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Pattern of tooth extraction in relation to age and sex in patients attended School of Dentistry University of Sulaimani

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Running title: Pattern of tooth extraction…..

Abstract
Objectives: *The aim of this study was to identify the pattern of tooth extraction in permanent dentition and to establish their relation with age and gender among patients attending Dental school of University of Sulaimania in Kurdistan region of Iraq.*
Material And Methods: *This study was fulfilled in the department of oral and maxillofacial surgery (OMFS), School of Dentistry /University of Sulaimani from 2014to March 2015. In this cross sectional study total 1368 patients were selected through non-probability convenience sampling and data was collected by trained clinician using record sheets after informed verbal consent. The reasons and pattern of tooth loss was recorded and data was computed on SPSS. Version 15.00.*
Results: *According to the result analysis on SPSS version 15.0, the male to female percentage was 47% and 53 % respectively and the highest number of extractions was observed at the age of 41-50 years i.e. 3.5%.*
Conclusion: *In this study it was concluded that tooth extraction pattern not affected by Age and Gender among the patients which was attending dental school of university of Sulaimani.*
Key Words: *Tooth loss, Extraction, Permanent, Pattern, First Molar.*

I. Introduction

Tooth extraction is one of the skilled dental procedures carried out routinely in dental practice since centuries. It is the demand of the new era and our young dental practitioners to know various reasons of tooth extractions and changing trends in the reasons of extractions with time. The first tooth to appear into oral cavity is the first permanent molar at the age of 6-years, hence called the 6-year molar.

The first permanent molar is the strongest and the largest among all the teeth. It helps in mastication and guiding eruption of other posterior teeth into proper occlusion[1].

Studies have shown that edentulous has decreased but a considerable proportion of adults are still losing teeth. Tooth loss has various harmful effects on an individual e.g. impairment of masticatory function, unpleasant aesthetics, bad phonetics, temporomandibular dysfunctions, psychological issues, social withdrawal and decrease in confidence level[2]. Common indications for extraction of teeth includes dental caries and its sequelae (e.g. pulpitis and periapical infections), periodontal diseases, tooth fracture, malpositioned or impacted teeth, Orthodontic treatment, retained deciduous teeth, prosthetic considerations, supernumerary teeth and preparation for radiotherapy[3]. It has been evident that caries and periodontitis are the most common cause of tooth loss [4], [5], with caries being more common than periodontitis[6],[7].

This study was carried out with the aim that determination of various causes and pattern of tooth loss to evaluate any changing trends that will help in improving the level of oral hygiene and dental awareness among patients , thereby reducing their early extractions and consequent adverse sequelae. Therefore, the rationale of this study as to evaluate the relation of age and gender to pattern of tooth extraction among Sulaimani patients.

II. Methodology

This cross sectional prospective study was fulfilled at the department of oral and maxillofacial surgery (OMFS), of School of Dentistry /University of Sulaimani. The patients undergoing extraction at OMFS department were included from October 2014 to March 2015.Two criteria's were used, inclusion criteria were patients having permanent dentition i.e. above 18 years, patients with non-restorable teeth/ tooth, and patients from both genders and the exclusion criteria were patients suffered from severe uncontrolled medically compromised systemic diseases, patients on radiotherapy/chemotherapy, handicapped patients, and patients non-consented for the study. All the patients were asked for the informed verbal consent to be included in the study. After history, clinical examination and investigations a record sheet was filled by the clinician before the tooth extraction. The statistical analysis has been done using SPSS version 15.00. The variables i.e. gender, age and pattern of tooth loss which they were quantitative variables calculated as frequency and percentage. Maximum number of extractions at a particular age was calculated and presented in percentage.

III. Results

According to the analysis of the results on SPSS version 15, in a sample of 1368 patients, the male and female Percentage was 47% and 53% respectively (Figure I) and the highest number of extraction was observed at the age of 41- 50 years i.e. 23.5%. (Table 1)

The results also revealed that the most common tooth extracted is first premolar of upper arch i.e. 9.4% and lower second premolar of lower arch 6.8% and least common tooth extraction is central incisor 4.4% of upper arch and also central incisors of lower arch 4.3% (Figure II).

IV. Discussion

In the light of above analysis it was evident that females were in higher proportion for extraction as compared to males. The reason for this might be the low self-care and especially dental care in our female population. It could also be due to lack of awareness, dependency and difficult approach to dental facilities.

