

# DENTURE HYGIENE HABITS AMONG ELDERLY PATIENTS

<sup>1</sup>HAIDER ALI

<sup>2</sup>SHAWANA

<sup>3</sup>SAMIA RAHMAN

<sup>4</sup>ALI KHALID

<sup>5</sup>ALI HASSAN

## ABSTRACT

*The objective of this study was to determine the denture hygiene habits of complete denture wearer patients reporting to department of Prosthodontics, Khyber College of Dentistry, Peshawar.*

*This cross-sectional study consisted of 50 edentulous patients using removable complete denture for more than 6 months, age ranged 45-75 years. Fixed partial denture wearers, implant supported denture wearers, over-dentures, and handicapped patients were excluded from the study. A detailed history and examination was done. Questions were asked regarding the denture hygiene habits through the pre-structured questionnaire. Data were analyzed by using SPSS for Windows version 20.0. Descriptive statistics were calculated for age, gender and denture hygiene habits. Chi-square ( $\chi^2$ ) test was applied for comparison of denture hygiene habits between males and females at  $P < 0.05$  level of significant.*

*In this study 31(62%) were males and 19 (38%) were females. The age range was from 45 to 75 years, the most common age group was 51-60 years (44%). The frequency of denture hygiene in this edentulous sample showed that 30% patients cleaned their removable complete denture daily, 40% twice in a week, 20% once a week and 10% occasionally. Most of the edentulous patients cleaned their complete denture with only water (42%). Only smaller number of edentulous patients used denture cleaners(14%). Gender wise stratification showed that there was no statistically significant difference for various methods to clean their dentures. Dentists should give proper instructions regarding maintenance of denture hygiene.*

**Key Words:** Denture hygiene, elderly patients, hygiene instructions.

## INTRODUCTION

Although the prevalence of edentulousness have declined in under-developed countries but it is still an issue in developing countries.<sup>1</sup> Life expectancy has increased over the past years, and the number of elderly requiring dentures has also increased.<sup>2-4</sup> Although interest in geriatric dentistry has increased in the dental profession worldwide, comprehensive data on the oral health status and dental treatment needs of the elderly population are deficient.<sup>5,6</sup> Oral health status declines with age and as a result the need for removable prostheses increases. Oral health is a reflection of one's general health, affecting the ability of an individual to eat and speak, and contributes significantly to a

sense of confidence and well-being.<sup>7</sup> Oral healthcare is not adequately considered in most protocols outlining maintenance of personal hygiene and general health for the elderly in hospitals, long-term care units or intensive care units, and is poorly addressed by health policies aimed at the community-living elderly.<sup>8-10</sup>

Rehabilitative treatment is successful only when patients are motivated and aware of correct prosthesis use and hygiene. The quality of the denture fitting surface, occlusal relations, denture age, and hygiene are important factors contributing to the prevalence of oral mucosal lesions associated with denture use.<sup>11</sup> Rehabilitative treatment is successful only when patients are motivated and aware of correct prosthesis use and hygiene.<sup>12</sup> It is erroneously believed that attempts to educate and motivate the complete denture patients are wasted efforts, and that these patients are edentulous because they did not properly maintain their teeth and any preventive program will be poorly received.<sup>13</sup> Improperly cleaned dentures cause halitosis, poor esthetics, and inflammatory changes of oral mucosa such as denture-induced stomatitis.<sup>14</sup> Proper cleansing of complete dentures is pre-requisite for prevention of staining of dentures and the coating of dentures with

<sup>1</sup> Haider Ali, BDS, Resident FCPS-II (Prosthodontics), Khyber College of Dentistry, Peshawar University Campus **For Correspondence:** House 1456, Street-2, Zaheerabad Colony, Shahi Bagh, Charsadda Road, Peshawar  
Email: haiderali\_1500@yahoo.com Cell: 0332-5355603

