

PATTERN OF TOOTH LOSS IN PATIENTS REPORTING TO KHYBER COLLEGE OF DENTISTRY PESHAWAR

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ABSTRACT

Objective: To study the pattern of tooth loss in patients reporting to Khyber College of Dentistry, Peshawar.

Methodology: A sample of 164 patients was examined in the Out Patient Department of Khyber College of Dentistry. Clinical examination was carried out to determine the number of lost or extracted teeth of the patient which were then marked in different quadrants. Age, sex, address and socioeconomic status of the patient were also recorded. The collected information was documented on a specially designed Performa and analyzed by SPSS version 17.0.

Results: Out of 164 patients 38.42% were male and 61.58% were female. Commonest age group with teeth loss was 26-35 years (24.40%). Majority of the patients (64.63%) belonged to poor socioeconomic category while 57.9% patients were illiterate. Most of the patients (41.5 %) were reported to have multiple missing quadrants, both in Maxilla and Mandible.

Conclusion: In this study majority of the patients involved were female. Most of the patients were illiterate who belonged to poor socioeconomic class. Majority of the patients had multiple missing teeth.

Key words: Tooth loss, Dental extraction, Khyber College of Dentistry.

INTRODUCTION

Tooth loss is a terminal event in the life cycle of a tooth and is a frequent episode in individuals with neglected oral cavity. Tooth loss affects quality of life, often substantially and is also related to poor general health¹. Studies have shown that although edentulism has decreased, a considerable proportion of adults are still losing teeth. Tooth loss has its negative effect not only on masticatory function, but also on aesthetics and confidence level of an individual¹.

Common indications for extraction of teeth include dental caries and its sequelae (e.g. pulpitis and periapical infections), periodontal diseases,

fractured, malpositioned or impacted teeth, orthodontic treatment, retained deciduous teeth, prosthetic considerations, supernumerary teeth and preparation for radiotherapy². Caries and periodontitis are the most common causes of tooth loss^{3,4}, with caries being more common than periodontitis⁵⁻⁷.

Many studies have been done to understand the pattern of tooth loss world wide⁸⁻¹⁰. A study conducted on Kenyans by Sanya⁶ showed that most commonly lost teeth to be molars and major cause of tooth loss being dental caries followed by periodontal disease. In Afghanistan, Da'ameh¹¹ found that most commonly missing teeth were posterior teeth, mainly extracted because of dental caries. Similarly Sarita¹² in Tanzania, Sayagh¹³ in Jordan and Madukwe¹⁴ in Nigeria have more or less similar observations. Oral health related quality of life of older individuals is significantly affected by tooth loss, position of missing teeth and denture

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status¹⁵. The role of occlusion in the development of temporomandibular joint disorders is controversial¹⁶. One study indicated that individuals who lose posterior teeth, in multiple quadrants, have a higher prevalence of temporomandibular disorders, especially young women¹⁷. In another study, 5 or more posterior teeth have been included in predisposing factors of development of temporomandibular joint disorder¹⁸. With regards to the distribution of occlusal contacts, the symmetry of their intensity rather than the symmetry of their number in the posterior occlusion seemed to be more important in relation to temporomandibular joint function¹⁹.

This study has been carried out with the aim that various causes and patterns of tooth loss in the population may help us in improving the level of oral hygiene, dental awareness and an insight into the extent of dental problems and their management. It can also help in laying down strategies to improve dental health care and delivery in this part of the region.

METHODOLOGY

This study was carried out in the Out Patient Department of Khyber College of Dentistry, Peshawar, from January 2012 to March 2012. Clinical examination was carried out to determine the number of lost/extracted teeth of the patient. The lost teeth were marked in quadrants as maxillary centrals (incisors) (MxC), Right middle (canine and premolars) (MxRM), Left middle (canine and premolars) (MxLM), Right posterior (molars) (MxRP), Left posterior (molars) (MxLP) and mandibular centrals (incisors) (MnC), right middle (canines and premolars) (MnRM), left middle (canines and premolars) (MnLM), right posterior (molars) (MnRP), left posterior (molars) (MnLP). Age, sex, address, and Socio Economic Status (SES) of the patient were also recorded. The SES was graded in such a way that patients with income less than Rs.10, 000 were classified as poor, Rs.10000-Rs.25000 as satisfactory and good with income of more than Rs.25000. All this information was documented on specially designed Performa. The data was analyzed on SPSS version 17.0.

RESULTS

In this study, 164 patients were examined. Out of 164 patients, 63 (38.42%) were males while

101 (61.58%) were females with a male to female ratio of 1: 1.60. The commonest age group of individuals with missing teeth were 26-35 years (24.40%) followed by 36-45 years (21.34 %). The age distribution of patients with missing teeth is given in Table 1.

