

Original Research

Intricate assessment of Complete Denture Hygiene Habits among complete Denture wearers in Northern Indian region: An original study

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ABSTRACT

Background & Aim: Quality of life and general health could improve through good oral health. An essential component for good oral health for denture patient is having effective and regular denture hygiene. Hence, it is important for the dental care teams to provide those patient proper denture hygiene instructions. The prime aim of this paper is to estimate the denture hygiene viewpoint in complete denture patients. **Materials and Methods:** A total of 100 complete denture wearing patients were studied. The patients were selected in the age range of 45-70 years. The study processes were explained to the patients prior to the starting of the study. All interested complete denture patients were included in the study. We also conducted a little demographic recording of the patients that includes data on gender, age, length of prosthesis utilize, cleaning strategies and materials, and so on. **Statistical Analysis and Results:** Fundamental statistical analysis was completed using SPSS statistical package for the Social Sciences version 21 for Windows. Only 58% of the patients reported that they use to clean their dentures every day once. The general hygienic condition of the complete denture was found to be good in 57 patients while it was fair and poor in 28 and 15 patients respectively. About 49 patients reported that they do not wear the denture overnight however, 38 patients admitted that they use to wear it overnight. This shows the relative unawareness of these aids in the studied population. **Conclusion:** The overall denture hygiene attitude in the studied complete denture patients was poor. The probable and attributable causes might be unequal cleansing habits and additionally low awareness about newer and advanced denture cleansing solutions.

Key words: Denture Hygiene, Complete Denture, Habits, Denture Cleansers.

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INTRODUCTION

Quality of life and general health could improve through good oral health. An essential component for good oral health for denture patient is having effective and regular denture hygiene. Hence, it is important for the dental care teams to provide those patient proper denture hygiene instructions.¹⁻³ Most widespread mechanism used to attain oral hygiene in the present day is the "toothbrush." It is the most effective way of mechanical plaque control.

Mechanical tooth cleaning by means of a toothbrush is considered the most common ways of distressing dental plaque development. In spite of numerous developments in preventive and restorative dentistry, general difficulties of aging populations are still the huge number of edentulous people.⁴⁻⁶ This is attributed to the higher prevalence of periodontal disease and caries. Over the past few decades, the life expectancy in both developing and developed countries has increased. Correspondingly,

the proportion of the elderly among the total population has also increased. There are 600 million people aged 60 years and above, and this number will double by 2025. By the year 2050, there will be 2 billion people and 80% of them aged 60 years and above living in developing countries.⁷⁻⁸ Food particles those indulged between the denture and the gingiva or between the denture and the palate let reproduction of *Candida* species and bacteria. Such activities can later on result into denture stomatitis. It is also very crucial that patients do not overlook the daily habit and routine of cleaning of their dentures. This is because poor hygiene may lead to halitosis, staining of the dentures and acrylic teeth, irritation to tissues, calculus deposition on teeth as well as yeast infections of the oral cavity. Tooth loss in adult population increases with age as does the additive factors leading to this over time. For this reason, the rates of complete tooth loss are customarily the highest in the oldest age groups. Despite several efforts by dentists aimed at conservation of teeth, a considerable number of patients still lose their teeth to dental caries, periodontal diseases, tooth wear lesions, trauma, and tumors of the jaws.⁹⁻¹² The number of individuals requiring dentures has increased with the aging population. Complete dentures are the most common treatment for total loss of teeth in a dental arch. Similarly, the most common teeth replacement for partial loss of tooth is removable partial denture. The aim of this paper is to evaluate the denture hygiene outlook in studied complete denture patients.

