

# TOOTH EXTRACTION; A CRUDE BUT USEFUL MEASURE TO ACCESS DENTAL HEALTH STATUS OF COMMUNITY

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## ABSTRACT

**Background:** Tooth extraction is a skilled dental procedure, carried out for various reasons. The objective of this study was to evaluate the frequency of common conditions demanding tooth extraction and to establish their relationship with age and gender.

**Material and methods:** This cross sectional descriptive study was carried out in the department of Oral and Maxillofacial surgery Watim Dental College Rawalpindi from June 2017 to January 2019. A total of 1000 patients were selected through non-probability convenience sampling and data was collected by trained dental surgeon using predesigned questionnaire after informed verbal consent. The reasons and pattern of tooth loss was recorded and data was analyzed using SPSS. Version 23.

**Results:** Out of 1000 patients, the male were 51.9% and females were 48.1%. The highest number of extraction was reported in patients between 40 to 50 years 19.1%. The reason for tooth extraction in present study were grossly carious teeth 59.3%, retained roots 13.7 %, periodontal pathology 10.4%, impaction 8.9%, retained deciduous 2.6%, prosthodontic reason 2%, orthodontic extraction 1.4%, trauma 1.3% and economic reasons 0.4%.

**Conclusion:** Advanced dental caries and periodontal pathologies were the main causes of tooth extraction.

**Keywords:** Caries, Periodontal pathology, Oral hygiene, Tooth extraction

## INTRODUCTION

Oral health is crucial to general health, and is regarded important to one's quality of life.<sup>1</sup> Tooth extraction is a skilled dental procedure carried out in routine in dental practice since ages, however it should be considered the last option.<sup>2</sup> Tooth extraction is carried out for various reasons such as dental caries, and its sequel (e.g. pulpitis and periapical infections), periodontal pathology, impacted teeth, retained deciduous teeth, tooth fracture, orthodontic treatment, and prosthetic reasons.<sup>2,3</sup> Although being preventable to a large extent, dental caries and periodontal pathology are the main reasons for tooth extraction.<sup>4,5</sup>

Preventive dentistry is becoming the face of modern dentistry in developed countries. Countries with low socio-economic status shows higher prevalence of teeth mortality. However a decline in tooth loss can be observed in developed countries in the last decade, which is primarily because of well-organized preventive programs and access to oral health care leading to decreased tooth extraction.<sup>3,6,7</sup>

The objective of this study was to evaluate the

frequency of common conditions demanding tooth extraction and to establish their relationship with age and gender.

Recognizing the reasons for tooth extraction will assist in formulating preventive strategies, which in turn will enhance the oral and general health and will have beneficial effects on associated morbidities.<sup>8</sup>

## MATERIALS AND METHODS

This cross sectional descriptive study was carried out in the department of Oral and Maxillofacial surgery Watim Dental College Rawalpindi from June 2017 to January 2019. Non-probability convenience sampling was done. All the patients requiring extraction of teeth for any reason reporting to the department were included in the study. Medically compromised patients, patients' undergone radiotherapy or chemotherapy and not willing to participate in the study were excluded from the study. After informed verbal consent, the pro forma consisting of demographic details of patients, history, clinical examination, investigations and reason of tooth loss were recorded. Data was analyzed using SPSS version 23.

## RESULTS

In a sample of 1000, the male were 51.9% and females were 48.1%. The highest number of extraction was reported in patients between 40 to 50 years 19.1%. The reason for tooth extraction in present study were grossly carious teeth 59.3%, retained roots 13.7 %, periodontal pathology 10.4%, impaction 8.9%, retained deciduous 2.6%, prosthodontic reason 2%, orthodontic

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extraction 1.4%, trauma 1.3% and economic reasons 0.4%. (Figure 1). However there was a difference among reasons in female and males reporting to oral surgery department for extraction. (Table 1)

## DISCUSSION

The study was conducted in a recently established private dental hospital in Rawalpindi. The males outnumbered females when it came to tooth extraction, this was similar to the results of various other studies conducted in different parts of the country.<sup>6,9</sup> This could be due to the fact that females are more cautious about their facial esthetics and appearance therefore preferred conservative approach for retaining their teeth rather than going for simple extraction.<sup>10</sup> However the results were inconsistent with the other studies conducted in Brazil and India.<sup>1,11</sup> The study also revealed that only the females went for orthodontic extraction, again highlighting the importance of improving facial outlook in females.<sup>12</sup>

