

A survey of dentists' attitudes toward denture cleansing

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Summary

Objective. The purpose of this study was to disclose approaches and preferences of private dentists about denture cleansing and their recommendations to the patients.

Material and method. A questionnaire was used to reveal the views of 325 dental practitioners towards denture cleansing methods and their recommendations to the patients about denture cleansing methods and frequencies.

Results. 218 (71.5%) of 305 dentists who proposed cleansing methods to their patients advised soaking their dentures into commercial cleansing tablet containing solutions, merely or together with the other methods. The majority of these 218 dentists (132 dentists = 60.6%) recommended this method with the frequency of once a week. 55.4% of dentists believed that long-term and frequent use of cleansing tablets or solutions may be harmful to denture surfaces and reduce the longevity of denture. 3.2% of dentists thought that using cleansing tablet only was sufficient for denture cleaning while 11.1% believed brushing method only was adequate.

Conclusion. In this population sample, it was revealed that the majority of the dentists (78.2%) recommended combination of brushing and soaking in cleansing solutions to their patients.

Key words: survey, questionnaire, denture cleansing, private dentists.

Introduction

Cleansing and disinfecting of dentures are essential for the maintenance of oral soft tissue health and successful use of removable dentures. Therefore, it is very important for dentists to inform their patients regarding denture cleansing regimen for the prevention of undesirable circumstances such as denture stomatitis and halitosis. To instruct the wearers of removable dentures about proper denture hygiene is one of the responsibilities of dentists. However, it has been observed that the majority of denture wearers do not pay necessary attention to the cleanliness and hygiene of dentures [1-

4]. This may be due to denture wearers' negligence as well as dentists who give insufficient instruction to their patients about denture cleansing methods (possibly because of lack of knowledge) or neglect spending time on this issue.

There have been several reports in the available dental literature concerning denture wearers' attitude toward denture cleansing [2,5-9]. However, there is only one survey in dental literature concerning instructions given by dentists on denture cleansing [10]. The purpose of this study was to reveal approaches and preferences of general dentists regarding denture cleansing and their recommendations to the patients.

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Materials and methods

In this study, 325 general practitioners living in three big cities of Turkey (Istanbul, Ankara, Izmir) were surveyed regarding their opinions, viewpoints and recommendations about denture cleansing routines, using a prepared questionnaire. The survey was undertaken from January 2005 to August 2005. The questionnaire was based on a previously conducted survey by Veres et al. [10].

Questions in the questionnaire were as follows:

1. Do you inform your patients routinely on denture cleansing methods after delivery of new dentures? If yes, state what kind of medium you use?

2. Which method(s) do you recommend to your patients for providing denture hygiene and how frequently?

3. Which brands of commercial cleansing tablets available in the market do you know and recommend?

4. State your opinion on denture cleansing methods and materials.

a) Brushing only is sufficient to obtain denture cleanliness.

b) Soaking dentures in immersion cleansers only is sufficient to obtain denture cleanliness.

c) Dentures must be cleaned by combination methods, which include both brushing and soaking in immersion cleansers.

d) Denture cleansers including hypochlorite must not be used on dentures with metal components.

d) Long-term and frequent use of cleansing tablets or solutions may be harmful to denture surfaces and reduce the longevity of denture.

Results

In this study, it was revealed that 305 of 325 private dentists informed and instructed their patients on denture cleansing methods after delivery of new dentures. The percent-

ages of dentists giving instructions verbally, in writing or audiovisually are 89.2%, 3.9%, 6.9%, respectively.

All of the 305 dentists advised a variety of combinations of methods for cleaning their dentures. Cleansing methods recommended were categorized in 9 groups. 8 groups were created according to the answers about frequencies of cleansing (*Table 1*). 218 (71.5%) of these 305 dentists advised soaking their dentures into commercial cleansing tablet containing solutions, solely or together with the other methods. The majority (60.6%) of these 218 dentists recommended this method with the frequency of once a week. The second most preferred method was brushing with toothpaste which was recommended by 142 (46.6%) of 305 dentists. 71.1% of these 142 dentists recommended that the patients should brush their dentures with toothpaste once a day. The least advised method was soaking the dentures into an ultrasonic device containing a cleansing solution (*Table 1*).