MATERIALS AND METHODS

This study was conducted on 100 completely edentulous patients with age 45-70 years reporting to department of Prosthodontics of the institute. Author has screened and selected total 100 complete denture patients from the regular OPD of department. A small survey was made and provided to the patients for completing them. Out of total 100 patients, 55 patients were male and 45 were female. All participating patients were explained in detail about our intended study and written consent was also obtained. The study design has statistic data, for example,

age, sex, time of wearing, and other inquiries to estimate the denture hygiene attitude, regularity of cleaning and method of cleaning. Literature has well evidenced that survey based studies are very useful in obtaining comprehensive information about individual and group perceptions and attitudes. In addition, such studies also offer a wider range of information with enhanced transparency. Immediately before the starting of the study, author had explained the comparative importance of this study to all participating patients. The privacy and other interrelated rights of the patients along with their freedom of expression were kept absolutely confidential. The recorded data was subjected to suitable statistical tests to obtain p values, mean and other statistical parameters. P values less than 0.05 was considered as significant

STATISTICAL ANALYSIS AND RESULTS

All the obtained data were arranged and subjected to suitable statistical analysis using SPSS statistical package for the Social Sciences version 21 for Windows. Roughly 71% of the patients have the same opinion that they do not remember the verbal and written instructions for denture hygiene at the time of delivery of complete dentures by their dentists. Only 29% remember that they were received denture hygiene instructions. Out of the total sample size of 100 subjects who participated in the study, 28 belonged to the age group of 45-54 years, 22 subjects were of 55-64 years of age, 30 were 65-70 years of age and 20 patients were more than 70 years of age. P value was reported to be significant for it. In general it had 55 male and 45 female subjects. On the whole, 61% patients cleaned their dentures almost once a day and 17% people does it seldom (refer Table 1-3 & Graph 1). The general hygienic condition of the complete denture was found to be good in 57 patients while it was fair and poor in 28 and 15 patients respectively. About 49 patients reported that they do not wear the denture overnight however, 38 patients admitted that they use to wear it overnight. This shows the relative unawareness of these aids in the studied population.

Table 1: Patients allocation as per gender (Statistical Evaluation using Student's t-test)

Sex	Number [n]	Mean	SD	P value
Male	55	3.34	1.564	0.879
Female	45	4.54	1.237	

*p<0.05 significant

Table 2: Patients distribution according to age groups: Evaluation of level of significance using ANOVA test

Patients distribution according to age groups					
Group	Age Range	n	Mean	SD	P value
I	45-54 Yrs	28	2.32	1.589	0.001*
II	55-64 Yrs	22	2.78	1.244	
III	65-70 Yrs	30	2.59	2.567	
IV	>70 Yrs	20	2.65	2.987	