The SES of the recruited patients was such
Table 1:- Age Distribution

Age groups in years	n	%
16-25	28	17.07
26-35	40	24.40
36-45	35	21.34
46-55	31	18.90
56-65	22	13.41
66-75	4	2.44
76-85	4	2.44
Total	164	100

Table-2:- Frequency of Missing Teeth

Quadrants		n	%
Maxilla (Mx)	RP	8	4.8
	RM	0	0.0
	C	4	2.4
	LM	3	1.8
	LP	5	3.1
	Multiple Quadrants	15	9.2
Mandible (Mn)	RP	14	8.5
	RM	0	0.0
	C	0	0.0
	LM	1	0.6
	LP	10	6.1
	Multiple Quadrants	36	22
Combination (Mx + Mn)		68	41.5
Total	-	164	100

that 106 (64.63%) patients fall in poor category, 41 (25.00%) patients fall in satisfactory group and only 17 (10.37%) patients had good socioeconomic conditions.

Regarding educational status, 57.9% of the patients were illiterate followed by middle pass 15.9%. The distribution of educational status is given in Figure-1.

Multiple missing quadrants both in Maxilla and Mandible in combination were found in 41.5%

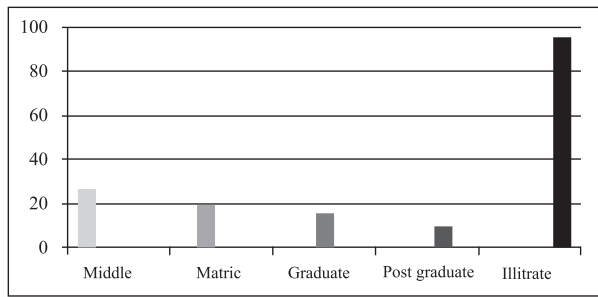


Fig. 1:- Educational Status

cases followed by multiple quadrants in mandibular arch alone (22%). The frequency of arch wise missing teeth and their distribution is given in Table 2.

DISCUSSION

The present study showed that there were more females with loss of teeth than males. This gender distribution correlates with similar studies in Lahore²⁰ and Peshawar³. In neighboring country India¹ a similar study revealed that 47.9% females had tooth loss compared to 52.1% of their male counterparts. The reason for this difference may be attributed to the fact that female subjects lost more teeth because they are more sensitive to their dental needs experiencing more tooth loss from interventions and services. Research by Meskin²¹, Renson²² and Idowu²³ also supported these findings. However, it differs from similar study carried out in Karachi²⁴ where tendency of missing teeth was found more or less equal in both sex groups but in Afghanistan¹¹ and Libya²⁵ where more males sought for extraction of teeth with reported figures of 54.5% and 68% respectively. The patients opted for tooth extraction over other treatment options mainly due to financial reasons and poor oral hygiene knowledge.

In this study most of the patients belonged to third decade of life (24.40%) followed by fourth decade (21.34%). This result is supported by studies carried out in Peshawar³, Karachi²⁴, Bangladesh²⁶ and Nepal²⁷. In Russia²⁸, older age group was seen to be affected more frequently because of better dental awareness in industrialized countries. More over patients utilized other treatment options and as a result fewer patients ended up with extraction of teeth.

Socioeconomic status greatly affects the choice of treatment by the patient. Our study showed that tooth loss is more common in patients of lower SES (64.63%). Such patients cannot afford dental treatment and prefer to opt for extraction rather than to treat it. This finding was similar to the local studies in Peshawar³, Karachi²⁴ and also in UAE²⁹ where the patients from lower socioeconomic class do not maintain oral hygiene and search for free dental treatments. They mostly report to the dentist at last stage of disease when the tooth is non restorable complaining from pain, halitosis, bad appearance when the caries involves the anterior teeth or inability to chew properly due to mobile teeth or remaining roots. Higher social class individuals visit the dentist more frequently than the lower social class.

Our study showed most frequently missing teeth involved multiple quadrants in both arches as well as multiple teeth in mandibular arch. A local study done in Karachi²⁴, where although only maxillary arch was considered but the most frequently missing teeth were found to be the same i.e molars (30%) but these were followed by maxillary premolars (24.44%). Many worldwide studies have found posterior teeth or molars to be the most commonly extracted teeth. The Kenyans⁸ have mandibular molars (34%) to be the commonest extracted teeth followed by maxillary molars (22%) which fully support our study. However the second most common extracted teeth were mandibular centrals (20%). In Afghanistan¹¹, the highest percentage of extracted teeth were posteriors (84.2%). Similar result was found in a Tanzania¹², where decayed/missing/filled teeth (DMFT) were assessed. 44% patients had extractions in which 73% were in posterior region. In contrast, a research in Jordan³⁰ showed most commonly extracted teeth to be maxillary premolars mainly because of orthodontic reasons and second most common to be mandibular molars because of dental caries. An Italian⁹ study also showed similar results with premolars (47.4%) as the most commonly extracted teeth mainly for orthodontic purpose followed by molars (41.3%). This difference may be attributed to regional variation in oral hygiene measures, eating habits, dental treatment awareness as well as size of the study sample.

CONCLUSION

From this study it is concluded:

1. Majority of the patients involved were females.
2. Most of the patients were illiterate who belonged to poor socio economic class.
3. Majority of patients had multiple missing quadrants both in Maxilla and Mandible.

RECOMMENDATIONS

Improving oral hygiene awareness is necessary among the population for the preservation of healthy dentition. In this regard, dental awareness programmes need to be initiated to educate people. Preventive measures should be encouraged to change patient perception towards restoration rather than extraction of teeth. Preservation of natural dentition should be the ultimate goal of dental professionals.

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