

Assessment of Removable Partial Dentures in South Indian Population

¹SUGANYA ELANGOVA, ²REVATHY GOUNDER

¹BDS Student, ²MDS – Assistant Professor
Department of Prosthodontics

Saveetha Dental College and Hospital,

Affiliated to Saveetha Institute of Medical and Technical Sciences, Saveetha University
Chennai-77, Tamil Nadu, India

ABSTRACT:

Objective: The objective of this study was to assess patient's satisfaction with retention, aesthetics, chewing, speech and comfort of wearing removable partial denture. Also the objective of this study is to assess the influence of factors such as previous wearing of denture, age, gender marital status, level of education, presence of chronic disease and smoking habits on patients satisfaction with therapy.

Materials and Methods: The present study was conducted among partially edentulous patient in saveetha dental college and hospital Chennai from November 2017 to May 2018. The data was collected from 100 patients. The survey questionnaire was then subjected to statistical analysis. Denture satisfaction level was compared among male and female patients using chi square test.

Results: Among patients, 9% kept their denture in excellent hygiene condition. 7% were very much satisfied with the aesthetics and 73% of the study population were satisfied with the dentures. 44% of the edentulous population had class 4 edentulism and least with class 2 and class 3 modification. Edentulous space was more common in maxilla as compared to mandible. Most of the patients preferred acrylic denture (66%) followed by cast partial denture which was 28%.

Conclusion: The quality of oral rehabilitation should be emphasized and reinforced in order to improve the overall wellbeing of the individual and the community. The oral health awareness program should be organized in the population where there is a greater amount of tooth loss and edentulousness. By doing so we reduce the incidence of partial edentulous and tooth loss all around the India.

Keywords: Partial edentulism, removable partial denture, denture satisfaction, oral hygiene

INTRODUCTION:

Tooth loss has an impact on an individuals oral health related quality of life at psychological and social levels [1]. Tooth loss is identified by an edentulous space, which is a gap in the dental arch normally occupied by one tooth or more. It could be partial or complete. A person may lack a few teeth (partially edentulous) or all teeth in one or both upper and lower jaws (completely edentulous) for various reasons [2]. A classification of partially edentulous arches helps to identify the relation of remaining teeth to edentulous ridges and facilitates communication, discussion and comprehension of the suggested prosthetic treatment among dentists, students and technicians [3]. Pattern of tooth loss is a clear indication of levels of oral hygiene, dental health awareness and the management [4]. Owing to the large Indian population, a nation-wide survey cannot be done. However the epidemiology features of partial edentulous of one community can be assessed on the basis of a cross sectional study [5]. The present study was done in order to provide complete reflection of dental status and treatment needs which would be of valuable information.

MATERIALS AND METHODS:

The present study was conducted among partially edentulous patient in saveetha dental college and hospital, Chennai from November 2017 to May 2018. A standard questionnaire on assessment on patient's satisfaction with retention, aesthetics, chewing, speech and comfort of wearing removable partial dentures was formulated. The data was collected from 100 patient. The survey questionnaire included patient evaluation.

RESULTS:

In this study patient evaluation (Graph.1) was done where 19% said that the retention of the removal partial dentures was excellent, 66% was good and 14% was average. In this study only 7% of the study population felt that the aesthetics was excellent. 40% of the study population said that the aesthetics was good. 53% of the study population said that the aesthetics was average.

Table. 1 and 2 showed the comparison between the male and female for the aesthetics, mastication, retention and oral hygiene. The result showed that the factors are statistically insignificant.

The hygiene of the removal partial dentures was excellent in 9% of the study population, 58% was good and 31% of the study population denture hygiene was average. Only 1% of the overall study population stated that the removable denture was bad.

In terms of mastication after wearing of removable partial denture 9% of the study population felt excellent, 30% good and 47% of the study population felt average after wearing of the removable dentures. 12% of the study population said that the mastication has become bad.

Comfort level of the prosthesis was excellent in 4 % of the population. 36% of the study population said that the comfort of the prosthesis was good. 33% of the study population said that the comfort of the prosthesis was average. 21% felt comfort was bad.

44% of the edentulous population had class 4 edentulism and least with class 2 and class 3 modification (Graph. 2). Edentulous space was more common in maxilla as compared to mandible (Graph. 3). Most of the patients preferred acrylic denture (66%) followed by cast partial denture which was 28% (Graph. 4).

