



Original Article

Common Problems Faced by People Wearing Complete Denture

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Abstract

Introduction-Dentures, also known as false teeth, are prosthetic Udevices constructed to replace missing teeth; they are supported by the surrounding soft and hard tissues of the oral cavity. Conventional dentures are removable (removable partial denture or complete denture). However, there are many different denture designs, some which rely on bonding or clasping onto teeth or dental implants (fixed prosthodontics). It helps in mastication, pronunciation, aesthetics and also to maintain self-esteem.

Aim and objective: The aim of this research is to find out the common problems faced by the patients wearing complete denture.

Materials and methods: This study was conducted in Chennai. A sample of about 50 elderly people wearing complete dentures was selected for the study. A questionnaire was used to collect all the information on gender, their problems with dentures like pain while inserting and removing the dentures, sore spots in the mucosal regions, bad breath caused due to dentures, difficulty in masticating food, accumulation of food, discomfort while speaking, digestive issues, painful or swollen gums, whether it reduces the self-confidence and psychological gagging problems . These questions were asked in person by the investigator and the results were analysed quantitatively and qualitatively

Results and conclusion : The results of our study showed that 72% of people did not face any pain while insertion and removal of dentures, and 44% of men had inability during chewing whereas 28% of the women face inability during chewing. The food accumulation problem was faced by 56% of males and 72% of females. 36% of females had discomfort while speaking and 20% of males faced discomfort. And about 52% of females and 40% of males showed some amount of neglect towards denture cleansing. 48% of males and 60% of females did not face any bad breath problems because they maintained their dentures well. Both male and female of about 40% had sore spots. Digestive problems were faced by 36% of both females and males. 32% of females and 8% of males had Painful gums . About 56% of men and 48% of women had reduced self-esteem due to ill-fitting dentures. And also 24% of females and 20% of males had psychological gagging problem.

Key words: Complete denture, psychological, xerostomia , gagging , discomfort

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Introduction

There are about 1.19 billion people in India and in that, about 72% of the people represent the rural population. In rural population, the major portion is the geriatric population, and in that, about 80% of the people represent elderly people residing in rural India. If periodontal health is supposed to be well maintained, then regular effective oral hygiene measures must be pursued, failing which will lead to unleash the inevitable results of plaque accumulation^[1]. Dental plaque tend to accumulate on all surfaces; both the hard and soft surfaces in the oral cavity. As early as 3500 BC, during the Babylonians era, these Babylonians were using chewing sticks that are taken from particular aromatic trees that are designed to clean the teeth and helps in freshening breath^[2]. The highly common device, which is used in order to achieve oral hygiene in the present day situation, is the “tooth brush.”

Changing demographics, showed increase in life expectancy and the increasing numbers of elderly people^[3]. A strong increase in this aging population has led to a consequent increase in the number of elderly people those who are in need of dentures. Complete dentures comprises of one of the very important management options available in the field of Prosthodontics^[4]. Recently invented/discovered dentures can be a disappointment to a patient if he is negligent in taking measures to maintain a proper denture hygiene^[5].

Maintaining denture cleanliness is highly essential in order to prevent foul smell, poor aesthetics and the accumulation of plaque and calculus with its destructing effects on the oral mucosa^[6]. The micro porous surfaces present on an acrylic denture base provides a wide range of environment that support the growth of microorganisms which can be deleterious to the health of physically compromised denture patients.

India is upcoming developing nation where the rural agriculture has a major impact on the economy of the nation. However, the poor fact is that majority of the rural population are below the poverty line and they live in remote areas where the oral health care services are barely available. The need of dentists and oral health care providers will increase in due course of time. One should know the socioeconomic status, physical and mental status of elderly people also their illnesses like hearing, vision problems to give a quality care. Therefore, a high level of training is required for geriatric dentistry^[7].

