ABSTRACT

Objectives: This article aims to evaluate the habits of hygiene and usage of a sample group of Brazilian wearers of complete dentures. Design: This study has a cross-sectional design. Setting: The work was performed in the dental clinic of the University of Mogi das Cruzes. Subjects: A sample group of 236 complete denture wearers was selected. Intervention: The individuals were interviewed and clinically examined. Main outcome measures: Most commonly usage and hygiene habits were accessed and descriptively presented. Possible relationships between habits and oral conditions were also accessed. Results: 43.6% sought dental treatment ten years after their last dental appointment, 77.5% declared they had been given no instructions regarding the hygiene of their dentures, only 22.9% said they had been instructed about oral hygiene, and 91.9% stated they had not been told to return for periodical control visits. A percentage of 42.4% displayed denture related stomatitis, although 89% presented no symptoms. It was found that 98.7% of the group brushed their dentures. Only 27.1% were found to regularly immerse their dentures in chemical products, and only 26.3% removed their dentures overnight. A positive relationship was achieved between the lack of recommendations regarding oral and denture cleansing and the presence of denture related stomatitis and hyperplasia. Family income and periodicity of visits to the dentist were also found to be related. Conclusion: Mechanical cleaning solely is the most prevalent method of hygiene. Self-reported lack of guidance to oral care was statistically related to inflammatory oral conditions. Future research is necessary to clarify possible causal role between these factors.

KEY WORDS: follow-up; complete denture; hyperplasia; oral hygiene, elderly; edentulous, denture stomatitis.
INTRODUCTION

After edentulous patients are fitted with complete dentures, the important phase of oral and denture aftercare begins. Follow-up actions should include instructions for initial adjustments and aftercare, guidance regarding rebasing procedures, and an explanation of the need for new dentures after five years of use.\(^1\)

The initial recommendations to patients refer to the need for periodical visits to the dentist for control purposes and additional explanations regarding denture cleansing and wearing habits. A patient’s correct cleansing of complete dentures is essential to prevent unpleasant odors and staining of dentures\(^2,3\). Cleansing of denture also prevents it becoming coated with a biofilm, which could injure the adjacent mucosa and cause systemic diseases.\(^4\) Incorrect habits, such as wearing complete dentures at night\(^5,6\) and incorrect cleansing have proven to be closely associated with the prevalence of denture-related stomatitis.\(^7,8\)

The adherence of \textit{Candida albicans} to the acrylic surfaces of dentures is implicated as the first step in the pathogenesis of associated stomatitis.\(^9\) That is the reason for recommending the removal of dentures overnight and for reinforcing preventive program\(^10\), which are effective in reducing infection.

This paper aims to evaluate the cleansing and wearing habits of Brazilian wearers of complete denture, as well as to check possible relationships between these habits and oral mucosa conditions.

METHODS

The group consisted of 236 complete denture wearers of the total number of patients who were seeking dental treatment at the University of Mogi das Cruzes.

The interview consisted of a questionnaire (http://www.protese.net/denturehygienequest) to be answered by the denture wearers and a clinical exam on the remanent oral tissues, both guided by one of the authors.

The subjects’ answers were subjected to a descriptive statistical analysis. Possible statistical relationships among some of the items were analyzed by the Pearson Chi-Square test with a significance level of 5 \%, which is determined based on the sample size.

RESULTS AND DISCUSSION

The average age of the subjects studied was 62 (±12.8), and most were females (75\%). Great part of the interviewees reported very low family incomes (41.5\% got no more than US$100.00/month).
One hundred and three patients (43.6%) only sought dental treatment 10 years after their last dental appointment, while 22.9% visited their dentists 6 to 10 years after their last appointment.

The reported periodicity of visits seems to be inappropriate for an efficient control and maintenance program, since it is recommended to complete denture wearers to visit the dentist annually and rebase or change their dentures approximately each five years. The high costs of private practice and inefficient government funded dental care in Brazil, as well as the aforementioned low family income, should be the major barriers to achieve an adequate follow-up program.

Fifty three patients (22.5%) stated they had been given instructions about denture cleansing, while the majority of interviewees (77.5%) declared they had not been given such instructions. Only 54 individuals said they had been given some advice regarding oral hygiene (22.9%), but most of the subjects (77.1%) stated having received no kind of guidance concerning oral care. Moreover, the great majority (91.9%) had not been instructed regarding the need for periodical control visits.

The collected data regarding receiving instructions about denture care were self-reported. It is necessary to consider the difference between self-reported information and actual behaviour. Future research evaluating professional behaviour, as well as dental learning emphasis in this topic, should help to clarify this issue.

Regarding the condition of remaining oral tissues, 42.4% of the individuals examined showed denture related stomatitis. However, 78.8% of the subjects did not present hyperplasia. A few patients claimed they felt symptoms in their mucosa (11%), although the majority presented no symptoms (89%). Among those that felt some symptom, 7.7% claimed feeling a burning sensation, 53.8% felt pain in the alveolar ridge, and 11.5% complained of pain in the floor of the mouth.

The average daily number of times the subjects brushed their dentures was 2.9 (±0.9). About 98.7% used a tooth brush and the majority (79.7%) reported brushing only with toothpaste. Other cleansing combinations were also reported, such as ordinary soap, toilet soap, sodium bicarbonate and sodium hypochlorite (each corresponding to less than 5% of the group).

The use of products for immersing dentures was less frequent than mechanical methods, i.e., only 27.1% used such products. The most commonly utilized solution was a mixture of water and sodium hypochlorite (54.7%), followed by water and sodium bicarbonate (12.5%). Other combinations were reported at a frequency of less than 8%.

Only 26.3% of the subjects removed their dentures overnight. Among those, 66.1% kept them in water, 25.8% allowed them to dry, and 8.1% kept their dentures in cleansing solutions.

Preventive hygiene programs, denture cleanliness and denture removal overnight were found to be associated with denture stomatitis. Although mechanical cleansing was common in this sample, the use of combined methods (as immersing dentures in cleaning products) were not common, as well as denture removal overnight. This should be attributed
respectively to the lack of availability and advertising of products for denture care in Brazil and inadequate denture care education.

A statistically significant relationship (P=0.003) was found between family income and periodicity of dental visits, with higher income patients making more frequent visits to their dentists.

A significant relationship was also established between the presence of denture stomatitis and self-reported lack of instructions regarding oral care (P=0.005) and denture cleansing (P=0.019).

Moreover, the $\chi^2$ test revealed a significant relationship between the presence of hyperplasia and self-reported lack of orientation concerning denture cleansing (P=0.017) and oral care (P=0.039).

It is important to highlight the necessity of more research to test possible causal roles among the factors with positive statistical relationships.

CONCLUSION

This sample of Brazilian wearers of dentures was found to clean their dentures solely by brushing them, to visit dental clinics infrequently and to have declared receiving no orientation regarding aftercare. The second and third items were found to have a positive relationship with low family incomes and with the denture related stomatitis of oral tissues and hyperplasia. Future research in this topic is necessary to clarify if there is a causal role between the factors involved in the achieved relationships.

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