Table 2 shows the distribution of dentists with respect to the cleansing methods recommended. Among all attendants, the most preferred (by 198 dentists) cleansing method was combination of brushing and soaking in a cleansing tablet. It was determined that the majority of the dentists (78.2%) recommended combination of brushing and soaking in any cleansing solutions to their patients. 4.6% of 325 dentists thought that using cleansing tablet only was sufficient for denture cleansing while 11.1% believed brushing method only was adequate (*Table 3*).

55.4% of dentists believed that long-term and frequent use of cleansing tablets or solutions may be harmful to denture surfaces and reduce longevity of denture. In addition, 75.1% of dentists reported that denture cleansers including hypochlorite must not be used on dentures with metal components, but 11.7% of the surveyed dentists did not share this opinion (*Table 4*).

Table 1. Distribution of recommended cleansing methods with respect to frequency of cleansing

CLEANSING METHODS	FREQUENCY OF CLEANSING								TOTAL
	More than 3 times a day	Twice a day	Once a day	Once every 3-4 days	Once a week	Once every 15 days	Once a month	Once every 2-3 months	
Brushing with toothpaste	8	33	101	-	-	-	-	-	142
Brushing with soap	6	27	87	-	-	-	-	-	120
Brushing with water only	11	55	23	-	-	-	-	-	89
Brushing with denture paste	-	-	-	2	5	2	1	-	10
Cleaning with ultrasonic device	-	-	-	1	4	-	-	-	5
Soaking in hypochlorite	-	-	-	-	4	9	11	15	39
Soaking in vinegar	-	-	-	1	9	3	2	-	15
Soaking in cleansing tablets	-	-	25	13	132	26	18	4	218
Soaking in mouthwash	-	-	-	1	16	5	1	-	23

Table 2. Distribution of dentists regarding cleaning methods recommended

Cleaning Methods	No. of dentists
Brushing only	
Brushing with water only	3
Brushing with soap	18
Brushing with toothpaste	13
Multiple combinations of brushing methods	2
Total	36 (11.1%)
Soaking only	
Soaking in cleansing tablets	10
Soaking in hypochlorite	2
Soaking in vinegar	1
Soaking in cleansing tablets and hypochlorite	1
Soaking in cleansing tablets and mouthwash	1
Total	15 (4.6%)
Combination	
Brushing and soaking in ultrasonic devices	1
Brushing and soaking in hypochlorite	14
Brushing and soaking in vinegar	2
Brushing and soaking in cleansing tablets	198
Brushing and soaking in mouthwash	6
Brushing and multiple combinations of soaking methods	33
Total	254 (78.2%)
Not recommended	20 (6.1%)

Corega was the most well-known (59.7%) and the most recommended (43.7) brand among the other tablet brands (Table

4). Kukident and Efferdent were the least known brands among the attendants.

Table 3. Dentists' opinions concerning to denture cleansing methods and materials

Questions (Opinions)	Yes	No	No idea
Brushing only is sufficient	36 (11.1%)	273 (84.0%)	16 (4.9%)
Soaking dentures in immersion cleansers only is sufficient	15 (4.6%)	302 (92.9%)	8 (2.5%)
Combination methods (brushing and soaking) must be preferred	254 (78.2%)	63 (19.4%)	8 (2.5%)
Denture cleansers including hypochlorite must not be used on dentures with metal components	244 (75.1%)	38 (11.7%)	43 (13.2%)
Long-term and frequent use of cleansing tablets or solutions may be harmful	180 (55.4%)	117 (36.0%)	28 (8.6%)

Table 4. Distribution of brands known and advised by dentists

Brand name	Number of brands known	Number of brands advised
Corega	194 (59.7%)	142 (43.7%)
Protefix	44 (13.5%)	8 (2.5%)
Fittydent	81 (24.9%)	40 (12.3%)
Steradent	5 (1.5%)	1 (0.3%)
Kukident	3 (0.9%)	1 (0.3%)
Efferdent	3 (0.9%)	-

Discussion

In this survey, viewpoints and preferences of 325 private dentists about cleansing methods and frequencies were investigated. It was revealed that 6.1% of practitioners did not give any instructions to their patients about denture cleansing after delivery of dentures. Another survey [2] performed on denture wearers showed that 82.9% of the patients stated they had never been instructed by their dentists. Results of these two studies seemed to be contradictory. The explanation of this conflicting result might be explained by the reluctance of dental practitioners to give correct answers and their attempts to give the expected answers during the survey.

