



Full Length Research Article

**CLINICAL ASSESSMENT OF COMMON COMPLAINTS AMONG COMPLETE DENTURES WEARERS, IN
RELATION TO, AGE AND GENDER**

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ABSTRACT

Background: Growth of the aging population will presumably increase the edentulous population in need of care with complete denture prostheses. Complete dentures are the most common form of prosthetics rehabilitation for edentulism. A major challenge in dental practice continues to be the successful management of the complete denture patient who experiences ongoing difficulty with his or her dentures.

Objective: The objective of this study was to examine and assess complete dentures in patients experiencing difficulties with their new prostheses, and to determine the most frequent complaints, and their possible relation to age and gender.

Patients and Methods: A total number of 200 complete denture wearer patients, 126 females and 74 males, participated in this study. A questionnaire were used to record the information which was taken directly from the patient when they attend the dental hospital for dental visit, the patient consent were taken verbally. The information include; the gender, the age, , and the type of the complaint, All the patients' complaint and dentures were examined and assessed clinically by one prosthodontics specialist to approve these complaints. The age was divided into two groups, up to 60 years, and above 60 years. The patient complaints were divided into; pain, speech, eating, loose, and food accumulation. The data were correlated, statistical analysis in the form of tables, figure, numbers, and percentage were used, at a significant level of ($P < 0.05$).

Results: The study result revealed that; female number 126 (63%) was more than male 74 (37%), the number of the patients within the age group of above 60 years was 158(79%), more than patients within the age group of up to 60 years 42 (21%). Significant difference were found between gender and age groups ($P < 0.05$). Pain 54 (27%) was the most common complaint of most of the patients in both genders, 23 (6.5%) for male and 31 (15.5%) for females. Loose denture complaint had the lowest number among male 10 (5%), while complaint relating to mastication and eating had the lowest number among females 18 (9%). No significant difference were found between gender and type of complaints ($P > 0.05$). Speech problem had the highest incidence among patients within the age group of up to 60 years 11 (5.5%), while the highest incidence among patients within the age group of above 60 years, were pain complaint 45 (22.5%). Complaint relating to eating and mastication had the lowest incidence among both age groups in total 34 (17%). No significant difference were found between age group and type of complaints ($P > 0.05$).

Conclusion: Pain during insertion, removing, and wearing a complete denture had the highest prevalence, alongside speech problem in one age group only. Significant difference was found between gender and age group. No statistical significant difference were found between gender and type of complaints, or between age groups and type of complaints

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INTRODUCTION

Edentulism occurs in about one-tenth to one-fifth of the general population, and in about half of the population of age over 65. Losing natural teeth occurs throughout life for different reasons, has a significant impact on patients' life, appearance and function (Srivastava, 2011), and needs to be replaced by prosthesis, removable or fixed. The objective of dentures is to rehabilitate the stomatognathic system

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improving not only masticatory efficiency, but also the phonetic and aesthetic appearance of the patients, thus improving the patient's quality of life and their social activity, without complication (Bilhan *et al.*, 2012). Attention has been focused on patient's expectations of their dentures. Patients may have unrealistically high expectations of their dentures, often believing that the dentures will be comparable to their natural teeth (Fiske *et al.*, 1995). Some patients find it difficult to adequately manage removable prostheses of any kind, especially complete dentures, and many dental practitioners will experience a situation, whereby a patient with newly fabricated complete dentures continues to experience difficulty in adapting to them. This can lead to a

prolonged period of discouraging “adjustment appointments” that may not result in the eventual resolution of the problem. Therefore it is often concluded that there is some patient factor, such as; age, gender (Marcelo Coelho Goiato *et al.*, 2011), and other associated factors, especially when some patients find it difficult to adequately manage removable prostheses of any kind, particularly complete denture (Brunello *et al.*, 1998). The purpose of this study was to investigate, examine, and assess complete dentures of patients experiencing difficulties with their prostheses, determine the most frequent complaints, and their possible relating factors such as age and gender.