*p<0.05 significant

Graph 1: Frequency of denture cleaning

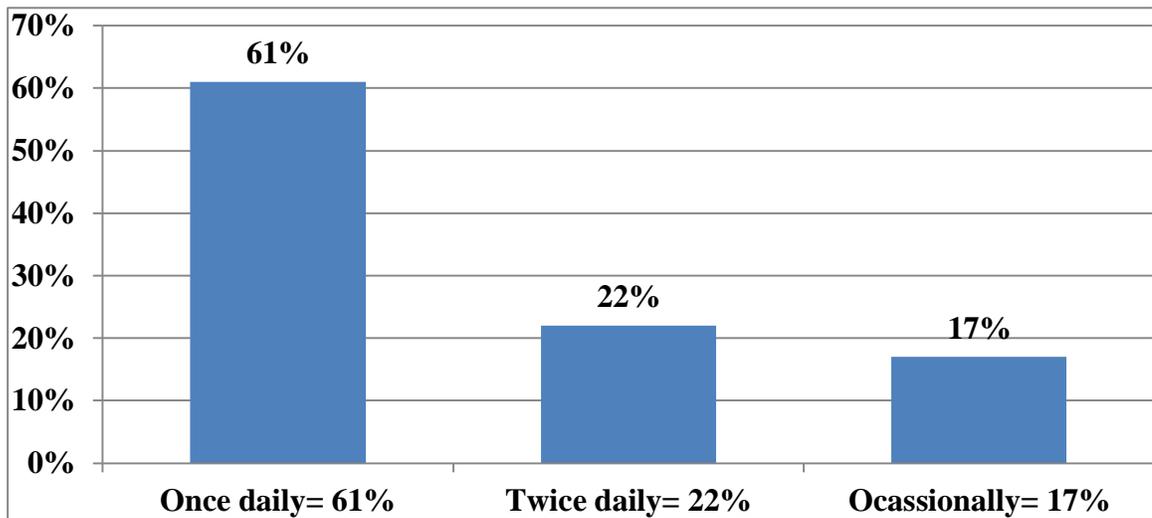


Table 3: Demographic details of studied complete denture patients

Variable Sr No.	Variable	Number [n]
1	Age	
	45-54	28
	55-64	22
	65-70	30
	>70	20
2	Gender	
	Male	55
	Female	45
3	Duration of Denture Wearing	
	<1 year	20
	1-4 year	23
	5-9 year	18
	10-15 years	18
	>15 years	21
4	Condition of denture	
	Good	57
	Fair	28
	Poor	15
5	Overnight denture wearing habit	
	No	49
	Does it	38
	Remove sometimes	13
6	Relevant Medical history	
	Present	34
	Absent	66
7	Method of Denture cleaning	
	No	12
	Brushing & water	72
	Brushing only	10
	Denture cleansing solutions	4
	Newer cleansing aids	2
8	Frequency of denture cleaning	
	Once	61
	Twice	22
	Occasionally	17

DISCUSSION

Rehabilitative treatment with its main objective of establishing functionality should be rendered to these individuals. This can be accomplished with the help of conventional dentures. Conventional dentures are the most common alternative in restoration of lost teeth enabling individuals in improving oral function, enhancing phonetics, facilitating social engagement, and in leading an aesthetically acceptable life.¹³⁻¹⁶ Immediately after edentulous patients receive dentures, the important phase of oral and denture aftercare begins. Correct denture usage and care are of great importance not only for aesthetic and functional reasons but also for the maintenance of health of the supporting tissues and appropriate conservation of the prosthesis itself. Cleansing and disinfecting dentures are essential for the maintenance of oral soft tissue health and successful use of removable dentures. It helps in the prevention of undesirable circumstances such as denture stomatitis and halitosis.¹⁷⁻¹⁸ Denture-induced stomatitis is the most common fungal infection in elderly patients wearing dentures. Inappropriate habit of wearing complete dentures at night and poor cleaning have proved to be closely associated with the prevalence of denture-related stomatitis. For healthy maintenance of dentures, and thereby oral tissues, cleansing and disinfection of dentures plays a vital role since there is development of biofilm and plaque on their surface similar to natural teeth.¹⁹⁻²¹ In this study, most participants (82.5%) reported cleaning their dentures once a day, irrespective of the method used. However, this was not reflected in the clinical examination of dentures as 52.7% of the dentures were rated as having poor hygiene. This finding could be due to different methods of cleansing the dentures or due to the over-response of the participants to be socially desirable. The percentage of participants who reportedly clean their dentures once daily was more in the present study (82.5%) when compared with the studies conducted by most of the researchers. The difference in oral hygiene habits and attitudes may be related to number of factors, such as education, gender, social status, or age. The need for geriatric oral health care will increase several fold in the coming years. The success of oral health care of the elderly is determined by various factors, such as physical, mental, socioeconomic, and family background of the elderly, their chronic illnesses and drug treatment, and age-related disabilities. There is a need for a separate specialization in the care of elderly. Hence, the need for geriatric dentistry arises. Lately, it has been recognized that wearing a complete denture all the time result in more accumulation of plaque when compared with only wearing it through the day time.²²⁻²⁶ An essential treatment options in Prosthodontics is complete dentures, however, patients might be disappointed from newly made dentures, specially, if a deficiency occurred in maintaining proper denture

hygiene. In recent studies, researches have made their primal focus on the attitude of denture's wearers and made their practices on the denture cleanness. yet researchers should have been concentrating on the dentist's attitude and practices towards the education of patients during the time of denture's delivery.

CONCLUSION

Within the limitations of the study, the authors concluded that the overall denture hygiene attitude in the studied complete denture patients was poor. The probable and attributable causes might be unequal cleansing habits and additionally low awareness about newer and advanced denture cleansing solutions. Hygiene habits and practices may not always present a positive correlation with the gender, educational level, and income of the subjects. These approaches will not only improve the efficiency of cleaning but also boost up the durability and shelf life of the denture. Additionally, health care professionals must also develop a habit of counseling the complete denture patients in these perspectives.

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