Research Article

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Demographic Description and Cross-Sectional Analysis of Status of 'Edentulism' In Study Population at Ghaziabad Region: An Original Study

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ABSTRACT

Aim: Complete edentulism is when there is complete loss of teeth and partial edentulism when there is partial loss of few teeth. The present study was conducted to assess the cases of edentulism in study population.

Materials & Methods: The present study was conducted primarily to explore the basic etiologies and other demographic factors directly related to the status of 'complete/partial edentulousness'. It comprised of 280 patients of both genders. Parameters such as partially edentulism, completely edentulism and reason for it were recorded. Relevant data were gathered logically from patients visiting prosthodontic centers at dental hospitals.

Results: Statistical comparison and results revealed that 240 were of partially edentulous wherein maximum cases were seen in age group 50-60 years (males- 28, females- 45), > 60 years (males- 12, females- 36), 40-50 years (males- 12, females- 36), 30-40 years (males- 15, females- 22) and 20-30 years (males- 13, females- 17). The difference was significant (P- 0.01). Maximum cases were seen in age group 50-60 years (males- 30, females- 32), > 60 years (males- 35, females- 25), 40-50 years (males- 28, females- 22), 30-40 years (males- 15, females- 20) and 20-30 years (males- 22, females- 11). The difference was significant (P- 0.01).

Conclusion: For the studied population the most common cause of edentulism was periodontal diseases and dental caries with clear female predilection. Age group more than 60 years and 50-60 years had maximum number of patients of edentulism.

Keywords: Caries, Edentulism, Periodontitis.

INTRODUCTION

Edentulism is loss of the teeth. It could be partial or complete. Complete edentulism is when there is complete loss of teeth and partial edentulism when there is partial loss of few teeth. Tooth loss has an impact on an individual's oral health related quality of life at biologic, psychological, and social levels. The prevalence and extent of tooth loss have decreased significantly in many countries during the recent decades. Tooth loss is identified by an edentulous space, which is a gap in the dental arch normally occupied by one tooth or more. In general, it occurs by caries, periodontal problems, traumatic injuries, and impactions, supernumerary teeth and neoplastic and cystic lesions.[1] Although a lot of epidemiological surveys have been conducted in dental caries and periodontal problems and data have been obtained, prosthetic sector has not gained any interest in epidemiology. One of the

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major handicaps in the elderly is loss of teeth, affecting their mastication, dietary intake and nutritional status.[2] Partial loss of teeth results in drifting and tilting of adjacent teeth, supra-eruption of opposing teeth, altered speech, changes in facial appearance, and temporomandibular disorders. The loss and continuing degradation of the alveolar bone, the adjacent teeth, and also the supporting structures will influence the difficulty to achieve an adequate restoration in a partially edentulous patient. Pattern of tooth loss is a clear indicator of levels of oral hygiene, dental health awareness, the magnitude of dental problems, and the management.[3] The present study was conducted to assess the detailed demographic status of edentulism in study population.

MATERIALS & METHODS

The present study was conducted in the department of Prosthodontics and it comprised of 480 patients of both genders. All were informed regarding the study and written consent was obtained. Inclusion criteria include patients with suitably controlled basic diseases like diabetes, hypertension and osteoporosis or disease free status of patients. Exclusion criteria include patients with poor control of basic illness like hematological, metabolic and renal disorders, immune system/endocrinological disarranges. General information such as name, age, gender etc was noted. Parameters such as partially edentulism, completely edentulism and reason for it were recorded. Every one of the respondent were educated about the points and targets of the investigation. Patients were also asked about the history of tooth loss, period of edentulism, reasons for tooth exfoliations and their outlook on these circumstances. The data were compiled categorically according to the age ranges of the studied patients.

RESULTS

Statistical analysis and Results

All the collected data were arranged systematically and subjected to fundamental statistical analysis using SPSS statistical package for the Social Sciences version 21 for Windows. Results thus obtained were subjected to statistical analysis using chi- square test. P value less than 0.05 was considered significant. Nonparametric test, namely, chi-square test, was used as and when required for further data analysis; p-value. Table I shows that out of 480 patients, males were 220 and females were 260. The difference was non- significant (P- 0.5). Table II shows that age group 20- 30 years had 30 males and 28 females, 30-40 had 38 males and 40 females, 40-50 years had 45 males and 52 females, 50-60 years had 55 males and 75 females and >60 years had 52 males and 65 females. The difference was significant (P- 0.01). Graph I shows that out of 480 patients, 240 were of partially edentulous. Maximum cases were seen in age group 50-60 years (males- 28, females- 45), > 60 years (males- 12, females- 36), 40-50 years (males- 12, females- 36), 30-40 years (males- 15, females- 22) and 20-30 years (males- 13, females- 17). The difference was significant (P- 0.01). Graph II shows that maximum cases were seen in age group 50-60 years (males- 30, females- 32), > 60 years (males- 35, females- 25), 40-50 years (males- 28, females- 22), 30-40 years (males- 15, females- 20) and 20-30 years (males- 22, females- 11). The difference was significant (P- 0.01). Graph III shows the most common reason was periodontitis (210), caries (150), trauma (65) and congenital missing (55).