Patients and method

A total number of 200 patients wearing complete dentures, 126 female and 74 males, all have been wearing their complete dentures for up to one year participate in this research. Patients with uncontrolled debilitating conditions such as diabetes or neuromuscular diseases were excluded from the study, as they make successful wearing of complete dentures difficult and problematic. A questionnaire was used to record the data which was taken from the patient directly when they attend the dental hospital for dental visit. The same Prosthodontist examined and treated each of the study patients for the length of their treatment period. Notes on assessment and subsequent treatment were recorded methodically and systematically in the record files. At the time of examination, the patients' comments regarding the adequacy of their dentures were recorded.

difficulties incising and masticating their food or instability when in such function were grouped under “Eating.” Complaints of loose dentures or dropping dentures or complaints attributable to insufficient retention were grouped under “Looseness.” Finally, patients whose complaints related to food accumulation around or under the appliance were grouped under “Food”, and those whose complaints related to lisping, whistling, or distorted phonetics were grouped under “Speech”. Patients with multiple complaints were listed under more than one grouping. The age was divided into two groups, up to 60 years, and above 60 years. The data were correlated, statistical analysis in form of table; figure, numbers, and percentage were used. The variables were correlated and descriptive statistic of tables, numbers and percentages along with Chi-Square, were used to analyze the data at a significant level ($P < 0.05$).

RESULTS

The female number was more than male, 126 (63%), and 74 (37%) respectively. Patients of age group of above 60 years were more than patients of age group of up to 60 years, 158 (79%), and 42 (21%) respectively. Patients with age group of above 60 years were higher in both males and females 60 (30%), 98 (49%) respectively, in comparison with patients within age group of up to 60 years in both male and female 14 (7%), 28 (14%), respectively. Pain was the most common complaint of most of the patients 54 (27%), 23 (6.5%) male, and 31 (15.5%) female.

Table 1. Distribution of gender according to age groups

| Age group | Male No. & % | X2 | Female No. & % | Total No. & % |
|----------------|--------------|------------|----------------|---------------|
| Up to 60 years | 14 (7%) | | 28 (14%) | 42 (21%) |
| Above 60 years | 60 (30%) | X2 = 0.31 | 98 (49%) | 158 (79%) |
| Total No & % | 74 (37%) | P = 0.0394 | 126 (63%) | 200 (100%) |

Significant difference of ($P = 0.0394$) were found between gender and age group Table (1).

Table 2. Type of complaint in relation to gender

| Complaint | Male No. & % | X2 | Female No. & % | Total No. & % |
|---|--------------|------------|----------------|---------------|
| Eating | 16 (8%) | | 18 (9%) | 34 (17%) |
| Food accumulation | 13 (6.5%) | | 27 (13.5%) | 40 (20%) |
| Loose | 10 (5%) | | 25 (12.5%) | 35 (17.5%) |
| Pain during denture insertion & removal | 23 (6.5%) | X2 = 3.95 | 31 (15.5%) | 54 (27%) |
| Speech | 12 (6%) | P = 0.1405 | 25 (12.5%) | 37 (18.5%) |
| Total No. & % | 74 (37%) | | 126 (63%) | 200 (100%) |

Table 3. The relation of age groups to the type of complaint

| Complaints | Age Group of up to 60 years | X2 | Age Group of above 60 years | Total No. & % |
|----------------|-----------------------------|------------|-----------------------------|---------------|
| Eating No. & % | 5 (2.5%) | | 29 (14.5%) | 34 (17%) |
| Food No. & % | 7 (3.5%) | | 33 (16.5%) | 40 (20%) |
| Loose No. & % | 10 (5%) | | 25 (12.5%) | 35 (17.5%) |
| Pain No & % | 9 (4.5%) | X2 = 1.540 | 45 (22.5%) | 54 (27%) |
| Speech No. & % | 11 (5.5%) | P = 0.1522 | 26 (13%) | 37 (18.5%) |
| Total No. & % | 42 (21%) | | 158 (79%) | 200 (100%) |

