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A survey to evaluate the problems experiencing by complete denture patients with their prostheses

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Abstract

Objective: The objective of this study was to look into the problems faced by patients having complete dentures and the hygiene of dentures by the patients.

Materials and methods: This cross-sectional study is done with a sample of 198 patients having complete prosthesis since 1 year. A self-administered structured questionnaire pretested through a pilot survey was used in the study. The data were analyzed using the SPSS version 16.0. The Student's t-test, ANOVA and post hoc test were used as test of significance.

Results: Mastication discomfort and looseness of denture were the most common complaints followed by lack of retention (35.4%), bad breath (29.8%), tongue restriction (26.4%) and food accumulation (24.7%). There was a significant relationship of complaints with age groups ($p = 0.00$).

Conclusion: This study concluded that most of the patients were present with complaints due to dentures. So, dental professionals should pay serious attention to their patients for subjective acceptable result of the dentures and also advice them to properly maintain hygiene of dentures.

Keywords: Complete denture, complains, satisfaction, patients

Introduction

Edentulism occurs in about one-eight to one-fourth of the general population in about half of the population over age 55. Loss of natural teeth has a important impact on Aesthetic, mastication and phonation^[1].

Dental prosthetics are an important part of dentistry because patients lose their teeth for different reasons and want to replace them by prostheses. Quality of a denture depends upon a number of factors such as retention, stability, support, esthetics, and neuromuscular control.

A dentist should be aware of the factors that lead to treatment failure^[2].

The wearing of a new complete denture may be associated with some complaints especially shortly after the insertion of the denture. The complaints may be lack of retention and stability, pain or discomfort, accumulation of food under the denture, altered speech, difficulty in chewing, unsatisfactory appearance and retching.2 Other complaints are bone resorption in edentulous alveolar ridges and sometimes overgrowth of tissue under denture which is caused by the forces generated by the mandible, during function and parafunction as the mucosa is sandwiched between the denture base and the underlying bone and hence all the forces are transmitted through this atrophic tissue^[3].

Psychological factors should be considered in denture patients which shows the ability of the patient to adapt to the new dentures.6 Debilitating diseases and medication in older patients have an effect on the tolerance to wearing of complete dentures in many edentulous individuals. Therefore, an accurate medical history is important.

Methodology

A total of 198 complete denture wearers consisting of 100 males and 98 females, within the age group of 45 to 75 years were examined in the Department of Prosthodontics Al- Badar Rural Dental College and Hospital Gulbarga.

Inclusion criteria: Those who have been wearing dentures for at least 1 year.

Exclusion criteria: Those who were suffering from systemic disease such as diabetes.

Investigation: A self-structured questionnaire pretested through pilot study was designed to know the complaints of patients regarding dentures.

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The various complaints were presented by patients such as: difficulties in masticating their food, loose dentures, pain while inserting or removing the dentures food accumulation around or under the prosthesis, discomfort in speaking, bad breath, ulceration, Questionnaire was also designed to know the cleaning of dentures and denture wearing during sleep. The necessary adjustments were performed at the end to eliminate any problems. The results of the clinical evaluation were then compared with the patient’s complaints.

Data analysis: For data analysis, each right answer was given a score ‘1’ and each wrong answer was assigned score ‘0’. Individual scores were summed up to yield a total score. Data was analyzed using SPSS version 17.0. Descriptive statistics were obtained and frequency distribution, means, standard deviation were calculated. Student’s t-test was used to find the significance of difference in the means scores in relation to gender. One-way ANOVA and post hoc test was used to find the significance of difference of mean scores in relation to different age groups. Statistical significance for all tests was accepted at $p < 0.05$.

Results

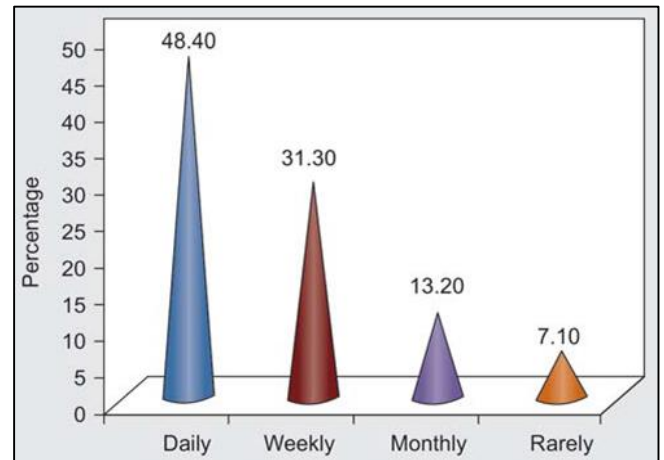
The total study population was 198 which is divided into different age groups as