DISCUSSION:

It is increasingly recognized that the impact of the disease on quality of life should be taken into account when assessing health status. It is likely that tooth loss, in most cases being a consequence of oral diseases, which affects the oral health-related quality of life. In a large Japanese study, Ide et al. [6] found a strong correlation between the number of missing teeth and higher oral health impact profile scores suggesting impairment of Edentulous falls into a special category among the various disease of dental origin. Tooth loss is the dental equivalent to mortality [7]. A simple estimation of the proportion of the partial edentulous case is a rough indication of the prevalence of dental diseases and the success or failure of dental care [8]. The prevalence of the partially edentulous condition indicates a lack of progress. Towards controlling dental disease or the patient's affordability of fixed prostheses. The prevalence of Kennedy's Class III was more common in contradiction to other studies which were reported by Al Jhony et al and Anderson et al [9]. The presence of Kennedy's Classification with 2 or 3 modifications indicates a lack of awareness about preserving the edentulous state. The reduced incidence of the Class IV classification, in replacing only the anterior teeth, demonstrates the rejection of the removable prostheses in comparison to the fixed prostheses, owing to the improved aesthetics [10,11]. The use of non-metal major connectors was found to be extremely high in this study as compared to that in other international studies which were reported from north America and the service provider, which included both clinical and laboratory services [12,13].

CONCLUSION:

In a developing country like India, the need to improve the quality of oral rehabilitation should be emphasized and reinforced in order to improve the overall well-being of the individual and the community. Similar studies should be conducted at various centers of India, the information should be gathered, a national database of partial edentulous and the patterns of tooth loss are maintained, the oral health awareness program should be organized in the population where there is a greater amount of tooth loss and edentulousness. By doing so we reduce the incidence of partial edentulous and tooth loss all around the India.

References:

1. Mohl ND, Davidson RM. Concepts of occlusion. In: Mohl ND, Zarb GA, Carlsson GE, Rugh JD, editors. A textbook of occlusion. Chicago: Quintessence; 1988. p. 161–75.
2. Turp JC, Greene CS, Strub JR. Dental occlusion: a critical reflection on past, present and future concepts. *J Oral Rehabil* 2008; 35:446–53.
3. Carlsson GE, Haraldson T, Mohl ND. The dentition. In: Mohl ND, Zarb GA, Carlsson GE, Rugh JD, editors. A textbook of occlusion. Chicago: Quintessence; 1988. p. 57–69.
4. Mohl ND. Diagnostic rationale: an overview. In: Mohl ND, Zarb GA, Carlsson GE, Rugh JD, editors. A textbook of occlusion. Chicago: Quintessence; 1988. p. 179–84.
5. Becker CM, Kaiser DA. Evolution of occlusion and occlusal instruments. *J Prosthodont* 1993; 2: 33–43.
6. Harwood CL. The evidence base for current practices in prosthodontics. *Eur J Prosthodont Restor Dent* 2008; 16: 24–34.
7. Pjetursson BE, Brägger U, Lang NP, Zwahlen M. Comparison of survival and complication rates of tooth-supported fixed dental prostheses (FDPs) and implant-supported FDPs and single crowns (SCs). *Clin Oral Implants Res* 2007;18(suppl 3):97–113.
8. Gotfredsen K, Carlsson GE, Jokstad A, Arvidson Fyrberg K, Berge M, Bergendal B, Bergendal T, Ellingsen JE, Gunne J, Hofgren M, Holm B, Isidor F, Karlsson S, Klemetti E, Lang NP, Lindh T, Midtbø M, Molin M, Närhi T, Nilner K, Owall B, Pjetursson B, Saxegaard E, Schou S, Stokholm R, Thilander B, Tomasi C, Wennerberg A. Implants and/or teeth: consensus statements and recommendations. *J Oral Rehabil* 2008; 35(suppl 1): 2–8.
9. Carlsson GE. Changes in the prosthodontic literature 1966 to 2042. *J Can Dent Assoc* 2005; 71: 328–328e.

10. Aroonika S. Bedre and Dr. Revathy Gounder. Evaluation of smile aesthetics in south indian population- Cross sectional study. International journal of current research, 2017; 9: 49245-49248.
11. Sharanya H and R Gounder. Evaluation of different modes of maintaining denture hygiene practices among denture wearing patients in south indian population. J. Pharm. Sci. & Res. Vol 8(11); 2016: 1320-1323.
12. Ohlsson A. Systematic reviews: theory and practice. Scand J Clin Lab Invest Suppl 1994; 219: 25-32.
13. Glenny AM, Esposito M, Coulthard P, Worthington HV. The assessment of systematic reviews in dentistry. Eur J Oral Sci 2003; 111: 85-92.