<sup>2</sup> Shawana, BDS, House Officer

<sup>3,4</sup> Samia Rahman, BDS, Ali Khalid, BDS, Resident FCPS-II (Orthodontics)

<sup>5</sup> Ali Hassan, BDS, Resident FCPS-II (Oral and Maxillofacial Surgery)

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a biofilm which could damage the adjacent mucosa and cause systemic diseases.<sup>15</sup> The strong correlation between unsatisfactory cleaning and the prevalence of *Candida* had been found.<sup>12</sup> To minimize the prevalence of denture stomatitis, the dentist must instruct the patient in removing complete dentures 6 to 8 hours per day.<sup>16</sup>

Complete denture can be cleaned mechanically (brushing and ultrasonic device) and by chemical methods (alkaline peroxide and hypochlorite, acids, enzymes and disinfectants). Among these, brushing with conventional and specific dentifrices is the most common method applied for routine denture biofilm control and has been proven effective.<sup>17</sup> Soap, as an auxiliary hygiene agent, is an accessible abrasive-free product and has been claimed as effective against anaerobic microorganisms and yeasts and stains.<sup>18</sup> Studies have indicated that the combination of coconut soap with hypochlorite is an effective cleansing method.<sup>19</sup> However, randomized clinical trials regarding its effectiveness as an isolated cleansing method have not been reported.<sup>20</sup> The objective of this study was to determine the denture hygiene habits in complete denture wearers in patients reporting to Department of Prosthodontics, Khyber College of Dentistry, Peshawar.

## METHODOLOGY

This cross-sectional descriptive study was conducted at Khyber College of Dentistry, Peshawar from March 2015 to April 2016. A total of 50 edentulous patients were included in the study. Patients who had used removable complete denture for more than 6 months, age from 45-80 years, both male and females and Pakistani nationals coming for complete denture complaint or follow up were included in this study. Fixed partial denture wearers, Implant supported denture wearers, over-dentures, and Handicapped patients were excluded from the study. An informed consent was taken from the patients. They were assured of maintaining confidentiality of their personal and other data collected from their records.

A detailed history and examination was done. Terms related to study were explained to them properly. Patients wearing complete denture who used the prosthesis more 6 months were asked questions regarding the denture hygiene habits by the pre-structured questionnaire. Data were analyzed by using SPSS for Windows version 20.0. Mean and standard deviation were calculated for age. Frequencies and percentages were calculated for categorical variables like denture hygiene habits. Chi-square ( $\chi^2$ ) test was applied for comparison of denture hygiene habits between males and females at  $P < 0.05$  level of significant.

## RESULTS

In this study a total of 50 edentulous patients were included in which 31(62%) were males and 19 (38%) were females. The age range was 45 to 75 years, the most common age group was 51-60 years (44%). The age distribution is shown in Table 1. The frequency of denture hygiene in this edentulous sample shows that

30% patients cleaned their removable complete denture on daily basis, 40% twice in a week, 20% once a week and 10% occasionally. (Table 2) Most of the edentulous patients cleaned their complete denture with only water (42%). Only less number of edentulous patients used denture cleaners (14%). The details are given in Fig 1. Gender wise no statistically significant difference was noted for various methods to clean their dentures.

TABLE 1: AGE DISTRIBUTION OF PATIENTS

Age	Frequency	Percentages
45-50	9	18
51-60	22	44
61-70	16	32
71-75	3	6.0
Total	50	100.0

TABLE 2: FREQUENCY OF DENTURE CLEANSING

Pattern of denture habit	Frequency	Percentages
Daily	15	30
Twice in a week	20	40
Once in a week	10	20
Occasionally	5	10