1. Group 1 = 45 to 55 years (27.5%),
2. Group 2 = 55 to 65 years (53.3%) and
3. Group 3 = ≥ 65 years to 75 (19.2%)

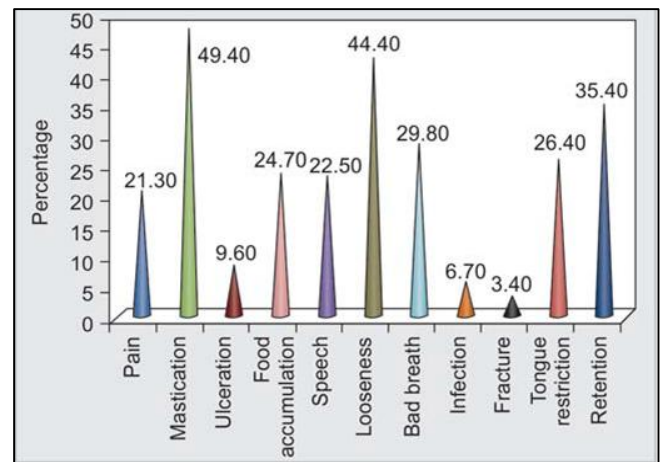
When it was asked regarding cleanliness of dentures around half of them had the habit of daily cleaning but rest do it weekly, monthly and rarely (Graph 1). According to different types of complaints faced by participants in this study, it was observed that the most common problem faced was mastication (49.4%) followed by looseness of dentures (44.4%) and retention (35.4%). Around 21.3% patients complained of pain while wearing dentures; ulcers underneath the dentures were seen among 9.6% subjects; 24.7% complained about food accumulating around or under their prosthesis; 22.5% stated that people cannot understand them while they are speaking. A total of 29.8% patients said they have bad breath. Few subjects have infections due to prosthesis and fracture of dentures was rarely seen. A total of 26.4% participants mentioned that they have restricted space for tongue (Graph 2).

In the present study, less than half of the participants, i.e. 48% were having the habit of removing dentures during sleep. The results showed that females were having more complaints of dentures than their counter parts, as shown in Table 1. A

significant increase in the number of complaints was seen with age groups ($p = 0.00$) (Table 2). Similarly, significant values were obtained in the mean difference of all age groups as group 3 were having more problems followed by groups 2 and 1 respectively (Table 3).



Graph 1: Frequency of cleaning of dentures among study population.



Graph 2: Complaints faced by patients due to dentures

Table 1: Mean scores of denture problems according to gender using Student’s t-test

Sex	No.	Mean	SD	P value
Male	100	2.15	1.4710	0.958
Female	98	2.19	1.478	

Table 2: Mean scores of denture problems according to age groups using ANOVA test

Age group	No.	Mean	SD	F value	P value
45 -55 years	59	1.57	1.0	10.48	0.0
56-65 years	98	2.19	1.17		
66 -75 years	41	2.97	2.12		

Discussion

The wearing of a new complete denture may be associated with some complaints especially shortly after the insertion of the denture. The complaints may be looseness, pain mastication problems, food accumulation, altered speech, bad breath, The results of this study showed that most of the patients were complaining of mastication discomfort or pain and looseness of dentures. The present results were lower than

other studies done by Ibad ur Rehman (1950). This might be due to that the mean age of study population in the present study was lower than that Ibad ur Rehman study 7 and pavan *et al* in 1987 whereas the problems were more than that of parvez *et al* study in 2012.5 The frequency of fracture of denture was very few when compared to other studies such as Komine and Arab (2007), 9 Asad *et al* in 1996. Loss of retention of dentures was also commonly seen in this

study which is in agreement with previous reports. Additionally, loss of retention caused dissatisfaction of patients related to function. The loss of retention of the dentures may have impaired the patients' ability to chew. Food accumulation was noticed in 24.7% of subjects.

Conclusion: This study concluded that most of the patients were present with complaints due to dentures. So, dental professionals should pay serious attention to their patients for subjective acceptable result of the dentures and also advise them to properly maintain hygiene of dentures.

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