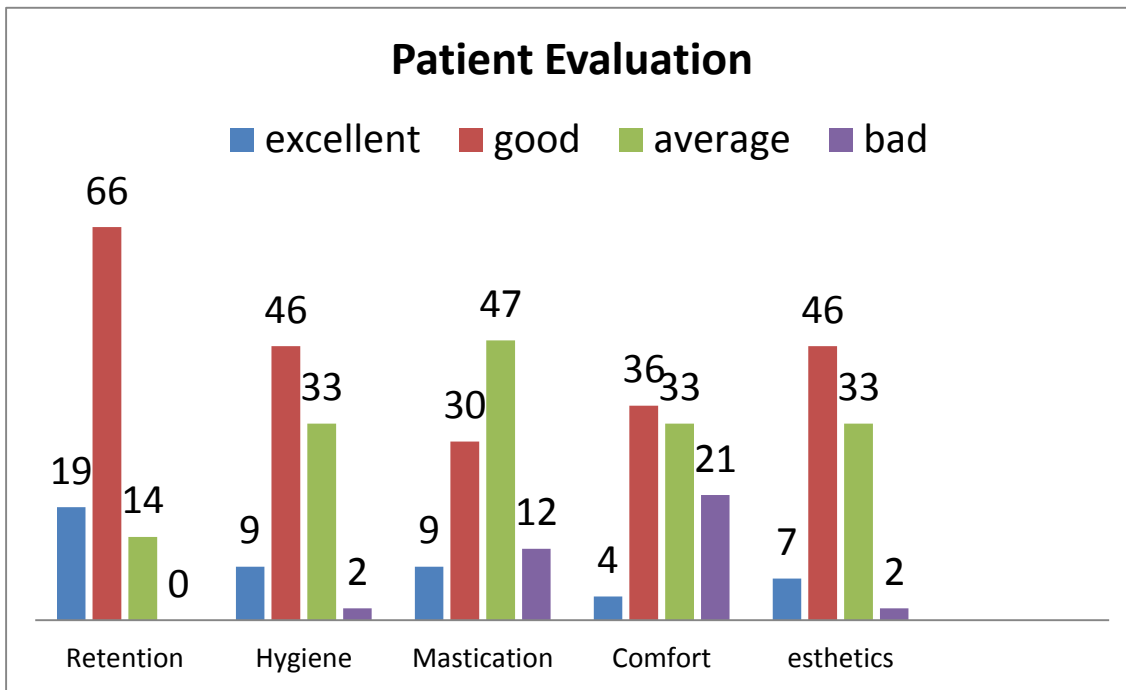
Table 1. Aesthetic and Mastication evaluation using chi square test

Gender		Aesthetics			Mastication		
		Value	df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)
1	Pearson Chi-Square	13.511(a)	6	.036	11.380(a)	9	.251
	Likelihood Ratio	19.451	6	.003	11.947	9	.216
	Linear-by-Linear Association	1.357	1	.244	1.157	1	.282
	N of Valid Cases	56			56		
2	Pearson Chi-Square	17.069(b)	6	.009	7.200(b)	9	.616
	Likelihood Ratio	18.635	6	.005	8.286	9	.506
	Linear-by-Linear Association	5.554	1	.018	.196	1	.658
	N of Valid Cases	44			44		

