



Fare Well to Tooth: A Hospital Based Study to Determine the Main Cause for Tooth Extraction

Rahul R. Bhowate^{1*} and Mrunal G. Meshram²

¹Department of Oral Medicine and Radiology, Sharad pawar dental college and hospital, sawangi, Maharashtra. India

²Department of Oral Medicine and Radiology, Sharad pawar dental college and hospital sawangi, Maharashtra. India

*Corresponding author: Dr. Rahul R. Bhowate Department of Oral Medicine and Radiology, Sharad pawar dental college and hospital, sawangi, Maharashtra. India

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Abstract

Dental Surgeons play an important role in prevention of periodontal disease and caries. Good oral health is supposed to be the indicator of general health. Tooth mortality is directly related to the prevalence of periodontal disease and dental caries. In India, prevalence of periodontal disease is high and the only main cause of extractions [1-4]. But other studies carried out in various parts of India clearly showed a high incidence of caries involving almost the entire population [5-8]. The purpose of this present study was to determine the apparent reason for tooth extraction in hospital based study.

Keywords: Extraction; Dental caries; Periodontal disease; Trauma

Materials and Methods

Prospective study has been carried out for the cause of tooth extraction, in Sharad Pawar Dental College and Hospital, Sawangi (Meghe), Wardha, Maharashtra from 25th June 09 to 30th December 09.

The cause for tooth extraction was determined in the following way.

- Caries:** Whenever the primary reason is caries and/or its associated complication, e.g. failed endodontic treatment, secondary caries involving periapical tissues.
- Periodontal Disease:** Where severe gingival recession, loose tooth, periodontal abscess, or when periodontically involved tooth is extracted for prosthetic rehabilitation.
- Where tooth is fully or partially impacted, traumatized non-carious tooth, over retained deciduous tooth, supernumerary teeth.
- The data was analysed in respect of age, sex and type of tooth extracted.

Results

A total of 1332 individuals were analysed for the cause of tooth extractions. There was significantly highest percentage of

extractions in male patients (61.78%) compared to female patients (38.21%) (Table 1). The age group 55 and above presented highest number of patients for extracted teeth (31.15%) (Table 1). The periodontal disease was the most common reason for tooth extractions (52.17%). Dental caries was the second most cause for tooth extractions (43.16%) (Table 2). When the entire sample was considered, under 42 age group, caries was by far the most prevalent reason for tooth extractions, but over the age of 42, periodontal disease became the main cause of tooth extraction (Table 2) The highest periodontal extraction value (56.11%) was seen in age group 55 and above, where individuals experienced significantly fewer caries extractions (3.65%) than periodontal ones. A total of 1991 teeth were extracted in 1332 individuals. Molar and premolar presented 96.57% of the carious teeth extracted. More carious teeth were extracted from lower jaw (52%) than the upper one (48%). There were more anterior teeth extracted for periodontal reasons from lower jaw (97.60%) (Table 3). Among the teeth extracted for reasons other than caries and periodontal disease, upper anterior teeth were the most numerous (13.90%). These upper anterior teeth were extracted as they were either over retained primary teeth or affected from trauma. Very few third molar extractions were done. Percentage of periodontal disease and caries teeth extraction was high in male individuals (Table 4).

Table 1: Age and Sex-wise distribution of study population (%).

Age (Years)	Male	Female	Total
11-Jun	51(6.19)	31(6.09)	82(6.15)
18-Dec	40(4.86)	21(4.12)	61(4.57)
19-24	70(8.50)	50(9.82)	120(9.09)
25-30	68(8.26)	49(9.62)	117(8.78)
31-36	66(8.01)	81(15.91)	147(11.03)
37-42	57(8.92)	54(10.60)	111(8.33)
43-48	79(9.59)	45(8.84)	124(9.30)
49-54	87(10.57)	68(13.35)	155(11.63)
55+	305(37.05)	110(21.61)	415(31.15)
Total	823(61.78)	509(38.21)	1332

Table 2: Age-wise distribution and cause for extracted teeth. (%).

Age (Years)	Periodontal	Dental caries	Others	Total
06-11	2(0.28)	77(13.39)	3(4.83)	82
12-18	1(0.14)	52(9.04)	8(12.90)	61
19-24	7(1.07)	96(16.69)	17(27.41)	120
25-30	6(0.86)	97(16.86)	14(22.58)	117
31-36	35(5.03)	103(17.91)	9(14.51)	147
37-42	37(5.32)	68(11.82)	6(9.67)	111
43-48	80(11.51)	43(7.47)	1(1.61)	124
49-54	137(19.71)	18(3.13)	Nil.	155
55+	390(56.11)	21(3.65)	4(6.45)	415
Total	695(52.17)	575(43.16)	62(4.66)	1332

Table 3: Cause of extraction by type of total extracted in upper and lower jaw(%).

Cause of Ex- traction Lower	Anterior		Premolar		
	Upper	Lower	Upper	Lower	Upper
Periodontal	170	245	131	155	226
219	527	619			
Diseases	-76.23	-97.6	-69.31	-84.23	-47.28
-39.38	-59.21	-62.46			
Dental Caries	22	1	57	29	245
321	324	351			
	-9.86	-0.39	-30.15	-15.76	-51.73
-57.73	-36.4	-35.41			
Others	31	5	1	Nil	17
16	39	21			
	-13.9	-1.99	-0.52		-1.46
-2.87	-4.38	-2.11			
Total	223	251	189	184	478
556	890	991			

Table 4: Sex-wise distribution and total No. Of tooth extracted by its Cause(%).

Sex	Cause of Extraction		Total
	Periodontal Disease	Caries	
Male	733/456	326/288	1059/744
	-64.13	-56.7	-61.64
Female	410/239	249/212	659/451
	-35.87	-43.3	-38.36
Total	1143/695	575/500	1718/1195
	-66.53	-33.47	

Discussion

The method utilized in present study is unique in that it is a prospective study, involving single central source of diagnosis. Previous studies [9,10] used the examination of extracted teeth. Cahen et al [11] followed the postal survey of dentists. The periodontal disease was responsible for maximum extraction of teeth (60.93%) in 52.17% of the individuals, which is similar to previous studies conducted in India [1-4]. Studies conducted outside India have also reported periodontal disease as the main etiological factor for extractions after 40 years of age [12-14]. Number of extracted teeth due to periodontal disease in male individual was 64.13% while in female it was only 35.87%. This was thought to be due to high prevalence of betel nut, pan and tobacco habit in male individual. Bhowate [15] et al and Davies [16] have proved that betel nut, pan and tobacco chewing and smoking have been associated with increased periodontal disease. In the present study, caries was the main reason for tooth extraction below 42 years. Similar findings were recorded in Swedish [10] and French [11] study. Molar represented 54.97% of the total teeth extracted for caries and 43.03% of the teeth for periodontal extractions, which is similar to Cahen [11] study in France. Molars accounted for 64.20% of tooth loss due to caries in a study conducted by Dosumu [17].

Following Conclusions can be Drawn from the Present Study

- a) Periodontal disease was a major cause for extraction of teeth in whole sample.
- b) Caries was the main reason for extraction in patients under 42 years.
- c) Periodontal disease was a main reason for tooth removal in patients over 42 years.

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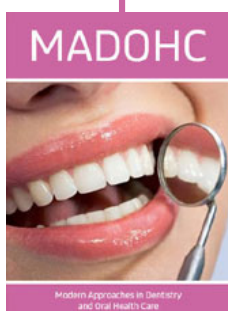
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