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Research Article

AN INVESTIGATION INTO THE PATIENT SATISFACTORY LEVEL OF WEARING A MANDIBULAR COMPLETE DENTURE

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ABSTRACT

Conventional complete denture prostheses have been widely used for the replacement of missing dentition. There is a wide difference in suggesting the types of impression techniques or how the denture is fabricated but no matter how the denture is made clinically. This study is designed to identify such short coming in lower complete dentures helps to analyze –denture flanges, frenum, stability aspect of the denture, the retention, the phonetics, swallowing and the aesthetics through a questionnaire study and the results in the questionnaire study will be subjected in a statistical analysis.

INTRODUCTION

Dental implant therapy has lot of functional benefits in completely edentulous arches. Individuals who cannot undergo implant treatment, compromised under systemic conditions, inadequate alveolar bone height, complete denture therapy is much useful and helpful in achieving the aesthetics and functions and also to improve the quality of life of the edentulous elderly patient (Gaspar *et al.*, 2013). Due to the reasons of inexpensiveness and simplicity, edentulous patient prefer the treatment of complete denture therapy over implant therapy (Bilhan *et al.*, 2013). Objectives to improve the quality and maintain the satisfactory level of the patient wearing the complete denture depends on the following factors: chewing; denture support; comfort; denture retention; Aesthetics; taste and speech (Gaspar *et al.*, 2013; Sykora and Sutow, 1993). Advancements in the fabrication of the complete denture has been improved a lot for the past few years, hence the conventional complete denture prostheses has been widely used in the replacement of the missing dentition including the patient satisfactory outcome of wearing the complete denture (Bhat *et al.*, 2014) The loss of teeth impair the function, aesthetics and phonation and is most commonly restored with the prosthesis (Gaspar *et al.*, 2013; Sykora and Sutow, 1993; Garrett *et al.*, 1996).

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It can be assumed that the oral health of the patient wearing complete denture is related to the quality of life of the patient and involve both the prosthetic as well as the surgical treatment for the patient satisfactory level (Garrett *et al.*, 1996). Also, it reveals about the possible relationships between patient and clinical factors and denture wear and use of dentures for eating (Sykora and Sutow, 1993). The population of the elderly people in the developing countries is getting increased and it has become necessary to treat the completely or partially edentulous patient to improve the quality of their life (Bekiroglu *et al.*, 2012). Psychological factors and other factors like eating, chewing, speech, facial appearance, mastication, aesthetics may play a vital role in the satisfactory level and also provide valuable information for the prediction of satisfactory outcome of the complete denture treatment (Bhat *et al.*, 2014; Bekiroglu *et al.*, 2012).

Phonetics is the complex phenomenon and the fundamental feature of the well defined prosthesis to restore proper function and aesthetics, hence loss of one or more teeth can create the alteration in phonetics and speech problems and those spaces of the tooth loss created can be closed by tongue, lips and cheeks (Giovannati *et al.*, 2001). Biological and physiological changes compromised oral anatomy, minimal adaptive capacity, patient systemically compromised, long term medications, all these factors will affect the denture retention and stability (Hummel *et al.*, 2002).

Ageing always has some limitations and elderly people suffer mostly with physical, psychological and lot of intellectual problems, hence it looks like the elderly people are more likely to wear the complete dentures (Bhat *et al.*, 2014; Bekiroglu *et al.*, 2012; Khan *et al.*, 2015). Patient satisfaction with complete dentures seems to be a complex socio-cultural issue related to numerous factors, and there is abundant research on this topic currently, However this research seems to be in a developmental phase and must collect the data related to the information of satisfaction level in statistical analysis (Marchini, 2014; Strassburger *et al.*, 2004; Strassburger and Kerschbaum, 2006; Thomason *et al.*, 2007).

MATERIALS AND METHODS

Participants

This cross sectional study was designed to determine the patient satisfactory level of wearing a mandibular complete denture both men and women. A retrospective study of 66 edentulous subjects who received complete denture prostheses already were been selected randomly from the university of saveetha dental college hospital from March to May month of 2015. Under parameter one, according to gender the sample was divided into two subgroups -first consisting of 28 males and second consisting of 38 females and under parameter two, according to the maxillary jaw and mandibular jaw eleven questions are framed out. This study doesn't involve the patients with the implant retained complete denture prostheses; patient with the complete denture prostheses made elsewhere outside the saveetha dental college hospital; patients having mental or psychological problems; patients having oral disorders, patients wearing FPD, patients wearing complete denture more than three months.

