periodontitis and in pediatric patients was dental caries in most of the developing countries. The main objective of the study was to obtain information on the tooth morbidity pattern among outpatients attending a private dental college in Udaipur city for a period of one year.

Materials and Methods

A retrospective hospital record based study from 01.01.2009 to 31.12.2009 was carried out among individuals attending the outpatient department (OPD) of the Pacific Dental College and Hospital, Udaipur, Rajasthan, India. A total of 10,278 new patients attended the OPD during the study period. Systematic random sampling (1 in every 20 patients) was done and 514 patients selected. After excluding patients visiting the emergency department, those who got admitted and whose records were not available, 500 cases were analyzed. The demographic details, morbidity pattern, average number of teeth removed were noted.

Sample population includes a total number of 500 patients includes, 255 males (51%) and 245 females (49%) (Table 1). The Socio demographic details including the age, gender and cause of extraction were collected from the records. The causes other than dental caries and periodontal disease were plotted as others and in case of multiple exactions with different causes, the main reason which leads to maximum number of tooth removal was considered. The reasons for extraction were plotted as due to dental caries, Periodontitis and others. The data were transferred to SPSS V.20 and the mean, Percentages were calculated. The Students ‘t’ test was done to find the significance of relation between the age, gender and reasons for extractions.

Table 1 Gender Distribution

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>255</td>
<td>51.0</td>
<td>51.0</td>
<td>51.0</td>
</tr>
<tr>
<td>Female</td>
<td>245</td>
<td>49.0</td>
<td>49.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>500</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Results

During the course of study a total of 500 permanent teeth were extracted. The sample consist of were 255 (51%) males and 245 (49%) females with an average age of 46.35 years with a standard deviation of 10.576.

Gender: The main reasons for tooth loss was Periodontitis in males (207) compared to that of females (178) than dental caries (males 48 and females 51) which was statistically significant (Table 2).

Age group: The main reason for tooth extraction was periodontitis (386) than dental caries (99). For individuals aged 36 and above too the main reason for tooth extraction was Periodontitis (307) than dental caries (83), and there was no statistically significant difference between the two groups. But as the age increase there was an increase in tooth extraction (Table 3).

The study has shown a steep increase in the frequency of extraction among older group of patients, which peaks in above 50 years. More than 77% of teeth lost due to periodontitis. This...
result clearly indicates that periodontitis is a disease among this population. Total extraction due to dental caries was seen more in females than males. In case of periodontal disease, the extraction frequency is more in males than females.

<table>
<thead>
<tr>
<th>Reason For Extraction</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periodontitis</td>
<td>207</td>
<td>178</td>
<td>385</td>
</tr>
<tr>
<td>Dental Caries</td>
<td>48</td>
<td>51</td>
<td>99</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>255</td>
<td>245</td>
<td>500</td>
</tr>
</tbody>
</table>

Table 2 Reasons for extraction based on gender

<table>
<thead>
<tr>
<th>Reason For Extraction</th>
<th>Below 35</th>
<th>Above 35</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Periodontitis</td>
<td>78</td>
<td>307</td>
<td>385</td>
</tr>
<tr>
<td>Dental Caries</td>
<td>16</td>
<td>83</td>
<td>99</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>406</td>
<td>500</td>
</tr>
</tbody>
</table>

Table 3 Reasons for extraction based on Age Group

Discussion

The reasons for tooth loss seen in this study support the widely held view that periodontitis is the most common cause of extraction irrespective of the age of population in this geographical area. The present study also confirms reports that caries is distributed equally in both genders and there was no significant difference between genders. Comparing the present study with similar studies done abroad, the main difference was the reason for extraction. Dental caries is the main reason for teeth morbidity in general population and in our population the main reason for teeth morbidity was periodontitis, this might be due to the increased content of fluoride in the natural water sources in this area.

Over 19.8% of the total extractions noted in this study were due to dental caries which is slightly lower than that of studies reported from abroad. The present study also shows that periodontal disease for extraction became significant from 51-60 years onwards, contrary to its occurrence above 60 years in studies reported from developed countries. In developed countries where level of oral health awareness is very rare.

In a similar study done at dental college, Calicut, India and dental college, Trivandrum, India where the epidemiological variables compare well with the representation study, the transition from extraction due to caries to periodontal disease occurred at around the age range of 41-50 years, where as in our population the reason was periodontitis in all age groups.

Male were less frequent visitors than the females and this behavior contributed to their extraction percentage. The female preponderance in extraction calls for more attention in the areas of dental awareness and motivation. Only then can better oral health of our young population be made a reality. So it should be noted that regular dental checkup visits have a protective effect against extractions due to dental caries in particular and other causes in general. The introduction of different awareness program by the electronic media, inclusion of oral health education classes during school levels fluoride application, pit and fissure sealants etc. measures will help a long way on retaining these teeth. The present study shows that periodontitis is the leading cause of extraction. In case of tooth loss due to periodontal disease, the age of onset, progress and final outcome coincide well with the natural course of disease.

Conclusion

Periodontitis the major cause for loosing tooth among all age group of people can be reversed by cultivating prevention oriented habits and attitudes to bring down tooth mortality. Retention of a complete functioning dentition throughout life should be the ultimate goal of our profession.

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