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ORIGINAL ARTICLE

Frequency of Partial Edentulism and Awareness to Restore the Same: A Cross Sectional Study in the Age Group of 18–25 Years Among Kerala Student Population

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Abstract Treating partial edentulousness forms a major share of prosthodontic clinical practice. The purpose of this study was to find out the frequency of partial edentulism, its arch distribution status, awareness to restore, and the ratio of removable to fixed prosthesis among a student sample aged 18–25 years. The methodology selected was a questionnaire survey followed by clinical examination of the student community from Tirur taluk, Malappuram district, Kerala. The results showed that the frequency of partial edentulism among the surveyed group was significant with predominance in maxillary posterior edentulousness in men and mandibular posterior edentulousness in women. Though there was not any significant gender difference in the partial edentulism, women were more aware than men to restore it. All restored cases were with fixed bridges and no anterior edentulousness was found. The study also revealed a lack of awareness and need to educate the population.

Keywords Partial edentulism · Descriptive study · Cluster sampling · Arch distribution · Awareness

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Introduction

Replacement of missing teeth is a common patient need and with increase in life expectancy of individuals, the need for restoration of partially edentulous condition is increasing. Various epidemiologic studies have confirmed the prevalence of partial edentulousness, its prosthetic rehabilitation status, removable versus fixed restoration rate, lack of awareness on the part of public etc. [1–4]. Long-term partial edentulousness leads to various undesirable sequalae like occlusal discrepancies, esthetic impairment, migration and spacing of surrounding teeth, supra eruption, loss of space, TMDs etc.

Aims and Objectives

1. To find out the frequency of partial edentulousness and its arch distribution status.
2. Awareness to replace it.
3. Ratio of removable to fixed among the restored cases.
4. Gender difference in partial edentulism.

Materials and Methods

In this study, a survey and a patient examination method was proposed [4–11]. The population for the study comprised of the student community aged (18–25) years from Tirur taluk, Malappuram Dist, Kerala. As per records the student population within Tirur taluk limits was around 5,000. As the study was planned to be a descriptive one, it was proposed to take 10 % of the total student population through cluster sampling method. Each cluster consisted of

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HISTORY QUESTIONNAIRE

1. Personal Data

Name : Age : Sex : Address : Telephone : Occupation :

2. Do you have any missing teeth?

Yes No

3. Reasons for loss of teeth

Periodontal Caries Others

If others, please (specify)_____

4a. Duration of edentulousness without treatment.

Less than 3 months 3 months-6months

More than 6 months Others_____

4b. Duration of edentulousness with treatment.

Less than 3 months 3 months-6months

More than 6 months Others_____

5. Are you wearing or have you worn an oral prosthesis?

Yes No

5a. If No, Please specify the reason

Lack of awareness Aware but for economic reasons

Felt no deficiencies Fear

5b. If yes, what type of prosthesis you are wearing ?

Fixed Removable

5c. Who advised you to replace the lost tooth?

Self motivated Friends/relatives

Attending dentist Attending medical practitioner

6. How often do you visit dentist?

Once in 6 months Once in a year

Not regular; only when necessary

II CLINICAL EXAMINATION

1. Teeth missing

18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

2. Restored teeth status

18 17 16 15 14 13 12 11 21 22 23 24 25 26 27 28

48 47 46 45 44 43 42 41 31 32 33 34 35 36 37 38

3. Type of partial denture

Removable- Partial	Fixed- Partial
Maxillary anterior	Maxillary anterior
Mandibular anterior	Mandibular anterior
Maxillary posterior	Maxillary posterior
Mandibular posterior	Mandibular posterior

group of students from various courses such as Arts, Science, Technical, Electrical, Travel and tourism, etc. 500 Students were surveyed out of which 250 were men and 250 were women (Table 1). All the sampling units selected were screened using questionnaire and clinical examination. The data collected were analyzed using appropriate techniques.

Results

Table 2 shows the sex distribution, and the frequency of partial edentulism. A total of 117 affected cases were found, out of which 62 were men and 55 were women. 23 % of the surveyed groups were affected.

Table 3 shows the total number of treated and untreated cases from the affected population. It also shows the gender differences in treated cases. 83 % in the total affected population had not under gone treatment. The table also shows that 27 % of women had under gone treatment which was considerably greater than men (8 %).

Table 4 refers to the arch and gender wise distribution of partial edentulism. When compared between men and women, men showed predominance towards missing maxillary posteriors (70 %) while women towards missing mandibular posteriors (73 %). None of the subject had any anterior edentulous space.

Table 5 depicts the ratio of removable partial denture to fixed partial denture among the restored cases. All the subjects were treated by fixed partial dentures.

Table 6 shows the various reasons for not restoring the edentulous condition. "Felt no deficiencies" (57 %) ranked the highest, (19 %) were due to lack of knowledge, (16 %) had fear for dental treatment procedures and (8 %) due to financial problem.

