

ORIGINAL ARTICLE

Denture Hygiene Habits among Elderly Patients Wearing Complete Dentures

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ABSTRACT

Aim: To determine the denture cleaning routine and habits in complete denture wearers according to cleaning frequency, patient age and life of dentures.

Methods: In this cross-sectional study, a self-administered questionnaire was designed to learn about patient's attitudes toward denture cleanliness in the Prosthodontics department. A detailed questionnaire was applied for total 130 patients visiting the Department of Prosthodontics in the Rehmat memorial postgraduate hospital Abbottabad for follow-up care. Data was recorded and analysed by using SPSS version 15.0 for results.

Results: Total 130 participants including 90 males (69.3%) and 40 females (30.7%). 48.6% of participants clean their dentures every day, 32.9% once a week, and 18.5 % only occasionally. The highest percentage is seen in Group 1, which is 41.2%. Approximately 77% of Group 2 participants clean their dentures at least once a week, including both daily and once-a-week denture wearers. 71 individuals had been wearing dentures for 3-5 years. 41.2% of them clean their dentures every day, while 58.6 percent clean them twice a week. 6-8 years denture wearers do not clean them on a regular basis. Most patients 42% use only water, while 30% use a combination of water and a toothbrush. Around 20% of participants used soap and water, but only 8% of denture wearers utilised cleansing tablets in addition to water. There was significant difference among all groups ($P=0.001$).

Conclusion: In this study it has been observed that full denture patients have trouble cleansing their dentures. A lack of regular cleaning practises and decreased use of cleaning solutions is the primary cause of poor denture hygiene among the seniors. Dentists should educate patients regarding optimal denture maintenance and materials used for cleaning verbally and in written form.

Keywords: Denture Complete Denture hygiene, cleansing Habits, Denture cleaning solution.

INTRODUCTION

Recently, there has been increased interest in the oral health of the old age, owing to the expanding global population of the old because of a rise in life expectancy. Old-age dental care has increased in importance since oral tissue changes have been linked to numerous diseases¹.

Motivation and awareness of prosthetic care are essential to the effectiveness of rehabilitation treatment. Denture fitting surface play vital role along with occlusal relations, age of denture, and cleanliness all have a role in the incidence of oral mucosal ulcers².

Prevention is a critical factor of dental care and includes regular oral hygiene. All Patients, including denture wearers, must keep their edentulous oral cavity clean to avoid lesions³. Denture hygiene habits have been found to be inadequate amongst elderly. This may be due to decreasing manual abilities due to advanced age⁴.

Despite several advancements in preventative and curative dentistry, a persistent concern in ageing populations is the high rate of edentulism, which is related to an increasing incidence of periodontal disease and caries. The most frequent therapy for total loss recovery is complete dentures. Rehabilitative treatment works best when patients understand proper prosthesis use and cleanliness⁵.

It is essential for a patient to maintain denture hygiene to avoid oral mucosal infections. One of most vital part is to proper cleansing of food remnants from denture as they can remain hidden between mucosa and denture and can cause bacterial growth⁶. Additionally, these bacteria may spread infection along pulmonary track and GIT. To eliminate this risk, it is critical to clean denture properly and disinfect in solution and clean the denture using brush to avoid damage to oral tissues⁷.

However, it's been observed in this study that full denture patients have trouble cleansing their dentures^{8,9} thus initiatives that promote dental health have been helpful. Most old age patients could not attend dental professional for regular maintenance and management of their dentures, and they do so only when it is very necessary¹⁰. Therefore, dentists must assist their patients in correctly cleaning their dentures and in finding the right materials to use.

Instructions for washing dentures and mouth after meals should be given. Denture cleaners and brushes should be used to clean the mucosal surfaces of the ridges and the dorsal surface of the tongue daily. Denture wearers, on the other hand, tend to neglect oral hygiene. This might be attributed to deteriorating manual ability because of senior age. Therefore, this cross-sectional study was undertaken to explore the oral hygiene practises of denture users of advanced age.

METHODOLOGY

Inclusion Criteria: Patient got prosthesis from Prosthetics department of Rehmat Memorial Postgraduate Hospital Abbottabad

Patients wearing full or one set of complete dentures.

Patients with an age range starts from 50-70or above years.

Exclusion Criteria:

Patients with any psychological disease:

Patients with TMJ disorders

Patients having other type of prosthesis like implant or overdenture Patients who have been using adhesive pasts, or other products

Data Collection Procedure: Research protocol was explained, and written consent of the patient was taken after. A detailed performa was used to record demographic detail of patient including age, sex, level of education

Data Analysis Procedure: SPSS version 15 was used to evaluate quantitative data. Data was presented using descriptive statistics.

Received on 24-04-2021

Accepted on 03-10-2021

Chi square analyses were employed to discover relationships. The mean and standard deviation were obtained for age and p-value was calculated.

A detailed questionnaire was applied for this study to patients visiting the Department of Prosthodontics in the Rehmat memorial postgraduate hospital Abbottabad for follow-up care. The study aimed to determine the oral hygiene of participants due to denture wearing habits.

The total number of denture patients was 130. They visited Rehmat Memorial Hospital Prosthodontics Department for follow-up from 2018 to 2020. Among 130 patients, 69% were male and 31% were female. Three age groups were made, including group 1 is from 50 to 60 years of age, while group 2 is from 60 to 70 years of age and group 3 is above 70 years of age.

Following ethical approval from the Institute, a detailed questionnaire was formed. The questionnaire was then evaluated with a group of ten patients to determine its suitability and effectiveness. The respondents were informed of the survey's aim and given signed consent. The questionnaire included demographic data such as age, gender, and time of wearing, as well as questions on attitudes toward denture care, cleaning frequency, and night-time denture-wearing behaviours.