Methodology

The main outcome measures of the questionnaire were as follows--> Demographics -age and gender; Details of the dentures- presence and type of dentures, about the chewing ability, chewing comfort, oral hygiene, denture brushing, denture retention level, food lodgment between the tissues and denture, speech difficulties, patients usage comfort, improvement level after usage, cleanliness, satisfaction and dissatisfaction level of the patients already wearing complete denture; Problems: usage, eating, communication, aesthetic, psychological; Satisfaction with dentures/implants. sequel of the patient wearing complete denture: must be recorded and few can be listed as loss of retention, denture stomatitis, epulis fissuratum, ulceration, loss or fracture of artificial teeth, denture base fracture, poor occlusion incorrect extension or contours of the dentures particularly in the posterior area of palate and retromylohyoid space and under extended denture borders.

Data analysis

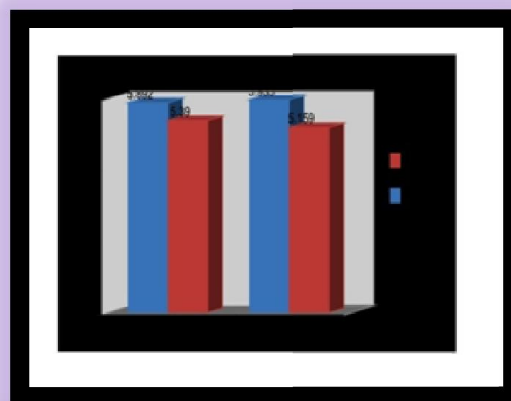
The data of the 66 edentulous patients satisfactory level of wearing complete denture has been tabulated and the descriptive statistics were formulated and expressed as Parameter 1, Parameter 2; the parameter 1 reveals out the bar chart of the mean value between male and female patients; parameter 2 reveals out the bar chart of the mean value for the eleven questions enquired by the operator to their patients tells you the difference between the mean value of the complete

denture in maxilla and mandible. The resulting data were entered into statistical software program of statistical package for the social sciences of version 16.0 which was commonly used to sort out the statistical analysis. A cumulative total mean value and standard deviation for the selected few subjects has been statistically analysed by ANOVA software. Significant level was set at $p < 0.005$

RESULTS

Among the total population of 66 samples, 28 samples were female and 38 samples were male. P-Values less than 0.005 are highly significant and the values more between 0.005 and 0.05 comes under the category of significant and those values which is above 0.5 are non-significant. Under parameter 1, P-VALUES are not statistically insignificant and the Significant P-VALUES are at the range of 0.008 and 0.004.

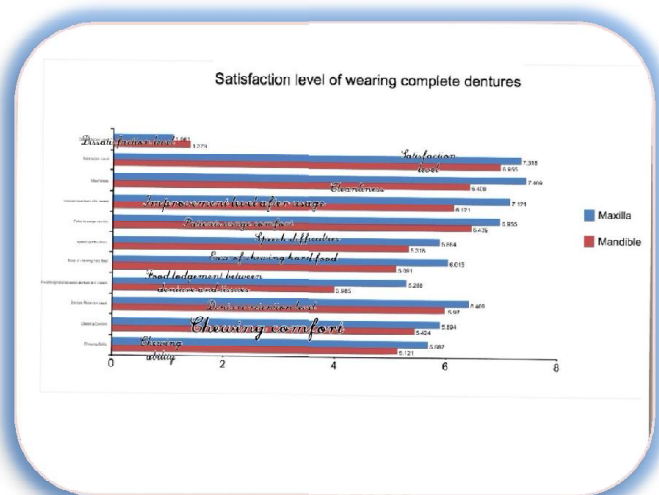
Parameter 1



Blue represents male; Red represents female

Graph 1. Relates the mean value of the maxilla and mandible between male and female patients and represented in a bar chart

Parameter 2



Graph 2. Represents the mean value of eleven following questions between maxilla and mandible

P-value for parameter 1

Table 1. This tabular column represents the mean value, standard deviation, number of patients, L-value, P-value and the SIGNIFICANT level of the maxilla and mandible between male and female under parameter 1

