



A Study of Assessment of Hygiene Habits and Attitudes Among Removable Partial Denture Wearers in A Tertiary Hospital

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ABSTRACT

Aims: To conduct a survey of hygiene habits and use of removable partial dentures (RPDs) and correlate them with the social conditions of the interviewees.

Methods: A total of 145 RPD wearers were interviewed by experienced clinical staff using a structured questionnaire. A Chi-squared test was performed to evaluate statistical significance between the variables, and the level of significance was $P < 0.05$.

Results: A total of 72 (49%) patients reported that they had not been well informed by the dentists. Brushing was the most frequent cleaning method (57.6%). 77 (53.1%) patients did not take off their dentures at night. The frequency of cleaning dentures and using cleansing tablet was significantly higher in females than in males ($P < 0.05$).

Conclusions: Hygiene habits and attitudes may be affected by gender, but education level and hygiene attitudes may not always present positive correlation.

KEYWORDS : - removable partial denture

Introduction:

The importance of proper plaque control and its relation with the long term health of dentures and existing teeth is very well documented in the literature. [1]^{[2],[3]} Inadequate denture hygiene may contribute to biofilm accumulation and colonization of the intaglio surface of prostheses by microorganisms, which engender opportunistic oral infections. [2] Surveys show that many patients fail to keep their dentures clean and prefer to use dirty dentures. This situation may be a result of negligence of clinicians in informing their patients about hygiene methods and failure of patients to attend periodic recalls. The differentiation in oral hygiene habits and attitudes may be related to number of factors such as education, gender, social status or age. [4] . Nishi *et al.* [3] examined the relationships between the quantity of microorganisms adhering to complete dentures and the frequency of use of a denture cleanser. Takamiya *et al.* [5] investigated the denture cleanliness of patients who applied to a university clinic for fabrication of new complete dentures. Peracini *et al.* [6] evaluated the hygiene methods and habits concerning the use of complete dentures. On the other hand, limited number of studies exist in the literature about the oral hygiene habits and attitudes among removable partial denture (RPD) wearers. Hence this study was conducting a survey of hygiene habits and use of rpd's and correlate them with the social conditions of the interviewees.

Materials and methods:

This study was conducted among patients who already have RPDs and were willing to be examined in departments of prosthodontics and oral diagnosis and radiology. A total of 145 RPD wearers, who were able to respond a questionnaire, gave fully informed consent and subsequently participated in this study. Sixty-nine subjects (46%) were males and seventy six subjects (54%) were females. The questionnaire was based on previously conducted surveys. [4]^{[5],[6],[7]} A Chi-squared test was performed to evaluate statistical significance between the variables, and the level of significance was $P < 0.05$.

Results:

Demographic characteristics of the subjects are presented in [Table 1]. Distribution of subjects regarding age and number of dentures is presented in [Table 2]. Fifty-one (35%) subjects had dentures that were 0-5 years old, 50 (34.5%) subjects had dentures that were 6-10 years old and 44 (30.5%) patients had dentures older than 11 years. Brushing was the most frequent cleaning method (57.6%) where soaking revealed as a less preferred method (33.7%).

Mostly (56.2%), the acrylic teeth part of dentures were cleaned, fol-

lowed by the pink acrylic part (26%), clasps and major connectors (17.7%) respectively. Incidence of denture cleanser usage in tablet form is 22.1%. Seventy seven subjects (53.1%) wear their dentures overnight. The rate of the subjects who have reported brushing their remaining teeth once a day while cleaning their dentures was 44.8%. Toothpaste was the most frequently used material while brushing and 95% of the subjects did not floss.

The frequency of cleaning dentures, brushing natural teeth and using cleansing tablet was significantly higher in females, than in males ($P < 0.05$) [Table 5]. Denture cleaning was significantly higher among cigarette or any other tobacco consumers than nonsmokers [Table 6].