The information include; the age, the gender, and the type of the complaint. Five divisions were used to group the various complaints the patients presented with. Those patients who stated that they experienced pain and discomfort on inserting or removing the dentures or pain while at rest or in function were grouped under “Pain.” Those patients who experienced

Complaint of food accumulation under the denture had the second highest occurrence 40 (20%) among both genders collectively, and in female particularly 27 (13.5%). Loose denture complaint had the lowest rate among male 10 (5%), while complaint relating to mastication and eating had the lowest number among females 18 (9%), and in both gender 34

(17%) collectively as well. No significant difference were found between gender and complaint ($P = 0.1405$) (Table 2). Speech problem complaint had the highest number among age group of up to 60 years 11 (5.5%), while complaint relating to eating had the lowest number among the same age group 5 (2.5%). Pain complaint had the highest number among age group of above 60 years 45 (22.5%), whereas complaint relating to looseness of the denture had the lowest rate of occurrence among the same age group 25 (12.5%). Complaint relating to pain had the highest rate of occurrence among both age group collectively 54 (27%), whereas complaint of eating and mastication had the lowest number among both age groups 34 (17%). No significant difference were found between age groups and complaint ($P = 0.1522$) (Table 3).

DISCUSSION

The wearing of a new complete denture may be associated with some complaints especially shortly after the insertion of the denture, these 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 (Berg, 1984). When assessing a patient who is experiencing difficulty with his or her dentures, the clinician must critically assess the factors that influence denture acceptance. These factors may provide an explanation as to why there is often a difference between the perceptions of the dentist and the patient of where the difficulty lies (Laurina, 2006). In the present study, female number was more than male, 126 (63%), and 74 (37%) respectively. Patients of age group of above 60 years were more than patients of age group of up to 60 years, 158 (79%), and 42 (21%) respectively. Significant difference were found between gender and age group. Sex differences have been shown in many studies on oral health. In many countries, more females than males are edentulous; this male-female difference may reflect a higher proportion of older females in a population (Miller and Locker, 2005).

It was reported that males are less concerned about their edentulism, less likely to enquire for restorations and less likely to visit a dentist than females (Brunello *et al.*, 1998), these research findings came in consistence with the result of the present study. However, other studies suggested that men lose their teeth more readily than their female counterpart in African environment, and as result, the number of edentulous male was more than female, this was related to the fact that women are more concerned about their health and appearance than males in those countries (Ogunrinde, 2012). It has been reported that with advancing age, both men and women experience difficulty in learning to adapt to and manage removable prostheses. Attention has been focused on women who are experiencing menopausal changes. It is believed that they are prone to experience more difficulty because of the physical and emotional changes they undergo during and after this time (Powter *et al.*, 1980), this result came in consistence with the result of the present study were female, and patients of age group above 60 years had higher number than their equivalent male and age group of up to 60 years. Pain complaint in female 31 (15.5%) had the highest rate within all the other complaint, and its rate was higher than that in male 23 (6.5%) as well in the present study. There was no

significant difference between gender and the number of complaints. Reviews of the pain epidemiology literature have addressed the question “whether there is consistent support for sex differences in the prevalence of pain, or whether sex differences exist only for selected pain conditions (LeResche, 1999). These reviews have concluded that the relationship between sex and pain is not simple; nevertheless, most population-based studies have found higher prevalence in women than in men, this apply to different types of pain including dental relating pain, at the same time there are studies that have found no difference (Fillingim *et al.*, 2009). The result of the present study in regard to pain complaint came in agreement with the result of other studies (Miller 2005), which found pain or discomfort was the most common complaint among new denture wearers. No significant difference were found between gender and the number of complaints, this result came in agreement with Sandesh (Gosavi, 2013), and Ogunrinde and Dosumu study (2012), who found no significant relationship between gender and the number of complaints, contrary to the reports of Powter and Cleaton-Jones study (1980). Speech problem complaint had the highest number among age group of up to 60 years 11 (5.5%) in the present study. Speech is vital to human activity, thus, phonetics must be considered with mechanics and esthetics, as a cardinal factor contributing to a successful dental prosthesis (Powter and Cleaton-Jones, 1980).

