

Reasons Relating to the Extraction of Permanent Teeth in the Regional Population

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ABSTRACT

Background: Loss of teeth due to extractions continues to be a major public health problem in the population. Many reasons have been given to account for such extractions, including the presence of dental caries, root stumps, therapeutic reasons, periodontal disease, trauma, and prosthetic procedures. **Aims and Objectives:** The purpose of the present study was to investigate the reasons for extractions of permanent teeth in the regional population. **Materials and Methods:** During the period of 6 months, data were recorded from the patients those who required the teeth extraction for the treatment, using a specially designed survey form. The reasons for tooth extraction were assigned to different causes, i.e., dental caries, root stumps, periodontitis, trauma, impaction, therapeutic and retained deciduous, and others. The data requested for each extraction were age of the patient, sex, diagnosis, number of teeth, anterior teeth, and posterior teeth. **Results:** A total of 297 permanent teeth were extracted from 200 patients during the study period of 6 months from January to June 2018. The age of the patients ranged from 15 to above 65 years. A total of 297 teeth were extracted, of which 95 (47.5 %) were male and 105 (52.5%) were female patients. A largest number of teeth were extracted in the age groups of 35–44 in females (15%) and 25–34 in males (13.5%). **Conclusion:** Periodontitis (37%) was found to be the main cause of tooth extraction followed by dental caries (29%) in the study population.

Key words: Extraction, periodontitis, reasons.


INTRODUCTION

Loss of teeth due to extractions continues to be a major public health problem in the population. Many reasons have been given to account for such extractions, including the presence of dental caries, root stumps, therapeutic reasons, periodontal disease, trauma, and prosthetic procedures. Poor oral health and loss of teeth have a profound effect on general health and quality of life and can lead to poor dietary habits.^[1,2] Although the patterns of dental disease are gradually changing, periodontal disease and dental caries and are still the most important

reasons for extraction of permanent teeth among most of the population. Due to the impact of tooth loss on the functional and socioeconomic aspects, it is essential to identify the reasons for extraction of permanent teeth in individual populations. Hence, dental health care can be developed more effectively. At present, there is no information regarding the trends in loss of permanent teeth among patients in regional population. Therefore, the aim of the present study was to identify the reasons of extraction of permanent teeth among patients in the regional population.

MATERIALS AND METHODS

The study was conducted at the Kamineni Institute of Dental Sciences, Narketpally, Telangana State, India. Data collected from patients who required extraction of permanent teeth for treatment during the period from January to June 2018 were used for the study. Variables recorded include age of the patient, sex, diagnosis, number of teeth, anterior teeth, and posterior teeth.

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The main reasons for extraction were classified as follows: Dental caries, root stumps, periodontitis, trauma, impaction, therapeutic, and retained deciduous. Data were categorized and analyzed using SPSS version 10 statistical software.

RESULTS

A total of 297 permanent teeth were extracted from 200 patients during the study period of 6 months from January to June 2018. The age of the patients ranged from 15 to above 65 years. A total of 297 teeth were extracted, of which 95 (47.5%) were male and 105 (52.5%) were female patients. Table 1 shows the number of teeth extracted in various age groups among males and females. In almost, all the age groups more teeth were extracted in females than in males. A largest number of teeth were extracted in the age groups of 35–44 in females (15%) and 25–34 in males (13.5%) [Figure 1].

The distribution for the causes of extraction of the teeth among various age groups was analyzed based on the diagnosis [Table 2]. Periodontitis (37%) was found to be the main cause of tooth extraction followed by dental caries (29%), root stumps (16.5%), impacted and malpositioned teeth (10%), trauma to teeth (4.5%), extraction for orthodontic purposes

(2.5%), and retained deciduous teeth (0.5%) [Figure 2]. The leading cause for tooth extraction was found to be periodontal disease (37%) followed by caries (29%).