Table 1 Total number and percent of student population surveyed

Category	Men		Women		Total population surveyed	
	No.	%	No.	%	No.	%
Surveyed	250	50	250	50	500	10 % of total population

Table 2 Frequency of partial edentulism and sex distribution

Sex	Affected		Unaffected		Total
	No.	%	No.	%	No.
Men	62	25	188	75	250
Women	55	22	195	78	250
Total	117	23	383	77	500

Table 3 Distribution of treated versus untreated and gender difference

Sex	Treated		Untreated	
	No.	%	No.	%
Men	5	8	57	92
Women	15	27	40	73
Total	20	17	97	83

Table 4 Arch and gender wise distribution of partial edentulism

Arch	Men		Women		Total	
	No.	%	No.	%	No.	%
Max anterior	–	–	–	–	–	–
Mand anterior	–	–	–	–	–	–
Max posterior	56	70	24	30	80	46
Mand posterior	25	27	69	73	94	54
Total	81	47	93	53	174	100

Table 5 Ratio of removable to fixed among the restored cases

Category	Men	Women	Total
RPDs	0	0	0
FPDs	9	20	29
Total	9	20	29

Table 6 Reasons for not restoring edentulousness

Reasons for not restoring	Men		Women		Total	
	No.	%	No.	%	No.	%
Lack of knowledge	8	44	10	56	18	19
Felt no deficiencies	33	60	22	40	55	57
Financial	7	87	1	13	8	8
Fear	9	56	7	44	16	16

Discussion

The loss of teeth can lead a patient to seek care for functional reasons as they notice a diminished function to a level that is unacceptable to them. The level at which a patient finds function to be unacceptable varies among individuals. This variability increases with accelerating tooth loss. Also, the esthetic impact of tooth loss can be highly significant and may be more of a concern to a

patient than loss of function. The literature on tooth loss has been limited primarily to cross sectional studies of subnational groups that estimate the prevalence of complete edentulism and the mean number of teeth lost. Brown [1] reported detailed patterns of tooth loss among U.S. employed adults and seniors in 1985–86. Dolan et al. [4] conducted a study about risk indicators of edentulism, partial tooth loss and prosthetic status among black and white middle aged and older adults through interview and dental examination. He concluded that people who had poor general health was significantly associated with edentulism and the blacks were less likely to receive prosthetic crowns. AL-Dwairi [9] conducted a study on frequency of partial edentulism and removable denture construction among Jordanians. This study investigated the frequency of different classes of patterns of partial edentulism and the most frequently used design components of conventional cobalt–chromium RPD constructed for patients.

Ostenberg et al. [10] conducted a survey on edentulism associated with obesity among Swedish people aged 55–84 years over 22 year period. The study indicated an association between edentulism and obesity. Though cross sectional surveys provide information on the extent and demographic distribution of tooth loss at one time, such survey cannot estimate trends in tooth loss. Detection of trends in a population requires longitudinal studies during which the same individuals are observed on more than one occasion.

Our survey analyzed the incidence of partial edentulism among student population aged (18–25) years at Tirur, Kerala. The awareness of this student population to undergo restorative treatment was also assessed. In the surveyed group, the incidence of partial edentulism was 23 % (Table 2) which indicate that, around one-fourth of the surveyed group was affected. The restored cases were only 17 % (Table 3) out of the affected cases, which showed that there was a lack of awareness to treat the same. The reasons for not restoring the edentulousness might be highlighted using Table 6. It also shows the various reasons and percentages for not restoring the condition, out of which the option "Felt no deficiencies", showed the highest percentage (57 %). This means that the people were aware of the treatment but still did not turn up for it. It can be summarized from the above finding that, the youngsters might be more concerned about their esthetics than other functions of the masticatory system. This can also be supported with the fact that there was no anterior edentulousness in the surveyed group (Table 4). Lack of knowledge (19 %), Fear (16 %) and (8 %) were the other reasons for not treating the cases. These clearly highlights that there is a strong need to educate the young generation.

Though there was no much gender difference in the incidence of partial edentulism, women were more aware than men to restore the same. This can be explained using table 3 where 27 % of women out of affected cases had turned up for treatment when compared to men (8 %). All the restored subjects (both men and women) preferred fixed dentures than the removable ones (Table 5). Another important finding of this study was the predominance of maxillary posterior edentulousness in men and mandibular posterior edentulousness in women (Table 4). The reason at present is unknown and would require further studies.

Conclusion

1. The incidence of partial edentulism among the surveyed group was 23 % with no significant gender based difference in the frequency of its occurence.
2. A predominance of partial edentulousness in maxillary posterior region in men and mandibular posterior region of women.
3. Lack of awareness to go for rehabilitation was seen in both groups. However, women subjects showed more awareness than men did.
4. All the subjects preferred to undergo fixed partial denture treatment rather than removable options.
5. The finding of this survey justify the greater need to educate the younger generation regarding the importance of tooth/teeth, treatment of diseased tooth/teeth and also to replace the same in-case if it has to be extracted due to any reasons.

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