This is in consistent with study in which 61.5% patients were females as compared to males .[8] However results are inconsistent with the study conducted in Lahore in which large proportion of male population has undergone extraction as compare to females. [9] Similarly, difference from our study was observed in a study conducted in Brazil, South America where gender ratio was similar along All age groups.[10] The highest incidence of extraction was observed at the age of 41- 50 years. The results are almost similar to the studies conducted in other regions. [11, 12, 13] this could be due to poor oral hygiene maintenance, age related periodontal problems, bone atrophy, tooth wear, smoking and increase risks of co-morbidities in Adults. Although this is not in consistent with the study at Department of Khyber College of Dentistry, Peshawar in which higher incidence of proportion of patients had undergone extraction at a younger age i.e. 26 – 35 years. In a study conducted in Nepal, loss of tooth due to periodontal disease was most prevalent in patients greater than 30 years of age.[14]

Our study showed the pattern of tooth extraction and the most common tooth to be extracted is the upper first premolar i.e. 9.4%. The possible reasons of early loss of upper first permanent premolar could be due to lack of prophylactic measures such as fissure sealants to protect the tooth from caries, poor eating habits i.e. excessive use of sweets and candies, improper brushing techniques, lack of dental visits/follow-ups and poor oral hygiene . This result is supported by studies carried out in, Karachi[15], peshawar[16], kenyans[17]. No trend change has been observed in the pattern and etiology of tooth loss as compare to previous studies[15], [16].

The limitations of study could be short duration and cross sectional type of study design. But similar type of studies has been conducted in other parts of the world like one in Afghanistan where sample size was 184 and study duration was of three months.[17] It is recommended that this study should be conducted in broad horizon and should be designed longitudinally so that the results should be more representative of the population.

V. Conclusion

In this study it was concluded that tooth extraction pattern not affected by Age and Gender among the patients which was attending dental school of university of Sulaimani.

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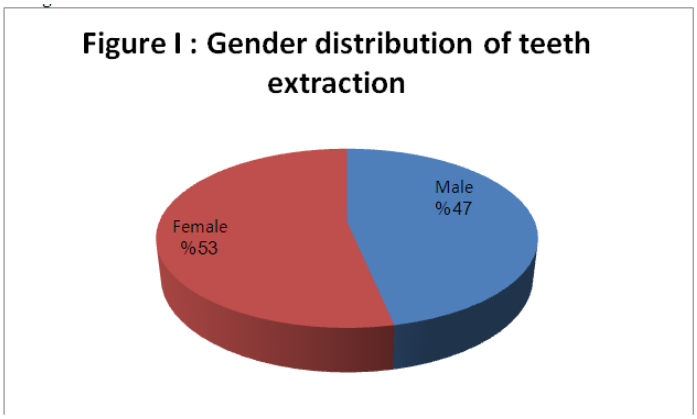
Tables and Figures:



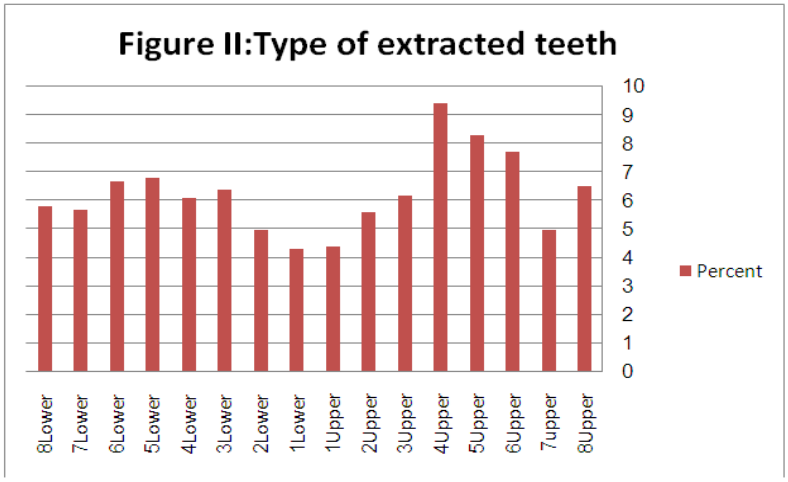


Table 1: Distribution of number of patients with extracted tooth according to age groups

Age	Frequency	Percent**age**
10-20	41	3.0
21-30	202	14.8
31-40	305	22.3
41-50	321	23.5
51-60	211	15.4
above 60	288	21.1
Total	**1368**	**100.0**