Gender	Group	n	Mean	S.D	L-Value	P-Value	significant
Male	I - Maxilla	38	5.892	0.449	7.379	0.008	S
	II - Mandible		5.39	5.39			
Female	I - Maxilla	28	5.935	0.535	8.926	0.004	S
	II - Mandible		5.159	1.266			

P-value for parameter 2

Table 2. This tabular column represents the mean values, standard deviation, L-value, P-value and significant level of the following eleven questions between maxilla and mandible

Observation	Group	n	Mean		S.D		L-Value	P-Value	signific.
			I - Maxilla	II - Mandible	I - Maxilla	II - Mandible			
Chewing Ability	I - Maxilla II - Mandible	66	5.682	5.121	2.016	2.471	2.042	0.155	NS
Chewing Comfort	I - Maxilla II - Mandible	66	5.894	5.424	1.841	2.083	1.886	0.172	NS
Denture Retention Level	I - Maxilla II - Mandible	66	6.409	5.97	1.771	2.239	1.561	0.214	NS
Food lodgment between denture and tissues	I - Maxilla II - Mandible	66	5.288	3.985	2.345	2.277	10.488	0.002	significant
Ease of chewing hard food	I - Maxilla II - Mandible	66	6.015	5.091	1.941	2.397	5.923	0.016	significant
Speech (Difficulties)	I - Maxilla II - Mandible	66	5.864	5.318	2.155	2.500	1.806	0.181	NS
Patients usage comfort	I - Maxilla II - Mandible	66	6.955	6.439	1.793	2.380	1.979	0.162	NS
Improvement level after usage	I - Maxilla II - Mandible	66	7.121	6.121	1.750	2.159	8.545	0.004	significant
Cleanliness	I - Maxilla II - Mandible	66	7.409	6.409	1.709	2.205	8.840	0.004	significant
Satisfaction Level	I - Maxilla II - Mandible	66	7.318	6.955	2.106	2.697	0.743	0.390	NS
Satisfaction Level	I - Maxilla II - Mandible	66	1.061	1.379	1.999	1.699	0.970	0.327	NS

Under parameter 2, P-VALUES statistically insignificant with the value at 0.155,0.172,0.214,0.181,0.162,0.390,0.327 and Significant P-VALUES at the range of 0.002,0.016,0.004, 0.004.

DISCUSSION

Patient-dentist relationship reveals out the treatment outcome and psychological assessment in patients receiving complete denture, many factors combined together to achieve his/ her satisfaction; patient dentist relationship after the treatment does not gets completed (Marinus, 1990). The incidence of insufficient retention or instability of mandibular complete dentures increases with time due to the influence of accelerated residual bone resorption, and decreased chewing ability is the main complaint reported by patients (van Waas, 1990; van Waas, 1990).

Also, in comparison to males this study reveals that males have the P -VALUE 0.008 while females have the P-VALUE 0.004. This diiference in the P-VALUE is due to the reasons of females had more significant residual ridge resorption and due to the menopausal changes in females would lead to the systemic factors of burning mouth syndrome. The dental and oral effects of osteoporosis tend to affect more women than man. This holds true for women who are already on their menopausal phase, unless they regularly use a therapy designed to replace lost hormones and balance them. It should also be noted that even if someone has no teeth and does not wear dentures, the effects of osteoporosis can still affect dental and oral health. Bone weakness and loss may also affect the body ridges that hold dentures in the proper position, resulting in poor-fitting dentures²².

Conclusion

Patient-centered approaches to the assessment of treatment efficacy are highly relevant to today's clinical/hospital practices. The success of the clinician depends on the current practices and constant improvement of the patient satisfactory level and quality of life of the patients. This study shows elderly female patients who are edentulous are more dissatisfied of lower complete denture over male counterparts. Also this study reveals both male and female patients were satisfied in terms of ease of chewing food, constant improvement of denture function. In both the genders, the constant dissatisfaction level and also statistically significant aspect was food lodgement between the denture and the tissues in the lower denture compared to the upper denture. This questionnaire reveals the disadvantage of mandibular complete denture and clinician would need to develop a new approach in constructing a lower complete denture in achieving the satisfactory level of the patients.

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