In cases of oral health problems in elderly people it is commonly tooth loss due to various issues like Xerostomia^[8], caries in the root and coronal portion, loss of tooth surface, cuspal fracture, or also due to periodontal damage. Despite these major problem faced by the residents and elderly people of rural population is that their under estimation about the oral health care needs. Elderly people were found to be suffering with physical, psychological, and intellectual problems and many other problems. In a sense, ageing means to have some limitations in life style. These limitations were found to be seen in deteriorating cognition, sight, hearing, lung volume, heart volume, muscle strength, and bone mineral content and it included self-assessment of health. When the problems are related to oral health, many kinds of physical and psychological problems can develop. These include tooth loss because of periodontal breakdown, coronal and root caries, tooth surface loss, cuspal fracture, xerostomia, and reduction in the sense of taste^[9-11]. Elderly people are having higher possibility to wear complete or partial dentures. Wearing dentures tends to affect eating, speech, laughing, kissing, facial expression and appearance. Bad oral health tends to increase the risks to general health and with reduced chewing and eating abilities, affect nutritional intake^[12]. According to the assumption that the use of denture can improve the quality of life which is compromised as a result of loss of teeth; and mostly dentures are recommended for the individuals with missing teeth either single tooth or multiple tooth. Based on the number of teeth missing and bone support available the type of denture to be given for the patient is decided. Based on some studies implants when compared to conventional dentures improved the oral health related quality of life (OHRQoL)^[13]. A Study conducted by John et al., indicated that there is an independent and important relationship between tooth

retention and quality of lifestyle, when more natural teeth are present it results in better oral health related quality of lifestyle ^[14].

When the teeth are lost, dentures replace them. Wearing dentures help the people to restore their aesthetical appearance, help in masticating food, increases their self-confidence also helps in pronunciation. Once when the patient newly wears denture there are a few problems faced by them like excessive salivation as the brain misinterprets it to be food, also sore spots, sometimes even psychological gagging, few patients might feel that the denture would fall while talking and thus it reduces their self-confidence ^[15] In front of others, some people might even lose taste sensations. A recently conducted study showed that the oral health of the completely edentulous was totally related with the avoidance of food items and satisfaction with complete dentures. Few other complaints that complete denture wearers often complain of bone resorption in edentulous alveolar ridges and at times overgrowth of tissue beneath the denture which is caused by the forces that are generated by the mandible, during function and parafunction because the mucosa is sandwiched between the denture base and the bone underlying and thus all the forces are transmitted through this atrophic tissue.

Therefore, a study was conducted with 50 elderly patients living in Chennai, above the age group of 40 years. There is growing necessity for the information collected through this study as this will affect the estimation of treatment needed and it is also necessary for future dental services. And not much surveys are being done regarding the need for oral health services, so this present study was conducted to acknowledge the social, psychological and physical problems faced by complete denture wearers living in Chennai.

Materials and methods:

This study was conducted in Chennai. A sample of about 50 elderly people wearing complete dentures were selected for the study. A closed ended questionnaire was used to collect all the information on gender , their problems with dentures like pain while inserting and removing the dentures , sore spots in the mucosal regions , bad breath problems , difficulty in masticating food , accumulation of food , discomfort while speaking , digestive issues , painful or swollen gums , whether it reduces the self-confidence and psychological gagging problems . These questions were asked in person by the investigator and the results were analysed quantitatively and qualitatively .

The following are the list of questions asked to the participants.

1. Did you have pain during insertion and removal of dentures? Yes/No
2. Did you face any difficulty while chewing food? Yes/No
3. Was there any accumulation of food in the dentures after eating? Yes/No
4. Did you have any discomfort while speaking with dentures? Yes/No
5. Did you have bad breath problems caused due to dentures? Yes/No
6. Did you have any ulcer/sore spots because of dentures? Yes/No
7. Did you face any digestive problems after wearing dentures? Yes/No
8. Did you have painful gums because of denture? Yes/No
9. Did you lose self-confidence because of wearing dentures? Yes/No
10. Did you have gagging reflexes after wearing dentures?

Results

This study was done to obtain the common problems faced by the respondents wearing complete denture. The sample consisted of 50 respondents of both the sexes.

On regards with the pain occurring during insertion and removal of dentures, males and females showed equal response, (28% of people faced pain and 72% did not face pain) [table1].