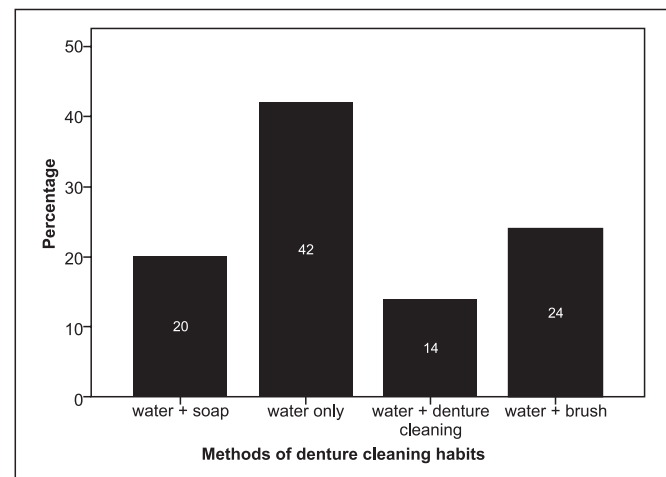


Fig 1: Methods of denture hygiene habits among elderly patients

## DISCUSSION

Care of dentures and the mucosal tissues of the edentulous mouth is important for overall health, especially in older persons. Moreover, there may be greater social consequences of mouth malodor due to unclean oral prosthesis for someone whose dietary intake is strongly linked to socialization, such as an older person who attends a senior activities center for meals. Unclean dentures causing or contributing to oral mucosal disease and/or impairment in eating, therefore, may have a more profound effect on a frail elder than on a younger, healthier person. The present study though consist of a small sample of only 50 patients but entails edentulous patients who used their denture for at least six month comfortably and with

satisfaction. In the current study most of the patients cleaned their denture twice a week and the commonest method was washing with water.

Saha A et al<sup>1</sup> determined the denture hygiene habits in complete denture wearers in India. A self-administered structured questionnaire was developed to know the attitude of the study sample consisted of totally 500 subjects, which included 284 (56.8%) males and 216 (43.2%) females. Nearly half of the subjects cleaned their dentures daily once. Participants from the younger age group and who had been wearing dentures since 2 years maintained better frequency of cleaning. The majority of these subjects used water and brush for denture cleansing. In contrast to Saha A et al<sup>1</sup> only 30% patients in the current study cleaned their denture daily. The difference may be large sample and more awareness for denture hygiene in the Saha A et al<sup>1</sup> study group.

Similar to the present study, Veres et al reported that 36% edentulous patients brushed their denture, and very few people (5%) used immersion as cleaning and 63% used only water to clean their prosthesis. In the present day only 20% patients used soap and water for cleaning complete denture. Similar to the current results Saha A et al<sup>1</sup> reported that 19.1% of the subjects maintained denture hygiene with water along with brush and soap. Patel IB et al<sup>12</sup> reported similar comparable findings.

The above-mentioned results may have been due to lack of awareness among patients or improper instructions given to them after the insertion of the denture by the dentist. Mechanical methods such as toothbrushes are recommended for routine cleaning. However, they may lead to surface abrasion, which is undesirable for aesthetic and biological reasons. Denture pigmentation and abrasions are associated with toothpaste and toothbrush use.<sup>9</sup> Peracini et al<sup>16</sup> reported 58.49% of the patients doing cleaning by immersion and among the substances used for immersion of the dentures, water was the most frequently used (38.71%). In contrast to Peracini et al<sup>16</sup> only 14% of the patients in this study group used denture cleaners.

## CONCLUSION

Poor condition of complete dentures seen in the population is mainly due to irregular cleansing habits and also less usage of cleansing solutions. Dentists should give proper instructions regarding maintenance of denture hygiene.

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## CONTRIBUTIONS BY AUTHORS

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|------------------------|----------------------|
| <b>1 Haider Ali:</b>   | Paper Writing        |
| <b>2 Shawana:</b>      | Data Collection      |
| <b>3 Samia Rahman:</b> | Statistical Analysis |
| <b>4 Ali Khalid:</b>   | Topic Selection      |
| <b>5 Ali Hassan:</b>   | Proof Reading        |