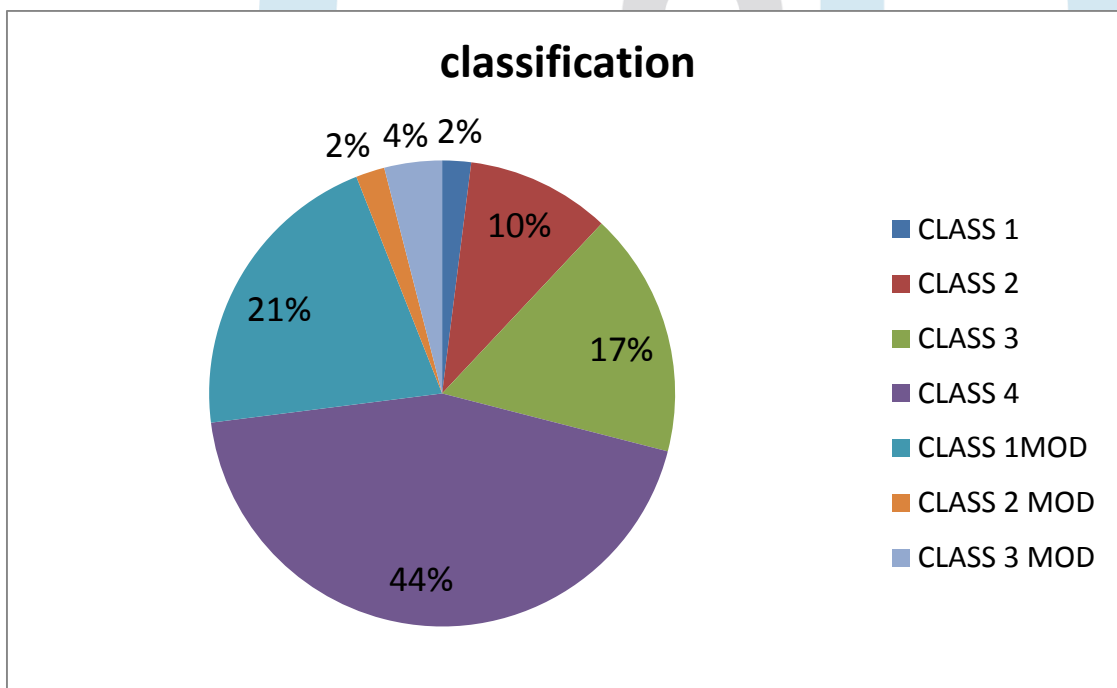
Table.2. Retention and Oral hygiene evaluation using chi square test

Gender		Retention			Oral hygiene		
		Value	df	Asymp. Sig. (2-sided)	Value	df	Asymp. Sig. (2-sided)
1	Pearson Chi-Square	5.649(a)	6	.464	8.058(a)	6	.234
	Likelihood Ratio		6	.395	10.664	6	.099
	Linear-by-Linear Association	6	.464		.457	1	.499
	N of Valid Cases	6.256	1	.753	56		
2	Pearson Chi-Square	3.400(b)	3	.334	9.075(b)	6	.169
	Likelihood Ratio		3	.305		6	.048
	Linear-by-Linear Association	3	.334		12.725	1	.518
	N of Valid Cases	3.623	1	.201	.417		
1	Pearson Chi-Square	1.637	1	.201			
	Likelihood Ratio						
	Linear-by-Linear Association						
	N of Valid Cases	44					

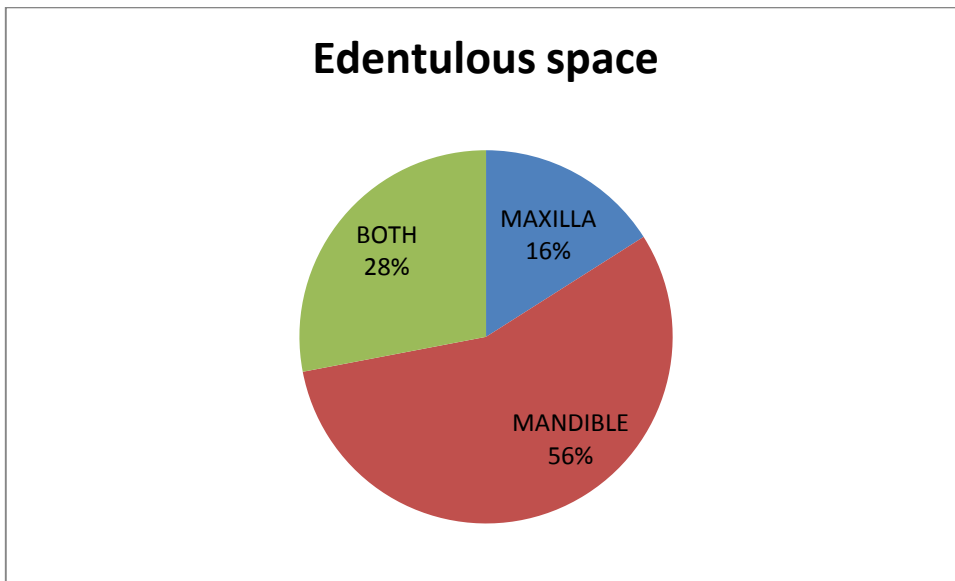
Graph 1. Patient evaluation for the denture satisfaction



Graph 2. Evaluation of edentulism using kennedy's classification



Graph 3. Edentulous space in maxilla and mandible



Graph 4. Choice of Materials for denture.