A total of 200 cases were included in the study, of which 25 (12.5%) were anterior teeth, 159 (79.5%) were posterior teeth, and 16 (8%) cases were both anterior and posterior teeth extracted. More number of posterior teeth 44 (22%) were extracted in 25–34 age group followed by 40 (20%) in the age group of 35–44 and least in patients >65 years of age group. More number of anterior teeth were extracted in the age group of 25–34 (3%) and least in 15–24 age group (1.5%). Overall, more number of posterior teeth were extracted compared to anterior teeth [Figure 3 and Table 3].

DISCUSSION

Numerous studies have been conducted to identify the causes for teeth extraction in various populations. These include national surveys and institution-based studies.^[3-9] There are no data available regarding causes for the loss of permanent teeth among patients in Nalgonda region population. In the present study, the attempt was made to identify the causes of extraction of

Table 1: Number of patients among males and females in various age groups

Age	Gender (%)	
	Male	Female
15–24	18 (9)	19 (9.5)
25–34	27 (13.5)	24 (12)
35–44	12 (6)	30 (15)
45–54	10 (5)	14 (7)
55–65	16 (8)	12 (6)
>65	12 (6)	6 (3)
Total	95 (47.5)	105 (52.5)

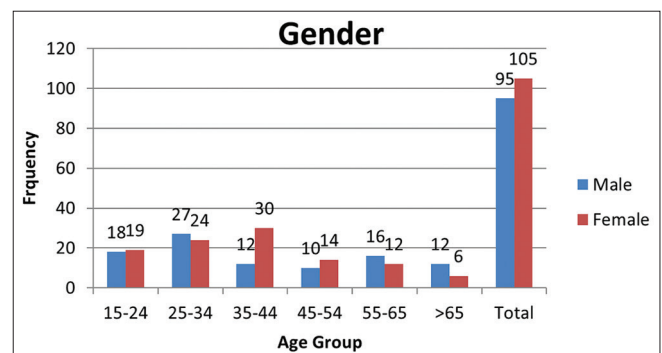


Figure 1: Age distribution of extractions in males and females

Table 2: Causes of tooth extraction in various age groups based on the diagnosis

Age	15–24	25–34	35–44	45–54	55–65	>65	Total (%)
Dental caries	11	20	13	6	4	4	58 (29)
Root stumps	5	6	9	3	7	3	33 (16.5)
Periodontitis	6	15	14	12	17	10	74 (37)
Trauma	1	4	2	1	0	1	9 (4.5)
Impaction	8	6	4	2	0	0	20 (10)
Therapeutic	5	0	0	0	0	0	5 (2.5)
Retained deciduous	1	0	0	0	0	0	1 (0.5)

permanent teeth among patients attending the outpatient wing of Kamineni Institute of Dental Sciences in Narketpally, Telangana State, India. Of the total of 200 patients, 95 (47.5%) were males and 105 (52.5%) were females. This may be explained by the fact that males are less frequent visitors to the dental hospitals, so a lower number of extractions are performed for males. Periodontitis was found to be the leading cause of tooth extraction in the study population, accounting for 37% of the extractions followed by dental caries which accounts for 29% of the extractions. The findings in the present study suggest that periodontitis was a significant factor for tooth loss in all age groups above 25 years and the leading cause of tooth extraction in females. This is consistent with the findings of other investigators who found that periodontal disease is the primary cause of extraction in older age groups, which

probably reflects the changing trends of dental disease with aging. Periodontal disease was also observed to be a significant cause of tooth extraction in males in the present study. In individuals aged between 15 years and 25 of age, extraction for orthodontic purposes was the leading cause of tooth loss which is consistent with similar findings reported by other investigators.^[3-8] This trend may reflect the increasing number of patients seeking orthodontic treatment of all the teeth extracted, the teeth most frequently extracted were posterior teeth which were extracted mainly for periodontal diseases, and the second most reason was due to dental caries.

CONCLUSION

In the present study, periodontal disease was accounted for majority of the extractions.