The aim of a well-designed prosthesis is not only to restore proper function and aesthetics, but also to facilitate acceptable phonetics, and it has been claimed that; prosthesis can modify phonetics, even if it is functionally and aesthetically well designed (Abdul-Aziz Abdullah Al Kheraif and Ravikumar Ramakrishnaiah, 2012). Several authors investigated speech disturbances in complete denture-wearing patients. Heyink *et al.*¹ reported that 21% of denture-wearing subjects (28 of 131) from an elderly Dutch population had speech defects. Lundqvist *et al.* (Heyink *et al.*, 1986) reported that 60% of their patients who wore a removable or a fixed prosthesis experienced phonetic problems, this result was similar to the result of the present study. Pain complaint had a very high level in patients within the age group of over 65 year 45 (22.5%) in the present study, comparing to the patients within the age group of up to 60 years 9 (4.5%), but no significant difference were found between age groups and number of complaints. The elderly population comprises the fastest growing segment of the world's population. As patients age, the incidence and prevalence of certain pain syndromes increase. Pain may be underreported as some elderly patients incorrectly believe that pain is a normal process of aging, persistent pain is not an inevitable part of aging but is fairly common among the elderly (Lundqvist *et al.*, 1992). Food accumulation under the complete denture had the second highest rate of prevalence 40 (20%), whereas loose denture had the prevalence of 35 (17.5%), also food accumulation prevalence was higher in female 27 (13.5%), comparing them to male 13 (6.5%), and higher in the age group of above 60 years 33 (16.5%), than those of up to 60 years 7 (3.5%). Alveolar ridge resorption after teeth extraction is a chronic, progressive and cumulative disease of bone reconstruction. Extensive residual ridge resorption is one of the many problems in prosthetic dentistry rehabilitation (Alan *et al.*, 2010), compared with males; elderly females are at a higher

risk of severer resorption in the edentulous mandible than males (Nissan *et al.*, 2003). The bone mineral content in edentulous females' mandible also decreases with aging, while that of males' increases slightly; osteoporosis may be regarded as a cofactor of residual ridge resorption in women (Xie *et al.*, 1997). Women of menopausal age have been reported to experience more difficulty in adapting to denture than younger age group because of the physical and emotional changes they undergo during and after menopause (Solar *et al.*, 1994). When the patient complains of looseness it must be checked – peripheral extensions, posterior palatal seal, adaptation of the bases, occlusion, shape of the polished surface and tooth position (Finbarr *et al.*, 2003). In the absence of pain and associated overextension of the periphery, looseness of dentures is in all probability a result of failure to obtain peripheral seal. A further etiological factor may be poor adaptation of the denture to the underlying tissues. This should be suspected if the patient complains that food accumulates beneath the denture (Laurina and Soboleva, 2006). The result of food accumulation prevalence in the present study came in agreement with the result of the study done by Aghdaee et al in 2007, in which food accumulation was seen in 80% of the patients, and in contrast with the result of Sandesh (2013) study, in which food accumulation was noticed in 24.7% of subjects only.

Conclusion

Pain was the most common complaint among complete denture wearers in the present study, and it was more frequent in females and within age group of above 60 years. No significant difference was found between gender and type of complaints, neither between age group and type of complaints, these results came in agreement with results of other worldwide researches. There are still no reliable methods to predict the outcome of complete denture treatment and there are many problems related to treatment with complete dentures. In addition to clinical and technical skills, insight into patient behavior and psychology and communication techniques are also necessary.

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