

## DENTURE HYGIENE HABITS AMONG EDENTULOUS PATIENTS SEEN AT ARMED FORCES INSTITUTE OF DENTISTRY, RAWALPINDI

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### ABSTRACT

*The objective of this study was to determine denture hygiene habits in complete denture patients according to their age and time of dentures reporting at Armed Forces Institute of Dentistry, Rawalpindi. A cross sectional study was carried out on 200 hundred completely edentulous patients between 45 to 65 years wearing complete acrylic dentures. They were further subdivided according to gender (120 males, 80 females) and age groups as 45-55 years (Group I) and 54-65 years (Group II). Data were collected on a standardized data sheet. A Proforma was filled in by every patient and denture hygiene habits of the subjects were documented. Data collected was analyzed using SPSS 17.0. Out of 200 patients, 65% of the subjects cleaned their dentures once daily. Group I patients who had been wearing dentures since 2 years showed more tendency towards denture cleaning. Patients mostly used water only for denture cleansing.*

*Clinicians should provide proper denture hygiene instructions. Noncompliance of the patients is main reason for poor status of complete dentures seen in the elderly population.*

**Key Words:** Acrylic Denture, denture hygiene, Oral habits.

### INTRODUCTION

Edentulousness is a biological consequence of human aging.<sup>1,2</sup> Dental caries and periodontitis are the main etiological factors of loss of teeth in the world.<sup>3</sup> Millions of edentulous people can be considered physically impaired as per the criterion of World Health Organization (WHO).<sup>4</sup> Conventional complete dentures are most commonly used to restore edentulous arches. Mostly edentulous patients are elderly and majority is dissatisfied with their dentures.<sup>5</sup> The ill-fitting dentures are worn for a long duration even though they require replacement.<sup>6,7</sup>

Long term prognosis of complete dentures depends on meticulous oral and denture hygiene. Oral mucosal lesions and/or impairment in mastication result from wearing poorly fitting and unclean dentures.<sup>8,9</sup> Verbal and written instructions must be given to the patients

at the time of insertion to rinse their dentures after every meal. The dorsal surface of tongue and mucosa overlying residual ridges also should be brushed daily with a soft brush; denture cleansers may also be advised. However, the majority of removable denture patients neglect their denture maintenance. This may be due to decreased manual dexterity of the patients due to advanced age.<sup>9,10,11</sup>

The objective of this study is to evaluate denture hygiene habits of armed forces personnel and their families reporting to Armed forces Institute of Dentistry Pakistan according to their age, gender and time of denture wearing. This may help the clinician to emphasize more on denture hygiene by better patient education.

### METHODOLOGY

This descriptive cross-sectional study was conducted on 200 completely edentulous patients having age between 45-65 years reporting to department of Prosthodontics, Armed Forces Institute of Dentistry (AFID) Rawalpindi, Pakistan. Out of 200 patients, 120 patients were male and 80 were female. The subjects were divided into two groups according to age group I (45-54) and group II (55-65). After taking informed consent from the patients, data collection was carried out from 15th January 2014 to 15th July 2014.

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**Received for Publication:** August 8, 2015  
**Revised:** November 2, 2015  
**Approved:** November 5, 2015

A questionnaire was filled in by every patient containing questions regarding demographic information such as age, sex, duration of denture wearing, and other questions to know the attitude of denture hygiene habits, frequency of cleaning, and nocturnal denture wearing habits. Data was analyzed using SPSS 17.0.

## RESULTS

After evaluating the data sheets of two hundred patients selected for the study (n=200), results showed that:

- 120 patients belonged to the age group of 45-54 years, 80 subjects were of 55-65 years of age.
- 65% participants used to clean their dentures almost once a day (Fig 1). Subjects mostly in the age group of 45-54 years cleaned their dentures once daily, i.e. 70% and 45% of the subjects maintained denture hygiene once/twice a week in the age group of 55-65 years. (Table 1)
- 70% Subjects wearing dentures for the two years cleaned it once/twice daily. Most of the participants who had been wearing them from 3 to 5 years (45%) cleaned them once daily.
- Majority of the patients maintained denture hygiene with water only (50%) whereas many subjects cleaned it with a combination of soap and toothbrush with water (22%) followed by water and cleansing tablets (8%).(Table 2)
- 80% of the patients admitted that they do not remember the verbal and written instructions for denture maintenance at the time of insertion of dentures by the dentists. Only 20% told they were given denture hygiene instructions.