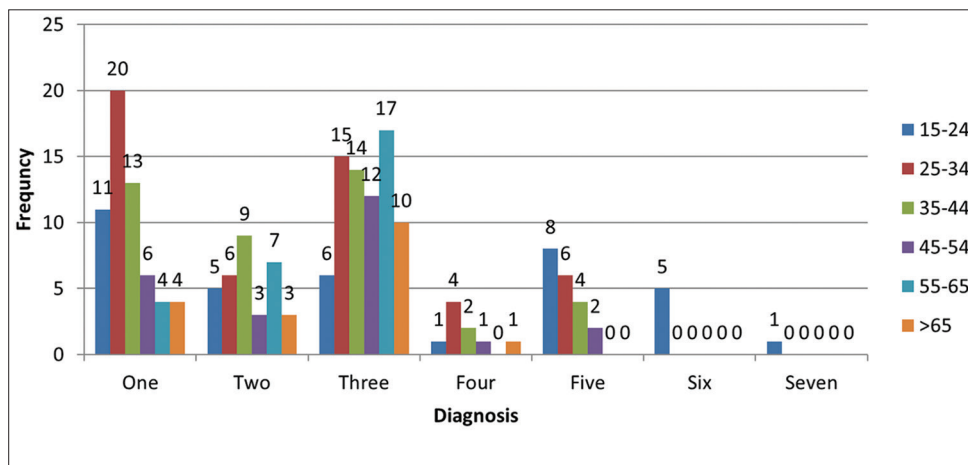


Figure 2: Causes of tooth extraction in various age groups based on the diagnosis

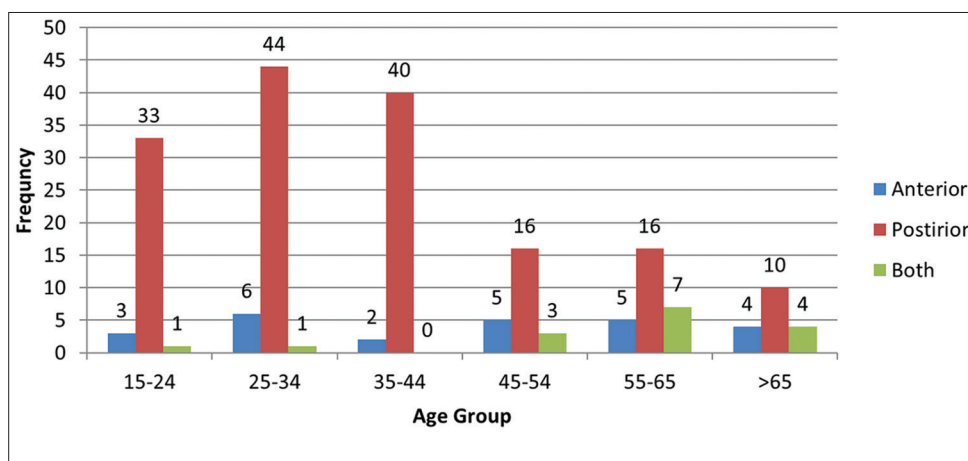


Figure 3: Tooth extraction in various regions (anterior and posterior)

Table 3: Tooth extraction in various regions (anterior and posterior)

Age	Anterior	Posterior	Both
15-24	3	33	1
25-34	6	44	1
35-44	2	40	0
45-54	5	16	3
55-65	5	16	7
>65	4	10	4
Total	25	159	16

This emphasizes the need for public health programs with prevention and intervention strategies designed to better address the burden of periodontal disease and caries. The female preponderance for tooth extraction calls for more attention in the areas of dental awareness and motivation of these vulnerable patients. However, there are certain limitations in interpreting the data.

The present study has been conducted among patients attending an institution which may be representative of the general population. Moreover, several studies have reported on the influence of other variables such as socioeconomic factors on the patterns of tooth loss in various populations. Telangana is a state with diverse socioeconomic, lifestyle, and dietary characteristics, and the cause and pattern of tooth loss may vary in different regions. Hence, further studies which account for the above-mentioned factors need to be conducted among various groups to obtain a better understanding of the cause of tooth loss among the regional population.

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