



Comprehensive Assessment of attitude towards complete Denture Cleanliness habits among edentulous populace; an original study

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ABSTRACT

This study was conducted to assess the denture hygiene attitude in denture wearers in dental institution. Total 50 completely edentulous subjects were selected for this study. Including criteria included institutionalized patients with no gross anomaly associated with jaws. Exclusion criteria included patients who got their denture fabricated outside of the institute. Both male and female patients were included in the study. Response evaluation was done by questionnaire exercise. The questionnaire has total 7 questions about denture hygiene. All additional rights of the patients were conserved and respected. The resultant data was sent for suitable statistical tests to obtain p values, mean and other statistical parameters. P values less than 0.05 was considered as significant. Age range 56-60 has 11 male and 5 female subjects. P value was 0.01 (highly significant). Age range >60 has 3 male and 1 female subjects. P value was 0.50 (non-significant). The calculated p value was highly significant (0.001) for ANOVA test. P value was highly significant for 1. Condition of Prosthesis 2. Night habit wearing of denture 3. Cleaning by commercial cleansing aids. Within the limitation of the study, authors concluded that all studied denture wearers has poor denture hygiene attitude and they needs to be motivated and counseled about the importance of denture hygiene.

Keywords: Denture Hygiene, Complete Denture, Prosthodontics, Questionnaire

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INTRODUCTION

Literature has well shown that denture hygiene maintenance is highly imperative since it is directly related to the overall systemic health[1]. Candida species are the most common species that grow over the surface of intraoral prosthesis. They usually form colonies on the tissue surfaces of the complete denture[2]. These deleterious events eventually lead to several denture related problems including denture sore mouth and burning mouth syndrome[3]. Poor denture hygiene also possess related clinical dilemmas like bad breath, discoloration of the teeth, inflammation of oral mucous membrane and denture loosening due to bone losses. It is therefore very significant to maintain denture hygiene since it is harmful for oral as well as systemic health[4-5]. Literature has also demonstrated that completely edentulous subjects are usually less attentive towards their oral health and denture hygiene[6-7]. This literally necessitates the clinical usage of commercial denture cleanser. However all denture wearers must be educated first about household self cleansing methods before going for cleansers. This study was conducted to assess the denture hygiene attitude in denture wearers in dental institution.

MATERIAL AND METHODS

This study was solely planned and performed in the department of Prosthodontics of the institute. The study design was firstly cleared from the ethical committee of the institute. Total 50 completely edentulous subjects were screened in the last 4 months. Only existing denture wearers were included in the study for which dentures were fabricated in the institute in the past one year. Both male and female patients were included in the study. Authors explained about the study to all participants and informed consent was taken accordingly. The patients were contacted by phone call and asked to participate in the study. A questionnaire was utilized to collect the required data. Demographic details were also recorded in detail. The questionnaire has total 7 questions about denture hygiene. Literature has well shown that questionnaire based studies are very useful in collecting data for public perception. All other rights of the

patients were preserved and respected. The resultant data was sent for suitable statistical tests to obtain p values, mean and other statistical parameters. P values less than 0.05 was considered as significant.

RESULTS

Statistical analysis was conducted by SPSS software (USA) version 22. All participants were grouped into 4 age groups. Table 1 shows about age & gender wise allocation of patients. Age range 45-50 has 5 male and 5 female subjects. P value was 0.08. Age range 51-55 has 13 male and 7 female subjects. P value was 0.20. Age range 56-60 has 11 male and 5 female subjects. P value was 0.01 (highly significant). Age range >60 has 3 male and 1 female subjects. P value was 0.50 (non-significant). Table 2 illustrate about patients distribution according to age groups (evaluation of level of significance using ANOVA test). The calculated p value was highly significant (0.001). Table 3 demonstrates about questionnaire responses from studied complete denture patients. Many parameters were evaluated including Duration of Denture Wearing, Condition of Prosthesis, Night habit wearing of denture, Self Cleaning by household means, Cleaning by commercial cleansing aids, Frequency of denture cleaning per day, Prior Awareness about Denture hygiene. Table 4 demonstrates about essential statistical description with level of significance evaluation using Pearson Chi-Square Test. P value was highly significant for 1)condition of prosthesis 2) night habit wearing of denture 3) cleaning by commercial cleansing aids. Complete edentulous state is considered as most debilitating for the chewing physiology. For the same, affected people usually receive rehabilitation in the form of complete denture. Though, complete dentures have been used by the people since several decades, there are few clinical challenges associate with it.