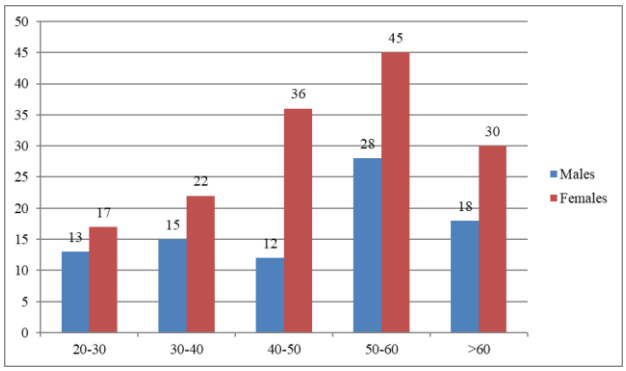
Table I: Distribution of patients.

Total - 480		
Males	Females	P value
220	260	0.5

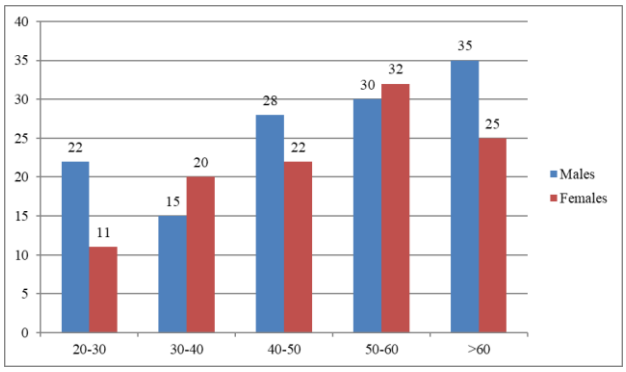
Table II: Age wise distribution of patients.

Age group (years)	Males	Females	P value
20-30	30	28	0.01
30-40	38	40	
40-50	45	52	
50-60	55	75	
>60	52	65	
Total	220	260	

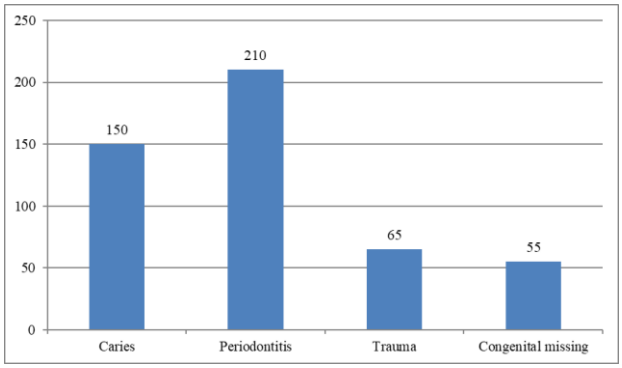
Graph I: Distribution of partially edentulism.



Graph II: Distribution of completely edentulism.



Graph III: Etiologies for edentulism.



DISCUSSION

Edentulism has a significant impact on health and also affects the overall quality of life. Numerous studies on self-perception have shown that tooth loss is significantly associated with esthetical, functional, psychological, and social impacts on individual. Several anatomic changes invariably take place within the alveolar processes of the jaws following dental extractions. Residual ridge resorption is a cumulative and irreversible process and differs from one individual to the other and also varies at different times and different sites. The edentulous ridges are characterized by high resorption rate following teeth extraction in the early period, followed by a remarkably slowing rate within the first year.[4] In this study, out of 480 patients, males were 220 and females were 260. Patients were seen in age group 20- 30 years (30 males and 28 females), 30-40 (38 males and 40 females), 40-50 years (45 males and 52 females), 50-60 years (55 males and 75 females) and >60 years (52 males and 65 females). This is in agreement with Henry.[5] Loss of bone in the maxilla or mandible is not limited to alveolar bone; portions of the basal bone may also be resorbed, especially in the posterior aspect of the mandible, where severe resorption may result in more than 80% bone loss. An increase in resorption eventually leads to smaller maxillae and larger mandibular residual ridges due to shape of the basal bone. Thus the residual alveolar ridge crest changes its location in a buccolingual direction after resorption.[6]

We observed that out of 480 patients, 240 were partially edentulous. Maximum cases were seen in age group 50-60 years, > 60 years, 40-50 years, 30-40 years and 20-30 years. In case of completely edentulous cases, maximum cases were seen in age group 50-60 years (males- 30, females- 32) and > 60 years. This is in agreement with Jane A.[7] Periodontal disease and dental caries proved to be the main determinants for the high occurrence of tooth loss and for the high percentage of edentulism. The failure to visit the dentist regularly was also found to be a major reason. Several studies also concluded that age was strongly associated with edentulism.[8,9] The combined effects of dental caries and periodontal diseases as well as the treatment decisions associated with dental caries and periodontal disease were found to increase with the age. In our study, most common reason was periodontitis (210), caries (150), trauma (65) and congenital missing (55). This is similar to Jerome.[10] The percentage of edentulous people is expected to decrease in the coming decades as a result of improved oral health, where as the number of edentulous people will increase as a result of the strong increase in the aging population.

CONCLUSION

In the present study, the greater part of the patients was ignorant of the basic ideology of conservation

of tooth that could minimize the prevalence of edentulism .The most common cause of edentulism is periodontal diseases and dental caries. Maximum cases were seen in females. Age group more than 60 years and 50-60 years had maximum number of patients.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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