A large number of patients reporting to oral surgery department were between 40 to 50 years. These results were in accordance to others studies conducted in different regions of the country. The possible reasons could be poor oral hygiene, progressive periodontal problems, bone loss, associated tooth wear, smoking, parafunctional habits and increased risk of other medical conditions with aging.<sup>2,6,12</sup> This finding presented a contrast to a similar study conducted in Peshawar where a much younger age group had undergone extraction i.e. 26- 35 years.<sup>9</sup>

There is a considerable body of research done throughout the world to evaluate the reasons for dental extractions in various population.<sup>3,13-17</sup> Advanced dental caries was the main cause of tooth extraction in the present study 59.3%. This was in accordance with many other studies conducted in Pakistan<sup>5</sup>, Afghanistan<sup>15</sup>, Nigeria<sup>14</sup>, Iran<sup>4</sup> and Brazil<sup>1</sup>. This finding could be attributed to the scarcity of awareness of good oral hygiene maintenance, increased use of refined dietary

**Table 1: Reasons for tooth extraction in both genders**

Reason for extraction		gender		Total
		female	male	
Reason for extraction	grossly carious	278	315	593
	retained deciduous	20	6	26
	retained roots	64	73	137
	orthodontic extraction	14	0	14
	periodontal cause	38	66	104
	economics	3	1	4
	prosthodontics	12	8	20
	trauma	6	7	13
	impaction	46	43	89
Total		481	519	1000

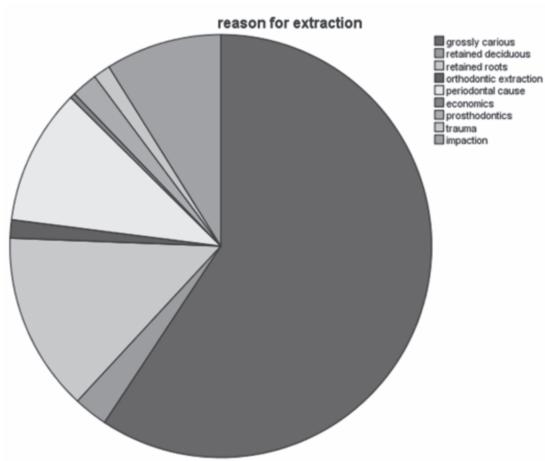


Figure 1: Reasons for tooth extraction

sugar, no trend of regular dental visits and follow up.<sup>2</sup>

Retained roots (13.7%) as sequel of advanced dental caries was the second reason for extraction followed by periodontal problems as the leading cause of tooth extraction in this study. Periodontal issues were common in patients older than 40 years. These findings were consistent with other local and international studies.<sup>7, 18</sup> The possible causes for periodontal problems include, smoking, poor oral hygiene, systemic diseases, lack of awareness and delay in diagnosis.<sup>19</sup> However a large number of patients (21%) younger than 40 years went for extraction due to advanced periodontal problems showing dearth of awareness among the general population.

The third common cause of extraction in this study was impaction, which was in accordance to other similar studies.<sup>2, 4, 7</sup> This could be due to the increased inci-

dence of third molar impactions in Pakistani population, recurrent pericoronitis, and difficulty in approaching third molars for endodontic treatment.<sup>2</sup>

Other reasons for extraction in present study were retained deciduous teeth 2.6%, patients undergoing prosthetic rehabilitation of mouth requiring extraction 2%, patients opting for orthodontic extraction 1.4%, trauma 1.3% and patients unable to afford conservative endodontic procedures implying economic constraints 0.4%.

A large sample size and a multicenter study should be conducted to make the result more representative of the population. Recent studies from developed countries have shown a significant reduction in dental caries and dental extractions.<sup>1,6,20</sup>

Community awareness programs of dental health must be initiated, involving government, media and local organizations to bring awareness among the masses regarding oral health and preventive dentistry.

## CONCLUSIONS

It can be concluded within the limits of this study that dental caries and periodontal diseases were the main reasons for tooth extraction in this Pakistani sample.

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