Discussion:

Denture cleansing materials and methods have been the subject of research over the years. The relation between socioeconomic level, education, and oral health status has been presented in previous studies. [4]^{[8],[9]} Although it was not a clear assumption, this study also presented that prevalence of partial edentulism among young people was high and among other variables, the level of education affected individual's access to proper dental care. The results showed that 30.3% of the subjects had been using the same RPD's for over 10 years, which was higher than reported results of previous studies. [6]^[10] In this study, brushing with toothpaste was the most preferred method of cleaning, followed by soaking and combination of both methods. This finding was similar to that of Kulak-Ozkan *et al.* [11] and Marchini *et al.* [12] In accordance with Veres *et al.*, [13] brushing only with tap water without using any cleaning agent was also common. Although, it has been claimed that brushing with toothpaste has an abrasive effect on acrylic resin, Dikbas *et al.* [14] reported brushing as the sole method of cleaning owing to its simple use and cost effectiveness. [15] On the other hand, it has a bleaching effect on acrylic resin and corrosive effect on metal parts of dentures. [16] Felipucci *et al.* [17] reported that naocl promoted the oxidation of the surfaces and thus leading to spot corrosion, therefore it may not be suitable for cleaning of RPD. Studies show that some denture wearers experience difficulty while cleaning their dentures. [8]^[11] The subjects reported that, they gave attention to clean acrylic teeth first, followed by acrylic parts of the denture and clasps and connectors. Peracini *et al.* [6] reported that internal labial flange, the inner surface, and acrylic teeth were the most difficult regions of complete denture to clean. In this study, the clasps and connectors were reported to be the most difficult parts of the RPD's to clean. This result emphasizes the importance of giving instructions about cleaning metal parts of RPD's.

The results of this study showed that almost half of the subjects wear their RPD's overnight in accordance with previous studies. [7],[14] The overnight wearers reported that their dentists instructed them to wear overnight, which was an interesting result in terms of hygiene habits. Overnight wearing did not show a significant difference according to age, educational status. Akar and Ergül [18] also did not observe a significant relationship with the level of education and overnight wearing. Our results are similar.

The subjects wearing their first RPD's more than 5 years and might not have remembered clearly whether being instructed or not. In compliance with the results of previous surveys, this result revealed that large number of patients need being better instructed how to use and clean their dentures. [11],[18],[19].

The frequency of cleaning dentures, brushing natural teeth and using cleansing tablet was significantly higher in females, than in males. The variation in gender based differences may be attributed to awareness and motivation of the female subjects. In accordance, Nishi *et al.* [3] reported that gender was significantly correlated with the quantity of microorganisms, and the quantity of microorganisms in dentures worn by women was significantly lower than in those worn by men. The subjects using tobacco products tend to clean RPD's more frequently than nonusers. This result may possibly be explained by concern of removing nicotine stainings on dentures.

Conclusions:

Within the limitations of this survey and its population, it may be concluded that the majority of RPD wearers did not clean their dentures and natural teeth satisfactorily and had limited knowledge of denture cleansing and oral hygiene maintenance. Hygiene habits and attitudes may be affected by gender, but education level, and hygiene attitudes may not always present positive correlation. Dentists should thoroughly inform patients about the harmful effects of overnight wearing and existing microbial plaque and debris on dentures to the oral mucosa.

Tables:

Table 1: Distribution of the demographic characteristics of the subjects

	MINIMUM- MAXIMUM
AGE	21-61
	N(%)
AGE <60	87 (60)
≥60	58 (40)
GENDER	
MAN	69 (47.6)
WOMAN	76 (52.4)
EDUCATION	
PRIMARY SCHOOL	89 (61.4)
HIGH SCHOOL	35 (31)
UNIVERSITY	11 (7.6)
SMOKING	
SMOKER	39 (26.1)
NONSMOKER	106 (73.1)

TABLE 2: Distribution of subjects regarding age and number of rpd's

	N (%)
LOWER RPD	116 (80)
UPPER RPD	17 (12)
BOTH RPD	12 (8)
AGE OF RPDs (YEARS)	
0-5	51 (35.2)
6-10	50 (34.5)
≥11	44 (30.3)
AFTER HOW MANY RPDs	
×1	91 (62.8)
×2	38 (26.2)
×3	16 (11)

RPD= REMOVABLE PARTIAL DENTURES.

TABLE 3: Relationship of frequency of cleaning dentures with tobacco use and gender.

	TOBACCO USE N (%)		P VALUE
	YES	NO	
Frequency of cleaning dentures			0.047*
0	10 (25.6)	9 (8.5)	
1	22 (56.4)	66 (62.3)	
2	2 (5.1)	8 (7.5)	
3	5 (12.8)	23 (21.7)	
	MAN	WOMAN	
Frequency of cleaning dentures			0.046*
1	42 (60.9)	46 (60.5)	
2	17 (24.6)	12 (15.8)	
3	10 (14.5)	18 (23.7)	

*P<0.05

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