Most of the patients (44%) men and (28%) women showed their inability to chew food and because of this reason, they seemed to avoid going to social surroundings [Table 1]. Whereas the remaining 56% of male and 72% of the females did not have the problem of inability in chewing food.

The food accumulation problem was also found to be more prone to males (60%) than females (56%) [Table 1], the remaining 40% of males and 44% of females did not complain of food accumulation. Females (36%) complained of more discomfort on speaking while wearing dentures when compared to males (20%) [Table 1.] Whereas the remaining 80% of males and 64% of females did not complain on discomfort during speech with dentures. About 52% of females and 40% of males reported that denture cleaning wasn't usually easy and they did show some amount of neglect towards denture cleaning as a result it lead to a bad/foul smell finally causing bad breath which reduced their self-esteem to a considerable amount [Table 1] and the remaining 48% of males and 60% of females had well maintained their dentures and so they did not complain of bad breath. Sore spots as a result of minor injuries while wearing dentures, these sore spots were present equally in both sexes (40%). But the good thing about this problems is only 40% of people had, the rest(60%) did not have sore spots[table 1.] and Digestive problems were also equally less common in both the sex(36%)[table 1] and the remaining 64% of males and females did not complain of digestive issues. Male respondents (32%) were found to have more painful gums when compared to female respondents (8%) [Table 1.] and the remaining 68% of males and 92% of females did not give a complain of painful gums after wearing dentures. When the respondents were questioned regarding their self-esteem, they revealed that majority of men (56%) had lost self-confidence after wearing dentures when compared to females respondents (48%) [table1.] and the remaining 44% of males and 52% of females did not complain of low self-esteem. Psychological gagging problems were reported more in females (24%) when compared to males (20%) [table1.] The remaining 80% of males and 76% of females were free of psychological gagging.

Table [1] – Cumulated questions asked and responses from study group

Questions	Answers	Male	Female
Pain associated with denture insertion and removal	Yes	7 (28%)	7 (28%)
	No	18 (72%)	18 (72%)
Difficulty associated with mastication of food	Yes	11 (44%)	7 (28%)
	No	14 (56%)	18 (72%)

Accumulation of food	Yes	15 (60%)	14 (56%)
	No	10 (40%)	11 (44%)
Discomfort while speaking with dentures	Yes	5 (20%)	9 (36%)
	No	20 (80%)	16 (64%)
Bad breath caused due to dentures	Yes	10 (40%)	13 (52%)
	No	15 (60%)	12 (48%)
Sore spots caused due to dentures	Yes	10 (40%)	10 (40%)
	No	15 (60%)	15 (60%)
Digestive problems due to denture	Yes	9 (36%)	9 (36%)
	No	16 (64%)	16 (64%)
Painful gums occurring due to denture	Yes	8 (32%)	2 (8%)
	No	17 (68%)	23 (92%)
Reduction in self confidence due to wearing of dentures	Yes	14 (56%)	12 (48%)
	No	11 (44%)	13 (52%)
Psychological gagging problems	Yes	5 (20%)	6 (24%)
	No	20 (80%)	19 (76%)

Discussion

The results of our study showed that 72% of people did not face any pain while insertion and removal of dentures, and 44% of men had inability during chewing whereas 28% of the women face inability during chewing. The food accumulation problem was faced by 56% of males and 72% of females. 36% of females had discomfort while speaking and 20% of males faced discomfort. In addition, about 52% of females and 40% of males showed some amount of neglect towards denture cleansing. 48% of males and 60% of females did not face any bad breath problems because they maintained their dentures well. Both male and female of about 40% had sore spots. Digestive problems were faced by 36% of both females and males. 32% of females and 8% of males had Painful gums. About 56% of men and 48% of women had reduced self-esteem

due to ill-fitting dentures. Moreover, 24% of females and 20% of males had psychological gagging problem.

This study has been of great importance to know more about the problems related oral health of elderly people so that it might be useful in future dental treatment planning .

The study samples were collected from people living in Chennai. The complaints encountered in this study are mostly lack of retention (loosening of denture) ^[16], pain or discomfort, mastication problems, food accumulation, altered speech, bad breath.