The combination of brushing and soaking method was recommended as the effec-

tive way for cleaning dentures [9,11,12]. In the present survey, the most advised method, employed by 78.2% of the dentists, was a combination of brushing and soaking. In another survey performed by Veres et al. [10] concerning dentists' attitudes, it was pointed out that 71% of private dentists advised a combination method to their patients, which is consistent with the results of the present study. Also in the studies performed on denture wearers by Hoad-Reddick et al. [3] and Neill [5], the most preferred cleansing method was the combination method, with results of 40.2% and 62.0% respectively. However, in some studies [2,7,11] the most preferred cleansing regimen by the patients was brushing only. The studies performed on dentists, when compared to the studies performed on patients, the results are not supposed to sup-

port each other. Because, even though the patients get correct instructions from the dentists they might not follow them.

In the present survey, the most recommended cleaning frequency was once a week for soaking in the cleaning solutions while it was once a day for brushing. These results were consistent with the results of Neill's study [5], which was performed on denture wearers.

Usage of hypochlorite containing solutions in cleansing of dentures with metal component causes corrosion or tarnish of the metal [13-16]. In the present survey 75% of attendants stated denture cleansers including hypochlorite must not be used on dentures with metal component.

References

1. Collis JJ, Stafford GD. A survey of denture hygiene in patients attending Cardiff dental hospital. *Eur J Prosthodont Restor Dent* 1994; **3**: 67-71.
2. Dikbas I, Koksall T, Cal?kkocaoglu S. Investigation of the cleanliness of dentures in a university hospital. *Int J Prosthodont* 2006; **19**: 294-298.
3. Hoad-Reddick G, Grant AA, Griffiths CS. Investigation into the cleanliness of dentures in an elderly population. *J Prosthodont* 1990; **64**: 48-52.
4. Budtz-Jorgensen E, Standerup A, Grabowski M. An epidemiologic study of yeast in elderly denture wearers. *Community Dent Oral Epidemiol* 1975; **3**: 115-119.
5. Neill DJ. A study of materials and methods employed in cleaning dentures. *Br Dent J* 1968; **124**: 107-115.
6. Murtomaa H, Kononen M, Laine P. Age and maintenance of removable dentures in Finland. *J Oral Rehabil* 1992; **19**: 123-128.
7. Kulak-Ozkan Y, Kazazo?lu Y, Ar?kan A. Oral hygiene habits, denture cleanliness, presence of yeast and stomatitis in elderly people. *J Oral Rehabil* 2002; **29**: 300-304.

Conclusion

The majority of private dentists recommended their patients a combination of brushing and soaking in cleansing solutions. However, there are still some dentists who gave no instructions or who did not recommend adequate and efficient cleansing methods or who advised inadequate cleansing regimen. Therefore, the results of the present survey revealed that dental professionals must update their knowledge of denture cleansing strategies continuously in order to maximize the service offer to denture patients and must not avoid spending time for instructing them.

8. Polyzois GL. Denture cleansing habits. A survey. *Austral Dent J* 1983; **28**: 171-173.
9. Schou L, Wight C, Cumming C. Oral hygiene habits, denture plaque, presence of yeast and stomatitis in institutionalised elderly in Lothian Scotland. *Community Dent Oral Epidemiol* 1987; **15**: 85-89.
10. Veres EM, Wolfaardt JF, Hnizdo E. Denture cleansers: Part II - A survey of instructions given by dentists on denture cleansing. *J Dent Assoc S Afr* 1985; **40**: 585-589.
11. Jagger DC, Harrison A. Denture cleansing-The best approach. *Br Dent J* 1995; **178**: 413-417.
12. Dills SS, Olshan AM, Goldner S, Brogdon C. Comparison of the antimicrobial capability of an abrasive paste and chemical-soak denture cleaners. *J Prosthodont* 1988; **60**: 467-470.
13. Budtz-Jorgensen E. Materials and methods for cleaning dentures. *J Prosthodont* 1979; **42**: 619-623.
14. Abelson DC. Denture plaque and denture cleansers. *J Prosthodont* 1981; **45**: 376-379.
15. Backenstose WM, Wells JG. Side effects of immersion-type cleansers on the metal components of dentures. *J Prosthodont* 1977; **37**: 615-621.
16. Kastner C, Savare CW, Scandrett FR. Effects of chemical denture cleansers on the flexibility of cast clasps. *J Prosthodont* 1983; **50**: 473-478.

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