RESULTS:

The total sample size was 130 individuals, 31 of whom were in the age group 1, 64 of whom were in the age group 2, and 35 of whom were in the age group 3. Overall, 48.6% of participants clean their dentures almost daily, 32.9 % once a week, and 18.5 % only occasionally or infrequently (Graph 1).

Table 1 demonstrates that individuals in age groups 1 and 2, who are between the ages of 50 and 70, maintain denture hygiene at least once a week. There was a higher percentage of daily denture cleaning habits in group 1. The highest percentage is seen in Group 1, which is 41.2%. Approximately 77% of Group 2

participants clean their dentures once a week, including daily and once-a-week denture wearers. Of participants in group 3, which are mostly 70+ years old, 58.2% occasionally clean their dentures ($p=0.001$). Seventy one individuals had been wearing dentures for 3-5 years, according to denture age. 41.2 percent of them clean their dentures every day, while 58.6 percent clean them twice a week. However, those who have been wearing dentures for 6-8 years do not maintain denture care and clean them on a regular basis. Statistical analysis shows significant p-value for old denture wearers.(Table 2).

According to the method of maintaining denture cleanliness, most patients (42 percent) use only water, while 30% use a combination of water and a toothbrush. Around 20% of participants used soap and water, but only 8% of denture wearers utilised cleansing tablets in addition to water (Graph 2).



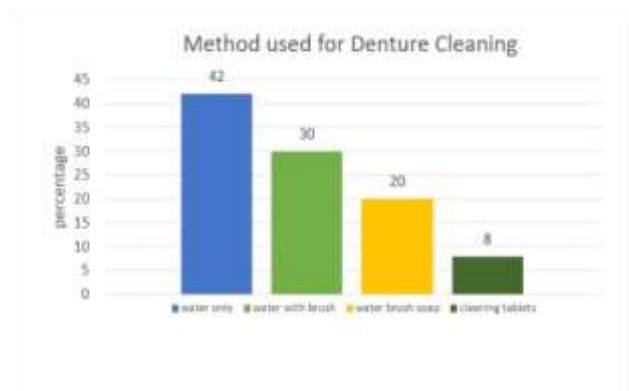
Graph 1. Denture cleaning frequency

Table 1: Age groups and their frequency of denture cleaning per day

Groups	Age	Total Patients	Once Daily	Twice in a Week	Not Often	Total%	P-Value
Group 1	50-60	31	41.2%	23.9%	7.5%	24	0.000
Group 2	60-70	64	39.6%	37.3%	34.9%	49	0.000
Group 3	>70	35	19.2%	38.8%	57.6%	27	0.001

Table 2: Frequency of denture cleansing by age of the dentures

Age of Denture	Total Patients	Once Daily	Twice in a Week	Not Often	Total	p-Value
30		26.1%	29.3%	4.8%	23.1	0.000
3-5 years	71	41.2%	58.6%	37%	54.6	0.000
6-8 years	29	32.7%	13.1%	58.2%	22.3	0.001



Graph 2. Method used for denture cleansing

DISCUSSION

In the present study, 42% of participants use water for cleaning their dentures, and the outcomes were lower than those reported by Apratim et al, but lower than those recorded by Patel et al^{2,11}. It

has been shown that people in the 60-70year age group clean their dentures more consistently. Approximately 70% of the respondents clean their dentures at least once a week when combined with everyday cleaners.

In our research group, the brush with water use rate is %, a significant increase above that of Patel et al². Polyzois observed an 86% prevalence in Australia due to hygiene education being less common in the Indian community. Likewise, Coelho and colleagues (2004) in Brazil reported similar improved findings in their studies.¹²

This may be attributed to the population's lack of information and awareness. Whereas 23.2 % maintain denture hygiene using soap as well along with water and brush, and these findings are comparable to those of the Patel et al study², it was discovered that 8 % keep their dentures in cleaning solutions, which contrasted with Barbosa et al in 2008¹⁰ and Patel et al in 2012. The reason for this might be due to the high cost and negative side effects of bleaching^{13,14}.

According to some researchers, use of brush with toothpaste may damage denture surfaces and make it rougher, promoting the build-up of dental plaque and diminishing the shine of denture surfaces¹⁵. Additionally, brushing without toothpaste is ineffective in removing bacteria that inhabit resinous materials¹⁶. Cleaning

dentures is best achieved by brushing and soaking in cleaning solutions¹⁷.

Around 48.6 % of the study participants answered that they clean their dentures once a day, which was comparable to the findings of Ozcan et al¹⁸ who reported that 45.7 percent of the patients clean their dentures once a day. Many studies, however, have found a greater frequency of cleaning, such as Peracini et al¹⁹ who found that 73.58 percent of patients washed their dentures 3 times per day, and Pietrokovski et al²⁰ who found that 96 percent of patients cleaned their dentures 2 times each day.

Cleaning frequency was also shown to be important in relation to denture age. Older dentures, however, were shown to be cleaned less frequently. According to this survey, 58.2% of denture wearers clean their dentures on a very rare basis in comparison to new denture wearers. Similar findings were reported by Apratim et al¹¹ and Manderson et al⁶.

Improper denture hygiene results in a variety of oral mucosal diseases linked with removable dentures. This may be a short-term or long-term reaction to oral bacteria, a reaction to the materials in the denture foundation, or mechanical denture damage.

CONCLUSION

A correlation was established between denture hygiene and gender, education level, the amount of time dentures is worn each day, and whether dentures are immersed overnight. Most dentures are cleaned using toothbrushes. Those with poor denture hygiene are more likely to have dental problems.

Conflict of interest: Nil

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