Many patients had reported that they did not suffer from any kind of functional or esthetic problems, and emphasized how much they had been benefited from tooth extraction and the use of dentures. The presence of psychological factors and typical rejections in interpersonal relationships because of the absence of teeth were also been reported.

Most of the men (60%) and women (56%) had the problem of food being accumulated under/around the dentures; the other common problems faced by them were psychological gagging problems, sore spots, digestive problems, painful gums. It was also found that many denture wearers have restricted themselves from eating most of the food because of the discomfort caused by the dentures. There was a similar study conducted by Aghdaee, and which stated that complete denture wearers mostly suffer from pain and discomfort, difficulty while masticating and looseness of dentures ^[17]. Almost 23% of the patients had been complaining of having difficulties during speech and these findings were found to be similar to that of Aghdaee et al study that was conducted in 2007^[17]. This problem might be because of the overextension of the upper dentures onto the soft palate that usually leads to speech difficulties. Even though Lieidberg et al. (2007) had discovered that inadequate dietary food habits were found to be independent of teeth and denture status^[18], Marshal et al. (2002) had proved that loss of natural teeth or ill-fitting dentures had lowered the dietary quality and nutrient intake of patients^[19]. The same authors had also found that proper maintenance of an adequate lower denture was highly important for nutrient intake to provide support for systemic health. In addition to this, inadequate or problematic complete dentures caused problems in chewing ability and generated pain ^[20].

Loss of retention of dentures was also commonly seen ^[21]. Due to unfit dentures, many respondents had the problem of falling dentures while talking ^[22, 23]. Edentulous people with complete dentures avoid participation in social activities because they are embarrassed to speak, smile, or eat in front of others, leading to isolation ^[24]. Many people develop skills to overcome the limitations of dentures, but some are unable to do so ^[25]. It was also found that there was psychological gagging problems prevalent in the respondents. This might be due to their low self-esteem created by loose dentures ^[26]. Xerostomia is also found to be a common problem which affects complete denture patients ^[27]. Many patients complain of sore spots and ulcers, which are due to both ill-fitting denture and Xerostomia .Foods and beverages such as tea, coffee, aerated drinks, tobacco and habits like smoking, drinking leads to denture staining. The respondents also accepted that staining is because of improper diet, brushing techniques and cleaning routine. Many of the Patients were found to be suffering from several problems namely the oral candidiasis, infections and several other allergies, ulcers of the oral mucosa and halitosis because of wearing a stained denture. Only 50% of the patients had given a report of satisfactory denture usage because of using it only for 1-3 years with regular cleaning habits and the remaining people were having either an average or an unsatisfactory experience because of long-term usage without regular cleaning habit routines for the denture ^[28]. Sometimes pain occurs due to an unsatisfactory denture sometimes leads to insomnia and few negative changes in eating behaviors. The latter change causes reduction in self-confidence thus older people tend to become less active in social life. The psychological after effects of these problems are found to be important outcomes and have to be

taken under consideration to people of all ages. However, these are found to be commoner in the elderly^[29]

Moreover, some respondents had a complaint that they could not clean the dentures efficiently, which led to foul smell at times, which had brought embarrassment. Ikebe et al., also found that for complete denture wearers the greatest issue was with their speech^[30].

The results showed that a poor oral health prevailing among elderly people and they wished to alter or change their dentures.

Conclusion

The results of the study revealed that the patients wearing complete dentures suffer from various social, physical and psychological problems. These problems affect the daily life to the elderly people by reducing their self-confidence so proper counseling to be given to the patient regarding this. Routine oral checkups and treatments on a continuous cycle will reduce these problems. Bad denture hygiene is a being commonly encountered problem by the prosthetic dentists with their various complete denture patients. Older patients, especially those who are in a compromised state, were not able to maintain proper denture hygiene because of some physical issues and/or mental handicap conditions .Yet, the maintenance of denture hygiene is being underestimated in not just compromised geriatric patients but also with normal healthy denture wearers.

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