TABLE 1: FREQUENCY OF DENTURE CLEANSING BY PATIENTS OF DIFFERENT AGE GROUPS

| Age groups | No. of patients | Once daily | Once/twice in a week | Occasional |
|------------|-----------------|------------|----------------------|------------|
| 45-54      | 120             | 85         | 35                   | 10         |
| 55-65      | 80              | 20         | 36                   | 24         |

TABLE 2: THE METHOD OF DENTURE CLEANSING

| Denture Cleansing           | Percentage of patients |
|-----------------------------|------------------------|
| Water only                  | 50                     |
| Water, soap and toothbrush  | 22                     |
| Water and Brush only        | 20                     |
| Water and cleansing tablets | 8                      |

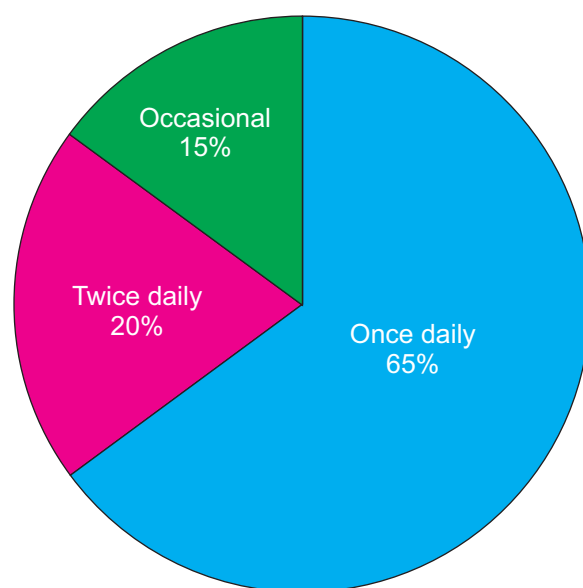


Fig 1: Frequency of cleaning dentures by the elderly patients

## DISCUSSION

Majority of the subjects in our study used to clean the dentures with water alone (65%). This value was lower than that reported by Patel et al.<sup>12</sup> and higher than that reported by Apratim et al.<sup>13</sup> Use of brush with soap was higher among our study group population compared to that of Patel et al. (25.13%).<sup>12</sup> Other studies conducted by Coelhe et al.<sup>14</sup> and Dikbas et al.<sup>15</sup> reported much higher values in comparison to the present study where 20% of the subjects maintained denture hygiene with water along with brush and soap and these findings are comparable to Patel et al.<sup>12</sup>

Patients using water with cleansing tablets constituted 15% in contrast to the values reported in the studies of De Castellucci Barbosa et al.<sup>7</sup> (8%), Abelson<sup>8</sup> (17.1%), and Veres et al.<sup>16</sup> (63%).

All these results are mainly due to poor patient compliance or improper instructions given to the patients after the insertion of dentures by the dentist and of lack of awareness among patients.

Routine denture cleansing can be done with mechanical methods such as toothbrushes. However, they cause surface abrasion which leads to undesirable aesthetics. Denture abrasions and pigmentation are associated with toothbrush and toothpaste use.<sup>18</sup> Peracini et al.<sup>19</sup> reported 58.49% of the patients doing cleaning by immersion and water was the most frequently used (38.71%) out of all solutions used for immersion of the dentures.

Cleaning frequency according to the age of the denture was also found to be significant. But it was noticed that older dentures were cleaned more occa-

sionally than new dentures. Results were similar to those of Apratim et al,<sup>13</sup> Budtz-Jorgensen et al.<sup>17</sup> and Manderson and Ettinger.<sup>9</sup>

Improper denture and oral hygiene associated with intense denture wearing leads to various oral mucosal lesions. These may present as a mechanical denture injury and acute or chronic response to microbial denture plaque or a reaction to the constituents of the denture base material. They include traumatic ulcers, denture stomatitis, denture irritation hyperplasia, angular cheilitis, flabby ridges, and oral carcinomas. Correction of denture wearing habits and meticulous denture hygiene is vital in such cases.

## CONCLUSION

Majority of the patients were unaware of the measures of cleaning dentures in this study. Awareness of denture hygiene needs to be increased among denture wearers for optimum patient compliance by emphasizing on patient education. Careful oral examination of the patients and denture evaluation followed by establishment of denture maintenance may help in optimizing oral health.

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## CONTRIBUTION BY AUTHORS

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|--------------------------------|--------------------------|
| <b>1 Azad Ali Azad:</b>        | Concept and supervision. |
| <b>2 Muzamal Maqsood Butt:</b> | Principal author.        |
| <b>3 Amna Ahmed:</b>           | Data collection.         |
| <b>4 Awais Shabbir Malik:</b>  | Data collection.         |