Table 1: Age & gender wise allocation of patients

Age Group (Yrs)	Male	Female	Total	%	P value
45-50	5	5	10	20%	0.08
51-55	13	7	20	40%	0.20
56-60	11	5	16	32%	0.01*
>60	3	1	4	8%	0.50
Total	32	18	50	100%	*Significant
*p<0.05 significant					

Table 2: Patients distribution according to age groups

Patients distribution according to age groups					
Age Group	Age Range	n	Mean	SD	P value
I	45-50 Yrs	10	2.54	1.450	0.001* *p<0.05 (sig)
II	51-55 Yrs	20	2.23	1.540	
III	56-60 Yrs	16	2.67	2.174	
IV	>60 Yrs	4	2.23	2.165	

Table 3: Questionnaire responses from studied complete denture patients

Sr No.	Questions	Options
1	Duration of Denture Wearing	<1 year >1 year
2	Condition of Prosthesis	Good Fair Poor
3	Night habit wearing of denture	No Yes
4	Self Cleaning by household means	No Yes
5	Cleaning by commercial cleansing aids	No Yes
6	Frequency of denture cleaning per day	1 >1
7	Prior Awareness about the importance of Denture hygiene	No Yes

Table 4: Basic statistical description with level of significance evaluation -Chi-Square Test

Ques. No.	Mean	Std. Deviation	Std. Error	95% CI	Pearson Chi-Square Value	df	Level of Significance (p value)
1	2.89	0.659	0.899	1.78	2.643	1.0	0.32
2	2.76	0.264	0.893	1.96	2.242	2.0	0.010*
3	2.76	1.909	0.568	1.84	2.678	1.0	0.040*
4	2.34	0.434	0.035	1.96	1.556	1.0	0.040
5	2.23	0.276	0.025	1.68	2.123	2.0	0.001*
6	1.67	0.657	0.029	1.96	2.456	1.0	0.435
7	1.38	0.132	0.016	1.96	1.231	1.0	0.341
*p<0.05 significant							

DISCUSSION

Maintenance of optimal oral hygiene is one of the greatest challenges that most of the researchers had pointed out. The complete edentulous state is associated with poor awareness and illiteracy. Therefore it is very commonly seen in the people with low socio economic backgrounds. Currently, there are several commercial methods to maintain denture hygiene. However, very low fraction of people actually uses it owing to lack of awareness and motivation. Dills and associated did a study in which they related antibiotic efficiency of an abrasive paste and commercial denture cleaners[8]. The results were in favor of the use of denture cleanser. Backenstose showed bad consequences of commercial cleansers on the dentures[9] Kastner studied in detail about chemical denture cleaners on the elasticity of cast retainers[10]. Dwivedi also conducted the study on complete denture hygiene as pertinent to lockdown period in India [11] Their results were in accordance with our study's results. Bacali and associated conducted the similar study in Transylvania, Romania[12] Turgut Cankaya also explored the real relation between denture hygiene and oral cleanliness patterns, oral hygiene awareness[13] Kosuru studied in detail about methods and implementation of the denture cleansers for effective cleaning of the edentulous[14]

CONCLUSION

Within the limitation of the study, authors concluded very interesting facts about institutionalized completely edentulous patients. They find that all studied denture wearers has poor denture hygiene outlook and they need to be motivated and counseled about the significance of denture cleanliness. However these inferences may not be generalized to all denture wearers of the nearby vicinity.

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